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Ontario. Legislative Assembly

# SESSIONAL PAPERS

VOL. LI.—PART VII.

FIFTH SESSION

OF THE

## FOURTEENTH LEGISLATURE

OF THE

## PROVINCE OF ONTARIO

SESSION 1919

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1919

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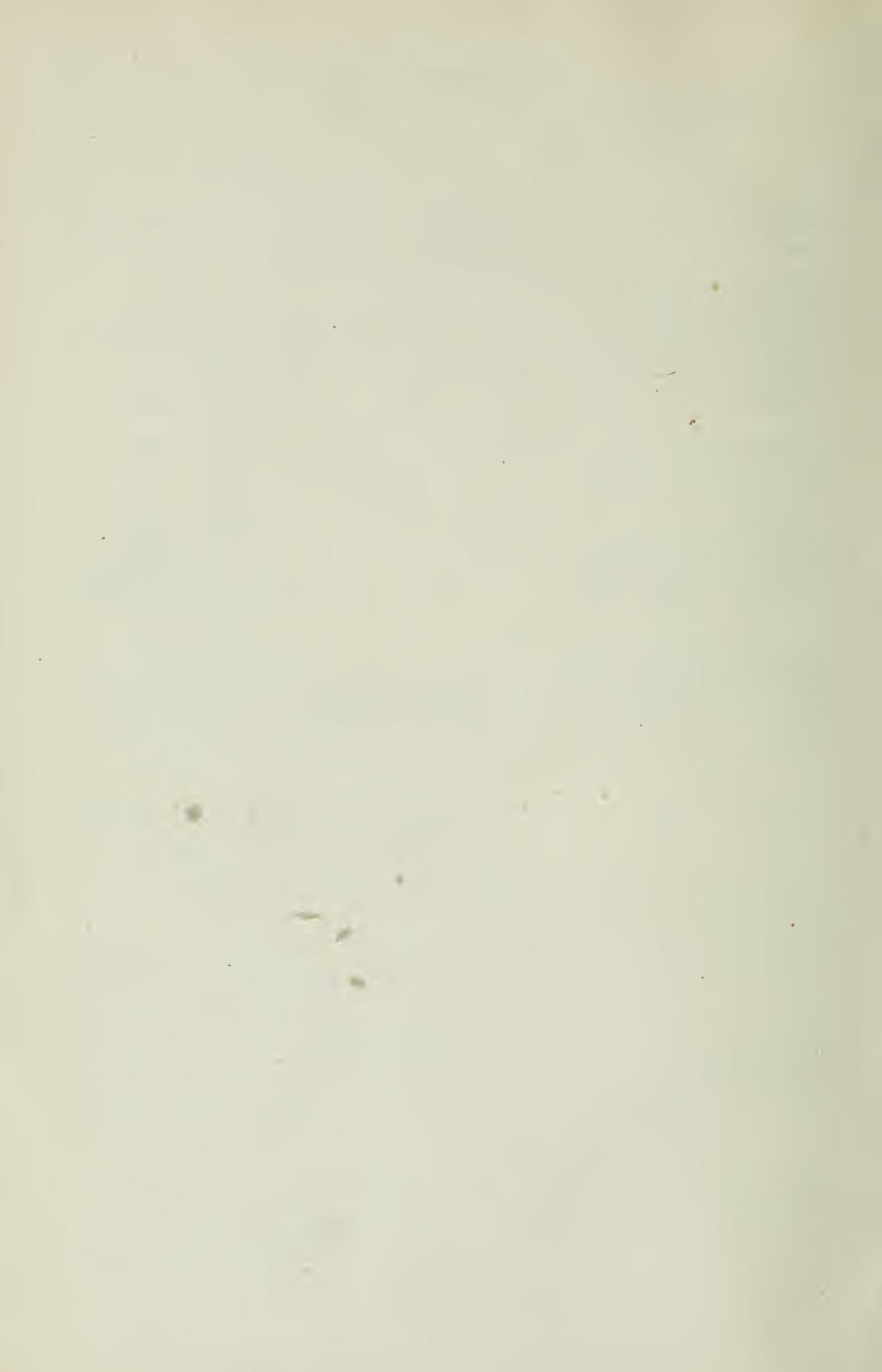
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No. 36 Report of the Entomological Society of Ontario, for the year 1918. Presented to the Legislature, 9th April, 1919. *Printed.*

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- No. 57 Report of G. T. Clarkson upon the Accounts of the Hydro-Electric Power Commission of Ontario. Presented to the Legislature, 4th March, 1919. *Printed.*
- No. 58 Second Interim Report on Venereal Disease. Presented to the Legislature, 26th February, 1919. *Printed.*
- No. 59 Return to an Order of the House of the 13th March, 1918, for a Return of the names of all Coroners, and their addresses in the City of Toronto, also the number of inquests held by each one, each year during the last five years, namely, from January 1st, 1912, until December 31st, 1918, also the amount of money each received, each year during the period named for their services as Coroners. Presented to the Legislature, 26th February, 1919. Mr. *Crawford*. *Not printed.*
- No. 60 Return to an Order of the House of the 7th March, 1918, for a Return shewing—1. How many persons who have been convicted and sentenced to imprisonment under the Ontario Temperance Act have been discharged without completing the term for which they were sentenced. 2. How many persons fined under the said Act have had their fines or some portion thereof remitted. Presented to the Legislature, 26th February, 1919. Mr. *Munro*. *Not printed.*
- No. 61 Return to an Order of the House of the 18th March, 1918, for a Return shewing—1. What number of accidents have been reported to and dealt with by the Workmen's Compensation Board for accidents caused to workmen engaged in Munition Plants. 2. What amount do the manufacturers of munitions pay in comparison to the amount paid by other manufacturers. 3. Is the amount based on a percentage higher than on manufacturers of a somewhat similar character so as to provide for the possibility

- of munition factories ceasing to operate within the near future and yet have large claims left to be provided for. Presented to the Legislature, 26th February, 1919. Mr. *Richardson*. *Not printed*.
- No. 62 Return to an Order of the House of the 13th March, 1918, for a Return shewing copies of all communications and correspondence between the Attorney-General, J. H. Rodd, Crown Attorney for the County of Essex, Dr. St. Pierre and H. C. Maisonville of Windsor, Ontario, in the matter of an alleged conspiracy on the part of the said J. H. Rodd against the said St. Pierre and Maisonville in connection with the trouble which occurred at Ford City, Ontario, on or about the eighth day of September, 1917, and which led to the arrest of the said St. Pierre. Presented to the Legislature, 26th February, 1919. Mr. *Racine*. *Not printed*.
- No. 63 Return to an Order of the House of the 21st March, 1918, for a Return of the copies of—1. All correspondence between the Minister of Lands, Forests and Mines, or any member, officer or official of the Government, and the firm of F. McGibbon & Sons, Lumber Merchants, Sarnia, or the firm McGibbon Lumber Company, of Penetanguishene, in reference to the renewal of the license granted to the last named company to cut timber on Franklin Island, in Parry Sound. 2. Copy of the original agreement with the McGibbon Lumber Company, of Penetanguishene, in which the said company was given the right to cut pine timber on the said island. 3. Copy of the license and renewals (if any) granted to the said McGibbon Lumber Company. 4. Copy of the agreement made with the license granted to the Hope Lumber Company of Thessalon, Ontario (now owned by White, Gratwich & Mitchell on Garden River), about the same time; and copies of all correspondence between the said Hope Lumber Company or White, Gratwich & Mitchell and the Government or any officer or official thereof in reference to the sale of timber to either company. 5. Copies of the renewals of licenses to the Hope Lumber Company or White, Gratwich & Mitchell (if any). 6. The date when the license to the McGibbon Lumber Company was cancelled. 7. How the money derived from the said license was expended. 8. The number of licenses which have been renewed during the present year in the District of Parry Sound, and in whose names these licenses stand. Presented to the Legislature, 26th February, 1919. Mr. *Proudfoot*. *Not printed*.
- No. 64 Copies of Regulations and Orders-in-Council under Section 27 of the Department of Education Act. Presented to the Legislature, 3rd March, 1919. *Not printed*.



- No. 65 Report of the Ontario Housing Committee, including standards for inexpensive houses adopted for Ontario with typical plans. Presented to the Legislature, 4th April, 1919. *Printed.*
- No. 66 Regulations of the Provincial Board of Health *re* Communicable Diseases approved by His Honour. Presented to the Legislature, 20th March, 1919. *Not printed.*
- No. 67 Return to an Order of the House of the 24th March, 1919, for a Return shewing:—1. How much money has been spent in connection with the soldiers' land settlement scheme at Kapuskasing. 2. How many acres have been cleared for crop; and what other improvements have been made, and by whom. 3. How many soldiers availed themselves of the opportunity afforded by the scheme. 4. How many soldiers are still there. 5. At what price *per* acre is this land available. Presented to the Legislature, 3rd April, 1919. Mr. Bowman (*Manitoulin*). *Not printed.*
- No. 68 Return to an Order of the House of the 24th March, 1919, for a Return shewing:—1. How many Crown Land Agencies exist in the Districts of Muskoka and Parry Sound. 2. What are the names of the agents and dates of appointment. 3. What is the remuneration paid to each agent. 4. What are the duties of the agents. Presented to the Legislature, 3rd April, 1919. Mr. Proudfoot. *Not printed.*
- No. 69 Return to an Order of the House of the 7th March, 1919, for a Return shewing if:—1. General Manly Sims had been appointed Agent-General for Ontario, at London, England. If so, at what date. 2. What is his age, and what period of time has he ever spent in Ontario, and in what employment. 3. Is he a native-born Canadian. 4. Is he a British or Canadian Officer. 5. If the former, why was not some qualified Canadian Officer from Ontario appointed to fill the Post. 6. Were any Canadian Officers applicants or recommended for the position, and if so, what were the names of such Officers and on what grounds was each respectively refused. 7. Was the appointment made upon the recommendation of the Civil Service Commissioner of Ontario. 8. What is the salary or remuneration that the Province of Ontario pays to General Sims, and what perquisites, if any, in addition to his salary does he receive. 9. Is the appointment a permanent one, or if not, for what period and on what terms as to time of service. Presented to the Legislature, 3rd April, 1919. Mr. Dewart. *Not printed.*
- No. 70 Return to an Order of the House of the 24th March, 1919, for a Return shewing:—What are the details of the receipts by Corporations of the Provincial taxes included in the Revenue of the Department of Lands, Forests and Mines for the year end-

- ing October 31st, 1918, at page a32 at the sum of \$863,457.75. Presented to the Legislature, 3rd April, 1919. Mr. *Pinard*. *Not printed*.
- No. 71 Return to an Order of the House of the 4th day of April, 1919, for a Return shewing:—1. What is the total amount of the grants withheld from the Roman Catholic Schools of Ottawa. 2. In what years were such grants withheld. 3. What amount was withheld in each respective year. 4. Has the money for grants withheld from the Roman Catholic Separate Schools of Ottawa been kept in a separate fund. 5. Have these amounts been revoted in any succeeding session of the Legislature. Presented to the Legislature, 10th April, 1919. Mr. *Pinard*. *Not printed*.
- No. 72 Report of the Civil Service Commissioner, 1918. Presented to the Legislature, 10th April, 1919. *Printed*.
- No. 73 Return to an Order of the House of the 24th March, 1919, for a Return of:—1. Copies of all documents covering the original sale to one J. J. Carrick, of the City of Port Arthur, of certain pulpwood limits in the Pic River and Black Sturgeon River Districts of Thunder Bay. 2. Copies of all agreements connected therewith or supplementary thereto. 3. Copies of all letters and telegrams which passed between the Government or any member or official thereof and the said Carrick or any one on his behalf, in reference to the said limits.—Presented to the Legislature, 15th April, 1919. Mr. *Proudfoot*. *Not printed*.
- No. 74 Return to an Order of the House of the 4th March, 1919, for a Return shewing what building it is proposed to cover by insurance out of the following items appearing in the Supplementary Estimates for the fiscal year ending October 31st, 1919:—(a) \$4,000.00, Item No. 1, Vote No. 187; (b) \$1,000.00; Item No. 9, Vote No. 194. Presented to the Legislature, 15th April, 1919. Mr. *Pinard*. *Not printed*.
- No. 75 Report of the Bureau of Municipal Affairs *re* Housing, including Acts, Rules and Regulations, Housing Standards, Provisions and Forms for 1919. Presented to the Legislature, 15th April, 1919. *Not printed*.
- No. 76 Return to an Order of the House of the 28th March, 1919, for a Return shewing all correspondence between any Department of the Government or Minister, or Official, and the British America Nickel Corporation, Limited, or any Official or Director thereof or person representing the said Company, regarding the refining of Nickel or other Minerals by the said Company, the establishment of a Refinery or other works and the location of the same in Ontario, and as to the location of the Refinery where

- 
- it is now being erected in the Province of Quebec, and all documents relating in any way thereto. Presented to the Legislature, 15th April, 1919. Mr. *Dewart*. *Not printed*.
- No. 77 Copies of Orders-in-Council designating the Convalescent Home for Women, Ottawa, and the Salvation Army Women's Hospital, Bloor Street East, Toronto, as Hospitals to which aid may be granted pursuant to Section 14 of The Hospitals and Charities Institutions Act. Cap. 300, R.S.O., 1914. Presented to the Legislature, 17th April, 1919. *Not printed*.
- No. 78 Report of the Soldiers' Aid Commission. Presented to the Legislature, 17th April, 1919. *Not printed*.
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EIGHTEENTH ANNUAL REPORT

OF

# The Agricultural Societies OF ONTARIO

AND OF THE CONVENTION OF THE

Ontario Association of Fairs and Exhibitions

FOR THE YEAR

**1918**

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(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE)

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PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



TORONTO:

Printed by A. T. WILGRESS, Printer to the King's Most Excellent Majesty

1918

Printed by  
WILLIAM BRIGGS,  
Cor. Queen & John Sts.  
Toronto.

To His Honour SIR JOHN STRATHEARN HENDRIE, C.V.O., a Lieutenant-Colonel  
in the Militia of Canada, etc., etc., etc.

*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I hereby present for the consideration of your Honour the Annual Report of  
the Agricultural Societies of Ontario for 1918.

Respectfully yours,

G. S. HENRY,

*Minister of Agriculture.*

TORONTO, 1918.

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# ANNUAL REPORT

OF THE

## Agricultural Societies of Ontario 1918

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TO THE HONOURABLE G. S. HENRY,

*Minister of Agriculture.*

SIR,—The report, which is herewith transmitted, contains the proceedings at the Eighteenth Annual Convention of the Ontario Association of Fairs and Exhibitions, which is the central organization of the three hundred and fifty Agricultural Societies regularly organized in this Province. These Societies are the oldest Agricultural Institutions in Canada, the first one having been organized at old Niagara in 1793, one hundred and twenty-five years ago. The importance of these organizations is shown by the fact that in 1917 two millions of people passed through the gates of fairs and exhibitions receiving Legislative Grants and coming immediately under the supervision of the Ontario Government. And in all the years of their existence the quality of the field crops and live stock was never of so high a standard as in the year which has just closed, a marked tribute to the energy and business capacity of the officers and directors in charge.

The Legislative Grants to the Societies for the different lines of work they have carried on during the year and statements of receipts and expenditure are hereto appended. The officers and directors from Glengarry to Kenora are arranging to make 1918 the banner productive year in their continuous educational work of a century and a quarter.

Faithfully yours,

J. LOCKIE WILSON,  
*Superintendent.*

## OFFICERS FOR 1918

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<i>President</i> .....	WM. S. SCARF, Durham.
<i>First Vice-President</i> .....	L. J. C. BULL, Brampton.
<i>Second Vice-President</i> .....	W. J. CONNELLY, Cobden.
<i>Secretary and Editor</i> .....	J. LOCKIE WILSON, Toronto.
<i>Treasurer</i> .....	J. E. PEART, Hamilton.
<i>Auditor</i> .....	R. AGNEW, Toronto.

### *Directors.*

District No. 1.....	J. E. MONTGOMERY, South Mountain.
District No. 2.....	J. L. F. SPROULE, Westbrook.
District No. 3.....	W. J. BARBER, Rossmore.
District No. 4.....	WM. HICKSON, Bobcaygeon.
District No. 5.....	R. B. HENDRY, Orangeville.
District No. 6.....	F. W. RAMSAY, Dunnville.
District No. 7.....	ADAM A. ARMSTRONG, Fergus.
District No. 8.....	AMOS DOUPE, Kirkton.
District No. 9.....	JOHN FARRELL, Forest.
District No. 10.....	R. H. RICHARDSON, Hanover.
District No. 11.....	ROLAND HILL, Huntsville.
District No. 12.....	E. F. STEPHENSON, New Liskeard.
	WM. MARSHALL, Sault Ste. Marie.
	JAS. TONKIN, Fort William.

## FINANCIAL STATEMENT, 1917

### *Receipts.*

Balance on hand in Bank.....	\$127 80
Memberships to end of year ....	244 00
Interest to date in Bank.....	1 36

Total ..... \$373 16

Audited and found correct, February 12th, 1918.

### *Expenditure.*

Amounts paid Executive attend- ing meetings .....	\$106 00
Expenses Directors attending fairs in districts .....	34 10
Auditor for 1916 .....	2 50
Assistants at annual meeting...	15 00
Haynes, printing ballots .....	1 50
Officers' salaries .....	135 00
Bryant Press, printing pro- grammes .....	17 00
Postage to date .....	5 50
Caretaker .....	2 50
Receipt books .....	1 50
Balance on hand .....	52 56

Total ..... \$373 16

R. AGNEW,  
*Auditor.*

# Ontario Association of Fairs and Exhibitions

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## EIGHTEENTH ANNUAL CONVENTION

The Convention opened at 2 p.m. on Tuesday, February 12th, with Wm. S. Scarf, President, in the chair. Delegates were present from every section of Ontario.

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### PRESIDENT'S ADDRESS.

W. S. SCARF, DURHAM.

Since we last met two of our officers have crossed the great divide. In the passing of Mr. Alex. McFarlane we have lost a trusty officer and friend. Mr. W. J. Hamilton was a District Director for a number of years and took an active part in the work of the Association. The loss of these, our brethren, we deeply regret, and our sympathy is extended to the members of their families.

We expected a year ago that by this time peace would have been within our borders and the world's war ended. The war is raging more cruelly than ever. We have lost the assistance of Russia, but in its stead we welcome our American ally. From our home town eight of our boys sprang into the fight, but only one survives. The county from which I come has paid an awful price for freedom and it is not an exception.

The financial side of our Association must receive our serious consideration. About two-thirds of the 350 Societies pay the small membership fee of \$1.00 to the Central Association. Is there not some way to compel the delinquent Societies to pay up? It is for us to devise a plan to remedy this failure on the part of those for whom we are doing so much.

The small amount we receive is carefully expended. Directors are elected for different districts and it is their duty to visit as many fairs as possible in their districts, and give advice to the fair boards. In the past we have given those men \$10 apiece, provided they spend \$10 in travelling expenses. There is no charge for their valuable time. With the additional directors in Northern Ontario you will readily understand that our funds in hand are not sufficient. We are the largest Association in Ontario and touch every village, town and city, but we receive no grant from the Government, and, as a consequence, are dependent on the small fee charged to the Societies. If every Society in the Province paid its annual fee the total would only amount to \$350. I am going to try and show you as briefly as I can what this Association has done for the Societies in the Province.

I might go back to the early years of this Association when the Legislative grants were given to districts. For instance, in our county we have three ridings. In these three districts the money was sent to the district societies, then it was distributed to the local ones. But the amount of money that went to the local Societies was not very large; the bigger ones got the lion's share. We saw then that there was something unfair in the way the money was distributed, because every Society was not treated alike. The grant was based on membership. That very often led

to dishonesty. To one Society I know of a man gave \$10 as a prize in cash, and he was told to name ten extra members of the Society. Hence, if a Society did not do that they did not stand on a par with the one which did.

The law was changed and you know how it reads now. Every Society gets its grant according to the amount of dollars that it spends for agricultural purposes. I do not know of any fairer way.

You know further of our going to the Parliament Buildings on two or three occasions asking the Government to increase the grant. We got originally \$50,000, it was increased to \$65,000 and later to \$75,000. The grant was increased through this Association's efforts by 50 per cent. Is this not of value to all concerned?

I might speak for the rest of the afternoon on the good work of the Field Crop Competitions. We hardly understand the magnitude of it in this Province. I believe nothing ever did more good to the farmers of the Province than these competitions, and our Superintendent deserves every credit for the way he has organized this work. The Canadian National Exhibition here offered, two years ago, a sweepstakes prize of \$200 for oats and \$100 for wheat, and the wheat prize was carried off by one of our own men in the Province of Ontario in competition with the Great West. The prizes were open to the world.

There is another matter which is of very great importance to us, and that is, this wet weather insurance. Before that grant was made we talked about it for two or three years, and we went to all of the insurance men and tried to get a rate that would insure the fairs of the Province of Ontario against rain. The rate was prohibitive. Mr. Wilson was instrumental in formulating a plan and \$10,000 was deducted from the Government grant which greatly lessened our appropriations. I remember the opposition that was brought forth when it was voted on, but we never had to pay a cent of that \$10,000 as the Government came to our aid when they saw the benefit this insurance would be, and set aside \$10,000 additional funds annually towards paying this insurance, so it did not cost us one cent. That was in 1911, and since that time our Societies have received \$37,300 from this insurance fund. Without that insurance a great many of our Societies would, to-day, have ceased to exist. This year I had hopes that we would get along without rain, and yet there was paid from this fund \$8,755 in 1917. One Society, Fullarton, Logan and Hibbert, had a loss that might never again occur in this Province. When all the exhibits were in the building it caught fire and was burnt. The Government arranged to have the Act changed so as to cover fire as well as bad weather. At first we received 50 per cent. of loss, but through the efforts of the Superintendent and this Association the Government first increased it to 60 per cent. and afterwards to 75 per cent. In the earlier years the grant was based on the three previous years, but the Government has now changed this to three previous normal years.

There is not a Society in the Province of Ontario, if they knew what we are doing for them, but would be willing to give even a \$5 fee, because for every dollar we are spending in this Association we get good value. When you consider what it has been worth to us to have the wet weather insurance, the increase in grant and the way they are paid, there is not one Society in the Province that should not be affiliated with us.

There is another matter that I would like to say a few words on and that is the holding of the School Fairs in connection with the Agricultural Society. I feel very sorry that these two should have been separated. I remember early in the time of the School Fairs I was out in the eastern part of the Province and the

School Fairs then were holding a show on the show ground, and I believe there was not one man but went in to see what the children had raised, and there were some splendid exhibits there, and I believe there is not a fair in the Province of Ontario but would reach out a helping hand to the School Fair. The only way we have of keeping the shows up is to have the young participate and become interested.

Early during the year we had a corn show in the County of Essex and I happened to be present. It is not long ago that we thought we could not grow corn in this country fit for seed. At that corn show I saw some of the finest exhibits I ever saw in any country, and I really believe in the County of Essex and Kent they have corn enough to supply all this northern country with seed. They have an association there which is doing good work.

During the fall I visited the Northern District, No. 12, met Mr. Stephenson and we went through the different shows together. I saw some of the finest fields of spring wheat I ever saw. In a little place called Norval, a French town, practically, I was told there were no gate receipts, and the wet weather did not affect them. "But," I asked them, "would you do without gate receipts?" Well, I was told, every man in the district was a member of the Society, and it would be no use charging admission. Another Society near the Soo did the same thing. I had the pleasure of being with Mr. Marshall—his district is 400 miles in extent—and Mr. Marshall is the representative in the western part of it. He came about forty-five miles to meet me so you can see what his duties are as director of that district. We opened an Indian fair, the first Indian show that was ever held at Garden River.

L. J. C. BULL: Mr. Scarf has gone pretty thoroughly into the work which we are doing, so I need say no more.

I took in the two courses for expert judges at Guelph and Ottawa, and I was thoroughly convinced of the good work being done in those classes, and from the questions and the way the judges took up the work we were sure that it is in the interests of the Agricultural Societies to encourage the Department to send judges to your fairs, and we are convinced they can give you much better service than they have given in the past. They are getting a more uniform type all the time, and that is in the interests of the breeders of pure-bred stock. At the fairs during the last year or two we see quite a change in some lines of work.

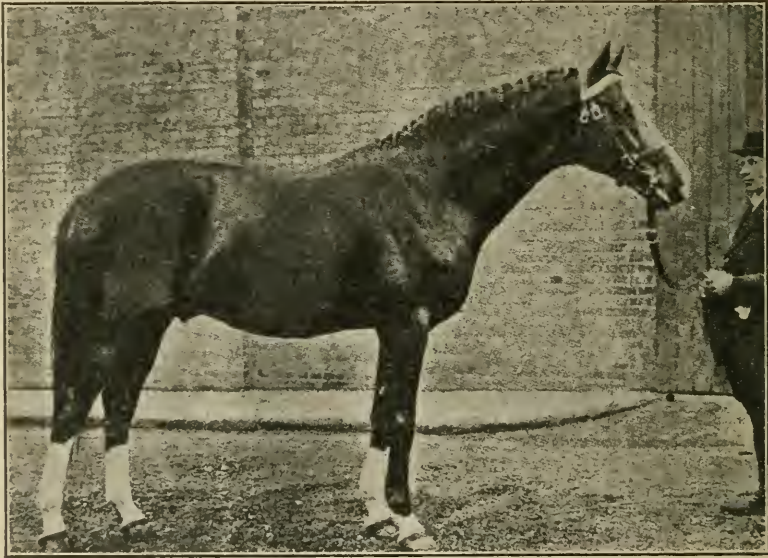
In former years we have seen beautiful displays of fancy work, the product of the most expert needle craft. Last year we noticed in many cases much of that work cut out, and the space in the hall filled with work of the Red Cross girls and members of the Women's Institutes and Girls' Club. We think this is good work. The ladies are helping us in the display they are putting up, and it is interesting to those who have not attended the Red Cross meetings. They are being educated to the needs of the country and are contributing very generously to work of that kind.

In the Field Crop Competitions our Superintendent is certainly doing a great work.

We all realize that the three important features to win the war are to send men and money and to produce food, and I know of nothing that is doing more to encourage the production of grain, beef and pork, than these Field Crop Competitions under Mr. Wilson's supervision. Through these Field Crop Competitions it is easier to secure good seed. We are growing fewer weeds by procuring better seed, and we are all convinced that this Association in the Standing Field Crop Competitions is doing a good work.

I would like to urge, as our President has done, that each Society in Ontario should become affiliated with this Association. When you realize what it has done for you in the way of the wet weather insurance and the grants and the carrying on of the Field Crop Competitions, a small fee such as is being asked is money very well spent, and without this organization the Societies would not be in nearly as good a position as they are in at the present time.

W. J. CONNELLY: I understood you to say you already had two complaints about judges. I am sorry I did not get in my own, that would have been three. However, I have been coming here for a number of years and nobody has ever heard me say a word about judges, in fact, I have always sounded their highest praise. I do not think it is necessary for me to give any names, as our Superintendent already has the names of those men, but I must say that of the judges sent, the most important are those to judge the field crops. I would like to suggest that



Thoroughbred Sire.

these judges should have one of our local men from each Society go with them when they judge the fields.

D. EVANS: Strathroy has entered into the Field Crop Competitions for a number of years, and up to last year we had eminent success. I am reporting this at this Convention because I feel if we are to get the good from this Standing Field Crop Competition that can be gotten out of it, it is essential that the Department know of any lapses on the part of judges. One of our competitors stated that the judge, in judging his potatoes, just stood at the fence. I asked him to put that statement in writing that I might place it before my directors. I think these judges should take time and be given to understand, also, that time be taken to visit every field in the competition. Everyone ought to get fair play.

MR. STODDART: Do Field Crop judges get any remuneration?

J. LOCKIE WILSON: They receive \$4 a day for services and their expenses are also paid.

W. S. SCARF: The Department is asked for men to judge horses, different kinds of sheep, swine and even poultry. It is a very difficult matter to get a man to judge all those classes equally well. The Superintendent tries to fill the bill in a case of that kind as well as he can, but it is too big an undertaking to ask a man to judge all these classes in the short time in which it is required to be done.

A MEMBER: I notice that in some Societies there is a stipulation that the plot must contain three acres of grain or half an acre of potatoes. In one Society that I know of one competitor had about an acre and a half of oats and he got first prize. Some of the competitors naturally came to the conclusion that as he had only to devote half the time to his plot he had a better chance than the man who cultivated three acres. How are we to know whether a man has got sufficient acreage; can he be made to take an affidavit, or how are we to overcome that difficulty?

J. LOCKIE WILSON: If a judge is competent he should have no difficulty in deciding whether the plot contains the required number of acres.

MR. HUNTER: Every time we have had an expert judge we have found he has done his work well. I know that some do not, but we ask for a man to do a day's work, not three days in one. Now do not think that a man can judge three different classes and do his work well. If you want three judges, ask for them.

There is one thing in the address of the President I should like to say a word on, and that is that any Society which will not expend \$1 to belong to this central organization is not worthy of belonging to it. Why not take this up with the Executive and get them to increase the fee from \$1 to \$2. Two dollars apiece is not too much to pay and would give you a little more finances to carry on the splendid work which you are doing. I would go further, and that is I would make it compulsory for every local Society to become affiliated, and any Society which is small enough not to pay \$2 to an institution from which it derives so much benefit should not receive the Government grant. This is not compulsion, but would simply be a matter to bring before the Minister of Agriculture, and it would have the effect of making the men more interested in their own affairs and they would see that \$1 is bringing them 100 per cent. or 200 per cent. I hope your Executive will have backbone enough to take it up with the Government, and you will only be forcing men to pay their honest dues for benefits received.

F. W. JOHNSTON: I endorse everything that my friend from Kincardine has said. We have had Field Crop judges with us in Essex, and I have never heard a word of complaint about them. As for the \$2. dues, it seems to me hardly enough; we should have more finances. The fee should be \$5. If the privilege of belonging to this Association is not worth \$5 it is not worth anything.

R. J. BUSHELL: I represent the Kingston Industrial Fair. Last year I brought up on this platform the necessity of advertising. I am not in the advertising business, and not interested in any newspaper whatever. We have been hearing something on live stock, on the growing of field crops, on affiliation fees. But I want to explain for a minute or two what printers' ink does for you. Four or five years ago I took hold of the Kingston Industrial Agricultural Association, and we spent \$45 on it. To-day we have increased our advertising output until we spent this year the sum of \$851. Four or five years ago we had a deficit of \$254, this year, I am pleased to tell you, we have a surplus of \$1,327.45. This is the result of increased advertising.

"We are not here to dream, to sleep, to drift,  
We have hard work to do and loads to lift.  
Shun not the struggle, face it,  
It is God's gift."

There is not a farmer in the Province of Ontario who is afraid of the struggle in this great crisis that is facing the empire. To-morrow, I understand, the advertising manager of the Canadian National Exhibition is to speak to us on "Co-operation." I have a suggestion to throw out, that such fairs as Brockville, Belleville, etc., take a page on each other's prize lists, and get closer to each other. Also we might throw a gentle hint out to the Canadian National to do the same with the smaller fairs.

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## REPORT OF SUPERINTENDENT.

J. LOCKIE WILSON, TORONTO.

Nearly two decades have come and gone since the Ontario Association of Fairs, and Exhibitions was organized. This Association has been the great clearing house for all that pertains to the welfare and uplift of the Agricultural Societies of Ontario, and, instead of a flagging interest, the delegates have come to these Conventions each year enthusiastic and anxious to further the best interest of the farming community represented by them. A spirit of fairness has pervaded all your discussions and much good has resulted from your faithful endeavours. It might not be out of place, here, at this time, to state briefly some of the things accomplished by your Association: The grants to Spring Fairs, Stallion, Bull Shows and Seed Fairs have been the direct results of your efforts. The grants to the Societies have been largely increased. The first grant you received from the Government for Standing Field Crop Competitions was \$1,000. In ten years this has been increased to \$25,000, and the Government provides judges free of charge. The larger exhibitions and winter fairs have recognized the fine educational work you are doing and have offered large prizes for grain and sheaves. The sum of \$29,750 has been in this way paid to your members who were prize winners in the grain, sheaves and roots in the Standing Field Crop Competitions, and the Agricultural Societies have themselves paid in prizes to their members for this work during the last decade no less a sum than \$65,000. The Federal and Provincial Governments during the same period have contributed towards the prize money for Standing Field Crops alone \$130,000. Only 185 Societies of the 350 in the Province have yet entered this field crop work. Much has been accomplished; much remains to be done. We have an army of 7,000 stalwart yeomen already engaged in this battle against poor cultivation, inferior seed grain, fungus diseases and insect pests. I am looking forward to the time when no less than 25,000 farmers will be recruited and carry on this valuable work for Canada, the Empire and the world's men who are battling for the cause of freedom in the four corners of the earth and the seven seas.

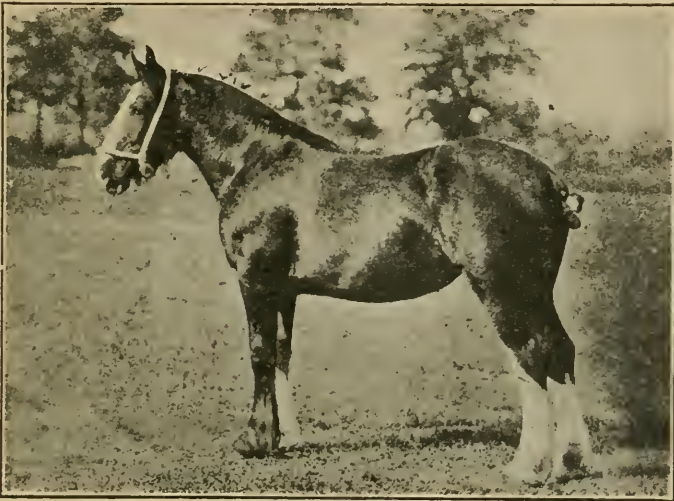
On my recommendation, acting on your behalf, the Department of Agriculture print each year several thousand copies of an Appendix to the regular Agricultural Societies' Report, which gives the names, addresses, varieties of grain and scores of all the competitors in the Standing Field Crop Competitions, the weeds found and names of the prize winners for grain and sheaves at the large exhibitions. This has proved to be the finest advertisement for high-class seed grain that has yet been devised, and results have been highly remunerative and of the greatest educational value.



Through our combined efforts Short Courses for Departmental Judges have been inaugurated, not only for field crops but for all classes of live stock, and the entire cost of this work has been provided through a separate appropriation from the Government. The result has been a more uniform system of judging at fairs and exhibitions and in the crop competitions as well.

Another progressive movement which received the unanimous support of your delegates and has proved of inestimable value to all our Societies, was the wet weather insurance grant, which received the hearty endorsement of the Government, and \$10,000 are set aside each year to meet in part loss sustained in gate receipts through bad weather conditions.

The Act has been recently amended to provide partial compensation for the destruction of fair buildings by fire within a month previous to holding an exhibition. At your request the Act was also amended allowing Societies 75 per cent. instead of 60 per cent. of loss in gate receipts as formerly, and in computing loss



Clydesdale.

the average of three previous normal years is taken into consideration, instead of the three previous ones, which had proved a hardship to Societies which had suffered loss in gate receipts for successive years. And yet there are a large number of Societies in this Province which refuse to pay the small membership fee asked for the maintenance of this Institution, which receives no Government grant, this being all apportioned among the individual Societies.

After hearing some of the results of the work of this Association, I can scarcely believe that there will be many delinquent Societies in 1918. Every agricultural representative and district director fails to do his part if he does not see to it that every Society in his jurisdiction affiliates with an organization that works solely for the good and welfare of the Agricultural Societies of Ontario.

From time to time Societies have been urged to carefully revise their prize lists. Some of these have been issued without change for many years, the directors not taking note of the fact that the standard of agriculture is being raised in every department. There should be no laggards among our Agricultural Societies. Conditions have completely changed in recent years, our voters' lists have increased

over 50 per cent. and a new and important element will doubtless take a more active part in the affairs of our Societies. Domestic science, fine arts, dairy products and floriculture will now be brought more prominently to the front at our fairs and exhibitions than ever before, through the increased interest that will be taken in these by the enfranchised women of the land, and it is the desire of the Minister of Agriculture, Sir. Wm. Hearst, that more interest should be taken by the officers and directors of our Societies in the women's section of their exhibitions. It has been suggested, that in order to assist in this work a lady with practical experience with the women's departments at exhibitions should be attached to my branch to supervise prize lists and give such assistance as may be necessary to the officers and directors of Agricultural Societies. This appointment, I am of opinion, if it is made and a qualified official selected, will prove of value in maintaining to the utmost efficiency the important departments above referred to: I should like to have the opinion of this Convention on this proposition.

All agricultural and horticultural exhibits should have the name of the variety of each product printed plainly on cards provided for the purpose. This adds materially to the educational value of the exhibits. The general statement on a card "white oats," "black oats," "corn," or "potatoes" is of no value to your patrons. I am confident that you will take a note of this suggestion and have it carried out.

I have been asked the question whether a blemished horse should be awarded a prize. It would depend materially on the kind of blemish whether an animal should be debarred or not. In the breeding classes I would say that a blemish clearly recognized as caused by an accident resulting in slight disfigurement should not be considered as a serious detriment. All animals with blemishes of an hereditary character should certainly be debarred.

Some Societies have elected as auditors members of the Board. This is contrary to the spirit of the Act. They may be selected from some of the other members, or outsiders may be chosen, if the annual meeting so desires. Officers and directors elected at the annual meeting, if not already qualified, must pay their membership fees within fourteen days of their election; otherwise they become disqualified and new ones must be appointed in their stead by the Board. This rule must be strictly enforced.

The secretary and treasurer or secretary-treasurer must not be elected at the annual meeting, but is appointed by the Board at the first meeting thereof.

I notice in the financial statements of some Societies amounts appear as paid for taxes. Under the Act, Agricultural Societies' buildings and grounds are exempt. Delegates should take note of this fact and report same to their different boards.

The heartfelt sympathy and deep regret of the officers and members of our Association are felt at the passing of our honored Treasurer, Alexander MacFarlane, who has been an efficient officer of this Association since its inception. Mr. MacFarlane's kind and genial disposition compelled the love of all of us and it will be a long time before this Association will be able to find a more careful and pains-taking official. His passing is, indeed, a great loss to us all, and his widow and family have our sincerest sympathy in their great bereavement. In all the years of his association with us, he was our friend and we were his.

Doubtless, you have all heard of and many of you have witnessed the splendid local and Provincial Plowing Matches which have been held in recent years. This idea of better cultivation of the soil is a function of the Agricultural Societies, but,

for a number of years you have failed to carry out this educational work. The Ontario Plowmen's Association, composed largely of members of your Agricultural Societies, has been formed and for several years large Provincial Plowing Matches have been held. In the fall of 1918 it is the intention of this Association to hold their Provincial Plowing Match in Eastern Ontario and in connection therewith, the manufacturers of all kinds of farming implements are co-operating with the Plowmen's Association and intend holding, in conjunction with them, a monster farm machinery demonstration, where the agriculturists will have an opportunity of seeing these machines in operation and selecting the ones best suited to their requirements. I trust you will keep this Provincial Plowing Match and Farm Machinery Demonstration in mind and tell your members about it. The different farm tractors manufactured in the United States and Canada will be in operation at that Demonstration.

I have made brief reference to the marvellous expansion, particularly of the Field Crop Competitions. You are all aware, I know, of the dire need of our



Shorthorn.

Empire and our Allies for an increased production, especially of the wheat crop. The unfortunate conditions in the fall of 1917 prevented our farmers from getting in the usual large fall wheat crop. I wish at this time to make a special appeal to you who represent the great body of farmers in this Province to sow this year the largest possible acreage of spring wheat. Will you do it on patriotic grounds, if on no other, to help to feed war-shattered Belgium and bleeding France? In order to stimulate you to greater effort in this regard, Sir Wm. Hearst, Our Minister of Agriculture, has asked me to state to you and to the farmers of Ontario that the prizes offered for spring wheat in the Standing Field Crop Competitions will be increased, making the grant from the Government to each Society for this crop \$75 instead of \$50 as formerly, which, with the \$25 contributed by each Society, would make the total offered in prizes \$100.

The prizes for all other crops will remain as in 1917. Will you, representing the 350 Societies in this Province, take advantage of this valuable addition as an incentive to greater effort? I know you will.

The farmers of Canada are in an especially favored position in this testing time. True, many of your sons have gone of their own free will and are valiantly fighting for the cause of freedom, and many of them have fought their last fight and given their lives that we might live, but, under the Military Service Act, your sons who work by your sides in the farm homes of this country are exempt from military service and, in this regard, you are in a better position than other classes of our citizens. It is one thing to have your lads fighting, bleeding and dying in a foreign country, lying at night in the muddy and bloody trenches of Flanders, and another to have a comfortable bed to sleep in and no nerve-racking feeling that at any moment word may come that your boy is dead and that a vacant chair in your home will never again be filled. Therefore, I say, is it too much to ask that greater efforts than ever be made by the farmers of Canada? Some have complained that they have been discriminated against because a guarantee has not been given for substantially high prices for field crops and live stock during the world's struggle. What matters it if your bank account is increased and flocks and herds accumulate, with the Hun at your gates?

Generous, indeed, have been the responses to the call for help in our Empire's and our Allies' time of need. Our motto should be "All for each and each for all." If we at home freely gave one half of our possessions for this righteous cause—our cause—how would it weigh in the balance as against those who gave their lives—their all—for us?

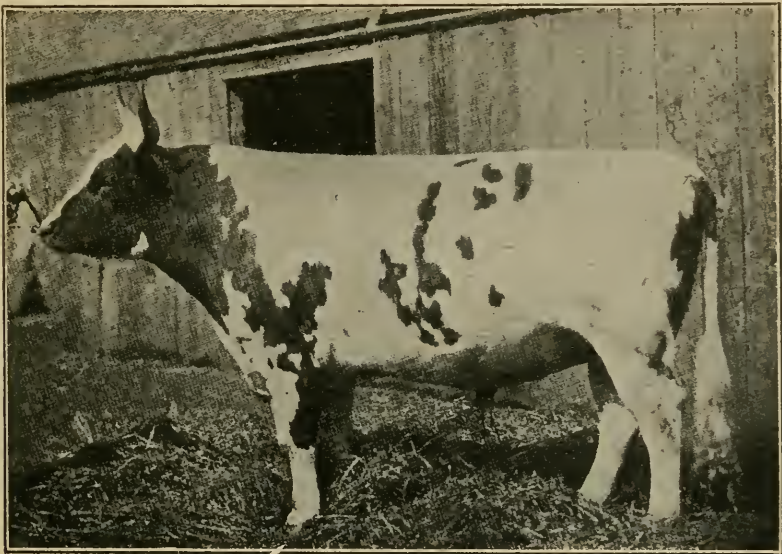
Some criticism has been made regarding judges. The Secretary of every fair that employs departmental judges receives a letter requiring him to write or wire me promptly as to whether the judges have been satisfactory, and I have only received complaints against six out of the total number of 275 judges, which we sent out during the year.

Special mention was made of the Field Crop Competitions. - We began a short time ago with ten societies with a couple of hundred men in the competitions. It has now assumed large proportions and 7,000 farmers last year entered. First we began with one crop, then two. It was then extended to three, which proved beyond the limits of our grant and the number of judges available, and it was found that two crops were all that could properly be handled. Judges go into a field to score it and should be able to tell the farmer the names of the various noxious weeds in the plot and how to eradicate them. The statement has been made that judges came up, looked over the fence, took some notes and drove away. We have some 150 field crop judges and some of them may not be up to the necessary standard, but I must be informed of failures before I can act. With regard to live stock judges a delegate states that one judge who was asked to judge different classes of stock said that he did not know anything about sheep. You cannot get a cattle, sheep and horse judge combined. I myself know what the Ayrshire type means and how to judge them, but if you ask me to judge other breeds of dairy cattle I would not make a first class job of it. You are asking too much when you require one man to judge all classes of stock. If you want first class work done you must have experts in each section. A fair in Renfrew employs nine Departmental judges and the work is satisfactory.

To let you know what we are up against; of the 150 field crop judges out last year, 75 were unable to take any work in 1917 owing to shortage of help. About the acreage for field crop competitions; 5 acres is the minimum. The judge does not have to take a man's word for it. If he is qualified he knows a 5-acre field when he sees it. If you will tell me where the judge awarded a

prize to a man with only  $1\frac{1}{2}$  acres he will not judge again. In Northern Ontario, in order to help the pioneer farmer, they are only required to have 3 acres of grain and  $\frac{1}{2}$  an acre of roots. We are doing our best to further the interests of these societies. All I ask of you is fair criticism.

Secretaries of Agricultural Societies, taken as a whole, are business men and have done their work exceedingly well. There still remain a few who fail to do their work in a prompt and business-like manner. Returns should be in my hands not later than March 1st. The financial statement, when returned for correction (which frequently occurs) should be attended to at once and not allowed to lie on the Secretary's desk unanswered for several weeks. Carefully check over the financial statement and affidavit before sending them in to see that the figures and totals are correct and signed by the president, auditors and secretary and treasurer. Some societies retain a portion of the prizes awarded to Field Crop Competitions. This is contrary to the rules and regulations and



Ayrshire.

must not be done. In the affidavit only the items printed there must be filled in and nothing else can be counted in as expenditure for agricultural purposes. Such items as printing, working expenses, etc., must not be included.

I would respectfully suggest to the officers of the Agricultural Societies in Muskoka, Parry Sound and New Ontario that they hold their fairs not later than the end of September. After October 1st the steamer service on the lakes and rivers is greatly curtailed and judges are seriously delayed and fail to make connection with the different fairs allotted to them.

Our hearts go out in sympathy to the members of our Agricultural Societies whose gallant sons have fought and bled and died for freedom's cause throughout the world. At the firesides of many Canadian farm homes stands a chair that never will be filled by the stalwart boy whose bravery, courage and heroism are on every lip. Under the golden lilies of France they are sleeping, and above the little white crosses, the maple leaf, our emblem dear, glints in the sunshine of the fair land of our gallant French allies. Flocks and herds and field crops matter

little, if the cruel, brutal Hun should win. God is in his heaven, justice in the end must prevail, and victory will perch on Britain's banner, which has flapped and fluttered for a thousand years over our Empire and on the seven seas. May God grant that a righteous peace may soon come and that those who are left of our gallant Canadian sons may soon come marching proudly home again and may the dove of peace once more reign over prosperous Canadian homes.

With casque on head and spur on heel  
 All keen to do and dare,  
 And proudly did Canadian boys  
 Britannia's banner bear.

They went in their splendid battalions when the Motherland gave the sign,  
 From ranch and orchard and farmland, from factory, office and mine;  
 From the land of the warm-hued maple leaf and the flaming golden-rod,  
 They staked their all on the task in hand, and gave their souls to God,

O, torn and broken battalions, when you've played your splendid part,  
 You will bring back here to your homeland a bit of Old England's heart;  
 In the land of the warm-hued maple leaf and the flaming golden-rod,  
 We shall face, with you, the task in hand, and leave the rest to God.

I thank you for your hearty co-operation and valued assistance throughout the years we have worked together.

J. E. PEART: The first clause of the report on which I am to open the discussion was on the Standing Field Crop Competitions and the amount of money which has been paid in the past year in comparison with what was expended some ten years ago. I do not know that that clause requires any discussion, any more than we should make a strong effort in each Society to encourage the Standing Field Crop Competitions in so far as the production of wheat is concerned, especially so when we realize that the Government is prepared to give an additional \$25 to the prizes for the crop. It is also a benefit to the individual who goes into this Competition, owing to the fact that his name appears in the Appendix which contains the scores of every competitor.

There is one question that I feel quite strongly on, and that is the matter of Societies not paying their affiliation fee. That was discussed at a meeting of the Board of Directors for 1917, and the feeling was quite unanimous that the fee should be increased to \$2, and I quite agree with the speaker who said that any Society failing to pay that small membership fee should be deprived of its Government grant, and that is a matter you may well take up, and pass a resolution along these lines.

It is a well-known fact that the grants to the Agricultural Societies have been increased through the efforts of this Association. Take last year, 246 Societies paid their affiliation fee of \$1, the other 104 failing to do so.

This past year the usual amount granted directors for expenses in connection with their work had to be curtailed, owing to the revenue received not being sufficient, so you can readily see that the directors could not do the good work they might otherwise have done.

Another matter that is of vital importance to the advancement of our local fairs is the question of revising prize lists. There are Societies which fail to revise their lists, and I think the suggestion to appoint a lady to superintend those sections of the prize list which concern ladies' work is a good one. I believe the time will come when the Department will issue certain classifications that the Societies can pick out or add to, and that, I think, is the proper method of getting uniformity in prize lists.

The matter of the paying of taxes upon exhibition property will probably be new to some of the Societies. Our Superintendent has very feelingly referred to the loss of our late Treasurer, which the members who have attended this convention from year to year will no doubt feel very keenly.

As to procuring machines and the demonstration of machinery; I think the Agricultural Societies should make a special effort to advertise same and encourage them.

P. BROCK: In Northern Ontario it is almost impossible in some places for the farmers to get threshed before the end of September, so that we cannot hold our fairs earlier in the season.

E. J. MCLEAN: We have found in our Massey Agricultural Society that in holding our fair the latter part of September we usually run into very wet weather and when we hold it the first week in October we miss those rains.

R. R. TAYLOR: Are Societies, the buildings of which are burned within 30 days before the date for holding the show, remunerated by a grant of 75 per cent. on the consequent loss of their gate receipts?

J. LOCKIE WILSON: If the Board of Directors are getting ready for their usual exhibition and the buildings are destroyed by fire within 30 days previous to holding the show, the Society is reimbursed to the extent of 75 per cent. of the loss in gate receipts as compared with the average for three previous normal years.

R. R. TAYLOR: Is it too late to put in a claim now for South Brant Society, the buildings of which were burnt on first of September?

J. LOCKIE WILSON: The Act requires that you must make application on or before the 1st of November of the year in which your building is burnt, so you are too late.

MR. STODDART, Brantford: In reference to the question of the appointment of a Secretary-Treasurer of the fair, should he be appointed at the annual meeting?

J. LOCKIE WILSON: The President, First and Second Vice-presidents and Directors, also Auditors, are elected at the annual meeting. The Treasurer and the Secretary are officers of the Board and they are appointed by the Board of Directors, who are the only ones who have the right to elect the Secretary and Treasurer. He is their servant and subject to dismissal if they see fit.

MR. STODDART: After the new Board has been elected, can they elect a Secretary-Treasurer at their first meeting?

J. LOCKIE WILSON: That is the proper method of procedure.

MR. SPROULE: Just at the close of our annual meeting we call a special meeting of the Directors and at that meeting we elect our Secretary-Treasurer.

DAVID EVANS: If I understand correctly, the Secretary-Treasurer can only be dismissed with cause after he is elected. He does not need to be elected every year; he is only dismissed for cause. In connection with the discussion in regard to the annual revision of the prize list, last year we for the first time induced the schools surrounding Strathroy to make an exhibit. The President and a number of the Directors visited a number of schools early in the year, yet no effective arrangement was made whereby the whole body of teachers and pupils was reached until the first day of September, and as our fair was held on the 15th, there was not much time. A special juvenile department was arranged for in which we gave prizes for schools as schools and also in a large number of different sections and we met with great success. I believe the hope of the agricultural industry is largely in the hands of the young people of the coming generation, and it is our bounden duty to see that we do everything to direct them and to assist them to

take an interest in the one great industry of this country. We had eight large exhibits filling all sides of a good sized building, and if you arrange for a similar exhibit you will reap a rich reward. It is not only that you get the children's interest but you enlist the sympathy of the whole community, of everybody who has a boy or a girl. Every Society that will take this thing up and put some life into it will be richly rewarded for their efforts in that respect.

MR. SPROULE: We have had much pleasure in listening to the reports of the President and the Superintendent of Fairs, and I take this opportunity to rise to move a motion of adoption, but before putting it I will say that I have attended gatherings of farmers, and have heard farmers who are supposed to be intelligent saying that our Government was not doing much for the farmer. After listening to these reports it seems to me that we cannot say that any more. If there is any class of people who are getting a better show than any other it is the farmers, and more so to-day than ever before. And quite rightly so. What



Welsh Pony.

we need more than anything else as farmers is to think a little more of ourselves than we have been doing. We have been thinking of ourselves as second-class individuals. A great philosopher has said "Tell me what you think to-day and I will tell you what you will be to-morrow." If you think you are a second-class person to-day, you will be a second-class one to-morrow. If you think you are a first-rate person, you stand a fair chance of being a first-class person to-morrow. I am glad to see so many faces of men who are interested in fair work, not for the dollars and cents which we get out of it, but for something better, for the good we can do in this generation and for those to come.

Another thing that we farmers lack is co-operation, and I am surprised to hear that there are Societies which are not affiliated with this Provincial Fair Association. They are back numbers standing in their own light, and I would like if your report could go into the hands of every farmer in the Province of Ontario. It would make us more fully alive to what is being done for the cause of agriculture. I move the adoption of the President's and Superintendent's reports.



Motion seconded by W. J. CONNELLY and carried.

MR. DONALDSON: When did this amendment go into effect, to pay 75 per cent. to Societies losing their buildings by fire 30 days before fair time?

J. LOCKIE WILSON: At the last session of the Legislature.

JNO. E. PEART: I cannot take my seat without referring to the courtesy of our Superintendent. We recognize that Mr. Wilson has at all times had the ear of the Government for any cause which was worthy of consideration, and has shown us this to-day by the increase in the grants mentioned in his report. In looking around this meeting this afternoon, during the years I have attended I never saw a more largely representative convention than we have this afternoon, especially considering existing conditions so far as railway transportation is concerned. I could not take my seat without expressing my appreciation of the efforts which our Superintendent makes in trying to manage the organizations through this Province, especially when you stop to consider that you have got to have individual treatment for individual cases.

ADAM ARMSTRONG, Fergus: I would like a little further light on that increase in grant on spring wheat.

J. LOCKIE WILSON: Sir William Hearst has increased the grant on that crop by \$25; if the Society puts up \$25 we put up \$75.

ADAM ARMSTRONG: Our Society has not been in the habit of offering any prizes for spring wheat because it has not been grown to any extent until the last two or three years. But last year at our fall fair we had five samples of Marquis wheat and every one of them good ones. We have entered in corn and oats, could we go in for another crop?

W. S. SCARF: You can only compete in two classes.

J. LOCKIE WILSON: The increase I mentioned is for spring wheat only, the other prizes remain what they were. The Canadian National Exhibition Board have also agreed to increase their prizes for spring wheat.

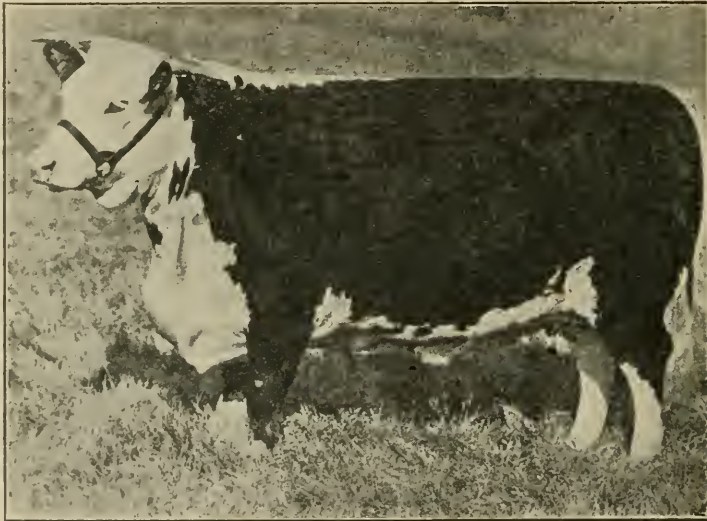
ADAM ARMSTRONG: Must we drop oats and corn to take up wheat, or will the Department permit us to take up corn, oats and wheat.

J. LOCKIE WILSON: We found that allowing Societies to enter in three crops was too expensive, as it required three sets of judges to go around, so that two crops are all that can be allowed. If you take up spring wheat you would require to drop one of the others. A previous speaker stated that he knew nothing of the changing of the Act regarding exhibition buildings being burnt, and a legislative grant to meet loss in gate receipts as a result. This shows the necessity of carefully reading the Reports sent you. On page 86 of the Agricultural Societies' Report for 1917 you will find the amendment to the Act quoted in full. This Report was printed some time in August before the fairs, and every Secretary in this Province received a copy. Twenty thousand of these reports were mailed from my office. Every Secretary got one, and if he did not, it was lost in the mails. What is the use of printing it if you do not read it? If you did not receive one, why did you not drop me a postcard?

W. A. MCKENZIE, Mitchell: We not only received a copy of that Report but it was marked in red ink in the book.

FRANK YEIGH: The Canadian Government has established for war purposes what is called "The War Lecture Bureau." One of the delegates to this convention suggested that at this meeting five minutes might be given to tell you about this War Lecture Bureau. Its purpose is to carry on during the war a war propaganda publicity continuously until the war is over, supplementing whatever

the press may say, supplementing whatever you may know from any other sources. A similar bureau is under operation in England. Thousands of voluntary speakers are giving five minute speeches. These "five minute men" are already giving hundreds of five minute talks to gatherings all over the country. I have come from a convention of ladies to a convention of men. The idea is to keep ourselves keyed up to the job of winning the war, and also to supplement any information that the Government tries to spread. I hope that next fall, if the war is unfortunately then in existence, there will be good opportunities at the fall fairs for representative speakers of the War Lecture Bureau to give a few minutes' talk. It is essential that there should be the fullest co-operation in all parts of Canada; men and women organizations, high schools, universities, conventions of all kinds, are already hearing these lectures. They are given in the moving picture theatres almost every night. Many, many thousands are given across the line. This is the crucial hour of the war. Is our attitude the proper one to carry



Hereford of a good, blocky type.

this huge undertaking to a close? Subjects selected might be—"The Government Issues," "The Menace of the War," "The Victory of the Canadian Troops in 1917," "The Attitude toward the New 100,000 Army," "The Attitude of the Cheer Instead of the Sneer," "The Answer to Germany by Lloyd George and President Wilson," "How to Fight Germany in Canada by our Saving in Both Money and Food." A man went to address a crowd in a moving picture theatre in Ottawa on that subject, but the proprietor told him, "I have heard all that repeatedly." Well, he probably needs to hear it again. You will hear of it through the press in your different towns. It was one of our local representatives in Western Canada who asked that you might be made acquainted with it. Anyone who wishes the printed matter of this bureau, is entitled to it as a citizen by dropping a postcard to the War Lecture Bureau of Ottawa. Some of them you will find very valuable—"The Thirty Victoria Cross Winners in Canada. Why They Won the Coveted Honor." You will hear more about it, and whenever the opportunity comes, give it your co-operation, it is requested by the Government.

## AGRICULTURAL SOCIETIES AND AFTER WAR CONDITIONS.

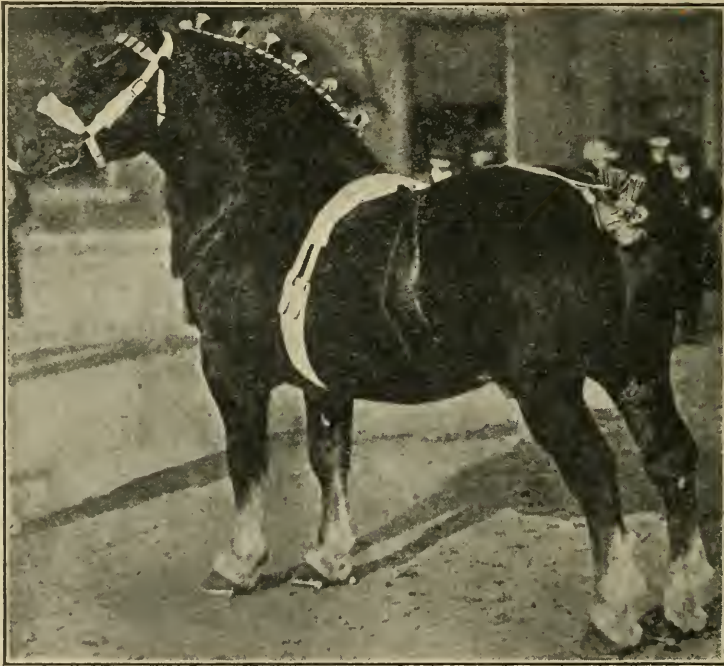
A. R. G. SMITH, NEW HAMBURG.

I shall discuss my subject from the standpoint of our Societies. My sympathies have been with the Secretaries of Agricultural Societies during the last few years. At the outset of the war we were notified that the Government judges would be withdrawn. We were also notified that probably our grant would be taken from us the following year. That placed the Agricultural Societies in a rather difficult situation, because none of us at that moment realized the situation as we know it to-day. After  $3\frac{1}{2}$  years of war the spectre of famine stands before the people of Europe, and the situation is more desperate than we know of at the present moment. War has changed the face of Europe, but not so on the North American continent, where, as our esteemed Superintendent said, we are in a remarkable situation because of the splendid crops we had during the past year. The situation in Ontario is fairly satisfactory from the standpoint of our own protection; the situation as far as labour is concerned is not in a satisfactory condition, as was shown by the report of the Natural Resources Committee of this Province when they stated there was only one man to 100 acres of land, and had it not been for the devotion of the farmers' wives of this Province we would have been on short rations long ago, and there is nothing that I know of more admirable than the efforts put forth by the farmers' wives of this Province. We are face to face as agricultural societies with the situation that confronts us now and after the war. I say, "after the war," as I take the position that with the help of God, Great Britain and her allies will win the war, and England will be, as before, the champion of the smaller nations' rights and Mistress of the Seas. We have certain conditions to face at the present time in connection with our agricultural production that in my opinion are very important, and one of our first steps taken should be to pay our respects to the boys and girls on the farms in this Province. It is very difficult to take people from the city and transform them into workers on the farm, but the boys and girls of this Province did valiant service last year. Our township last year liberated from school all the boys from the age of 11 and upward, and we had 125 of those little fellows assisting in farm work. Our Agricultural Society did not fail to pay their respects to those boys. We associated with another township which is particularly interested in doing something for the boys and girls. The name of every boy in the township was given to us between the ages of 11 and 19, about 700 in all. At the fall fair we sent each of these boys a complimentary ticket. They were asked there as our guests. Representatives of the Town Council, Boards of Trade, School Boards and various other organizations addressed those boys, and after the ceremony they were all presented with the Farm Service Badge which was sent out under the auspices of the National Council of the Y.M.C.A. of this Province.

One thing that we as agricultural societies should do in my opinion, is to get the people together at our fall fairs and place before them by demonstration work those important matters before us at present—the conservation of food.

We are also interested in the live stock situation. If I might express myself, I don't think we have advanced in our live stock interest in this country as we might perhaps have done. Every hog in the farmer's barn to-day means an asset to the nation. The people of Germany realized this and devoted their best efforts in this direction. We in our Society are offering extra large prizes for the best sires in the community. The object is to develop the live stock industry as we

have failed to do in the past. This stock situation is extremely important. When the war is over we may expect an enormous demand for good breeding animals. I have been told that there are hardly any sheep left in Central Europe, so that the Province of Ontario has an unprecedented opportunity before it. When we go to England, we find they specialize in Yorkshire swine. Jersey Island, although rockbound and storm swept, has a breed of cattle that are considered the greatest butter producers in the world. There are Ayrshires which have done so much to improve conditions. These people as a result of thought and effort have made England the live stock centre of the world. Now, we should, in Ontario, endeavor to encourage our live stock by offering large prizes for the sires of stock that we show at exhibitions, as that in my opinion is the basis of successful breeding.



Belgian.

Then we have the outlook, as far as our own country is concerned, and when I speak of the after war conditions, I speak as a pioneer of the Dominion of Canada. We have as yet only begun our work of development in Canada. We have in Ontario something that is cheaper than anywhere else in the world, that is Hydro-electric power. We have developed at Niagara Falls 500,000 horse-power and in other sections another 500,000. We notice a large number of manufacturing concerns have bought large areas of land within the near centres of this distribution of Hydro-electric power. That means they have in mind, no doubt, the possibilities of the Western Provinces as buyers. The little shack on the Prairies will be transformed to the beautiful home—that means a great deal to the Province of Ontario, therefore, we as agriculturists, are interested in the live stock of our community, because of the demands we will have in our own country for meat and milk.

We should also in connection with our prize lists pay a little more attention to the question of doing away with the professional exhibitor. As far as I am concerned, I am not in favor of spending sums of money on people who come from a distance with a trunkful of fancy articles; I believe in distributing the money in our own locality. I was pleased to hear from Mr. Bull's address that in his section they are doing something along the lines of patriotic work. We also took up last year the question of division of money among the schools. We hope to have a conference some time soon with the eighteen teachers of the Township of Wilmot, so that we can arrange our prize list so that the boys and girls will receive the money that in the past has gone to the professional exhibitor.

The Field Crop Competitions of this Province have done a remarkable work in improving the seed. The seed at the present time is a very important factor in connection with the crop that we hope to raise next year. We have discovered in connection with clover seed that the best results are obtained by clover seed grown in our own district. We are this year awarding \$50 for alfalfa seed grown in the Township of Wilmot.

As regards school exhibits and home arts, it is important I think, as agricultural societies, that we should pay attention to those competitions that will develop home-making in our rural districts. The home is the basis of the nation. Rome was Rome the Great when Roman homes were pure. While I am interested in keeping boys and girls on the farm, I do not want them all kept there because there are demands in the church, the state and commerce that are best filled by men raised in the rural districts. We all know what Tolstoi said of the city. I hope the Government or some other organization will see fit to give the Agricultural Societies larger grants of money whereby we can increase our prizes, which is the only way of stimulating interest in agriculture, which is after all the basis of our successful national progress, and in that particular way we, as agricultural societies, should show our boys and girls that we are interested in them and in their development, and that after all, God's best gift to man is the soil and that the following of agriculture is indeed a dignified one.

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#### REPORT OF COMMITTEE *RE* LADIES' WORK AT FALL FAIRS.

On January 4th, a small committee of ladies of the judging staff, under our esteemed superintendent, Mr. Wilson, met, and discussed some features relative to fair work, and herewith beg leave to submit to your Association the following recommendations:—

This committee believes the agricultural interests are of paramount importance to the Empire to-day, and that agricultural pursuits should receive every stimulus at this time, and do therefore advise, as one of the means of advancing such interests:—

First, a revision of prize lists in Ladies' and Domestic work, in a number of Societies in the Province, and that such revision be done by competent ladies, after careful discussion with the Agricultural Boards of the various localities, as to local conditions and needs, and that the following changes and additions be made wherever feasible.

(a) That prizes be offered to girls for best display of vegetables and also fruit.

(b) That prizes be offered for individual exhibits of fruits, vegetables, or pickles, not for the collection.

(c) That no chemicals or powders be used as preservatives in fruit, jelly or vegetable exhibits.

(d) That all exhibits of fruits, vegetables or jellies be limited to not more than 12 jars, by any one exhibitor, and only one of each variety.

(e) That all exhibits in Dairy and Domestic classes have vouchers attached thereto, as to the bona fide work of the exhibitors.

(f) That special sections in Domestic work be arranged for exhibits by girls up to 15 years of age, vouchers to be attached to exhibits as to the bona fide work of exhibitors (I hereby certify that this is the work of —, and she is not over 15 years of age)—Signed.

(g) That score cards be used in Dairy sections.

(h) That, to encourage and stimulate interest in the care and culture of bees, to elicit a fuller appreciation, and incite greater consumption of honey as a valuable food, prizes be offered to boys and girls for honey and bee exhibits.

(i) That prominence be given war breads, plain cakes, and pastry, as per the attached recommended list.

(j) That all exhibits of foodstuffs be carefully covered, and the placing and care in arrangement of exhibits be considered by judges when making awards.

(k) That eggs be entered *strictly fresh*, not kept for an indefinite period, and six of the number be tested by the judge.

(l) That there be distinctive classes for amateur and professional work, preference being given to the former, the latter to be entered only with fee of \$2.

(a) A professional shall be known as one who goes about following fairs, who imports goods, keeps a fancy goods store, or otherwise makes such work a business.

(b) The amateur shall be known as one who does not receive remuneration for her work excepting through exhibiting at local county fairs.

(m) That plain sewing be done on a completed useful article, and button-holes be made on a garment and not on strips of cloth.

(n) That suitability of socks and other knitted articles be considered by judges when making awards.

Second, That whereas the women of Canada have proven themselves of value, and acquitted themselves worthily in all avenues of public work, and the Committee believes it would be to the advantage and profit of the Agricultural Societies of the Province of Ontario, to place lady representatives upon the Agricultural Boards, we recommend the same, and that where the Directorate numbers nine or more members, three of the number be ladies.

Third, That, in order to maintain a high standard of work in the Ladies' Department, the Departmental judges should have some uniformity in their work, as well as competency, and we therefore recommend an Annual Short Course Instruction Class in Judging, for the ladies of the staff of the Department, to standardize and unify their work.

Fourth, We do also recommend, after careful discussion of the work, that, for the further advancement and success of the fairs and exhibitions, the Province be divided into seven districts, that seven competent ladies be appointed to visit and work in these districts, and that one of the seven be appointed as supervisor of the entire work under the control and direction of the Agricultural Societies Department.

All of which is respectfully submitted.

M. VIOLA POWELL,

Convener of Committee.

## CLASS 42—HOME BAKING.

War Bread:	1st.	2nd.
Home-made Bread, hop yeast, one loaf .....	1.00	.75
Home-made bread, salt yeast, one loaf .....	1.00	.75
Home-made Bread, Graham, one loaf .....	1.00	.75
Buns, home-made, six .....	.60	.40
Rolls, home-made, six .....	.60	.40
Baking Powder Biscuits, six .....	.60	.40
Cake, layer, one .....	.60	.40
Graham Biscuits:		
Cake, loaf, plain .....	.60	.40
Fruit Cake, loaf, not iced .....	.60	.40
Cookies, oatmeal, six .....	.60	.40
Cookies, A.O.V., six .....	.60	.40
Fried Cakes, six .....	.60	.40
Tarts, six .....	.60	.25
Pie, apple, one .....	.60	.40
Pie, pumpkin, one .....	.60	.40
Pie, lemon, one .....	.60	.40
Pie, mince, one .....	.60	.40

## BUTTER SCORE CARD.

Flavor .....	45
Grain .....	25
Color .....	15
Salt .....	10
Package .....	5
Total .....	100

## ARRANGING OF EXHIBITS AT FAIRS AND EXHIBITIONS.

W. A. LANG, C.E.F., OTTAWA.

When I was asked some weeks ago to make an address on the subject of the arrangement of exhibits, I was somewhat at a loss to understand what interest such a subject would be to a gathering of representatives of the fair boards of the Province. As a rule these officials are more interested in securing exhibits for their fairs than they are in the arrangement of these exhibits at the fair.

It has occurred to me, however, that Mr. Wilson's reason for giving this matter place on his programme, was to induce these gentlemen to realize that they should take a serious interest in this question and endeavor to bring about some changes for the better in the installation of exhibits at all fairs, whether township, county or Provincial; for until more attention is paid to this subject not only by the management of fairs, but by the exhibitor as well, the full value of these fairs will not be realized.

We are all agreed that the agricultural fair is a great educator. No one will deny that there has been no single influence exerted in the past that has done as much to induce better cultural methods, better seed selection, or better stock selection and breeding methods than is prompted by the competition offered at the various agricultural fairs throughout Canada.

It follows, therefore, that every effort to improve these fairs, either from an educational or commercial standpoint, should be exerted in the fullest measure by every one in any way connected with exhibition work.

There are many kinds of exhibits and for the purposes of this address I may be permitted to make the following classification:

Exhibits for purely educational purposes.

Exhibits featuring the natural products and resources for publicity purposes.

Exhibits for advertising purposes only.

Exhibits for competition.

Now as a matter of fact, these might all be said to be educational, or at all events we should endeavor to make them of value to the visiting public.

You will notice that I have given first place to educational exhibits, partly because this is the class of exhibits I am most interested in and partly because they do not always receive the attention from the public that they deserve.



Itainy River School Exhibit.

Just what will interest and satisfy the general public at our agricultural fairs is quite a problem. Just how much information they will carry away and how best to impart that information.

It must be remembered that fair day or fair week is holiday time for the farmer and his family, and in some considerable number of cases the only holiday time of the year—and it is not to be expected that they will devote very much attention to anything except having a good time.

It is, therefore, necessary that exhibits be made interesting as well as instructive, and in their preparation too much care and thought cannot be expended. Do not forget that the public like to see attractive things.

The lesson to be learned from an exhibit will not lose any of its force if it is presented in such a way that the visitor does not recognize the fact that he is being taught.



In planning an educational exhibit do not forget or under-value the display feature.

Adopt a color scheme and follow it—always remember that the average farmer visitor has little or no use for the book farmer—show him results, show him the profitable way and you will get his attention and interest.

Next come exhibits of natural resources and products, whether of a township, county, province or nation, put up for publicity purposes with a view to inviting settlement, to secure capital for the development or to extend markets.

This class of exhibit is one in which I presume this audience is not much interested. It is usually undertaken by a county or provincial organization, strong enough financially to install such an exhibit as will be in keeping with the importance of the particular territory to be advertised. In exhibits of this nature, quality and excellence of arrangement must have first attention. Is it not a fact that an attractive, well arranged display will appeal to a greater number of people, even if the materials featured are not quite up to standard, while a poorly arranged exhibit of first quality goods will be passed by with only a hurried glance.

Probably the most attractive displays at the average fair are those put up by manufacturing and mercantile firms, purely for advertising purposes.

The merchant of to-day realizes the value of the window dresser—and this class of exhibit can very well be left in the very capable hands of those interested and responsible for them.

The last class I will refer to is the exhibits for competition, and here I think we may look for considerable assistance from fair boards.

Probably the most important class under this head is the stock exhibits and poultry.

With regard to live stock displays, I confess I have little to say. It has been said that "For ways that are dark and tricks that are vain the Heathen Chinese is peculiar." This might also be said of some stock exhibitors if all we hear is true. However, the best evidence we have that the average stock exhibitor requires very little instruction is the very splendid displays of stock to be seen throughout Canada.

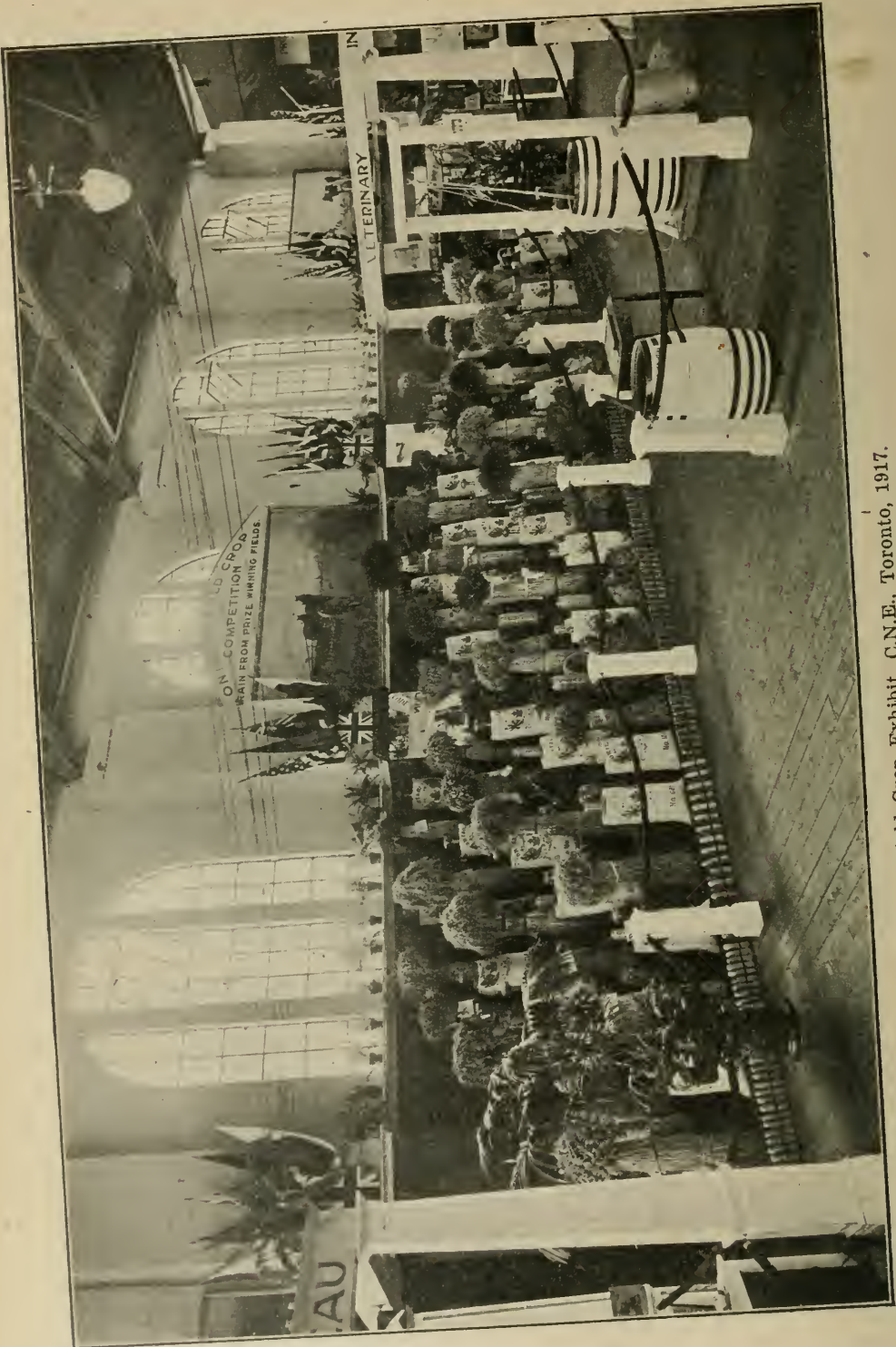
It is in the arrangement of exhibits of dairy products, fruit and vegetables, grain, domestic manufactures, and ladies' work, where much improvement can be made, because these classes are usually in charge of individual directors at each fair and these officials should not only be willing to devote some considerable time and thought to their arrangement, but should have sufficient appropriation placed at their disposal to enable them to make decent and attractive accommodation for the display of these exhibits. In a wooded country like Ontario, where lumber is reasonably cheap and paint plentiful, it seems too bad to see the splendid products of the farm, orchard and garden laid out on rough, unpainted and uncovered boards.

Set aside a small appropriation this year for new tables and paint.

A little white enamel paint and white oilcloth will greatly add to the attractiveness of the display of dairy products, etc., as will some green cloth for the tables and shelving for the fruit display with trays, plates or baskets of uniform size and color.

Uniform containers of wood or glass for the grain display will be very much more interesting and attractive than the usual assortment of bags of all sizes and colors and ages.

Keep domestic manufactures, especially bread, cakes, etc., under glass under all circumstances—preferably in a show case which can be built in permanently at low cost.



Field Crop Exhibit, C.N.E., Toronto, 1917.

Vegetables should have the same consideration as fruit, and if properly staged make as fine a display.

In the staging of all exhibits one prime requisite should always be kept in mind—to provide ample aisle space for the public; no passage should be less than 8 feet, while 10 feet is better. It is preferable to give less space to your exhibit than make it impossible for the visitor to stop and examine it. We often see passages so narrow that if two or three people stop a jam occurs.

Some difference of opinion exists as to how much the appearance of an exhibit may be enhanced by the use of special lighting effects—whether it is honest to use artificial light or not. My own opinion is that if by this means better effectiveness of display is attained we need hardly worry about whether we are justified or not in using this means.

Transparencies, well lighted, give immensely more value to an exhibit than photographs or prints, and there is hardly any limit to their use in featuring special reading matter or any other matter where the photograph or painted legend is used.

Transparencies may be on glass which requires careful handling, celluloid which is costly, or silk or linen, all of which are difficult to obtain owing to war conditions.

The automatic stereopticon for exhibition work was introduced into Canada last year, and is not only a very useful machine but adds very materially to the effectiveness of an educational exhibit. These machines project 72 slides in rotation. These are arranged in series and show a picture 30 x 30. There are three speeds of 15, 20 or 30 seconds exposure. They are motor driven and do away with the necessity of an operator. They cost about \$300.

MR. LANG stated that if any Society wished his assistance during 1918 he would give them all the help possible in showing the proper arrangement, etc., of the different articles. One hundred and fifty fairs could be visited in a year. This would be done absolutely free to the Societies.

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## REPORTS OF DISTRICT DIRECTORS.

### *District 1.*

J. S. SIBBIT, Kingston, Director: Shortage of labor and the backward season made it impossible for me to visit as many fall fairs as I would like to have attended.

The exhibits in my district were up to the average, and some above, especially in dairy cattle, grain and garden produce. As our eastern district is a dairy country, Holstein cattle predominate and the quality of the same is improving from year to year. Some of the exhibits in this class showed excellent fitting. The swine and sheep exhibits were a little below the average, due partly to the scarcity of help and lack of time for exhibiting them. This class should show a marked increase in the present year, the swine because of the call for bacon for overseas shipment, the sheep because of the bright outlook for wool prices and consequently more sheep breeders. There seems to be a growing interest in the Field Crop Competitions. I would suggest that every Agricultural Society take advantage of one or more of these competitions, they being a stimulant in the growing of better and cleaner seed.

The school fairs under the District Representatives have a very encouraging outlook. The growing attendance and interest of both parents and children is sure to have a marked effect on the fall fairs. See that proper rest rooms and a better lavatory system be provided at each fair. I believe that a good clean midway, with no fakirs and trials of speed, and proper lunch-rooms all help to make the fair a prosperous institution.

The Kingston Industrial Exhibition was a decided success this year, being one of the few fairs with a substantial balance on hand, owing to the untiring efforts of an energetic secretary and manager in the person of Mr. R. J. Bushell, who keeps the fair constantly before the eyes of the public three hundred and sixty-five days in the year.

As farmers, we have endured an over-abundance of advice from cities and arm-chair critics. We have been called profiteers when our profits have seldom amounted to five per cent. on our invested capital. But this is a time when all smallness should be brushed aside and our greatest co-operative efforts put forth in enabling us to bring this terrible war to a successful close.

### *District 3.*

W. J. BARBER, Director: District 3 comprises the Counties of Hastings, Lennox and Addington, Northumberland and Prince Edward, counties of Ontario famous for their fruit and dairy farms.

There are in this district twenty-six Agricultural Societies, but on account of the scarcity of labor with which we farmers have to contend, it was impossible for me to attend as many of them as I would have liked. I had the pleasure, however, of attending some eight or ten, and in each case found them in a flourishing condition, and each officer and director doing his best to make their fair a success.

The fairs held in the early part of the season were favored with fine weather and in each case there was a good attendance with gate receipts, in most cases in excess of previous years, which goes to show that the people have not yet tired of the local fairs, but rather that they are taking an increased interest in them. Those held later in the season were not so well favored and had to get assistance from the Department through the Wet Weather Insurance in order to meet their obligations. The entries of fruit, roots and vegetables were not up to the average this year owing to unfavorable weather conditions. The live stock classes were also lacking in exhibits, owing, no doubt, to the scarcity of labor. The ladies work, however, was well represented; it is an important feature and should be encouraged.

The Field Crop Competitions in these Counties are doing a good work along the lines of better farming and better seed selection, and I would suggest that those Societies that have not yet undertaken this valuable educational work do so this year, if possible.

The interest in School Fairs, under the supervision of the District Representative, is increasing each year with both parents and children alike, and the exhibits put up at each one of them are a credit to the children who have undertaken the work. Nearly all the Societies in this District employ two or more Departmental judges, and they have, on the whole, given good satisfaction.

We should not overlook the interest that is being taken in our fairs by the ladies, for in nearly all Societies we find quite a few lady members each doing their share to make the fair a success, going to the trouble in some cases to provide lunch, which is greatly appreciated by all. Quite a lot of money was raised at the fairs for Red Cross purposes by the young ladies selling flags and buttons.

I hope that after seeing the benefits derived from this Association every Society will willingly pay the affiliation fee and send two delegates to this convention to help along the good work that is being done.

I wish to thank the officers and directors throughout the District for the kindness and hospitality extended to me during my term of office, and trust that before this Association meets again the terrible struggle now going on in Europe will be over, victory ours, and a lasting peace be proclaimed.

*District 4.*

E. H. PURDY, Director: Owing to private business I was not able to attend as many fairs in my District as I would like to have done last fall. On account of the fine weather during the holding of the fairs last fall they were well attended



Vegetables at Mitchell Fair.

and were a success financially and otherwise. The lateness of the harvest interfered somewhat with those that were held early in September.

We are endeavoring to make our fair in Pt. Perry as agricultural as possible, thereby dispensing with attractions. In order to counteract the effect of cutting out the attractions we have increased our prize list very materially, thereby increasing the number of entries. Competition is what the people who take interest in fairs wish to see, and the class of stock is bound to be better. We added another feature to our Fair last fall by holding a Junior Fair as well. This will, I believe, be a means of creating a greater interest with older people and increase the attendance. We find that lack of interest by the farmers in our part of the District renders it hard for the directors to make as great a success of their fairs as they would otherwise do.

*District 5.*

R. B. HENRY, Orangeville, Director: This District includes the Counties of Dufferin, Halton, Peel, Simcoe and York.

I had the pleasure of visiting seven fairs, including the Canadian National Exhibition. I spent two days at this Fair and was very much impressed to see how well Toronto Exhibition was holding up in the face of the awful war conditions and the continuous drain on men and finances in the city and surrounding country.

As soon as convenient after our meeting I wrote to all the different Societies that had not identified themselves with our Fairs Association. Three of them replied promptly, the Toronto Exhibition being the first to send in their fee and wishing us every success.

The fairs I visited had large crowds and fine weather with two exceptions. East Luther had a very bad day, but the roots in hall were the best I had seen at any fair. The show of horses and cattle were good, and had the weather been favorable the show would have been a good success.

I spent two days at Shelburne Fair and was greatly indebted to the President and Secretary, as they kept me at work both days. This Fair was a grand success in every department.

At Bolton Fair there was, as usual, a good show in the hall, the horse show was good also, but a falling off in the cattle was noticeable. The grounds require some attention. The gate receipts were good and officers efficient and obliging.

I attended Caledon Fair and the first day there was a good show in the hall. The weather was very unfavorable for the second day, but financially and otherwise the Fair proved a success.

Orangeville Fair has had great success, good weather and an excellent show for three years. Two large barns have been built, one in 1916 and the other in 1917; there is no indebtedness, and we have been able to invest one thousand dollars in the Victory Loan and still have a nice balance in the treasury.

Brampton held their Fair on a Saturday, the exhibition was first class, it would be a difficult matter to improve on it, and, judging from appearance, the gate receipts must have been large. The Fair was in keeping with its usual reputation of being one of the best.

We must not overlook the part the ladies in the district took in the fairs. In most fairs I found many ladies contributing their share to the exhibits and taking an active interest as well.

The field grain and roots competitions are one of the leading features in our district and are accomplishing a great deal in the way of improving the farming.

More interest should be taken in the children. Schools should be visited personally, free tickets given to teachers and scholars and trustees interviewed regarding a holiday, for, by getting the children, you interest the parents.

Attractions: This is a question very much debated on by the different Societies. There is a great variety of opinions regarding it from personal observation, and from what I see at fairs in my District, two of the popular attractions are music and speeding in the ring, but some people object to racing. I have seen some of our best people who sit in the front seats of the church enjoy the contests, and it is the general public we have to cater to for patronage.

In conclusion, I have followed the work of judges at fairs, I have been an exhibitor. I have had the privilege of acting as judge and I have come to the conclusion that if some of our judges had more confidence in themselves it would be better for themselves and this Association.

I have seen a case where a director, with his badge on, came into the ring leading a cow, which appeared to confuse the judge. He stepped over to where I

was standing and asked my opinion. I told him I would not judge while this man kept his badge on. There was a good exhibit in the class and after a long delay the man with the badge on got the prize. This has a tendency to make a very bad impression on the public.

#### *District 7.*

ROBERT E. COWAN, Galt, Director: This District comprises five counties in which there are thirty-five Agricultural Societies. A few of the Societies conduct Seed Fairs and there are other Seed Fairs conducted throughout the District by other organizations. This, at the present time, is a work which I would like to see increased as there is no greater aid to production than the sowing of good, pure, clean seed.



Jersey.

There are a few Spring Horse Shows held, but the interest in a number of them as regards the number of entries is not what it should be, due, to a great extent, to the jealousy existing between owners of stallions in the district in which the show is held.

Field Crop Competitions are conducted by a number of the Societies in the District, several having two competitions. This is, I believe, the greatest asset that the Agricultural Societies of the Province have at the present time, as there is nothing that tends to greater production, cleaner farming, purer varieties, and better quality of grain. There are, as yet, too great a number of varieties being entered in each competition, but through the good work of the experimental farms and the results of these competitions, this difficulty is being largely overcome.

I visited quite a number of fairs in the District, but in so short a space of time it is not possible for any man to do justice in this particular. I am pleased

to state that the great majority of them were able to show a successful balance sheet for the past year. Owing to the shortage of labor the exhibits of live stock and the entries in other classes were not up to the usual numbers, but the quality in the majority of cases was up to the usual standard. Several Societies are following up the educational ideas inaugurated by the Rural School Fairs and are using a prize list similar to the former. Judging competitions in live stock are also conducted by quite a number. Free admission to the fair is granted in a number of cases to children attending public schools. In some cases more of a feeling of "Local Loyalty to the Fair" would materially increase the gate receipts and the usefulness of a Society.

I would urge upon the individual members of boards of directors the importance of visiting other exhibitions and observing their methods of doing things. In this way they will be learning of improved methods and will be gaining information which will be of service to them in conducting the affairs of their own Society.

Several Societies have, on their own initiative, and in connection with Municipal Councils, the District Representative of the Department of Agriculture, Boards of Trade, Vacant Lot Gardeners' Associations, and other organizations, been called upon during the past year to take part in the problems of greater production, scarcity of farm labor and the hog increase campaign. This has resulted in a better feeling between residents of urban and rural sections and between the merchants, manufacturers, bankers and farmers.

Some of the Boards of Trade in towns and cities have invited farmers to become members so that they would be able to secure information at first hand as to the requirements of farmers and as to how assistance could be most profitably rendered. I commend this new feature to all boards of directors for the coming year, hoping that they may be able to increase their usefulness to the community in which they exist in the great work of co-operation, which is so urgently needed for the maintenance of the Empire. Anything that can be done by any Society along these lines is a patriotic duty and a national necessity.

#### *District 8.*

S. J. MONTEITH, Stratford, Director: This district comprises the Counties of Huron, Perth, Middlesex and Elgin, with thirty-eight fairs, more than one person can visit in one year, owing to so many fairs being held on the same day. On account of the war we have lost a large number of men from this District. The cities and towns have contributed largely and the rural sections have also sent a great number of men, making it difficult for the farmer to do his share in the upkeep of the fair. Were it not for automobiles it would be much harder to keep the receipts up to the average. However, where the weather was favorable the different fair boards report a successful year.

The live stock departments were fairly well filled. The horses as usual were the chief attractions. The cattle classes at most of the fairs I visited were well filled, but I would advise giving a little more encouragement to the breeder of pure-bred stock. The sheep classes were better filled than in previous years. Larger prizes, I think, would be an inducement to the hog breeder to exhibit more of his stock.

A dairy test was conducted at some of the fairs and proved an interesting feature.



The poultry departments were all well filled and are becoming more attractive each year, but a little more attention to the utility breed would be an improvement.

The inside departments were all above the average except the fruit. Owing to the poor fruit crop in this district the classes were not as well filled as last year.

Ladies' fancy work is the greatest attraction of the inside exhibit, and, in many cases, the space allotted for this department is too small to make a proper display.

The flower display and also the roots and vegetables were very much above the average.

Some of the fairs have secured a glass covering for the dairy and domestic science exhibits, which is a decided improvement.

The school children's department is worthy of special mention since the public schools have taken up school gardening and domestic science. This department is one of the leading features of the fair and should be encouraged.

Seventeen Agricultural Societies in District 8 held Field Crop Competitions in 1917, which has accomplished much in the way of encouraging better farming.

At some of the fairs visited I found the officers in favor of curtailing some of the money used in speed events and placing it on other lines that would be more in keeping with the real spirit of fairs.

A district meeting was held in London on February 1st. Delegates from a number of the Societies were present. An interesting discussion took place. President Scarf, of Durham, President, and the Secretary of the Western Fair Board and others addressed the meeting.

#### *District 10.*

JOHN MCDIARMID, Lucknow, Director: District 10 comprises Bruce and Grey, two of the counties of the banner Province of the Dominion, noted for their apple orchards, draught horses and beef cattle. In this District are thirty-six Agricultural Societies. I visited a small percentage of them and found all doing good work; more interest taken in live stock and agriculture and less in horse racing than in years gone by. I made it a point to visit Tara Fair, which receives the largest grant in the District, and found it a great fair. Although it rained all day there was a good exhibit of horses, cattle and sheep. Some exhibitors had come over twenty miles. There is no race track or any side show attractions, everything is agricultural, and I believe it to be the best drawing card to have a class for boys' judging competition at our show. We have one for boys under 16 years, and one between 16 and 21 years. We have another prize of \$10, donated by a horse buyer, for the best five draught horses, two years and over, from the Counties of Bruce and Huron, which induces a great competition. Our Superintendent, J. Lockie Wilson, deserves the sincere thanks of the farmers of this Province for inaugurating the Field Crop Competitions. It has been the means of getting better and more grain and roots and inducing farmers to keep their farms free of noxious weeds. I am satisfied that no movement has done so much for the farmers of this County as these competitions. I find more people attend fall fairs on account of so many automobiles being owned in the country. People can now go a long distance and get home in a short time.

The farmers of this country are asked to produce to the limit. We who farmed all our lives know that farming is a man's job, and that production cannot be attained without skilled labor. A man goes through a long course before he is equipped to aid nature in the great work of producing the food supply for the

allied armies. Let us not fail them in their hour of need, and, when this great war is over, the name of Canada will go down in history as a country that kept the faith.

I wish to thank the officers and directors throughout the District for their kindness extended to me during my term of office, and sincerely hope that before another year rolls round this war will be brought to a successful end and that peace and prosperity will dwell throughout our land.

*District 12 (Western Division).*

WM. MARSHALL, Sault Ste. Marie, Director: I visited as many of the fairs last year, in my section, as was possible. On account of some of the fairs being held on the same date, and the large territory to cover, it was impossible for me



Percheron.

to visit them all. I am glad to be able to report that they were nearly all a success.

We are doing all we can in our section to encourage growing pure seed. We are finding the Field Crop Competitions a great help along this line. We can beat the world when it comes to growing potatoes, and have started several of our best farmers and Farmers' Clubs growing registered seed potatoes. We expect, in a couple of years, to be able to ship them out by the carload for seed purposes.

I would strongly urge the Association to wait on the Government and arrange to have farms started throughout New Ontario for growing seed grain and seed potatoes for the older sections, as seed in that district would be free from all weeds and diseases, which has been a great drawback to seed from the older parts of Ontario.

We also organized a Society on the Indian Reserve at Garden River last year, and the first fair was a wonderful success. It is surprising the interest the Indians are taking in agriculture, which is due mostly to the untiring work of our Indian Agent, Mr. A. D. McNabb. We find the Indians are willing to farm and are good workers, but they require to be shown. Once they are taught they make as good farmers as you would find anywhere.

I would recommend that this fair be taken in by the Association and handled the same as all other fairs throughout the Province.

I would recommend that the Association urge all Societies to advertise the dates of all the fairs in their section on their posters, that fairs in each section be held on consecutive dates as nearly as possible. That more interest be taken in educating the children in both rural and urban schools in agriculture, and that children taking prizes at the school fairs be urged to show at the central fairs in their section and space be reserved for them and prizes given.

#### *District 12 (Eastern Division).*

E. F. STEPHENSON, New Liskeard, Director: Successful fairs were held in this district last year; and through the instrumentality of these annual fairs much is being done to encourage the people of the towns as well as those of the country to take an active part in food production.

The school children's fair has now become a strong feature of the annual fair in this district. Some of these fairs are held at the same time and place as the Agricultural Society's Fair and under the same management, with success.

I pointed out in my report in 1917 that in the previous year District 12 took the highest marks in standing Field Crop Competitions in spring wheat and potatoes in the Province. The report for 1917 has not yet been published, but I have learned that the marks given in the Clay Belt for spring wheat were over 90 per cent.

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#### POLITICS AND PARTIES.

SIR JOHN WILLISON, TORONTO.

The subject on which I have to speak, has no particular relation to fall fairs or agriculture. I doubt if I could make a very satisfactory speech on agriculture, although I was raised on the farm. I have often heard it said that a man who turned out to be a poor lawyer or a poor doctor spoiled a good farmer. I do not know whether or not I am a good journalist, but they have never said I became a journalist to spoil a good farmer.

I will not say much on the importance of the work in which you are engaged, because it is always, I think, a little presumptuous for one who has no knowledge of a particular kind of work to busy himself with cheap compliments about something that he does not understand.

I want to speak about politics and parties: the subject is wide enough to cover almost the whole field of public affairs, and since it has been my fortune or misfortune to have seen the inside of political parties I ought to have some knowledge on the subject on which I venture to address you. I want to speak particularly about Civil Service Reform, what we have come to call the "Patronage system," and some of the methods by which we waste money in this country.

I have no thought of any general or indiscriminate attack on public men. My own judgment is that 90 or 95 per cent. of the men we have in municipal councils, legislatures and in the Parliament of Canada are devoted public servants and not unworthy representatives of the constituencies which send them to Parliament, therefore, I have not a great deal of sympathy with much of the criticism to which public men are subjected.

I do think that perhaps we are rather ungrateful for the service which men render—perhaps not so ungrateful just now when everybody is doing public service, and when none of us are quite so comfortable as when we feel we are doing something for the general public interest. But I have known few men to grow rich in politics, and most of those would have been richer if they had never gone into them. But I have known scores of men beggar themselves in devotion to public affairs, and at the end they have had no alternative but to sit at the doors of a Cabinet Minister and plead for a public office.



Holstein.

Therefore, in what I have to say of the affairs of Canadian politics (because it is the affairs of Canadian politics that I want to discuss) I place the chief faults of our politics not so much to the character of our public men as to the devotion to party which has prevailed in this country, and which I think is the bane of most free countries.

Now, by Civil Service Reform, and as to the term in its common acceptation I have not much to say. By Civil Service Reform we mean that all appointments to public office will be made by a system of competitive civil service examinations, that those who stand best in the examinations will receive priority in order of appointment; that promotions will be made by the same method. So far as experience goes, it has been demonstrated, I think, that by the system of competitive examinations you may not always get the best but will save yourselves from the worst, and you will save yourselves from that element in very many constituencies who busy themselves with the nomination of candidates and undertake to own the members of Parliament after they are elected. I do not dwell on

that phase of the subject, because we have a pledge at Ottawa and a pledge at Toronto that Civil Service Reform in this sense will be introduced in the Province and in the Dominion. How far they will go in either field as yet we are not certain. How resolutely they will enforce the Civil Service regulations remains to be determined, because it has been proven, I think, in every country that it is as easy for the camel to enter through the eye of a needle as to uproot the system of patronage when once you have strong party divisions. And therefore, you have not necessarily accomplished your object when you have Civil Service Reform on the Statute books, because it will require in this country, as it has required in every country, eternal vigilance to have the regulations enforced after they are adopted, and you have no guarantee that these regulations will be satisfactorily enforced because you have a Union Government. There is no more inherent virtue in a Union Government than in any other kind of a government so far as the patronage system is concerned: the only difference is that under a strictly party system offices are distributed among the partisans, while under the system of coalition, unless you have Civil Service Reform, offices are distributed amongst relatives and friends of ministers, and I think experience has demonstrated where you have coalition without Civil Service Reform, the last condition is worse than the first; therefore, you will not be able to relax your vigilance in the least, although I am convinced that it is the intention of the Government at Ottawa and Toronto to go very far in this direction.

But I want to deal more particularly with other phases of the question. It is my deliberate judgment that during the last twenty years in Canada we have wasted 500 millions of dollars because of the patronage system. Now that sounds like an extravagant statement. I believe that I am absolutely within the facts, when I say we have wasted that amount. We have wasted it in the distribution of contracts without real tendering; we have wasted it in giving towns of 5,000 and 10,000 population \$70,000, \$80,000 and \$100,000 public buildings, and we have wasted it in foolish duplication of railways and in wharves and breakwaters where there is no traffic and very little water. I could specify instances which I have in my mind, but it is impossible to do that without striking one Government or another that has had office in Canada, and I am very anxious that anything I may have to say will not savor of partisanship. So far as I can understand there has been no difference in Canada in relation to the patronage system in the hands of either party.

Now, it does seem to me that we should establish some sort of a Board of Engineers which will determine—some Board free from political interest—whether or not at particular points wharves and breakwaters are necessary, whether or not a town which demands a hundred thousand dollar building would not be just as well served by a \$10,000 one, because when all is said and done, in some of these communities you need only a decent looking, substantial building in order to provide for such public buildings as are necessary. When you think of the extended country, the extent of our waterways, the waste runs into tremendous sums, when you build at every point from which the demand comes public buildings at enormously greater cost than the local situation demands. I hope that we will take absolutely effective measures to take care that wasting millions of public money in that fashion is discontinued.

I remember there was a story at Ottawa when I was in the press gallery there, about a member from one of the coast counties in Nova Scotia who went to Sir John Macdonald to demand a railroad along the coast. Sir John looked

up the map, and said, "What do you want to build a railroad here for? If you had a railroad, you would have no traffic." And this gentleman said, "I don't care about the traffic. I want the railway to carry me back to Parliament," and it did carry him back.

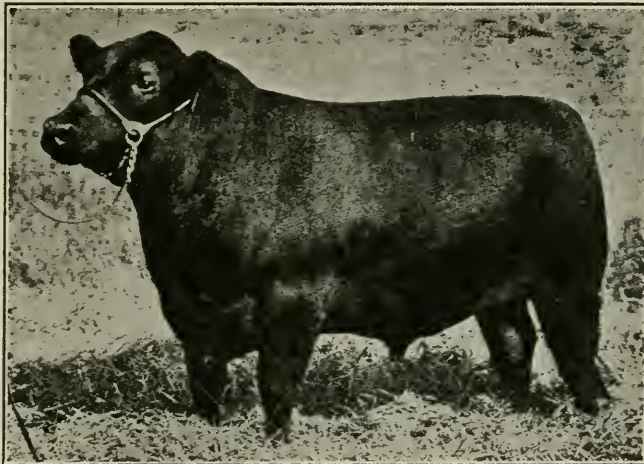
I want to refer also to the waste of millions in Canada in useless and foolish duplication of railways. I claim some authority to speak on this subject: I don't believe there are many men who have gone to greater pains or devoted more time to investigation of the railway problem in its various phases than I have, both in this country and in other countries. Twenty-one years ago I wrote a pamphlet on the railway question in Canada, and published it at my own expense, and I will read one or two extracts from it. Dr. Creelman, whom you all know, has just got back from a visit to the United States, and he brings back a phrase which I will use just here. Dr. Creelman said that an American said to him that "Germany foresaw everything connected with the war except what happened and counted the cost to every country but Germany," and therefore I have wisdom enough not to wish to be classed as a prophet. I said in April, 1897, "At any rate outside of the new districts we can leave the construction of railways to private enterprise and relieve the lobby of Parliament and the treasury of the exhausting drain of the army of railway promoters who for some years have constituted a sort of third chamber at Ottawa and have been hardly less active at most of the provincial capitals."

I quote a statement from a student of the railway problem in the United States. He said, that if that country unified the American railway system and if they had avoided unnecessary duplication of roads there would have been an annual saving of \$200,000,000 and that it would not be an extravagant estimate to claim that the loss due to so-called railway competition in the United States from the beginning of its history would furnish all the people of the United States with comfortable dwellings, provided that all the houses now in existence should be destroyed.

And I said this about the west: "Free land and lower freight charges are the crying needs of the Canadian West. If there be few people, there must be little traffic, and if little traffic high rates and rigid regulations. We must not forget that freight rates are a form of taxation and that if the taxpayers be few the burden must be heavy. If we divide the traffic between competing roads the load must be heavier still. If we increase and concentrate the traffic and multiply the population we have a right to deduction of charges and improvement in service."

And I made this argument, "Canada is a country of enormous distances, of length rather than breadth, and trade between the Provinces is difficult and transportation charges very burdensome. In these facts we have conclusive arguments against the large multiplication of through railways and the consequent duplication of needless transportation in Canada. To construct another great through road through Canada would be very like adopting a fiscal measure imposing a tax of 15 or 20 per cent. on Interprovincial trade." What I argued in that pamphlet was that we should not build additional Transcontinental Railways but that we should double-track if necessary when the time came the Canadian Pacific. That we should build branches only as settlement demanded, and that we should take care that we did not invest a dollar in unnecessary duplication and unnecessary branch lines, and that in that country we could have a unified system, coming down to Lower Canada and the Atlantic shores over one great system, and that we should put those branch lines and the through road under absolute

rigid public regulations, and I believe if that policy had been pursued we would have reduced our expenditures two hundred million dollars and to-day would be having reduced transportation charges, instead of investing millions of unnecessary capital, and you either pay for the investment in exorbitant transportation charges or in direct drafts on the public treasury. Now the war has taught us to look at many of these problems in a wholly different fashion, and it does seem to me that the supreme question which confronts the Government at Ottawa to-day is to unify the railway system of Canada. Where there are two roads, in as far as it can be done, there should be one road. It would be wiser to tear up the unnecessary track than to maintain it, and impose freight charges on the public necessary to maintain two roads where one road will do the service. And for the future in this country—whether we adopt national railways or not (that is the subject which I do not propose entering into to-night) I believe that is true, whatever we may think about the nationalization of railways, and if you do nationalize the railways you must have an efficient and responsible civil service, and the regulations which are now being adopted, must be enforced. And this



Aberdeen-Angus.

is true: no country in the world which has tried national railways would go back to private owned railways. I have talked to public men in Australia on that subject. I never met a representative man in Australia who would admit that they would transfer their railways to private hands and even the British economists, who do not quite like nationalizing railways, admit that in Italy (one of the worst governed countries) they have better railway service under nationalization than they have under private ownership. I am only trying to emphasize the importance of Civil Service Reform, and an honest system of tendering in the awarding of public contracts. I have been close enough to Governments to know that when we talk of letting contracts by tender the tenders are those of men within the party; we rarely, if ever, tender by open competition, and the inevitable result is waste of public money. I am convinced from the study that I have given the subject that you can pay at least two-thirds of your pension bill for the future if you will absolutely eliminate party considerations from the administration of the public service in Canada, and while it was folly to maintain these

conditions before the war it will be criminal and worse than criminal, to maintain these conditions afterwards, because the war will lay upon us enormous public burdens, and we will have a public opinion in Canada vigilant enough to require that the old methods shall be abandoned and that we shall have a government in Canada, not for the Canadian parties but for the Canadian people. I do not blame the politicians any more than I blame the people. The plain truth of the matter is that the people demanded these things and had some notion at the back of their minds that somebody else would pay for them. I undertake to say that many of you know just as well as I do of communities where candidates have been beaten because they would not give a public building unnecessarily costly or demand a subsidy for a branch railway which probably was unnecessary. And people have to support ministers and members of Parliament who propose to give effect to these policies. We are entering, I suppose, on a new era, but remember your new era will not last very long unless you maintain eternal vigilance and undertake to see that pledges that are made by public men are kept, that you help them to keep them, and that you demand that business considerations obtain in the government of this country.

The Chairman thanked Mr. Willison on behalf of the Convention for his excellent address.

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#### RESOLUTIONS.

It was moved by Mr. BULL, seconded by Mr. CONNELLY, that whereas the Board of Directors of the Ontario Association of Fairs and Exhibitions are of the opinion that the affiliation fee should be raised to \$2, we hereby recommend that this Association approve of the same. Carried.

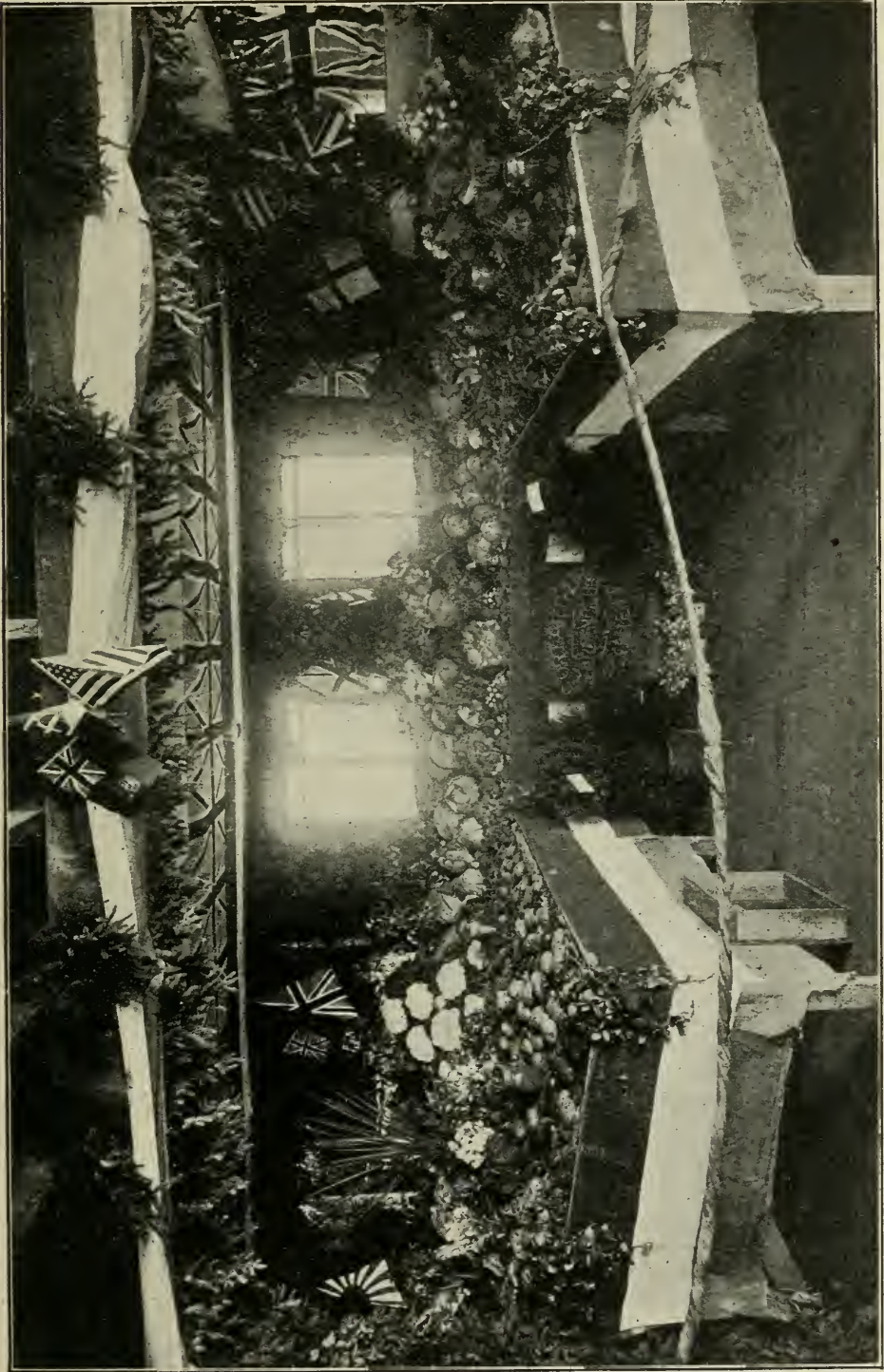
Moved by Mr. CONNELLY, seconded by Mr. McBRIDE, that the Superintendent, Mr. J. Lockie Wilson, have 1,000 copies of the report of the Ladies' Committee printed and sent to all of the Secretaries of the Fair Boards, so that each may have a copy and also the ladies on the Board. Carried.

The Chairman here called on Mr. Marshall from the Soo, stating that he had visited Mr. Marshall last year and had opened up the first Indian fair with him at Garden River.

WM. MARSHALL: I am your Western District Representative for New Ontario, or what might better be termed Greater Ontario. The Indian fair that our President spoke about, we organized on a reserve about 12 miles east of the Soo. It is made up principally of Indians, not all pure-bred, a large percentage of them being half-breeds. We have a splendid Indian agent on this reserve. He has been doing a great deal to encourage the Indians in agriculture, and it is surprising to see the interest they are taking in it. Once you teach an Indian what is required, you can teach him how to do anything, and he is only too glad to follow the example. Some of those Indians make splendid farmers, are growing good crops, and lots of vegetables.

There is one thing I would like to say to you; up in our country we can beat the world when it comes to raising potatoes. We are getting our farmers interested in growing seed potatoes. We grow a lot of them up in that country, but the trouble is we have had so many varieties, that we could not supply a carload of a certain kind when ordered. I would like this Association to wait upon the Government and see if there is not some way by which pure registered seed





Port Arthur Garden Club Exhibit.

potatoes can be grown for sale in Northern Ontario. You all know that the farther north you grow them successfully the better they are. In the near future you throughout Older Ontario will be getting your seed and especially your seed potatoes from New Ontario. In our grain there are not so many weeds as are found in the older sections of the Province.

Moved by Mr. MARSHALL, seconded by Mr. AGNEW, that we recommend that the Garden River Agricultural Society be acknowledged as an Indian Society and that they receive all the rights and privileges pertaining thereto. Carried.

Mr. Wilson here took the chair for the nomination of officers for the ensuing year.

The election of officers resulted as on page 6.

Moved by W. J. CONNELLY, seconded by L. J. C. BULL, that we, the delegates to the Convention of the Ontario Association of Fairs and Exhibitions, heartily approve of the proposition to appoint a lady in connection with the Fairs and Exhibitions Branch of the Department of Agriculture, under our Superintendent, Mr. J. Lockie Wilson, part of whose work would be to assist the officers and directors of our Agricultural Societies in the revision of those sections of their prize lists in which women are interested, viz., Fine Arts, Ladies' Work, Dairy Products, etc., and that we would respectfully recommend for this position Miss M. V. Powell, Whitby, who has been in close touch with the Agricultural Societies' work for some years and has proved, wherever she was employed, a most efficient and painstaking judge. Carried.

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## MANAGEMENT OF FALL FAIRS.

W. J. BELL, KEMPTVILLE.

I deem it a great pleasure to address delegates from the live Agricultural Societies of Ontario. Your Association, the oldest agricultural organization in this Province, has done, is doing, and, I believe, will continue to do a great work in the interest of agricultural pursuits, especially in assisting in the improvement of live stock, and as I am specially interested in matters pertaining to farm animals, it gives me special pleasure to address an audience with aims similar to my own.

My subject is such a broad one that I can only deal with a few of those matters that to me would seem most important to men whose business it is to make plans for holding successful fall fairs. Your esteemed Superintendent, Mr. J. Lockie Wilson, when allotting me this subject, gave me the privilege of discussing those questions relating to the successful management of our fairs that I thought of greatest importance. My talk may therefore seem somewhat disconnected, but this method of treating the subject seems best to me.

I shall deal with this subject under two headings (1) Preparations necessary for a Successful Fair. (2) Management on the Day of the Fair.

### PREPARATIONS NECESSARY FOR A SUCCESSFUL FAIR.

(1) ADVERTISING. Thorough but judicious advertising is essential to the success of a fall fair, as this necessary preparation not only announces your date or dates, and thus secures the much-needed attendance required for the financial

success of your show, but your advertising material should present your prize list in such a form as to attract prospective exhibitors. Interest in our fall fairs is waning in certain localities, and, I believe, might be revived if a sincere effort were put forth to secure and advertise specially attractive and educative exhibits. About the only special attraction many of our fairs offer is horse racing. I am not opposed to a good horse race, in fact, I very greatly enjoy racing, but is this attraction proving sufficient to create an interest in the agricultural side of our fairs? Why not take a pattern off the attractive exhibits arranged by your Secretary when displaying material from the Field Crop Competitions? Could you not secure exhibits from the Ontario Agricultural College; from some of the Departments of the Ontario Government; or from the Dominion Department of Agriculture? Would it be advisable to arrange for the exhibition of the products of the different competitions arranged by your District Representatives? Possibly a real live tractor demonstration could be staged, paying special attention to the construction and management of gas and oil engines, as well as to efficient hitches for different farm implements to be drawn by tractors. Judging competitions are beneficial alike to competitors and spectators. One of the most interesting and best arranged exhibits I ever saw at a fair was put up by two Junior Farmers' Associations. The Ontario Government has made a large number of agricultural moving picture films. Try them as an advertised attraction. They will not only be attractive but instructive. Try something new, "start something," and advertise it thoroughly and well.

(2) INCLUDE BEST MEN OF COMMUNITY ON COMMITTEES. It is absolutely essential to the success of a fair that the committees in charge of each department be composed of energetic, and influential men, possessing good sense and judgment. A combination of old and young men on each committee is desirable. The older men have the necessary experience but the younger men have the "punch" required to make things "go." It is also generally advisable to include some of the business men of the town among your officers. You can make good use of them.

(3) REVISE PRIZE LISTS. Two years ago I attended a conference of the officers of the Agricultural Societies in a district covering five or six townships for the purpose of assisting in revising their live stock prize lists. No two of them were alike and certainly no two followed the same classification in their horse departments. One Society classified a heavy draught horse as one weighing 1,300 lbs. or over. Surely this would indicate a need in some quarters of revising our lists.

(4) USE OF SPECIAL JUDGES FOR SPECIAL CLASSES NOT ADVISABLE. Qualified judges object strenuously, and justly so, to the practice of using Departmental judges for what is termed "Association Prizes" and securing special judges for placing the entries in the "Special Classes." It is difficult to see any advantage in this arrangement. Last fall I judged the "Light Horses" at two fairs following this custom. At one of these fairs, a large and successful fair in Eastern Ontario, the judge who placed the specials, I believe, placed every horse as I had placed them. but at the other, the special judge gave a road horse (that I had placed first) the special prize as the best road horse at the fair and before the horse went out of the ring he actually awarded this same horse the special ribbon for being the best carriage horse at the show. The judge who awarded the prizes in the Heavy Draught classes at this same show gave first place in the Agricultural Class to a very desirable Clydesdale mare. The "Special" judge, the following day

gave this same draught mare the ribbon as the best General Purpose mare at the show. The work of such an incompetent posing as a judge qualified to make the awards in the special classes does much harm and confuses those attending our fairs for the information they can secure. Such men should not be allowed inside a show ring in Ontario.

(5) **PREPARE SUITABLE JUDGING RINGS.** If spectators are to be given an opportunity to satisfactorily see the judging of live stock, if the judge and those in charge of the judging are to do efficient work and if the exhibitors are to be permitted to show their entries to advantage, a suitable ring should be fenced off and levelled in a convenient section of the grounds. Most Societies have the ring but all have not a suitable sod. Too frequently this is punched full of holes by cattle and horses being allowed in the grounds during wet weather. It is impossible to show a horse where the footing is not good. If this ring can be located where seating accommodation can be easily arranged, it will add greatly to the comfort of the spectators and hence to the interest taken in the judging.



Shetlands.

(6) **PARADE.** One of the chief attractions at the Canadian National Exhibition, Toronto, is the live stock parade on the closing day. Might not a parade of live stock at your fair, even if less pretentious than that procurable at Toronto, be of much interest to your patrons? Some special features might be added to give variety. Even the old-time calithumpian parade yet has its attractions for both old and young.

(7) **PAINT.** Paint is a cheap colored material used as a preservative of wood. It also adds to the attractiveness of buildings to which it has been applied and can be used advantageously by the management of Agricultural Societies. Of course, it is necessary to have something worth painting and if your Society buildings consist largely of a row of ramshackle box stalls used primarily for accommodation of a string of track horses, I would not advise paint but fire. Our people are short of fuel. Use these tumble-down stables (?) for firewood and

build new and modern painted stabling. If your fair has any chance of succeeding, this is one method of ensuring success.

Let us now very briefly consider some points pertaining to the

#### MANAGEMENT OF FAIRS ON FAIR DAY.

(1) RECEPTION OF JUDGES. A nice thing for the management to do is to make arrangements for the accommodation of your judges and meet them on their arrival in your town. Frequently hotel accommodation is at a premium on fair day and, besides, the judges may be strangers in your town, their services may be required soon after their arrival and much confusion and inconvenience may be avoided by a little forethought and courtesy.

(2) APPOINT A GOOD LIVE STOCK MARSHAL. As with the management of all matters pertaining to the fair, arrange beforehand for the stock to be brought into the ring at the time appointed. To accomplish this it is necessary in most cases, to provide the Marshal with a saddle horse, but be sure the rider is a satisfactory man for his work, for this is one of the most important positions around a fair. Set a time for each class to be judged and judge each class at the appointed time.

(3) DUTIES OF COMMITTEES. It is the duty of every committee connected with a fall fair to be busy in season and out of season—before the fair, and at the fair. Unless the work developing on each committee is carefully thought out, confusion is likely to result on the day of the fair and prompt, businesslike conduct is what is required of the committee in charge. Take for example, the work required of the members of the committee in charge of the Horse Department. Each member should familiarize himself with the by-laws governing the showing of horses so that if any event arises necessitating a ruling by this committee a prompt and decisive one can be given. A complete knowledge of the classification of horses as embodied in the prize list is also essential while each member of the committee should know thoroughly the work required of him so that records of the placings, etc., can be quickly made, so that there will be no delay in getting one class out of the ring and admitting another.

It is not the duty of the members of the Horse Committee to assist the judge in making his awards. When the judge is working each member should not hold any conversation with him whatever, for exhibitors are often suspicious of advice being given—and too frequently there is cause for suspicion.

No official should exhibit an entry when he is wearing an official badge nor should such official take advantage of his position to attempt to influence a judge when making his decisions. In short, each member should thoroughly familiarize himself with the work expected of him and then attend strictly to his business and not to that of anyone else.

I am grateful for the opportunity of making these few suggestions *re* the management of our fall fairs. I wish you every success in your most important and interesting work and thank you for your kind attention.

A number of motion pictures dealing with agriculture were shown by S. C. Johnston, Toronto.

The Treasurer's report as received and adopted will be found on page 6.

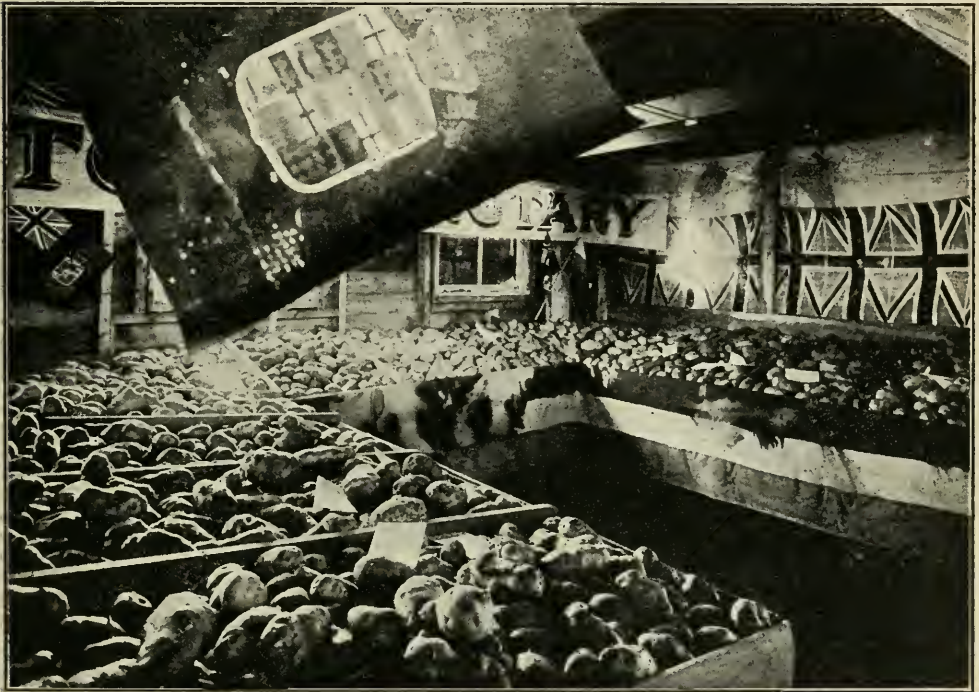
## THE POTATO SECTION AT FAIRS AND EXHIBITIONS.

JUSTUS MILLER, ASSISTANT COMMISSIONER OF AGRICULTURE.

It was found last year that some bad new diseases had become established in Ontario. We carried on some investigation work, and it was thought that potatoes grown in Northern Ontario would make better seed. As a result of a conference held, a number of us went through Northern Ontario and afterwards through Old Ontario to compare results. In New Ontario we visited 87 growers; those 87 had between them 38 varieties altogether. They had 158 lots, that is, they averaged nearly two varieties per man. In Old Ontario we visited 18 growers, they had 20 varieties. In Caradoc Township every man had one variety, that meant in the other two townships every man had about three varieties; altogether they had 41 lots, that is more than two varieties per man. So that with the 105 growers we found 52 varieties, 198 lots. I have heard that we have over 200 varieties of potatoes in Ontario, and if this is any indication of the situation I can well believe it. We interviewed some wholesalers to find out what they thought about it, and found there the opinion that the gravest discouragement to the Ontario industry was the number of varieties. The reason for the higher price in New Brunswick, wholesalers tell me, is that it is almost impossible in Ontario to get one variety, and for that reason they do not appeal to the consumer. New Brunswick ships altogether the Irish Cobbler or the Green Mountain varieties, bringing a larger price. At the Convention in October we had a number of prominent potato growers with us, seed experts and potato experts. We threshed out the whole question of potato growing and I will just confine myself to what was done. For half a day the growers discussed varieties to find out which were the best varieties to recommend for Ontario. We came down to two chief varieties, and as an early potato Irish Cobbler was recommended, and as a still earlier potato for special growers the Early Ohio. It is earlier than the Irish Cobbler and is grown by vegetable growers who wish to take advantage of the very high prices early in the season, but the Irish Cobbler is a heavier producer. As a late potato the Green Mountain was recommended. This seemed to be a general favorite. At the same time the merits of Carman No. 1 were recognized, also the Dooley potato which is grown in Caradoc Township. In fact, however, the two potatoes recommended were the Irish Cobbler and the Green Mountain. The Early Eureka is very similar to the Irish Cobbler and they are taken in under one head. The Delaware and Green Mountain are also the same. Of course you can easily see that to encourage the growing of these varieties we cannot use legislation. We are trying by education to encourage their development and growth in the Province. We thought that in this way perhaps directors of fairs and exhibitions could do good work. Farmers buy small quantities of seed from those awarded prizes at the fairs, and the result is they multiply the varieties throughout the Province. The same thing applies perhaps to a lesser extent to the Field Crop Competitions. I understand there is no limit to the variety a man may grow. This is the point that I would like to have discussed. I would like to suggest that the Directors of Fairs and Exhibitions make a ruling that in the Potato Exhibit they will encourage the exhibiting of the Irish Cobbler and of the Green Mountain type. The best way to do this is by giving liberal prizes. I do not know whether it would be wise to make such a ruling this year or not, perhaps it would be better

to make an announcement that a ruling would be made in 1919 in connection with the Standing Field Crop Competitions, and we should like to suggest that something of the same nature be done in the Standing Grain competitions. Perhaps it would be well at first for the Agricultural Societies to simply recommend their members to grow one of these varieties, and at the same time make a ruling that only that one variety can be entered in that competition. That is the proposal I have to make and upon which I hope there will be some good active discussion.

MR. SPROULE: It seems to me that in order to follow out the suggestions of the previous speaker to eliminate this large number of potatoes you have



Potato and Root Exhibit at West Algoma Exhibition.

got to begin at the beginning and that is to limit the children's exhibits at the school fairs to the Irish Cobbler and Green Mountain. It will be hard to get the old men who have become welded to their choice, to make a change, but if we could educate the younger minds in the days to come, we shall have potato growers who will stick to the one variety. Is the Department supplying Irish Cobbler and Green Mountain seed for the children?

JUSTUS MILLER: This year all children holding school fairs in Old Ontario have been supplied with these varieties, and in some districts in New Ontario with Carman No. 1.

MR. HILL: I was glad to hear Mr. Miller say that in New Ontario Carman No. 1 would be allowed to grow. Different districts mean different conditions. I want to read to you the results of an experiment in Fort William.

Summary of potato experiment for three years in four townships with four varieties namely, Gold Coin, Carman No. 1, Delaware, and Green Mountain:

*Source of Seed*—Gold Coin, Saskatchewan; Carman No. 1, Ontario Agricultural College; Delaware, State of Maine; Green Mountain, New Brunswick.

*Maturing*—Delaware and Carman No. 1 have matured about ten days earlier than Gold Coin, and about two weeks earlier than Green Mountain.

*Quality*—The cooking quality of Carman and Delaware is much superior compared with either of the other two, and especially the Green Mountain.

*Uniformity of Tubers Produced*—Of the four varieties, Carman No. 1 has produced the most uniform crop, Delaware second, Gold Coin third, and Green Mountain fourth.

*Keeping Quality*—Little difference, if any, in the keeping quality of Carman, Delaware and Green Mountain. Gold Coin has not kept as well as the other three varieties.

*Yields*—The average yields obtained from testing these four varieties in four townships for three years in succession were as follows:

1st. Gold Coin .....	293.91 bushels per acre.
2nd. Carman No. 1 .....	283.00 bushels.
3rd. Delaware . . . . .	274.70 bushels.
4th. Green Mountain .....	274.29 bushels.

*Yields on Mr. Tonkin's Farm*—The average yields obtained by Mr. James Tonkin, one of the experimenters, for the three year period, were as follows:

1st. Gold Coin .....	428.30 bushels per acre.
2nd. Carman No. 1 .....	421.59 bushels.
3rd. Delaware . . . . .	404.45 bushels.
4th. Green Mountain .....	393.49 bushels.

While the Gold Coin gave the largest yield of the four varieties, the crop was not as uniform as that of the Carman or Delaware. It has been stated here that northern grown seed is better than Old Ontario grown. Why not make us the medium by which you can secure this seed? Any of the secretaries of the northern Societies will put you in touch with farmers having good seed.

A. CULVER, Norfolk: Norfolk County Agricultural Society revised its prize list for potatoes and gave the varieties recommended by the Department of Agriculture special reference in the list by giving a dollar prize to two or three selected varieties and a fifty cent prize to the other varieties.

Moved by A. E. CULVER, seconded by W. D. SANDERS, That this Association is in full accord with the proposition to eliminate a number of varieties of potatoes for which prizes are offered at our fairs, and that our boards be recommended to offer larger prizes for Green Mountain, Irish Cobbler and Carman No. 1, and that in arranging for the Standing Field Crop Competition, preference be given, as far as possible, to these varieties of potatoes. Carried.

MR. TONKIN: In my three years' experience up in New Ontario I have found that the Delaware variety has ripened three weeks earlier than Green Mountain or Gold Coin. Mr. Collins, the District Representative, went into this matter with me the past four years, and we have followed it out very closely. Everywhere we have found that the Delaware is from ten days to two weeks earlier than the Gold Coin or Green Mountain. Mr. Zavitz went through my field up there last year, and at that time the Delaware was turning, while the others were just in bloom. That was in my mind when I brought the report down.

A MEMBER: There are several other varieties that are equal to the varieties mentioned. There are some growers who think that the Green Mountain is not as



good as others for some districts. It is not advisable to bring them from the northern districts. I tried two years ago; got the two varieties, and I found that they did not mature well. They do not germinate well in Old Ontario, not only in the centre of the cereal belt but also in the centre of the potato-growing belt, and I would not advise that we bring potatoes from the extreme north, simply because they are very often affected with frost and do not sprout properly.

MR. McLEAN, Massey: No doubt a great amount of potatoes in the northern country get touched with frost, but there are a great number of varieties of potatoes put in the spring which are not so affected. We have been specializing in our section with Green Mountain. I used to grow the New Yorker and found it yielded better than the Green Mountain, but it would be caught by the frost in the fall of the year. Putting the seed in too late in the spring has a great deal to do with getting your potatoes frosted. It has been proved by experience that frost touched potatoes do not make good seed.

Moved by R. B. HENRY, seconded by R. E. COWAN, That this Ontario Association of Fairs and Exhibitions request the Board of Directors of the Canadian National Exhibition to alter their constitution so as to permit of this Association appointing a delegate to represent them at the annual meeting of the National Exhibition. Carried.

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## CO-OPERATIVE ADVERTISING FOR FALL FAIRS.

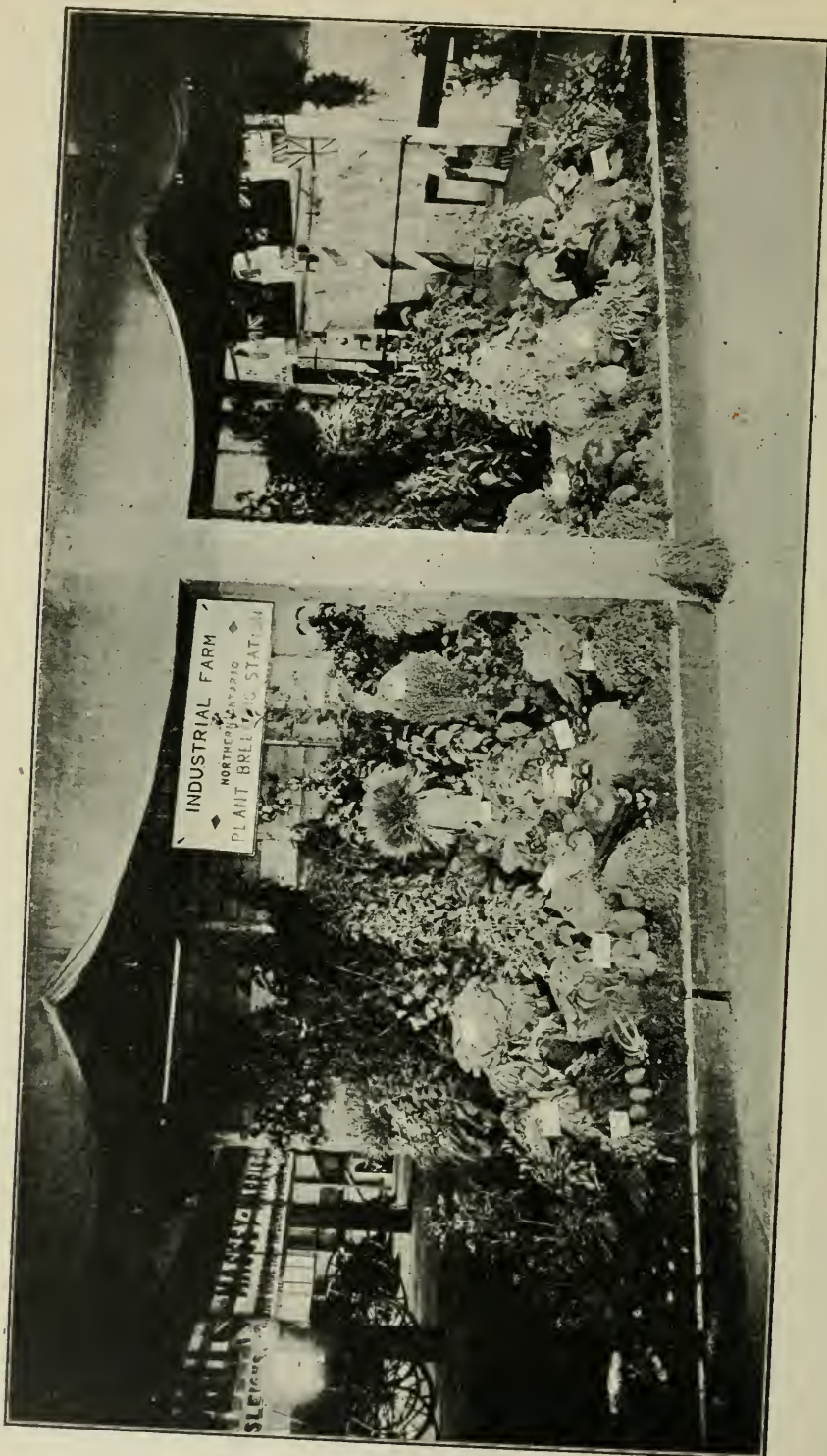
J. B. HAY, ADVERTISING MANAGER, C.N.E., TORONTO.

A year ago, shortly after the meeting of the Fairs Association, I read, in a leading agricultural journal, an article dealing with the splendid results gained by one of our progressive fall fairs through its advertising campaign. That fair showed marked enterprise, and deserved all the eulogies heaped upon it and all the success it achieved. The fair that shows the way to more aggressiveness on the part of other institutions of a similar character in the Province, in a field capable of great development, should get every encouragement. Incidentally too great a measure of success cannot come its way.

The publicity end of a fair is its selling end. The more publicity you can get, the better the results at the gate. Fairs are not out for the almighty dollar, but for almighty service. They are an educational institution and none serve a higher purpose, but to successfully fulfill their mission they must attract the crowds. Hence, the need of advertising, efficient advertising that tells in an attractive, convincing way the merits of the goods the fair has for public consumption.

And now for a little criticism, which, I hope, will be taken in the spirit in which it is offered. It is not in disparagement of the efforts of the fair management referred to in the press article, for as I have said that institution showed an enterprise and alertness well worthy of emulation. The article carried reproduction of posters used by the fair in question in its advertising campaign. One in particular caused this outbreak on my part.

Every year, as you know, the fairs of Canada are bombarded with masses of publicity from printing houses in the United States that make a specialty of exhibition advertising. Some of their samples have been doing duty for twenty years, and will likely be serving another generation unless our fair managers protest.



It was one of these moss-grown abominations of a forgotten period that received the greatest prominence in this write up I speak of. It just groaned with age, and had earned superannuation instead of having its antiquity shown up in bold black and white.

Surely it is time our fairs stopped advertising the types of cattle pictured there as samples of the best in Canadian animal husbandry. The only place such cattle should be shown is among the freaks on the midway. Hothouses should be provided for some of the samples of fruits and vegetables depicted, for they could grow in no other place north of the Mason and Dixon line.

I assure you I appreciate the acute financial problems the majority of fairs have to wrestle with each year. I also fully appreciate the fact that there are few exhibitions in Canada financially able to individually command the services of high priced commercial artists in the production of special posters of appropriate design.

Individually, perhaps none of the smaller fairs are able to do this, but collectively, gentlemen, you should be able to command the very best services, pictorial and otherwise, it is possible to obtain. Co-operation is the answer, I believe, to many of your advertising problems. Co-operation would easily make available what is now unattainable because of prohibitive cost.

I do not want to make myself disagreeable, but I do want to say this—it is most regrettable that our fairs spend so much money out of Canada for their advertising. If I understand the mission of fairs it is to promote agriculture, build up the community and generally encourage progressive development. Fairs should make their advertising worthy of the high object and ideals they are endeavoring to achieve.

I have a large Canadian exhibition in mind that annually distributes large quantities of publicity matter in the United States, and one of its boasts is that every sheet bears the imprint of a Canadian firm. It could have the publicity for American consumption done cheaper across the line and also save the heavy customs duties it pays on its Made-in-Canada literature. But it adheres instead to a rigid policy of spending every available cent in Canada, the source of its income, and as a matter of pride and ocular demonstration of the claim it makes that Canadian goods are excelled by none, it strives each year to make its posters (and succeeds, too) worthy the name of Canada.

This I mention as proof that Canadian firms are quite capable of turning out worthy fair advertising. Inferiority of product cannot be used as an argument against Made-in-Canada publicity. Again I wish to admit that none of the smaller fall fairs can hope, acting alone, to get the result producing service or driving power of high priced advertising. But acting collectively it is quite possible to get 100 per cent. efficiency and at no greater cost than your present inefficient service entails.

Distributed over an association of this magnitude a co-operative advertising service would cost the individual membership a very small sum, considering the results that would accrue from the organization of a central publicity bureau conducted by the Association, or better still, by the Government.

Consider the possibilities of such a system. Take the present need for the promotion of war service, for production, thrift, conservation. Think of the effect of 350 fall fairs, which I believe is the number in Ontario, all driving home the lessons of the day through an organized and standardized publicity campaign, followed by practical demonstrations and object lessons at the fair grounds. I believe that the fall fairs and exhibitions in Ontario attract about 2,000,000

annually. Just think of that, 75 per cent. of the population, man, woman and child, reached by personal contact. No more powerful weapon exists than the fall fair, no more beneficent or efficient influence could be wielded in educating the public to the needs of the hour. There is hardly anything in the way of progressive development and national service that could not be accomplished in the fall fairs with collective efficiency and with all the aggressiveness and force that comes with numbers banded together in a common and righteous cause.

This is an age of concentration, co-operation and organization. Co-operative publicity merely means a union of interests to gain greater results from the expenditure of the advertising appropriation, a means of getting the maximum service for the minimum of money and labor. Co-operation for the Ontario fall fairs is quite practicable, and easily made possible. Think it over.

I cannot let this opportunity pass without trespassing a little further on your time. I was privileged to help a little on the publicity end of the Victory Loan.



Main Building, Mitchell Fair.

Every night I was at headquarters in the Canada Life Building when the messages were coming in from outside points. The thing that struck me most forcibly then, and still does, was the evidence on every hand of a wonderful revival of what many of us were beginning to think was dead in Ontario—the community spirit.

Never before was community rivalry so keen. Ottawa called up each night and demanded to know what Hamilton was doing and vice versa. The spirit shown in the smaller places was no less marked. Every little hamlet strove to beat every other little hamlet. Community pride was measured by population in inverse ratio, the smaller the place the more keen the desire for success above its rival section. It seemed that very man, woman and child was fighting to keep his or her community in the limelight.

That spirit still remains. Work it up. It has wonderful possibilities from a fall fair standpoint. There is a great lesson in the Victory Loan campaign if we will only learn it and take advantage of the knowledge gained. The men who made the Victory Loan success possible were the local men, the men of your own home

towns. They are still there and their community enthusiasm is still there. Take advantage of their newly aroused town loyalty. Tell them you need some of their enthusiasm for an equally important event next fall. Organize your community with the Victory Loan workers as your leaders.

Tell the local advertiser he must come through and contribute a corner of his advertising space in the local papers to booming the fair. Self-interest alone will prompt him to fall in with your suggestion.

Tell the other local tradesmen that they should have the fall fair dates announced on all their letterheads and account forms. Ask them to put a banner on their rigs extolling the fair. Get all your people to write to former residents and friends and make the fall fair an annual re-union for the Old Boys.

Capitalize, in short, the lessons of the Victory Loan campaign and you should have a degree of community co-operation and enthusiasm this fall such as you have not had for years.

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### SHOULD SCHOOL FAIRS BE HELD IN CONJUNCTION WITH FALL FAIRS?

L. G. JARVIS, GRIMSBY, ONTARIO.

Having attended Fall Fairs for a great number of years, and having had the opportunity of also attending and judging at a great many School Fairs, it has appeared to me that it would be much better for the School Fairs to be held in conjunction with the Fall Fairs.

My reasons are these: First, the lateness of the season at which the School Fairs are held so as not to conflict with Fall Fairs makes it hard on the children. I have watched them shivering with the cold while taking part in or waiting for the parades and in their games competing for prizes. I have also noticed that in case of rain they are not able to get under shelter, there being no buildings at many of the School Fairs.

Second, in many cases the tent and other equipment required to accommodate the exhibits have to be moved from one School Fair to another, oftentimes arriving late—in many cases as late as twelve o'clock. Then by the time the tent is ready to receive the exhibits it may be one o'clock or possibly later, then the exhibits have to be placed ready for the judges to make their awards, during which time the tent has to be closed to all but the judges. In many cases the tent is closed for two or more hours, leaving only an hour or so for the children, their friends and the public to examine the exhibits and note where the awards have been placed.

Here I may say that we see at some School Fairs as fine an exhibit in fruit, vegetables, etc., as we do at many of the Fall Fairs; so, to my mind, the time is too short to secure the results desired by the holding of these School Fairs.

I propose they should be held, wherever practicable, in conjunction with the Fall Fairs.

The first day at the Fall Fair might be called Children's Day. It could be managed entirely by the District Representative and his assistant. There is no admittance fee to the grounds on that day, the exhibits to remain in the tent on the following day, not at all interfering with the fair, but on the other hand it would be the means of interesting more people in both the Fall Fair and the School Fair. The first day at Fall Fairs is preparation day, so the holding of the School Fairs on that day would not interfere in the least with the management of the Fall Fairs.

As to the appointment and payment of expenses of judges I think there might be a saving to the Fall Fairs by this co-operation. The judge selected for the Fall Fairs—in the poultry class, for example, could judge the School Fair exhibit. There would be a saving to the country and selecting of better judges would also result.

I might say further there would be the added advantage to the Fall Fairs of having the Government representative on the grounds. He is a man the farmers are desirous of meeting and his services as judge of stock, fruit and vegetables might be secured, and from my experience among them the District Representatives are men fully as capable of placing awards as any judges now being sent out by the Department.

There are many more strong points that might be brought forward in favor of the holding of School Fairs in conjunction with Fall Fairs.

WM. DICKSON: We have had some experience in this. The first School Fairs were held in conjunction with Fall Fairs. After two years came the decree from



Healthy Litter.

the Department that School Fairs could not be held in conjunction with the Fall Fairs. Three years ago I brought in a resolution here and it was passed by this Association that the fixing of the date of the School Fair be left to the District Representative, as we thought no better person could be found to set dates and to say where the fair should be held, but no attention has been paid to that. Two years ago we had an address here, and while explaining very well the work that the School Fairs were doing, it made plain to us that no more School Fairs could be held in connection with the Fall Fairs. We have had three School Fairs, held in connection with the Fall Fair, on the second day. The first day of the Fair is the one on which to hold the School Fair. If you cannot hold it on the first day of the Fair do not hold it on the second or third day. As I heard the Deputy Minister say at Richmond Hill, the School Fair held on the second day is overshadowed by the importance of the things going on in other departments. The School Fair

should be held in conjunction with the Fall Fair. We should take all the advantage we can of conserving all the labor. When you hold a Fall Fair, every person in the community is there. Then comes the Children's Fall Fair, and another day is lost. It is not only lost to the farmer, but two days lost to the public schools, which is an important thing.

C. O'REILLY: I am strongly in favor of the School Fairs, and I will tell you how they have been conducted in the County of Peterborough. The children were given prizes, and then the Agricultural Society gave a special prize to the winners of the first and second prizes. I consider this a proper thing to do and it encourages those children.

MR. SANDERS: There are many points in favor of holding the Children's Fair on the same day as the Fall Fair. An exhibition is of no value unless there are spectators, and in a small country fair the people will not come out specially to see a Children's Fair. You must have other attractions. We found that our School Fair was a great success, that it drew the attention of the public. It reflected great credit on the principal of the high school of that town. He took the whole responsibility and even paid the prizes. This year our Society intends putting up the prizes for them, and next year the attendance will be greatly increased.

W. J. CONNELLY: We cannot do anything better than to leave it to the District Representative to arrange how the School Fair should be held in connection with the Fall Fair.

Moved by DR. WARD WOOLNER, Ayr, seconded by J. GIBBONS, Rockwood, That the following comprise the committee to design Agricultural Fair Posters, WM. SCARF, Durham, Chairman; J. B. HAY, Toronto, C.N.E.; A. R. G. SMITH, New Hamburg; R. J. BUSHELL, Kingston; L. MASTER, New Hamburg. Carried.

It was moved by W. D. SANDERS, Exeter, seconded by THOS. MCMICHAEL, Seaforth, That a deputation from this Convention wait upon the Minister of Agriculture asking that, wherever possible, the School Fairs be held at the same time and in conjunction with the Fall Fairs. Carried.

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## THE POSSIBILITIES OF THE COUNTY FAIR.

MRS. M. L. WOELARD, TORONTO.

You heard yesterday the report of the Committee that held a meeting at the Parliament Buildings in Mr. Lockie Wilson's office, in which we proposed dividing the Province into districts and have a lady representative go through to help the women with the work.

I have been a judge of ladies' work for some years. Conservation of food is very important but we also want increased production in every line of work. We need life in our exhibitions. We do not want the hall with the ladies' work packed with people simply standing there, we want some life in that building that is going to attract the people, and in order to do this we must have our girls working. You could write the Department and they could send lecturers to demonstrate the canning of vegetables and fruit, making war bread, etc., but I suppose you have girls in your own districts to do that work, and it makes it much more interesting for the young men in these districts to see their own school mates there doing that work than to see a stranger. If this was carried out, the work of these repre-

sentatives would be to go and train five or six or ten classes in the canning of vegetables and fruit and the demonstration thereof. This is not a new idea. Last year at the State Fair held in Detroit there were twenty districts represented, and twenty teams of young girls canning vegetables and showing the people what they could do and answering questions. What I would suggest is that these representatives go and train along this line and get the girls interested, say, in the chicken question. I would have this year, especially, this work of conservation of food. Other years we could take up practical work along the lines of sewing, such as button-hole work. Many girls can sew and could do much more if they have ideas given them. We are not going into these districts to dictate to the people, because many of them could teach us how to do things. Where could you get anyone better than those girls in the work they are so splendidly doing? Those girls are not brought forward enough. We want to bring them out and have them do things at their own fair.

Concerning the exhibition of butter at fairs: I would suggest that every secretary have score cards for the purpose of judging, so that when an exhibitor does not receive a prize for her butter she will know wherein she failed, and the same with the bread making, so that another year they could bring forward better work; and not only that, I would give prizes to the girls. Usually you find that it is three or four good butter makers who carry off the prizes, and the girls are afraid to come forward. I would have it arranged so that one person could not take all those prizes. I would have prizes for the girls. We want to keep our young people on the farm and you know that our young farmers are exempt as long as they remain on the farms from military service, and we want those young girls on the farms to have just as pretty things as the girls in the cities. We have heard complaints that girls have crocheted so many yokes, etc., during war times. Well, have not the girls in the country just as much right to pretty things as those in towns and cities? I have been in country homes during the war where those girls who are not doing perhaps so much patriotic work along the line of making munitions at \$4 or \$5 a day are, once or twice a month, packing a box and sending to their friends across the sea, containing all the nice things which the soldier appreciates so much. If they make the pretty things, what does it show? It shows that the girl who is doing that has a refinement that will help to make her a good housekeeper later in life.

Now about judges: At one time I myself exhibited at every fair in my county. There was not a line of work that I could not do and exhibit from butter-making up to the finest lace. Those who go out to judge must know their work. You want the judges to know the work that they are judging. That is why in our resolution we brought forward the suggestion that the judges be trained for their work. It is a great injustice to the people to send out an incompetent judge.

Now, concerning the demonstrations, take Burk's Falls, South River, Powassan and Sundridge, just to show you what can be done in conservation of food this year. We could have five or six girls trained at these places. We could have them come down to the central point at Burk's Falls on the day of the fair, each with their five jars. All the expense would be a little coal oil stove and a wash boiler. One or two girls out of each class will give a demonstration, then the prizes will be awarded. It may be awarded to Powassan or to South River or to Sundridge. Then these girls go home to their own fairs. It would mean a great deal to have their own girls do the demonstrating to these people. And other lines of work we could take up another year.

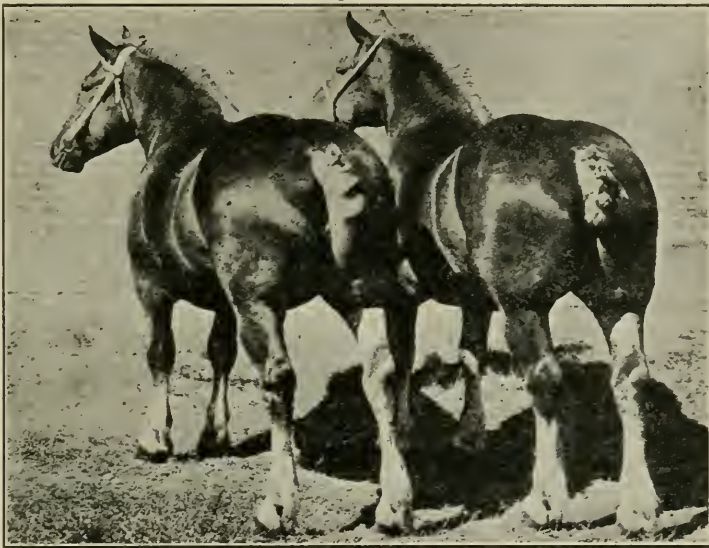


Concerning the vegetables that are canned there, I would have those girls donate them to the Society to be forwarded to the convalescent soldiers' homes so that we would be adding hundreds and hundreds of jars to these institutions. This would be a splendid start out of our work this year.

We would ask the Secretary to send out to all his exhibitors that he has a list of on his books and invite as many girls as possible, give them a talk in the afternoon, and the next day the girls who would be willing to take up the work would be trained.

About School Fairs: We are taking the very life out of our School Fairs by having those alone at their school. Let us do as they did at the Horticultural Show at St. Catharines; they had a splendid exhibit there from the School Fair.

Since judging at a Horticultural Fair in Toronto here several years ago, I can see how much improvement in the standard of fruit and other products has been



Three-year-old Belgian Mares.

wrought from these talks that have been given. The first year in judging, I think there were four prizes given in jelly making. There were some forty jars exhibited from the Province, and out of those forty jars it was very hard to select four jars that were really worthy of a prize and that we could really call good jelly. Now all week during the Horticultural Show we talked concerning the canning of fruits and jellies. The next year a marked improvement had taken place, and last year we judged each jar was worthy of a prize. That shows you what is done by bringing before the public these points and talking at these fairs. We want to give our people amusement but we want something to educate them as well. I only hope that this work may be carried out successfully and that you will support us in this proposition.

Moved by M. S. STIRTZINGER, Fenwick, and seconded by J. V. WILLIAMS, Wainfleet, That whereas our rainy weather grant has been changed so as to be based on three previous normal years, we ask the executive of this Association to deal with the question with the Legislature to have our Legislative grant also based on three normal years. Lost.

## THE FARM LABOR PROBLEM.

J. J. HUNTER, Kincardine: This is one of the big questions at the present moment. The fairs have the machinery which might be put into operation to help the situation. The secretary of the local fair could arrange a card index and tabulate the needs of the man in his section. He could get in touch with labor and keep on file all that was available, the result being that farmers could call him up and find out at once if there was any help available. As it is at the present time, there were no centres in the rural districts where such information could be procured. The secretary would be in touch with the Immigration Department and would be able to place the needs of the community before those officials. This Association is the biggest thing in Canada in the way of a business concern and it could easily help in this matter. It might go further and tabulate all the vacant farms for occupation and bring before prospective settlers the advantages of Old Ontario and keep them here instead of allowing them to go to the West and other parts of Canada. A "Back to the Land" campaign could be organized showing the real advantages of rural life under present day conditions.

MR. LODGE, Arnprior: A great many farmers have not been off their places once in three weeks since last October. The help question is a very serious one. A number of farmers told me they wanted some one to go out to them. I took it up with the Superintendent of Trades and Labor, and he said he would open up an employment bureau. We ought to have a local man in touch with the situation.

JNO. FARRELL: I have been associated with farm labor supply for some time. Mr. Hunter has outlined his opinion very well, and he has also said that there was hardly a fair distribution, and you know it is right. That is Mr. Hunter's experience and he is telling you what he has learned to be a fact, but in my experience of over twenty years at no time can any man say that any injustice was meted out to any community. The farm labor situation is acute. There never was a time in our history when we had to meet what we have to to-day.

There are a great many men available to-day in the Province of Ontario who are willing to go out on the farm and to do the work well, that is the married men of this country. There are over 500 experienced married agriculturists, and through no fault of theirs but conditions of living, they have left the farms on which they were employed, but the city has not proved that great promised land that they thought it was at first. A man with his wife and five or six little children without a bank account cannot get out to a farm, and you would not want him to go and leave the position he has got, get work for a little while and then starve the rest of the time. But there is one thing you can do; you can go home to your various districts and say that if any farmers are willing to furnish a little house and garden attached to it, a number of men will go out and work for them by the day, but you must show them you are interested in them. Why should they throw themselves on your mercy without some guarantee? On the other hand, we have men in the cities that have asked for a yearly contract, and there is no married man with a little family that under present conditions would dare to work for you under \$500 a year. With all other obligations can you undertake that? You can't do it. On the other hand (we can't get that worker otherwise) you must place him and take care of him. There are at least 500 families to-day in the Province of Ontario, all experienced in agricultural production. As soon as the communities assure them of the proper support they will do their part. They don't ask you for a \$500 a year contract, because they will divide their services between different farmers.

In the City of London we called at some of the factories and said we needed five men to get crops in. The manufacturing concern said, "You can have five men," and before the farmer's wife got home there were five men on the job. The need was imminent, there were ten acres to take in that day and the weather was threatening. So long as the farmers will do their part there is no question about it, we will be able to give a fair supply of help for the present season. Let us put our heads together and produce as we never produced before in our existence.

MR. SANDERS, Exeter: While we are very much pleased to hear from men in commercial life, explaining to farmers what can be done, there is this to be remembered, that a man must know agriculture in detail before he can properly express an opinion. The only solution to the labor question to-day is to make farming more remunerative than any other business in Canada, otherwise starvation will come to this country. The question is a serious one, one not to be trifled with. It is a question that we must lay great stress on. Nothing but dollars and cents will bring people from the city to the country. If the farmer can avail himself of up-to-date machinery like the tractor, it will release at least one man on the farm. You are not all in a position to operate tractors, but I think the Government might do something for us along these lines if we, as farmers, will do our duty and assist them. The trouble is that the farmer figures only on his own affair, and you will find him reducing his obligations and thus lowering the product of his farm, and consequently the entire production of the country. We do know that the proposition we are now facing is something that has been coming on us for some years, it is not of to-day or yesterday, and the only way it can be overcome is by making farming the most remunerative business. I understand men are being paid as high as \$7 and \$8 a day for making munitions, and if you asked them to come from that back to the land they would only laugh at you.

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#### ADDRESS.

GEO. A. PUTNAM, TORONTO.

I must compliment the Agricultural Societies on the success they have had in their work. We can see evidence everywhere of advance—in your prize lists, the elimination of fakirs from shows and the emphasizing of that which is of real importance and interest to the farming community. Agricultural shows are primarily for the benefit of the farmers, and those of you who have attended the fairs in our boyhood days know we did not derive much benefit from them from an agricultural standpoint. However, even in those days the man and the boy from the north meeting the man and the boy from the south of the town could not fail to be of help in comparing notes on the stock.

I would suggest that you take the advice of the ladies in ways and means whereby you can make your agricultural shows of value to the women. In fact, what would you farmers amount to if it were not for the efficiency of the women on the farm? Where you find a farmer who is not doing very well you very often find that there is lack of efficiency in the kitchen, and I have seen many a poor farmer kept out of the sheriff's hands because of the industry of a good woman. So you must so plan your work and make up your prize lists so as to give the women and the children not only something of interest to them, but also induce them to take an active part in your exhibition: then I think you are on the way to success.

W. S. SCARF: Last year they told us as farmers to go home and produce more. Two weeks ago I called the attention of some of the men in our country to the waste that was going on in the Union Stockyards of Chicago. They buy hogs which sometimes are a night in the cars without feed or water, and the amount of grain that is fed to those hogs would surprise you. I saw it in the troughs; sometimes it is very good grain and sometimes not quite so good, but the best kind if they could not buy the cheaper stuff. I have here a statement that there were 1,800,000 lbs. of grain fed every year into those hogs in the United States Stockyards. That is bought by the drover at the present time at \$1 per cwt. Now, I am not going to say that was all good wheat, but yet I maintain it would go into the farmers' barns and feed hogs and prepare them for



Rainy River Exhibition.

the market. When we consider that about \$72,000 was paid for that feed last year, is it not time that we drew the attention of the powers that be to these conditions. Then again, last spring carloads of potatoes were dumped and wasted because they had been held in the cold storage plants. When we produce foodstuffs the least that can be done is to try and take care of them.

Moved by ROBERT MCKAY, seconded by ALBERT FAWCETT, That the members of this Association are in full accord with those who are endeavoring to encourage increased production of sheep and that the Legislature now in session be urged to pass more stringent legislation to protect this most valuable class of farm stock against useless curs. We are of opinion that the dog tax should be greatly increased and every dog in Ontario tagged, and kept confined from sunset to sunrise. Any dog found outside of its owner's home between the times above referred to should be shot at sight, and that a copy of this resolution be forwarded

to Sir Wm. Hearst, Premier of Ontario, and to Mr. Wm. Proudfoot, Leader of the Opposition. Carried.

CHAS. FISHER, Emo, spoke about the coyote menace to the sheep industry in the far north, recommended a higher bounty for the killed coyote from the Department and moved, seconded by Mr. McQUARRIE, Rainy River, That this meeting appoint a deputation to wait on Sir Wm. Hearst, Minister of Agriculture, and ask that the bounty on coyotes or brush wolves be increased to \$15. Carried.

Q.—How can we prevent the professional showing in the classes for ladies' work.

J. LOCKIE WILSON: Have two classes, one for amateurs, the other for professionals, or your Society can debar the professional from showing.

Q.—What is the price of bran and shorts as fixed by Food Controller?

A.—Twenty-nine dollars and fifty cents for bran and \$24.50 for shorts in Fort William.

Q.—Is Ontario grown Marquis spring wheat as good for seed as western grown seed? I have been told that it gives only half the yield.

A.—I was out to a farm where they had 40 acres of as good Marquis wheat as I ever saw grown. I bought seed from him this year. and his yield he tells me was over 35 bushels to the acre on an average.

T. G. RAYNOR: Some sections in Ontario can grow just as good Marquis wheat as the west.

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## POULTRY EXHIBITS AND COOPING ARRANGEMENTS.

R. H. ESSEX, HAMILTON.

If I were to say that the Poultry Exhibit at the fairs is the most important exhibit you have, you might not agree with me. It ought to be the most important exhibit at the fairs for your sake instead of being insignificant as it so often is. It is your own fault in a great many cases that it is as poor as it is. Your poultry exhibit ought to be better cooped. To coop better does not mean that you have to go down in your pockets and spend a whole lot of money that you can't afford to spend. There are other ways. There are so many different practices which might be adopted without spending \$3 or \$4 or \$5 on each man's part buying coops. It might suit some of the bigger fairs to get together and buy coops, and lend them to one another. If you had the money to spend I would advocate the principle of buying good wire coops that you could store in a building.

When I say that the poultry ought to be the best exhibit at the fair I had your interest in mind. I do not know of any exhibits that attract as much interest as the poultry in a well managed exhibition. it is the greatest attraction of all. If you go to the Canadian National Exhibition, where we have a million people in the course of a couple of weeks, aside from the midway, and perhaps the Ladies' Art building, the Poultry Exhibit attracts the largest crowd of any of the exhibits. Just compare when you go there, the crowds in the poultry building with those in the buildings where the hogs, sheep and swine are exhibited, and you will find more people in the poultry building than in all the others put together.

There is not an attractive poultry exhibit in one fair out of twenty-five. In the majority of cases when the judge goes to a fair, he will find that the birds

of one class are scattered possibly over a whole room. When the farmer brings his birds to the fair, he finds a board here in the yard, another there, and so on, knocks them together into a coop, and brings his birds down to the fair ground in this home-made coop. One man will put his coop here, another there, still another over there, another will keep it on his waggon.

One will have White Wyandottes and Barred Rocks all in one coop. When the judge comes along, he looks around for the Superintendent, who is not there. You ought to have that superintendent there to save the judge that trouble. If you had your classes together, the judge could judge the whole thing in twenty minutes, but by the time he has looked at one bird in this corner and goes over



Prize Winning White Orpingon Cockerel, owned  
by J. L. Greenshields, Toronto.

there to the other corner, he has forgotten what the first bird looked like. It is not fair to the exhibitors either.

You want something attractive to draw the crowd and the poultry exhibit attracts more people than anything else—not your poultry exhibit, but the poultry which you ought to have.

Let me give you this suggestion before leaving the coop question, if you do not want to buy your coops, offer a little inducement on your prize list for the farmer who brings along the best coop.

In the next place make the farmer understand that he must not put all his birds together, but keep every breed separate. And the superintendent, as the people bring along their birds, should arrange to group the various classes, so that

when the judge comes along, his work will be greatly simplified and he can judge the whole thing in a very short length of time. And after that is done he can lecture to the people and he will go around and tell what a very fine poultry exhibit that Society had, and next year they will have a lot of people there. I have exhibited poultry for a good many years, having taken a number of birds to Markham Fair about twenty-five years ago. Since that time I have gone to Toronto Exhibition nearly every year and I have taken in the New York State Fair, which is running Toronto Exhibition very close. It is the fault of the Toronto Exhibition. They should have greater publicity. I have been to the three World's Fairs, St. Louis, Buffalo, San Francisco and all the State fairs that are worth going to, so I know what I am talking about. Now, there were more people in the poultry building at the World's Fair in San Francisco than in any other building in the agricultural products. There may not have been more than in the midway or in the ladies' embroidery building, but there were more in the poultry building than in that of any other class of live stock. You can increase your exhibit by putting your coops in proper shape, buy them if you can afford to do it, if not, have separate coops anyway and have them as good as possible.

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## PREPARATION OF POULTRY EXHIBITS.

F. C. ELFORD, C.E.F., OTTAWA.

In dealing with this subject I want to refer both to the preparation on the part of the exhibitor and that on the part of the fair management.

**PREPARATION BY EXHIBITOR.** Nothing will be said of the preparation of fancy or standard bred poultry any more than to suggest that the standard of perfection and the advice given by the best of breeders and judges be followed. Such exhibitors usually attend carefully to the preparation, as a visit to almost any fair-sized show will demonstrate, but in the exhibition of the so-called utility classes of live poultry and of dressed poultry there is room for improvement.

**CONSTITUTION PRIME IMPORTANCE IN UTILITY CLASSES.** In the selection of birds for the utility classes a good constitution showing the ability to produce is of first importance. The bird should have a bright healthy appearance, full prominent piercing eye denoting vigor; the comb and wattles bright and clean, the head wide between the eyes and short from front to back and the beak short, strong at the base and curved at the end. There should be complete absence of the crow or snaky heads which denote a weak constitution.

The utility bird will have a wide back, long for the breed, broad tail, long keel in that it comes well back as well as forward and running almost parallel to the back. The keel will be straight. A crooked keel should be a disqualification. The bird should stand on two strong straight legs, just long enough to reach the ground, neither knock-kneed or bow-legged. There will be an absence of coarseness throughout and a presence of fine scales on legs and soft thin skin denoting quality of flesh.

**BREED TYPE.** Next to constitution the breed type should be present. Utility regulations usually call for blocky, short-legged birds, but while complying with these the type and color of the variety should not be lost.

**CONDITION AND EXAMINE EACH BIRD.** There is no reason why birds in the utility classes, simply because they are in the utility class, should not be washed if necessary, and carefully conditioned. All that have disqualifications that would prevent them from being satisfactory breeders, such as crooked breast bones, should be discarded. Minor defects such as an off-colored feather had better be removed and the birds "prepared" in every way possible for the show. Many a good bird fails to get the award because it is not conditioned and this lack of preparation is the rule rather than the exception in most utility classes. In some cases judges rightly have refused to handle birds because of the filth.



White Orpington Hen, property of  
Douglas Thomson, Woodstock.

**BREEDING PENS.** In the selection of breeding pens care must be exercised to have the females of a uniform type and size, uniformity being one of the first requisites in a first class breeding pen. The male should have every indication of being a suitable bird to mate with the particular females in the pen. The birds should be in laying condition which any good judge can tell. In judging a pen the male is usually given half the point, so his selection should be carefully studied. All utility birds should be weighed, the weight be put on each tag.

**DRESSED POULTRY.** In the preparation of dressed poultry there are several points that require consideration. Crate feeding is the best system to flesh the birds. About a month before the show, put into the feeding crate a number more than are required in the exhibit. A few may not come along as well as the others and there is always a risk of making a mistake in the killing or plucking.



Full instructions on the feeding of birds can be had by applying to the Poultry Division, Experimental Farm, Ottawa.

**THE FEEDING.** A mixed ration of finely ground grain gives best results, and one of the best feeds for this mixture is good plump oats. These should be finely ground, however, or better, have the coarse hulls sifted out. For best results milk and preferably buttermilk, is almost indispensable. The feed can be given twice or three times a day as most convenient.

**STARVING, KILLING, DRESSING AND COOLING.** In starving the birds they should be left without feed for at least twenty-four hours before they are killed, during which time they can be given a drink of water. This drink is appreciated by the birds and it helps to wash out the crop and intestines. After killing, however, any substance left in the bowels should be squeezed out as it invariably turns green after being killed a few hours and not only looks disagreeable but is unsanitary.

The killing should always be done by bleeding through the mouth.

The plucking should be done dry and all birds uniformly plucked. As to the feathers left, it is not a good plan to leave too many. A few around the neck are not objectionable but any on the wings or the thighs on roasters or broilers are not advisable.

Cool the birds thoroughly but slowly. See that the heat all comes out of the body instead of being driven in. Quick cooling has a tendency to drive the heat into the bones and they will turn black and decomposition soon sets in. Gradual but thorough cooling on the other hand drives the heat out of the body and leaves it in good condition to hold up in appearance and to keep for a longer period.

**EVEN FLESHING.** In selecting the birds for the exhibit see (1) that all birds selected are evenly fleshed, that is, that none of them are over-fleshed and none of them under-fleshed. (2) That they have an even distribution of flesh over the individual as far as possible. Undue fatness in certain sections is not desirable but an even distribution with a nice finish, a sort of kid glove feel to the skin is what is desired.

**PACKING.** If the birds are to be exhibited in a case or carton see that they are packed tightly. The packing has much to do with the award. They should be fitted in snugly and no room for shifting. As to whether the birds are packed with back or breast up depends very largely upon the individual taste. Before packing, all dirt, blood, stray feather or anything that may have accumulated on the birds during the killing operation should be carefully removed without using water in the operation.

#### PREPARATION BY FAIR BOARDS.

Any preparation by the exhibitor is largely lost if suitable preparation is not also made for the exhibits on the part of the Fair Board. In fact, the arrangements made by the Fair Board have much more to do with the continued success of the exhibits than the preparation made even by the exhibitors themselves.

**ACCOMMODATION.** No doubt the accommodation at the average fair is improving. There is, however, still need for more improvement along this line. Where the shady side of a fence or the back of the pavilion is the only accommodation provided, the poultry exhibits are not likely to be ever very large or attractive. A suitable building should be provided and there should be above everything else plenty of light. There ought to be wire coops provided by the

Association and the ideal method is to stage them in single tiers with good wide aisles between. The old system of using exhibitors' coops and placing them on tables or on top of each other beside the wall is not satisfactory nor does it do justice to the exhibit, the judge, or the visitor.

**THE DIRECTOR.** A good live director should be in charge of the poultry work and not one assigned to this department simply because he is not fit for any other, as is too often the case. The Director should arrange for the receiving of all birds and the cooping of them according to varieties, and should know where they are cooped so that he can assist the judge in his work.

**PRIZE LISTS.** If ever there was a time when the poultry prize lists needed revision, it is at present. As a rule, the majority of prizes are awarded to classes that are called "fancy" that is, they are not utility birds. In any way and they are on the list simply because the Fair Boards want to make a show or want to induce professional exhibitors to bring their fancy birds so as to fill up the coops. This is no time when any fair should countenance encouragement to any class of stock that will not produce and no patriotic Fair Board can conscientiously continue to offer the bulk of the prizes for birds, the chief production of which is feathers. More than ever the utility end of the show must be emphasized, and in order to provide the special interest which some Fair Boards feel the fancy end has provided, any features that will encourage production and that will help eliminate waste should be introduced.

**UTILITY CLASSES.** All birds belonging to what might be called the utility classes, that is birds that can be recommended to the ordinary man as good producers in either eggs or flesh should receive emphasis. Better prizes should be given to all such classes. Prizes for breeding pens should be increased and a sales class might be introduced.

In the sales class, birds should be entered that are for sale and information put on the coop as to the price and facts in reference to the breeding. The sale of these birds should be made through the Director in charge or the Secretary of the fair.

To encourage beginners, it might be well to have a beginners' class where only those who have never exhibited before would be allowed to exhibit.

**EGG LAYING CONTESTS.** In order to stimulate an interest and to substitute something for many of the fancy classes which might be eliminated, a laying contest should receive careful consideration. Laying contests have been carried on at two of our Canadian Winter Fairs and have proven very attractive. They might be of practical benefit to some of our later fall fairs though during the earlier fairs they are not so easy to conduct. Where it can be conducted, however, a laying contest will prove the main drawing card in the poultry exhibit and is of such a utilitarian nature, in that it draws attention to production, it should be tried out where possible.

**CROWING TESTS.** Along the same line also is a test of crowing. Up to the present these tests have not been made as far as I know, at least in a general way in America. In some of the European countries, however, before the war they were very popular and considered as one of the best features in connection with the selection of a male bird.

**EDUCATIONAL FEATURES.** More features of an educational nature should be introduced. Local poultry supply firms might be given more encouragement to demonstrate incubators and other poultry appliances designed for the saving of labor and increasing the egg yield. Government educational exhibits and

demonstrations could in many cases be secured. Demonstrations as to how best to kill and pluck, select the layers, caponize, build poultry houses, etc., could be introduced with very little expense and would be much appreciated. In some cases even moving pictures might be considered from which much instruction could be imparted.

In fact, the re-organization of poultry exhibits is not only advisable but is essential. We are asked as patriotic citizens to produce and again to produce, to eliminate waste of all kinds which includes the loafer in the poultry house. It is not a question of choice, it is a question of absolute necessity, and if our foremost citizens who are usually found on the Boards of Fairs Associations do not take the question up more seriously than they are doing what is to be expected from the 99 per cent. of our citizens who are not so favored.

**SALES FOR THE BELGIANS.** Another matter I would like to mention is the sales of poultry that are being held for the stripped farms of Belgium. There is in Canada what is called the Canadian Poultrymen's Belgian Relief Association an association affiliated with the Allies' Relief Association, of which Dr. J. W. Robertson is Canadian member. This Association is endeavoring to get Canadians to donate poultry to be sold, the proceeds of which go to buy poultry for the Belgians who have lost theirs during the war. Several sales for this purpose have already been held at a number of fairs. We hope others will and this sale would add considerable interest to any fairs as well as show our sympathy to the Belgian farmers who have lost all poultry as well as everything else in this awful war.

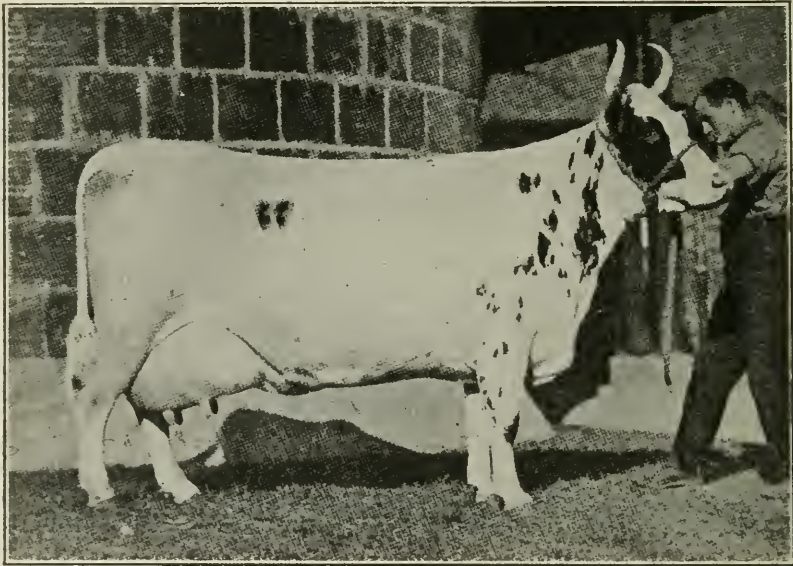
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#### EXHIBITING DAIRY CATTLE.

W. F. STEPHEN, HUNTINGDON, QUE.

I feel honored at being asked to address such an audience as is here this afternoon, and I trust out of the experience I have had you will derive some benefit, because I held an Ayrshire in the ring when I was five years of age, and have kept at it since, and I know something of the troubles of the exhibitors, and the difficulties of the fair managers, and I know that if he has not a pretty good fund of goodwill he is in hot water a good part of the time. I was not sure when your superintendent, whom I have known for a number of years and respect very highly, asked me to talk on this subject whether he wanted me to discuss it with you as fair men or dairy cattle exhibitors, so I came to the conclusion to talk for a few moments to fair men. One of the first suggestions I will offer to our fair men is to feature the demonstration of dairy cattle as much as possible in dairy cattle centres. This may be done by the securing of special prizes for special classes, for instance, the best display of a particular breed, and on no account bring different breeds into competition. Every time you do this there is more or less trouble. That has been my experience and I have judged in both the United States and Canada, and I have never known of any case where there was not a good deal of dissatisfaction. Also have best prizes, for Holstein class, Ayrshire class or whatever it may be, champion prizes for best dairy cows. Another thing which may be featured in connection with our fairs is a milking competition. At a fair where I have been manager we have had milking contests for several years and there is nothing that creates as much interest.

The next is suitable buildings; we can't expect our breeders of high class dairy cattle to tie their cattle to the fence. I do not presume, however, that there are any of you who do that to-day. Provide suitable buildings. They need not be expensive, they may be open at the side, centreing at the centre, stalled off, and your fastenings good and strong and no mangers. I believe the manger has been a source of conveying disease and it is more sanitary without the manger. Get the best dairy superintendent that you have, get a practical man. Let the rules governing the exhibit be simple and explicit and endeavor to adhere to them. Competent judges are essential, capable, impartial and honest, and if possible, get a judge of the breed. I know the difficulties, and possibly the man may have to judge all dairy breeds. If he is a Holstein man he will see all breeds through the eyes of the Holstein man. If an Ayrshire man, through the eyes of the Ayrshire, and if a Jersey man, through the eyes of the Jersey man. So endeavor to get men for each breed.



Ayrshire.

Managers must not cater to the big man in the community. Here is where sometimes our smaller fairs have been weakened. Give the small man a chance, as well as the big one, and don't pay too much attention to the grouch. We have those all over. We have to bear with the grouch—they will say they will never come back to this fair, but they come back the next year. Exhibitors should not expect favors. Once in a while we find this, an exhibitor will come along, he is probably a very intimate friend, he will expect favors, he will expect the best positions. But have no personal friends in conducting your exhibition. Let the man make his entries, and if he makes his entries on time, give him the position, but not the late man, and I know the difficulties in getting exhibitors to make their entries on time. Sometimes I feel like shutting right down on them, but it would mean sometimes a small exhibit in certain classes.

A word on the exhibiting of dairy cattle. This exhibition business is a great game, it is one of the greatest games on earth and if a man goes into the exhibition

business he should be a sport. We have sports in every class. We have got them in the poultry—they claim they are the greatest sports. Well, I thought the dairy cattle men were the best sports, but the horse man tells me they are. No man should enter into the exhibition game unless he has made up his mind to be a sport. The aim of the exhibition is first, to promote the breeding interest, second, as an educational factor, and third as an incentive to the breeders.

First breed interests: It cannot be questioned but that a breeder makes a sacrifice when he starts out on the fair circuit, leaves his work at home, takes out his dairy cattle, losing, in a measure, the milk supply, as it is not always saleable at our smaller exhibitions and there is no class, I believe, that gets as little credit from their fellow breeders as the dairy cattle exhibitors.

Another man will remain at home, and when the exhibitor comes along with his blue ribbons, his neighbor will say, "Oh, did he get a prize, I could have beaten him at that." But we must put up with that kind of thing, we get that sometimes from the man who has not been big enough to go out and compete in the ring. The exhibitor makes a considerable sacrifice, and he not only aids his own business but helps the breed which he is endeavoring to boost on the fair circuit, because I believe there is no better advertisement of our cattle than can be had at exhibitions. It helps not only the breeder but the breed as a whole, and when a man who has been an exhibitor for some years drops out he will find a decrease in the demand for his stock.

Now the show ring will not make a breed, but it will help, it is one of the factors. The R. O. P. Test brings out the strong records of the breeds, but it is by going to the exhibition you will see the man's stock for yourself, you can judge of their capacity as breeders.

In passing, let me say, there is another class that our Fair Boards can adopt in the no distant future, and that is a class for Record Performance. That is the points given for conformation and so many points given for butter, over and above the amount required to qualify.

I have been told by a Scotchman that fairs were held in their country first, they were first sales and afterwards developed into a sort of a fair to see which animal was the best, and then the animals were sold. Our fairs to-day are for the purpose of demonstrating the possibilities of a community, and I like the idea of a district being represented especially at our large fair. It was very noticeable in our western fairs a few years ago. We had exhibits from British Columbia, including vegetables and cereals, and the name of the district where grown was put over the exhibit showing the possibilities of that district.

We have a Breeders' Club in Quebec Province which put on a display at the Springfield, Michigan, Dairy Show a year ago last spring, with the result that they made many sales. We dairy cattlemen, from the district come together at this fair, the people see the possibilities, and it is up to every cattle breeder, if he is true to his district, to make a large or small display at his own fair, and if he is loyal to his fair and to his own community, he will do it.

Another point for our exhibitors is this: just a couple of weeks before the fair comes off, it might be profitable for the exhibitors of dairy cattle to run an ad. in their local paper, stating they are going to make an exhibit at their local fair, you will find them in stalls So and So, and they would be glad to see customers. We have to cater in this age to our purchasers. Now there is no better incentive to breeders than to get out and exhibit. Every breeder should go out to win. Everyone loves to win, but we hate to lose. This is notice-

able everywhere, and of course we have good losers and poor losers. Now, if you are a winner, don't brag. The man who loses does not like to be told he lost, and he does not like the winner to come up, and it is not in good taste for the other man to come up, and say, "I knew I could beat you." I feel like going up and shaking that fellow. Sometimes a man loses by very small odds. Sometimes the decision is a matter of opinion, and therefore it is not good form on the part of the winner to brag. Nor is it good form on the part of the loser to be grouchy, and in the many years that I was in the show ring I went in to win. If I lost I made up my mind to beat the fellow the next year, and it seems to me that is the proper spirit to go about it. Let the exhibitor play the game fair. I know it is not always fair, and there are animals exhibited over age. The judge should be able to tell by the mouth of the animals what their age is, and he should be able to turn down an animal that appears is out of his class.



An early start.

Yes, let our exhibitors play the game fair, and when the game is not fair, I say, dishonesty should be exposed. Now, the duty of feeding animals rests with the exhibitor and not with the judge. And the breeder who does his part generally comes out alright in the long run, and will find the judge ready to do his. Too frequently our exhibitors are too late in beginning to prepare their stock. I believe a judge is quite justified in turning down an animal because of its unfit condition, or in giving preference to the animal that is fitted. It is up to the breeder to commence early enough to get his stock ready for the fair. Care in this regard often wins him the prize. The animals that are born in the spring are the ones that are exhibited in the fall, and the breeder should begin preparing as soon as they are born. The incentive which leads a man to breed and develop animals for the fair is that which helps a man to have good stock, and if the man who exhibits is a good winner and also a better loser, it tends to make him a bigger man, and that is the class of men and breeders we want in our country to-day.

SUGGESTED IMPROVEMENTS IN RULES AND REGULATIONS OF  
FIELD CROP COMPETITIONS.

T. G. RAYNOR, OTTAWA.

One of the most popular agricultural propaganda of recent years organized in the Dominion of Canada has been the competition in field crops. Every province has now come into line with this great forward movement in field agriculture. I doubt if any province has worked them to better advantage than has our own Province of Ontario since their inception in 1907 when there were ten competitions. Every year since that they have been growing in numbers, usefulness and popularity.

The success of this work has been, in a large measure, due to the vision of your Superintendent, Mr. J. Lockie Wilson, as to the possibilities of the work, and to his untiring efforts in placing its opportunities before the societies you represent. That all he has claimed for the propaganda has been realized, and more, is quite generally conceded, and it is only the limit of the funds placed at his disposal for the movement that restricts its expansion. It might be in order to review even briefly some of the advantages which have accrued to field agriculture in the encouragement given to the production and use of pure and better seed, better varieties, to better methods of cultivation, the better knowledge of weeds and methods for their eradication, to obtaining and distributing large amounts of good seed, the distribution of a large amount of money in prizes, etc., but the chief object in the discussion of this subject is, as the subject indicates, to make suggestions for the improvement of this splendid work.

From time to time the rules and regulations of these competitions have been under review and improvements made. While it may be considered that there is little to be added to their efficiency, yet the changing conditions as well as the experience of years, suggest that improvements may be made.

With this motive in view, I venture to suggest a few changes whereby I believe that the competitions may be made of even greater advantage to the farmers themselves and to the country in general. It is now generally admitted that in some kinds of crops we are growing too many varieties for commercial purposes and that it would be a great advantage if some of the best were used and the rest let go. There are at least three crops that are very largely grown over wide areas which have been under review in this way. I refer to oats, corn and potatoes.

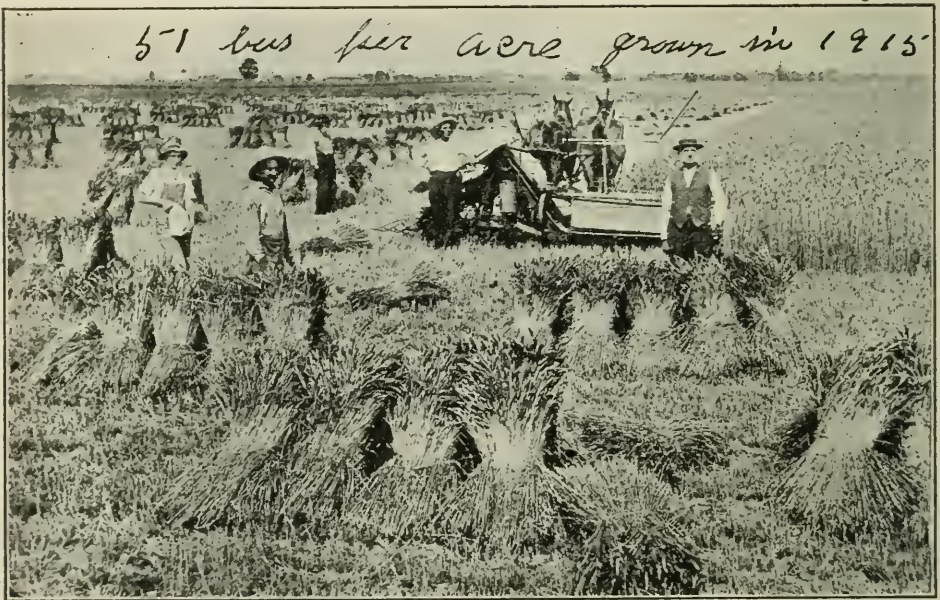
Recently a potato conference, under the auspices of the Provincial Department of Agriculture, was held to discuss the potato situation, and as a result of these deliberations it was decided to standardize two varieties, one early and one late, viz., Irish Cobbler and Green Mountain, and to encourage their growth commercially all over the Province. I would, therefore, suggest that all the societies conducting potatoes in their Field Crop Competitions adopt one or the other of these varieties. Such action would soon produce the large quantities of seed which are even now in demand. If this idea were approved steps should be taken as soon as possible to secure some stock seed for some of the societies to try out this year.

The efforts already made with regard to varieties of corn have had a good effect and those societies competing in corn could be doubtless influenced to adopt the varieties recommended.

I am informed on good authority that oatmeal millers object very seriously to using Ontario grown oats now for their purposes, because there is so much variation in the oats due very largely to the mixing of so many varieties, including long,

short and medium oats, long awns and tailed oats, thick and thin hulled oats, and, what is perhaps the greatest objection, Ontario oats are usually so badly mixed with other kinds of grain, especially barley.

I have diagnosed the disease. You ask for a remedy. I would suggest that a committee be appointed consisting of say Dr. Zavitz, Dr. Chas. Saunders, Mr. L. H. Newman and the President and Secretary of your organization, who would decide on which were the best varieties of cereals for the various districts and then secure the co-operation of the various societies in using such varieties. In some special districts it might be desirable to ask the advice of a District Representative in agriculture, more especially those in the Northern Ontario districts. Such action would soon bring about large quantities of desirable seed which would meet the demands for carload lots. Experimental stations, for instance, discover a new variety of some crop which is promising. How easily such a crop could be multiplied first through branch experimental stations and by members of the Canadian



Field of Field Crop Competitor in wheat.

Seed Growers' Association. In this way quantities would be obtainable for the various societies who would take up the growing of one variety to furnish the carload lots for shipment to other provinces for seed purposes. Ontario has a great opportunity for catering to the seed trade of the Dominion in a number of cereals and to the United States as well. I notice that in the past encouragement has been given to certain fodder crops by allowing a competition without any consideration to the production of seed, such as competitions in silage corn, alfalfa for fodder and in field roots, as turnips and mangels. Has not the time come when these crops should be looked at from the seed production end? Except perhaps in silage corn, and even here some consideration for seed could be made. Where turnips and mangels are entered for competition a certain number of roots should be required to be kept for seed production for the following year.

There is another change which I believe would be beneficial. At present fixed sums of money are offered as prizes and these prizes are the same in each com-



petition. It often occurs in scoring fields that two of them tie and very frequently there is only half a point between the first and second prizes. A judge often has difficulty in adjusting the scores so that there will be a gradation in the scores. Then the same number of prizes are given in each competition no matter how many competitors there are. I would suggest that we could take a leaf out of the book of Nova Scotia's methods and say, as they do, that there will be no competition unless 5 or more compete when 4 prizes will be given: from 6 to 10 entries, 5 prizes; from 10 to 15 entries, 7 prizes; from 15 to 20 entries, 9 prizes; from 20 to 25 entries, 12 prizes; from 25 to 30 entries, 15 prizes; and for 30 or more entries, 20 prizes.

Instead of paying a fixed amount of prize money they pay for competitions in wheat, oats and potatoes. 40 cents for each point over 75 in the score and 75 cents for each point in turnips over 75. I think you will see that this method is a very equitable one and that far more encouragement would be given the competitors to do their best.

There are some other suggestions perhaps not quite so important at this time, one of which Mr. Scarf, the President, mentioned last year in the discussion on Field Crop Competitions, viz., the necessity of the prize-winning competitors at least making exhibits at the local Fairs. Exhibits of grain from local Fairs could be sent to the Provincial Winter Fairs and enter into competition there.

Then there is the necessity of the grain from prize-winning fields being made available for seed rather than being used for feed, as too often occurs.

As to the quantity of seed grain required for exhibition purposes could not 100 pounds be made the standard instead of two bushels? Where a few men succeed in winning prizes repeatedly there might be an honor roll or medal provided for such and thus give an opportunity for others to win.

Finally, exhibits at Seed Fairs might be made more educational by arranging them in order of merit.

W. S. SCARF: I had some trouble with a competitor who divided a field: a man had a field of wheat, twenty acres in extent. I went to judge five acres of that field. He had it staked off, as according to the rules he had a right to. When he cut that field he cut around the whole field, the wheat was threshed together and was all sold for seed, although it was only the five acres that he won the prize on and had kept extra clean. If there was some way of overcoming this I would be pleased to hear what it would be. We should be compelled to judge that whole field, whatever size it is, because the farmer will not cut around that five-acre plot and keep the grain separate. We ought, in such a case, to judge the whole field.

T. G. RAYNOR: There are difficulties and they are hard to solve, and, in addition to what the chairman has just said there is this further difficulty very often, these prize-winning lots don't find their way into the market. There should be a change made in the rules compelling a man to keep that particular crop for seed. It would not be such a task to send an inspector around to the different farmers to see whether it had been carried out. I do not know whether the department would assist in the system of inspection, but that, at least, would be a check on a man mixing his grain.

Moved by W. J. CONNELLY, Cobden, seconded by L. J. C. BULL, Brampton, That the following be a committee to investigate and determine the varieties of grains best suited to grow in the different sections of the Province of Ontario: DR. C. A. ZAVITZ, Guelph; DR. SAUNDERS, Ottawa; J. LOCKIE WILSON, Toronto; L. H. NEWMAN, Ottawa, and W. S. SCARF, Durham. Carried.

The Convention then closed with the singing of the National Anthem.

VARIETIES OF GRAIN AND POTATOES RECOMMENDED AND  
ADOPTED BY THE COMMITTEE APPOINTED TO MAKE  
SELECTIONS FOR THE STANDING FIELD CROP  
COMPETITIONS AND FAIRS AND EXHIBI-  
TIONS, TO BE USED IN 1919.

At the Annual Convention of the Ontario Association of Fairs and Exhibitions, a committee was appointed to draw up a list of varieties of grain and potatoes, most suitable for the various sections of the Province and recommended as standard varieties for the Standing Field Crop Competitions. The committee consisting of Dr. C. A. Zavitz, Dr. C. E. Saunders, L. H. Newman, J. Lockie Wilson and Wm. Scarf met on March 11th, 1918, and approved of the following:

*Fall Wheat—*

Dawson's Golden Chaff (White).  
Imperial Amber (Red).

*Oats—*

O. A. C. 72.  
Banner.

*Peas—*

Golden Vine.  
Canadian Beauty (White Marrowfat).  
Arthur.

*Corn (Dent)—*

Wisconsin No. 7.  
White Cap Yellow Dent.  
Bailey.  
Golden Glow.  
(*Flint*)  
North Dakota.  
Longfellow.  
Quebec Yellow.

*Spring Wheat—*

Marquis.  
Red Fife.  
Wild Goose.

*Barley—*

O. A. C. 21.  
Mandscheuri.

*Beans—*

Pea.

*Potatoes—*

Green Mountain (Delaware).  
Carman No. 1.  
Gold Coin.  
Davies Warrior.  
Dooley.  
Irish Cobbler (Extra Early Eureka).  
Early Ohio.



Ready for husking. Good seed corn is always in demand.

## RESOLUTIONS.

The following resolutions dealing with the Standing Field Crop Competitions were also passed:

Moved by WM. SCARF, seconded by DR. C. E. SAUNDERS, "That in addition to the names of the prize winners the names of those competitors only who score eighty points or over be published in the Appendix to the Report of the Agricultural Societies of Ontario." Carried.

Moved by DR. C. E. SAUNDERS, seconded by L. H. NEWMAN, "That, commencing in 1919, judges of Standing Field Crops and of grain and potatoes exhibited at fairs and exhibitions be instructed to deduct from one to two points from the total scores of competitors who enter for competition varieties which are not on the list approved of at this meeting." Carried.

Moved by DR. C. E. SAUNDERS, seconded by L. H. NEWMAN, "That for 1919 the rules and regulations of the Standing Field Crop Competitions be amended as follows: In rule 9, governing exhibits of sheaves, grain and roots at the Provincial Winter Fairs and the Canadian National and Central Canada Exhibitions where the competition has hitherto been limited to the first five prize winners, there be added these words, 'And any other competitors who have taken eighty-five points or over in the Standing Field Crop Competitions.'" Carried.

C. A. ZAVITZ,  
*Chairman.*

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THE LABELLING OF FAIR EXHIBITS AS AN AID TO AGRICULTURAL PRODUCTION.

HARLAN I. SMITH, GEOLOGICAL SURVEY, OTTAWA.

In past years and even at this time, when increased conservation and production of food is so desirable, the people of North America invest a tremendous sum in over 2,000 county fairs and similar agricultural exhibitions. This investment loses much of its effectiveness because of lack of labels, scarcity of them or imperfect ones.

By labels is not meant such as are used in the great museums where too much attention is given to the specimen and too little to the desirable effect of the exhibit or the effect of the label, if it be present at all. Over sixteen years' experience in the American Museum of Natural History, perhaps the largest on the continent, convinced me that useful labels are more rare and more valuable than the exhibits.

At the Central Canada Exposition in Ottawa was once exhibited a very interesting hand-woven fabric apparently of farmer handiwork, but close examination of the exhibit failed to reveal where it was made, by whom, its value, or where such fabrics could be obtained. Otherwise intelligent people have been known to lay in a stock of fall fruit, part of which spoiled before the winter was over. A label at the fair on fruit preservation would have saved this loss. When one views the machinery at a fair he is often at a loss to know for what it may be used. Many similar examples could be given. Probably more than half the people who visit a fair pass along without understanding many of the exhibits. They go for fun, but could learn at the same time much that would make them more useful to the whole

country. An additional investment, small in proportion to the present whole cost of fairs, would change these from amusements or casual advertisements to educational institutions resulting in diffusing the best agricultural knowledge discovered by the government experts.

An additional investment of less than one cent per exhibit would provide suitable educational labels and probably double, or multiply the productive national value of the fairs many fold. It is not proposed that each fair should write and print its own labels. This would mean that this work would in some cases be done by persons not specially skilled, whereas we have available skilled specialists in provincial or national agricultural departments, as well as in agricultural colleges



Champion Southdown Wether.

and experiment stations. It would also mean that there would be as many labels written as there are fairs, a tremendous overlapping of effort and expense, while one writing would do for all.

It is not advocated to label each exhibit, for instance, each cow, but to label each breed. In the case of large exhibits with many individuals, as of Clydesdale horses, one label would be put at each end of each row of stalls and perhaps in one or more places between.

Perhaps labels need not be made in this particular way for everything in every fair, but for those things that are common to most of the fairs. One could take the list of exhibits at a typical fair and make a label for each class of exhibits, such as Holstein cows, Plymouth rock chickens, Northern Spy apples, Hubbard squash, and wind-mills. They would not be advertisements for any firm.

Each label should be written by the leading expert in that particular sort of exhibit—breed of cattle, swine, bees, wheat, potatoes, apples, gang plows, threshing machines, windmills, motors, etc. This label should be criticised by other experts and then rewritten by a man who is an expert in interpreting facts to people who are not scientists. Many an agricultural bulletin is not read or is thrown away by farmers because it is too technical or because what they wish to know is buried in hundreds of pages of detail too technical for their understanding. Possibly, an expert advertising writer could condense the labels written by experts down to essentials and rewrite them in language understood by the average farmer. Such labels, consequently, could not give the name and address of the owner, price, or other local details, but each label should be an adequate article on the subject, including references to both the best literature and to that which is most available, such as experiment station reports. It should contain nothing that could be replaced by a more important statement. Possibly the labels would cover an 8 x 12-inch card. They would tell, for instance, which breed of cow was good for milk, which for beef, what to feed, when to water, the general values and all such useful information. They would help the city dweller to co-operate with the farmer, and also in connection with buying, storing, drying, or otherwise preserving food. They might assist mechanics to know better how to invent and to make farm machinery.

These labels could be printed by national or provincial governments and distributed to each fair management so that each exhibit might teach to the farmers and other citizens who need the knowledge the essentials of increasing and improving the country's food supply.

The labels may be bound into a book, or rather the same type may be used to print off a guide book or elementary agricultural encyclopedia, thus killing two birds with one stone, as has been done in the case of the imperfect and incomplete preliminary edition of the Handbook of the Rocky Mountains Park Museum, where one typesetting supplied a handbook and labels for eighteen museums, a zoo, a paddock and other uses. The same labels may also be illustrated with lantern slides or moving pictures and thus serve as lecture notes which may be arranged in any desired order. If a local fair wishes to add advertisements or labels of unusual local products not common to all fairs, these labels may be prepared and printed locally for binding in at the back. In case the local authorities wish such advertisements or labels to local products added in the body of the book, then the originating or central office may supply electro or matrix of the standard label matter.

This plan would give far more accurate labels and handbooks than if each fair had its relatively unexpert men compose the matter. It would also save the useless expense of each fair composing its own labels and setting its own type.

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## COMMENTS ON JUDGING SMALL GRAINS AT THE PROVINCIAL WINTER FAIR HELD IN GUELPH, DECEMBER, 1917.

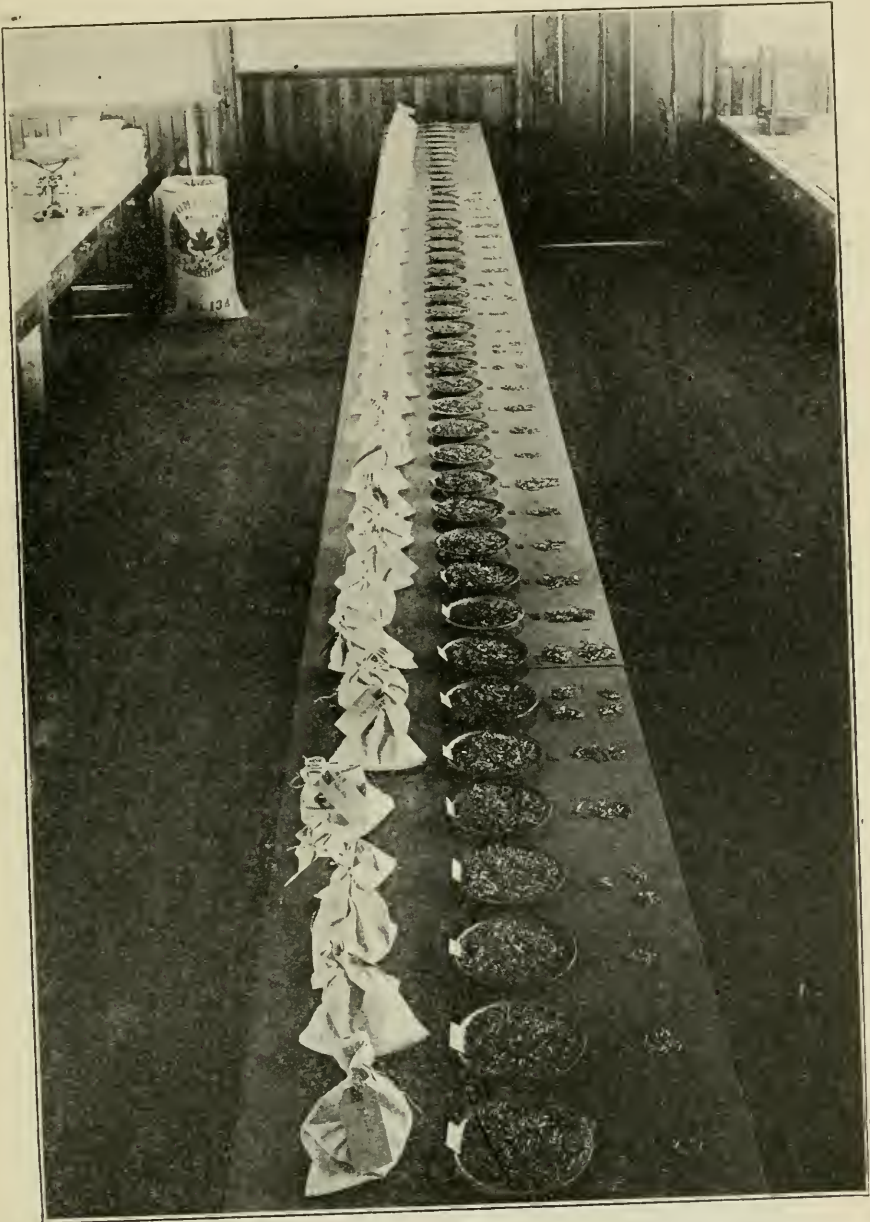
DR. C. A. ZAVITZ, O.A.C., GUELPH.

At the Provincial Winter Fair held in Guelph in December of each year entries in the Seed Grain Department are made in one or more of three divisions, viz., (1) the Open Class in which all farmers are eligible to enter exhibits, (2) the Field Crop Competitions Class in which seed can be entered which was taken from fields receiving prizes in the Standing Field Crop Competitions, and (3) the Canadian Seed Growers' Association Class which is open only to entries by the members of this Association.

It is stated in the general rules and regulations that in the Open Class "each exhibit must be a true sample of the total quantity offered for sale by the exhibitor." It will, therefore, be noted that in every instance the seed shown at Guelph, in any of the three classes, represents a larger supply of seed on the farm where it is grown. In many cases the home supply is represented by hundreds and in some instances thousands of bushels. In the catalogue the names and addresses of the exhibitors are given, the varieties are named, the home supply of seed is stated, and the price per bushel is usually mentioned. Much of this information besides being entered in the catalogue is also mentioned on the exhibits themselves. Before the close of the exhibition all the grain from the Field Crop Competitions and in the Open Class, and part of that shown by members of the Canadian Seed Growers' Association is sold by auction for seed purposes to the highest bidders. It will, therefore, be seen that the seed exhibit of the Provincial Winter Fair is unique in several respects, and embodies features which might well be practised by some of the other agricultural exhibitions.

Judging at the Provincial Winter Fair is carried out with an unusually large amount of detail. This is made possible from the fact that parts of two days are allowed for judging, and that a sufficient amount of help in the Field Husbandry Department at the College is thus enabled to make a very careful examination of each exhibit. Even though the number of exhibits is large, thorough work can be accomplished. It is true that the same process cannot be carried out in all exhibitions and yet there are features of the judging work at Guelph which might, to advantage, be applied at every Seed Fair.

In the first place special attention is directed to the method of examining the exhibits. The plan frequently practised at the small fairs has been to make awards from casual observations of the grain at the tops of the bags as they are shown by the exhibitors without making any determinations from the lower portion of the sacks. A far better way is to take samples from throughout each bag and place these samples on a table where they can be carefully and critically examined for uniformity, maturity, soundness, purity, etc., of each lot. This can and should be carried out at practically all exhibitions throughout the country. It enables the judge to be much more accurate in his work and insures the confidence of the exhibitors. In all cases samples should be taken from the lower as well as from the upper part of the bag. This can be readily accomplished without much difficulty by pushing the hand deeply into the bag. The work, however, can be facilitated by the use of a grain sampler made in the form of a double cylinder about three feet in length. By opening the cylinder after it is pushed to the bottom of the bag a sample can be secured representing the entire column of grain. By emptying



Samples of forty-three entries of oats taken from fields receiving prizes in the Standing Field Crop Competitions and entered at the Provincial Winter Fair, Guelph, in December, 1917. Each plate contains a four-ounce sample taken from a two-bushel lot as required in the contest, and the loose grains on the table beside the plate comprise the defective grains of oats and the impurities found in the four-ounce sample.

on the table the grain from the seed sampler it is comparatively easy to make a minute examination of the entire exhibit as it actually exists throughout the contents of each bag. At the Provincial Winter Fair the winter wheat, spring wheat, buckwheat, rye, peas and beans are judged in this way. The oats and barley, however, which have larger entries and keener competitions, are judged by making definite determinations at the College from a mixture of two cylinders of grain taken from each entry. In order to illustrate this work tabulated results are here presented showing the determinations made of the entries of white oats exhibited at the Provincial Winter Fair in Class 365, being the exhibits taken from the crops receiving prizes in connection with the Standing Field Crop Competitions which are conducted by the Agricultural Societies. Similar records were made for the barley in the Field Crop Competitions and for all entries of oats and barley exhibited in the Open Class as well as for those entered in connection with the Canadian Seed Growers' Association.

The critical examinations made of the different samples of oats as shown in the accompanying tabulated results furnish important information regarding the quality of grain of the various entries. In addition to this information determinations were made regarding the purity and the trueness of the varieties, the apparent weight per bushel, the freedom from foreign matter, the percentage of hull, etc. But few people realize that one hundred pounds of a thin hulled variety of oats might furnish from twelve to fifteen pounds more meal than one hundred pounds of an equally good sample of another variety of oats, but which is thick in the hull; or that two samples of the same variety of oats may vary to a marked degree in the amount of meal which they are capable of furnishing. In making a true record of oats entered in competition it is absolutely necessary to take many points into consideration. This is true, not only of oats, but of all classes of grain entered in competition. Much responsibility, therefore, rests upon the judges in knowing as many of the facts as possible and in making just awards. It is undoubtedly true that the work of the judges has a marked influence on the usefulness, the stability and the permanency of seed exhibitions.



Shropshires.





## COMPARATIVE STATEMENT OF GRANTS TO AGRICULTURAL SOCIETIES, 1917-18.

Societies.	1917	1918	Societies.	1917	1918
<b>ALGOMA:</b>			<b>ESSEX:</b>		
Bruce Mines .....	\$122 00	\$123 00	Amherstburg, Ander- don & Malden .....	\$211 00	\$214 00
Central Algoma .....	411 00	628 00	Colchester South .....	200 00	194 00
Iron Bridge .....	65 00	72 00	Comber .....	145 00	159 00
Johnston & Aberdeen.	97 00	99 00	Essex Co. ....	583 00	505 00
North Shore .....	110 00	119 00	Mersea, Leamington & S. Gosfield .....	446 00	432 00
St. Joseph Island ....	166 00	155 00	Windsor .....	725 00	710 00
Thessalon .....	204 00	200 00	<b>FRONTENAC:</b>		
<b>BRANT:</b>			Frontenac .....	130 00	115 00
Onondaga .....	133 00	126 00	Kennebec .....	46 00	43 00
Paris .....	371 00	360 00	Kingston Industrial ..	311 00	398 00
South Brant .....	429 00	399 00	Parham .....	85 00	83 00
<b>BRUCE:</b>			Storrington .....	89 00	75 00
Arran and Tara .....	305 00	288 00	Wolfe Island .....	98 00	99 00
Carrick .....	236 00	228 00	<b>GLENGARRY:</b>		
Chesley .....	186 00	185 00	Glengarry .....	165 00	187 00
Eastnor .....	94 00	76 00	Kenyon .....	162 00	143 00
Hepworth .....	167 00	156 00	St. Lawrence Valley..	282 00	286 00
Huron Township .....	200 00	187 00	<b>GRENVILLE:</b>		
Kincardine .....	127 00	129 00	Kemptville .....	179 00	166 00
Lucknow .....	205 00	207 00	Merrickville .....	177 00	169 00
N. Bruce & Saugeen..	174 00	174 00	South Grenville .....	193 00	194 00
Northern .....	146 00	.....	Spencerville .....	132 00	132 00
Paisley .....	219 00	225 00	<b>GREY:</b>		
Pinkerton .....	95 00	89 00	Ayton .....	133 00	118 00
Teeswater .....	224 00	226 00	Collingwood Tp. ....	139 00	119 00
Tiverton .....	114 00	115 00	Desboro .....	175 00	180 00
Underwood .....	133 00	121 00	East Grey .....	103 00	111 00
Warton .....	161 00	162 00	Egremont .....	156 00	145 00
<b>CARLETON:</b>			Hanover, Bentinck & Brant .....	150 00	131 00
Carleton County .....	438 00	363 00	Holland .....	145 00	145 00
Carp .....	249 00	270 00	Keppel .....	85 00	87 00
Fitzroy .....	153 00	160 00	Kilsyth .....	225 00	221 00
Metcalfe .....	289 00	241 00	Markdale .....	211 00	207 00
<b>DUFFERIN:</b>			Meaford & St. Vincent	211 00	216 00
Dufferin .....	265 00	259 00	Normanby .....	99 00	93 00
Dufferin Central.....	292 00	282 00	Osprey .....	135 00	129 00
East Luther .....	255 00	265 00	Owen Sound .....	370 00	341 00
<b>DUNDAS:</b>			Priceville .....	104 00	93 00
Dundas .....	81 00	79 00	Proton .....	230 00	225 00
Mountain .....	191 00	186 00	Rocklyn .....	171 00	170 00
Winchester .....	309 00	.....	South Grey .....	168 00	158 00
<b>DURHAM:</b>			Sydenham .....	100 00	98 00
Cartwright .....	129 00	130 00	Walter's Falls .....	171 00	149 00
Clarke Township .....	280 00	275 00	<b>HALDIMAND:</b>		
Millbrook .....	349 00	314 00	Caledonia .....	564 00	518 00
Port Hope .....	415 00	391 00	Canboro .....	58 00	56 00
West Durham .....	423 00	418 00	Dunnville .....	164 00	152 00
<b>ELGIN:</b>			Haldimand .....	205 00	199 00
Aldbrough .....	214 00	210 00	Southern Branch .....	122 00	113 00
Aylmer & E. Elgin...	257 00	300 00	Walpole .....	.....	181 00
Shedden .....	71 00	73 00	<b>HALIBURTON:</b>		
South Dorchester .....	181 00	184 00	Glamorgan .....	42 00	37 00
Straffordville .....	89 00	90 00	Haliburton .....	199 00	194 00
West Elgin .....	323 00	296 00	Minden .....	198 00	192 00

COMPARATIVE STATEMENT OF GRANTS TO AGRICULTURAL SOCIETIES,  
1917-18.—Continued.

Societies.	1917	1918	Societies.	1917	1918
<b>HALTON:</b>			Maberly .....	\$73 00	\$68 00
Acton .....	\$213 00	\$211 00	North Lanark .....	533 00	449 00
Esquesing .....	256 00	244 00	Pakenham .....	170 00	165 00
Halton .....	389 00	382 00	South Lanark .....	317 00	314 00
Nelson & Burlington..	222 00	232 00			
Trafalgar .....	232 00	338 00	<b>LEEDS:</b>		
			Brockville .....	382 00	383 00
<b>HASTINGS:</b>			Delta .....	209 00	188 00
Bancroft .....	139 00	137 00	Frankville .....	191 00	178 00
Belleville .....	352 00	342 00	Lansdowne .....	168 00	160 00
Frankford .....	269 00	243 00	Lombardy .....	131 00	147 00
Madoc .....	263 00	269 00			
Marmora .....	110 00	112 00	<b>LENNOX AND ADDINGTON:</b>		
Maynooth .....	70 00	58 00	Addington .....	68 00	.....
Shannonville .....	149 00	141 00	Amherst Island .....	140 00	140 00
Stirling .....	197 00	176 00	Centreville .....	78 00	83 00
Tweed .....	214 00	198 00	Ernestown .....	99 00	109 00
Wollaston .....	94 00	94 00	Lennox .....	220 00	.....
<b>HURON:</b>			<b>LINCOLN:</b>		
Bayfield .....	102 00	102 00	Abingdon .....	66 00	65 00
Blyth .....	134 00	120 00	Clinton .....	215 00	213 00
Dungannon .....	127 00	124 00	Monck .....	107 00	99 00
East Huron .....	209 00	198 00	Niagara Town & Tp..	.....	.....
Exeter .....	216 00	210 00	Peninsula Central ...	79 00	67 00
Goderich Industrial ..	252 00	232 00			
Howick .....	138 00	147 00	<b>MANITOULIN ISLAND:</b>		
Seaforth .....	217 00	197 00	Billings .....	206 00	206 00
South Huron (Spring			Gore Bay .....	363 00	362 00
Fair only) .....	.....	.....	Howland .....	129 00	131 00
Turnberry .....	173 00	166 00	Manitowaning .....	222 00	213 00
Zurich .....	123 00	128 00	Providence Bay .....	173 00	184 00
<b>KENORA:</b>			<b>MIDDLESEX:</b>		
Dryden .....	331 00	253 00	Caradoc .....	135 00	137 00
Kenora .....	387 00	428 00	Delaware .....	162 00	172 00
			Dorchester .....	229 00	220 00
<b>KENT:</b>			East Middlesex .....	100 00	100 00
Camden .....	122 00	124 00	London Tp. ....	105 00	106 00
East Kent .....	244 00	238 00	McGillivray .....	59 00	55 00
Harwich .....	199 00	194 00	Melbourne .....	211 00	216 00
Howard .....	325 00	324 00	Mosa and Ekfrid .....	224 00	214 00
Orford .....	247 00	243 00	North Middlesex .....	117 00	118 00
Raleigh an& Tilbury..	131 00	133 00	Parkhill .....	144 00	138 00
Romney and Wheatley	133 00	126 00	Strathroy .....	475 00	467 00
Wallaceburg .....	124 00	120 00	Thorndale .....	120 00	117 00
West Kent .....	347 00	310 00	Westminster .....	122 00	122 00
<b>LAMBTON:</b>			<b>MUSKOKA:</b>		
Bosanquet .....	188 00	175 00	Baysville .....	158 00	143 00
Brooke and Alvinston	259 00	266 00	Gravenhurst and Mus-		
East Lambton .....	254 00	245 00	koka .....	363 00	329 00
Florence .....	166 00	161 00	Medora and Wood....	287 00	277 00
Forest .....	220 00	223 00	Morrison .....	114 00	105 00
Moore .....	246 00	241 00	North Muskoka .....	359 00	359 00
Petrolia & Enniskillen	362 00	354 00	South Muskoka .....	800 00	768 00
Plympton & Wyoming	161 00	163 00	Stephenson and Watt.	348 00	343 00
Sombra .....	109 00	107 00	Stisted .....	152 00	152 00
West Lambton .....	.....	355 00			
			<b>NIPISSING:</b>		
<b>LANARK:</b>			Astorville .....	119 00	108 00
Dalhousie .....	104 00	99 00	Bonfield .....	136 00	134 00
Lanark Tp. ....	136 00	121 00	East Nipissing .....	264 00	251 00
Lanark Village and			Sturgeon Falls .....	276 00	328 00
Bathurst .....	175 00	170 00	Verner .....	335 00	323 00



COMPARATIVE STATEMENT OF GRANTS TO AGRICULTURAL SOCIETIES,  
1917-18.—Continued.

Societies.	1917	1918	Societies.	1917	1918
<b>TEMISKAMING:</b>			<b>WELLINGTON:</b>		
Charlton .....	\$197 00	\$210 00	Arthur .....	\$208 00	\$217 00
Cochrane .....	.....	176 00	Centre Wellington ...	333 00	325 00
Englehart .....	221 00	246 00	Erin .....	336 00	291 00
Matheson .....	.....	104 00	Guelph & South Wel-	.....	.....
New Liskeard .....	480 00	431 00	lington .....	.....	.....
Porquis Jct. ....	.....	47 00	Mount Forest .....	309 00	297 00
<b>THUNDER BAY:</b>			Palmerston .....	129 00	122 00
Oliver .....	338 00	315 00	Peel and Drayton ...	151 00	138 00
West Algoma .....	.....	800 00	Puslinch .....	158 00	159 00
Whitefish Valley ....	167 00	165 00	Rockwood .....	205 00	199 00
<b>VICTORIA:</b>			West Wellington ...	.....	125 00
Eldon .....	120 00	117 00	<b>WENTWORTH:</b>		
Fenelon .....	151 00	152 00	Ancaster .....	202 00	215 00
Mariposa .....	127 00	107 00	Binbrook .....	84 00	79 00
South Victoria .....	769 00	793 00	Hamilton and Went-	.....	.....
Verulam .....	227 00	261 00	worth .....	.....	.....
<b>WATERLOO:</b>			Rockton .....	339 00	328 00
Elmira and Woolwich	156 00	147 00	Waterdown .....	178 00	164 00
South Waterloo .....	481 00	464 00	West Flamboro .....	113 00	120 00
Wellesley and North	.....	.....	<b>YORK:</b>		
Easthope .....	205 00	190 00	Markham and E. York	772 00	688 00
Wilmot .....	233 00	242 00	Newmarket .....	436 00	401 00
<b>WELLAND:</b>			Queensville .....	118 00	110 00
Bertie .....	183 00	141 00	Richmond Hill .....	202 00	201 00
Fenwick .....	264 00	279 00	Scarboro .....	343 00	329 00
Stamford and Niagara	.....	.....	Schomberg .....	256 00	196 00
Falls .....	65 00	78 00	Sutton .....	137 00	137 00
Thorold Town and Tp.	127 00	137 00	Weston, York & Etobi-	.....	.....
Wainfleet .....	97 00	88 00	coke .....	238 00	230 00
Welland .....	445 00	415 00	Woodbridge .....	514 00	501 00
				\$72,349 00	\$72,131 00

SPECIAL GRANTS TO SOCIETIES IN THE DISTRICTS.

Societies.	1917	1918	Societies.	1917	1918
<b>ALGOMA:</b>			<b>MANITOULIN:</b>		
Bruce Mines .....	\$57 00	\$52 00	Billings .....	\$96 00	\$87 00
Central Algoma .....	100 00	100 00	Gore Bay .....	100 00	100 00
Iron Bridge .....	31 00	30 00	Howland .....	60 00	55 00
Johnston & Aberdeen.	45 00	42 00	Manitowaning .....	100 00	90 00
North Shore .....	52 00	50 00	Providence Bay .....	81 00	77 00
St. Joseph Island. ....	77 00	65 00	<b>MUSKOKA:</b>		
Thessalon .....	95 00	84 00	Baysville .....	74 00	61 00
<b>FRONTENAC:</b>			Gravenhurst and Mus-	.....	.....
Kennebec .....	43 00	37 00	koka .....	100 00	100 00
Parham .....	80 00	70 00	Medora and Wood....	100 00	100 00
<b>HALIBURTON:</b>			Morrison .....	53 00	44 00
Glamorgan .....	20 00	16 00	North Muskoka .....	100 00	100 00
Haliburton .....	93 00	82 00	South Muskoka .....	100 00	100 00
Minden .....	92 00	81 00	Stephenson and Watt.	100 00	100 00
<b>HASTINGS:</b>			Stisted .....	71 00	64 00
Bancroft .....	100 00	100 00	<b>NIPISSING:</b>		
Maynooth .....	65 00	49 00	Astorville .....	56 00	57 00
Wollaston .....	88 00	80 00	Bonfield .....	63 00	57 00
<b>KENORA:</b>			East Nipissing .....	100 00	100 00
Dryden .....	100 00	100 00	Sturgeon Falls .....	100 00	100 00
Kenora .....	100 00	100 00	Verner .....	100 00	100 00

SPECIAL GRANTS TO SOCIETIES IN THE DISTRICTS.—Continued.

Societies.	1917	1918
<b>PARRY SOUND:</b>		
Armour, Ryerson and Burk's Falls .....	\$100 00	\$100 00
Christie .....	77 00	91 00
Loring .....	94 00	82 00
Machar .....	100 00	80 00
Magnetawan .....	100 00	100 00
McKellar .....	100 00	100 00
McMurrich .....	100 00	100 00
Parry Sound .....	100 00	100 00
Perry .....	100 00	100 00
Powassan .....	100 00	100 00
Rosseau .....	100 00	100 00
Strong .....	100 00	100 00
United Tps. ....	98 00	94 00
<b>PETERBOROUGH:</b>		
Galway .....	43 00	42 00
<b>RAINY RIVER:</b>		
Atwood .....	100 00	100 00
Rainy River Valley...	100 00	100 00

Societies.	1917	1918
<b>SUDBURY:</b>		
Martland and Cosby..	\$31 00	\$35 00
Massey .....	100 00	100 00
Warren .....	91 00	82 00
<b>TEMISKAMING:</b>		
Charlton .....	92 00	88 00
Cochrane .....	.....	74 00
Englehart .....	100 00	100 00
Matheson .....	.....	44 00
New Liskeard .....	100 00	100 00
<b>THUNDER BAY:</b>		
Oliver .....	100 00	100 00
West Algoma .....	.....	100 00
Whitefish Valley .....	78 00	70 00
	<u>\$4,996 00</u>	<u>\$5,000 00</u>

GRANTS TO SPRING FAIRS.—1918.

<b>Stallion Shows, 1918, \$422.00.</b>	
Forest .....	\$40 00
Palmerston .....	45 00
Wellesley and N. Easthope...	44 00
Wilmot .....	50 00
Carrick .....	50 00
Erin .....	50 00
E. Luther .....	50 00
Dunnville .....	7 00
S. Perth .....	25 00
Peel Co. ....	50 00
Meaford and St. Vincent.....	11 00
	<u>\$422 00</u>
<b>Stallion and Bull Shows, 1918, \$368.00.</b>	
Turnberry .....	\$36 00
Verner .....	48 00
Seaforth .....	50 00
S. Huron .....	50 00

Paris .....	\$34 00
Fullarton, Logan and Hibbert.	50 00
Arthur .....	50 00
Toronto Gore .....	50 00
	<u>\$368 00</u>
<b>Seed Fairs, 1918, \$189.00.</b>	
Verulam .....	\$22 00
Richmond Hill .....	21 00
Puslinch .....	14 00
S. Huron .....	13 00
Turnberry .....	18 00
Verner .....	21 00
C. Wellington .....	20 00
Powassan .....	17 00
Carrick .....	25 00
S. Waterloo .....	18 00
	<u>\$189 00</u>

GRANTS TO SOCIETIES OWNING PURE-BRED STOCK.—1918.

Colchester, North .....	\$260 00
Comber .....	20 00
Cottam .....	190 00
Drummond .....	50 00
Dummer and Douro .....	330 00
Emily .....	180 00
Kenora .....	60 00

Lakehurst .....	\$170 00
Oldcastle .....	355 00
Osgoode .....	235 00
S. Woodslee .....	736 00
Verulam .....	40 00
	<u>\$2,626 00</u>

SPECIAL GRANTS.

INDIAN SOCIETIES:	1917	1918
Garden River .....	.....	\$50 00
Six Nations .....	\$100 00	100 00
United Indian .....	100 00	100 00
	<u>\$200 00</u>	<u>\$250 00</u>

GRANTS TO THE CANADIAN NATIONAL, CENTRAL CANADA AND WESTERN FAIR.

	1917	1918
Canadian National .....	\$2,664 00	\$2,500 00
Central Canada .....	1,060 00	1,156 00
Western Fair .....	1,276 00	1,344 00
	<u>\$5,000 00</u>	<u>\$5,000 00</u>

LEGISLATIVE GRANTS TO AGRICULTURAL SOCIETIES WHICH HELD FIELD CROP COMPETITIONS IN 1917.

<b>ALGOMA:</b>		<b>FRONTENAC:</b>	
Central Algoma .....	\$100 00	Kingston Industrial .....	\$50 00
North Shore .....	100 00	Wolfe Island .....	50 00
St. Joseph Island.....	100 00		
Thessalon .....	100 00	<b>GLENGARRY:</b>	
		St. Lawrence Valley .....	50 00
<b>BRANT:</b>		<b>GREENVILLE:</b>	
Onondaga .....	100 00	Kemptville .....	100 00
Paris .....	100 00	Merrickville .....	50 00
Six Nations .....	50 00	Spencerville .....	100 00
<b>BRUCE:</b>		<b>GREY:</b>	
Arran and Tara .....	50 00	Desboro .....	50 00
Carrick .....	50 00	Egremont .....	50 00
Chesley .....	50 00	Holland .....	50 00
Eastnor .....	100 00	Keppel .....	100 00
Hepworth .....	50 00	Kilsyth .....	100 00
Huron Tp. ....	100 00	Markdale .....	100 00
Lucknow .....	50 00	Meaford and St. Vincent ....	100 00
N. Bruce and Saugeen.....	100 00	Normanby .....	50 00
Pinkerton .....	50 00	Osprey .....	50 00
Teeswater .....	100 00	Priceville .....	50 00
Warton .....	100 00	Proton .....	100 00
		Rocklyn .....	100 00
<b>CARLETON:</b>		South Grey .....	50 00
Carleton County .....	50 00	Walter's Falls .....	100 00
Carp .....	100 00		
Fitzroy .....	100 00	<b>HALDIMAND:</b>	
		Caledonia .....	100 00
<b>DUFFERIN:</b>		Haldimand .....	50 00
Dufferin .....	100 00	Walpole .....	50 00
Dufferin Central .....	50 00		
East Luther .....	100 00	<b>HALTON:</b>	
		Halton .....	100 00
<b>DUNDAS:</b>		Nelson and Burlington .....	100 00
Mountain .....	100 00		
Winchester .....	100 00	<b>HASTINGS:</b>	
		Frankford .....	100 00
<b>DURHAM:</b>		Madoc .....	100 00
Cartwright .....	50 00	Maynooth .....	50 00
Clarke Tp. ....	100 00	Stirling .....	100 00
Millbrook .....	50 00	Wollaston .....	100 00
Port Hope .....	100 00		
West Durham .....	50 00	<b>HURON:</b>	
		Blyth .....	50 00
<b>ELGIN:</b>		East Huron .....	50 00
Aldbrough .....	100 00	Goderich Industrial .....	50 00
Straffordville .....	50 00	Howick .....	50 00
West Elgin .....	50 00	Turnberry .....	100 00
		Zurich .....	50 00
<b>ESSEX:</b>		<b>KENORA:</b>	
Amherstburg, Anderdon and		Dryden .....	100 00
Malden .....	100 00	Kenora .....	100 00
Comber .....	50 00		
South Woodslee .....	100 00		
Windsor .....	50 00		

LEGISLATIVE GRANTS TO AGRICULTURAL SOCIETIES WHICH HELD FIELD  
CROP COMPETITIONS IN 1917.—Continued.

<b>KENT:</b>		Otterville .....	\$50 00
Harwich .....	\$50 00	Tillsonburg and Dereham ....	50 00
Howard .....	50 00	West Zorra and Embro.....	100 00
Orford .....	50 00		
Raleigh and Tilbury .....	50 00	<b>PARRY SOUND:</b>	
Wallaceburg .....	100 00	Armour, Ryerson and Burk's Falls .....	100 00
<b>LAMBTON:</b>		Christie .....	100 00
Bosanquet .....	50 00	Loring .....	50 00
Brooke and Alvinston .....	100 00	Machar .....	100 00
East Lambton .....	50 00	Magnetawan .....	100 00
Florence .....	50 00	McKellar .....	100 00
Petrolia and Enniskillen ....	50 00	McMurrich .....	100 00
Plympton and Wyoming .....	50 00	Perry .....	100 00
Sombra .....	100 00	Powassan .....	100 00
<b>LANARK:</b>		Rosseau .....	100 00
South Lanark .....	50 00	Strong .....	100 00
Brockville .....	100 00	United Townships .....	100 00
Lansdowne .....	50 00		
Lombardy .....	50 00	<b>PEEL:</b>	
<b>LINCOLN:</b>		Albion and Bolton .....	50 00
Clinton .....	50 00	Peel County .....	50 00
<b>MANITOULIN:</b>		Toronto Township .....	100 00
Gore Bay .....	50 00		
<b>MIDDLESEX:</b>		<b>PERTH:</b>	
Caradoc .....	100 00	Fullarton, Logan and Hibbert.	100 00
Dorchester .....	100 00	Kirkton .....	100 00
East Middlesex .....	50 00	Stratford .....	100 00
London Tp. ....	50 00		
McGillivray .....	50 00	<b>PETERBOROUGH:</b>	
Mosa and Ekfrid .....	50 00	East Peterborough .....	50 00
North Middlesex .....	50 00	Otonabee .....	50 00
Strathroy .....	100 00		
Westminster .....	50 00	<b>PRESCOTT:</b>	
<b>MUSKOKA:</b>		Alfred .....	100 00
Gravenhurst and Muskoka....	100 00		
Medora and Wood .....	100 00	<b>PRINCE EDWARD:</b>	
North Muskoka .....	100 00	Ameliasburg .....	100 00
South Muskoka .....	100 00	Prince Edward .....	100 00
Stephenson and Watt .....	100 00		
<b>NIPISSING:</b>		<b>RAINY RIVER:</b>	
Bonfield .....	50 00	Atwood .....	100 00
Verner .....	100 00	Rainy River Valley .....	100 00
<b>NORFOLK:</b>			
Courtland .....	50 00	<b>RENFREW:</b>	
Norfolk County .....	100 00	Arnprior .....	50 00
North Walsingham .....	50 00	Cobden .....	100 00
<b>NORTHUMBERLAND:</b>		North Renfrew .....	100 00
Seymour .....	100 00	Renfrew .....	100 00
Wooler .....	50 00		
<b>ONTARIO:</b>		<b>RUSSELL:</b>	
Beaverton .....	100 00	Russell .....	50 00
Scott .....	50 00		
<b>OXFORD:</b>		<b>SIMCOE:</b>	
East Nissouri .....	100 00	Barrie .....	100 00
Ingersoll, N. and W. Oxford..	50 00	Coldwater .....	50 00
		Nottawasaga and Great North- ern .....	50 00
		Tiny and Tay .....	50 00
		<b>TEMISKAMING:</b>	
		Charlton .....	100 00
		Cochrane .....	100 00
		Englehart .....	100 00
		Matheson .....	100 00
		New Liskeard .....	50 00



LEGISLATIVE GRANTS TO AGRICULTURAL SOCIETIES WHICH HELD FIELD CROP COMPETITIONS IN 1917.—Continued.

THUNDER BAY:			Centre Wellington .....	\$100 00
Oliver .....	\$50 00		Erin .....	100 00
Whitefish Valley .....	100 00		Mount Forest .....	100 00
VICTORIA:			Puslinch .....	100 00
Eldon .....	100 00		Rockwood .....	50 00
Emily .....	50 00	WENTWORTH:		
Fenelon .....	50 00		Ancaster .....	100 00
Verulam .....	100 00		Waterdown .....	100 00
WATERLOO:			West Flamboro .....	50 00
South Waterloo .....	100 00	YORK:		
WELLAND:			Markham and E. York .....	50 00
Bertie .....	100 00		Richmond Hill .....	100 00
Fenwick .....	100 00		Scarboro .....	100 00
Welland .....	50 00		Schomberg .....	50 00
WELLINGTON:			Woodbridge .....	50 00
Arthur .....	50 00			
				\$14,300 00

GRANTS TO SOCIETIES WHICH SUFFERED LOSSES IN GATE RECEIPTS THROUGH WET WEATHER.

BRANT:			KENT:	
South Brant .....	\$300 00		East Kent .....	\$189 00
BRUCE:			Harwich .....	123 00
Arran and Tara .....	242 00	LAMBTON:		
Eastnor .....	82 00		East Lambton .....	300 00
Teeswater .....	252 00		Florence .....	79 00
Tiverton .....	85 00		Plympton and Wyoming .....	69 00
CARLETON:			LANARK:	
Carp .....	118 00		Lanark Tp. ....	172 00
DUFFERIN:			LEEDS:	
East Luther .....	169 00		Frankville .....	224 00
DURHAM:			LINCOLN:	
Millbrook .....	122 00		Abingdon .....	107 00
Port Hope .....	300 00	MIDDLESEX:		
GRENVILLE:			Dorchester .....	253 00
South Grenville .....	229 00	MUSKOKA:		
GREY:			Morrison .....	10 00
Kilsyth .....	133 00		Stephenson and Watt .....	50 00
Osprey .....	124 00	NORTHUMBERLAND:		
Priceville .....	35 00		Cramahe .....	50 00
Proton .....	286 00		Percy Tp. ....	16 00
Rocklyn .....	92 00	OXFORD:		
HALDIMAND:			Tillsonburg .....	300 00
Caledonia .....	300 00	PARRY SOUND:		
HASTINGS:			Machar .....	47 00
Madoc .....	171 00		Rosseau .....	22 00
HURON:			Strong .....	42 00
Blyth .....	199 00	PEEL:		
Dungannon .....	125 00		Caledon .....	75 00
East Huron .....	240 00		Cooksville .....	249 00

GRANTS TO SOCIETIES WHICH SUFFERED LOSSES IN GATE RECEIPTS THROUGH WET WEATHER.—Continued.

<p>PERTH: Kirkton ..... \$79 00</p> <p>PETERBOROUGH: Galway ..... 38 00 Otonabee ..... 66 00</p> <p>PRINCE EDWARD: Ameliasburg ..... 88 00</p> <p>RENFREW: North Renfrew ..... 300 00</p> <p>SIMCOE: Coldwater ..... 210 00 Cookstown ..... 103 00</p> <p>TEMISKAMING: Charlton ..... 27 00</p>	<p>THUNDER BAY: Whitefish Valley ..... \$12 00</p> <p>WELLAND: Welland ..... 300 00</p> <p>WELLINGTON: Erin ..... 300 00 Peel and Drayton ..... 205 00 Rockwood ..... 82 00</p> <p>YORK: Markham and E. York ..... 300 00 Richmond Hill ..... 169 00 Schomberg ..... 300 00 Uxbridge ..... 252 00</p>
	<p>\$8,812 00</p>

REPORTS OF STOCK SOCIETIES.

Societies.	RECEIPTS.					EXPENDITURE.			
	Legislative grant.	Members' fees for 1917.	Municipal grant.	Sale of stock.	Total actual receipts.	Purchase of live stock.	Keep of stock.	Officers' salaries.	Total actual expenditure.
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Colchester, North .....	270	300	150	.....	736	618	135	10	769
Cottam .....	.....	248	150	.....	398	1,064	.....	.....	1,064
Drummond .....	96	61	50	42	299	130	72	10	292
Dummer and Douro .....	290	177	.....	213	1,016	294	494	14	813
Emily .....	160	187	50	.....	457	264	203	17	562
Lakehurst .....	170	62	.....	.....	232	312	25	.....	337
Oldcastle .....	355	504	150	20	1,061	726	275	52	1,164
Osgoode .....	210	65	.....	168	463	171	265	31	467
South Woodslee .....	730	733	150	.....	1,778	1,150	318	56	1,743
	2,281	2,337	700	443	6,440	4,729	1,787	190	7,211

ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES IN ONTARIO  
IN 1917.

Societies.	Horses.	Cattle.	Sheep.	Swine.	Miscel- laneous.	Total.
<b>ALGOMA:</b>	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Bruce Mines .....	46 25	38 25	16 00	8 50	130 50	239 50
Central Algoma .....	179 50	198 00	35 00	38 00	645 75	1,096 25
Iron Bridge .....	16 25	19 25	7 50	3 50	65 50	112 00
Johnston and Aberdeen ...	42 00	23 00	24 00	6 00	76 50	171 50
North Shore .....	21 25	36 75	25 75	3 50	72 50	159 75
St. Joseph Island .....	41 25	16 75	8 75	1 00	150 75	218 50
Thessalon .....	73 00	45 00	11 00	5 00	143 75	277 75
<b>BRANT:</b>						
Onondaga .....	63 00	57 50	33 50	17 50	169 50	341 00
Paris .....	323 00	132 00	121 00	91 00	494 50	1,161 50
South Brant .....	400 00	112 00	92 00	66 50	542 00	1,212 50
<b>BRUCE:</b>						
Arran and Tara .....	363 00	197 00	52 50	16 00	236 75	865 25
Carrick .....	194 50	131 00	28 50	35 50	301 75	691 25
Chesley .....	199 50	133 00	36 00	3 00	230 05	601 55
Eastnor .....					110 25	110 25
Hepworth .....	135 00	97 50	21 65	18 00	194 15	466 30
Huron Township .....	111 75	79 00	49 00	29 50	270 70	539 95
Kincardine .....	138 00	55 25	38 50	26 75	189 75	448 25
Lucknow .....	221 50	125 50	37 50	43 50	286 40	714 40
North Bruce and Saugeen..	175 00	113 00	47 00	24 00	227 10	586 10
Northern .....	(No fair)					
Paisley .....	169 50	99 00	59 75	21 00	416 00	765 25
Pinkerton .....	43 25	31 00	15 00	9 00	142 50	240 75
Teeswater .....	164 00	183 50	36 00	46 75	302 25	732 50
Tiverton .....	126 00	63 75	36 50	26 50	142 00	394 75
Underwood .....	86 75	57 50	42 50	38 00	130 70	355 45
Wiarton .....	90 50	100 50	70 00	24 50	196 20	481 70
<b>CARLETON:</b>						
Carleton County .....	229 67	166 00	132 00	60 67	429 07	1,017 41
Carp .....	261 00	127 00	35 00	18 00	341 60	882 60
Fitzroy .....	170 00	81 17	18 00	14 63	246 69	530 49
Metcalfe .....	265 25	130 40	40 50	38 15	305 30	779 60
<b>DUFFERIN:</b>						
Dufferin .....	228 00	92 00	99 00	5 00	372 50	796 50
Dufferin Central .....	266 00	202 00	56 00	16 00	381 75	921 75
East Luther .....	178 00	115 00	68 00	20 00	482 30	863 30
<b>DUNDAS:</b>						
Dundas .....	201 00					201 00
Mountain .....	96 00	275 00	20 25	13 00	198 30	602 55
Winchester .....	No returns					
<b>DURHAM:</b>						
Cartwright .....	122 00	46 50	62 00	17 00	187 90	435 40
Clarke Township .....	279 00	195 00	69 50	65 00	353 25	961 75
Millbrook .....	314 00	128 00	42 06	55 50	373 50	913 00
Port Hope .....	184 00	102 00	178 00	50 00	600 60	1,114 60
West Durham .....	322 00	209 00	182 00	71 00	602 15	1,386 15
<b>ELGIN:</b>						
Aldboro .....	172 50	98 00	95 50	32 50	279 20	677 70
Aylmer and E. Elgin ....	107 25	125 50	25 00	29 00	121 00	407 75
Shedden .....	57 60	99 00	24 25	11 25	90 80	282 90
South Dorchester .....	154 00	89 50	16 50	13 50	347 25	620 75
Straffordville .....	69 00	49 75	20 50	8 00	144 10	291 35
West Elgin .....	313 50	205 00	25 00	29 00	314 87	887 37
<b>ESSEX:</b>						
Amherstburg, Anderdon and Malden .....	101 00	121 00	60 75	90 75	288 25	661 75
Colchester South .....	139 50	130 25	83 50	52 50	178 55	584 30
Comber .....	37 25	101 25	57 50	37 50	194 00	427 50
Essex County .....	265 00	271 00	159 50	108 00	693 00	1,496 50
Mersea, Leamington and S. Gosfield .....	124 00	217 25	218 50	141 50	660 25	1,361 50
Windsor and North Essex ..	240 50	813 00	265 00	216 00	882 50	2,417 00

## ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES.—Continued.

Societies.	Horses.	Cattle.	Sheep.	Swine.	Miscellaneous.	Total.
<b>FRONTENAC:</b>	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Frontenac .....	94 50	58 50	32 00	23 00	154 25	362 25
Kennebec .....	43 00	16 75	11 50	9 00	55 50	135 75
Kingston Industrial .....	186 00	380 00	64 25	56 00	726 80	1,413 05
Parham .....	60 00	30 25	16 25	12 50	145 90	264 90
Storrington .....	52 00	46 10	10 80	14 00	129 70	252 60
Wolfe Island .....	61 25	41 00	18 00	24 25	134 40	278 90
<b>GLENGARRY:</b>						
Glengarry .....	199 50	191 00	38 25	17 50	194 25	640 50
Kenyon .....	171 50	76 25	18 50	3 00	175 35	444 60
St. Lawrence Valley .....	279 00	234 00	38 00	14 25	320 40	885 65
<b>GRENVILLE:</b>						
Kemptville .....	69 75	118 00	38 50	4 00	233 05	463 30
Merrickville .....	242 01	34 75	28 75	21 50	189 80	516 81
South Grenville .....	122 00	104 00	19 00	14 00	384 00	643 00
Spencerville .....	45 50	65 00	21 50	5 50	261 90	399 40
<b>GREY:</b>						
Ayton .....	110 00	42 00	29 50	19 00	147 75	348 25
Collingwood Tp. ....	105 50	45 50	24 50	7 00	183 60	366 10
Desboro .....	247 25	115 50	34 50	3 00	226 00	626 25
East Grey .....	104 50	83 50	28 50	24 00	193 45	433 95
Egremont .....	115 00	76 50	27 25	21 50	221 55	461 80
Hanover, Bentinck & Brant	102 50	56 50	72 00	17 00	177 75	425 75
Holland .....	224 50	46 75	9 25	16 50	171 00	468 00
Keppel .....	48 00	18 25	14 00	4 00	116 35	200 60
Kilsyth .....	238 00	144 50	54 75	24 00	211 25	672 50
Markdale .....	183 00	96 50	70 00	32 00	230 50	612 00
Meaford & St. Vincent ...	120 00	53 50	11 50	16 00	406 05	607 05
Normanby .....	71 50	31 75	22 00	4 50	140 15	269 90
Osprey .....	122 00	70 50	56 50	7 00	135 25	391 25
Owen Sound .....	356 00	129 00	66 50	55 00	526 85	1,133 35
Priceville .....	38 50	40 75	38 00	6 50	142 80	266 55
Proton .....	196 50	93 50	50 00	23 85	301 25	665 10
Rocklyn .....	171 50	125 00	23 50	20 50	173 50	514 00
South Grey .....	67 50	37 50	41 50	14 00	276 75	437 25
Sydenham .....	97 50	44 75	19 50	14 00	160 00	335 75
Walter's Falls .....	103 50	90 00	18 50	17 50	165 10	394 60
<b>HALDIMAND:</b>						
Caledonia .....	327 00	158 50	235 00	107 00	721 75	1,549 25
Canboro .....	60 00	20 00	18 50	.....	68 20	166 70
Dunnville .....	115 00	36 50	32 25	.....	203 07	386 82
Haldimand .....	192 60	81 50	53 50	16 50	276 20	620 30
Southern Branch .....	128 00	26 00	28 50	.....	162 60	345 10
Walpole .....	136 50	193 00	46 50	9 00	163 50	548 50
<b>HALIBURTON:</b>						
Glamorgan .....	8 50	3 80	70	.....	46 75	59 75
Haliburton .....	81 25	54 25	12 00	9 50	157 65	314 65
Minden .....	58 25	44 85	30 50	16 00	149 10	298 70
<b>HALTON:</b>						
Acton .....	230 00	70 00	50 00	38 00	344 25	732 25
Esquesing .....	261 00	117 00	85 00	48 50	321 90	833 40
Halton .....	381 00	280 00	117 00	16 00	474 27	1,268 27
Nelson and Burlington ...	295 00	117 00	55 00	6 00	362 30	835 30
Trafalgar .....	928 00	446 25	101 00	30 00	416 50	1,921 75
<b>HASTINGS:</b>						
Bancroft .....	50 50	86 50	83 00	7 50	229 55	457 05
Belleville .....	589 50	105 50	43 25	30 75	295 20	1,064 20
Frankford .....	264 00	122 00	98 00	66 00	231 45	781 45
Madoc .....	340 42	71 25	28 55	32 50	345 90	818 62
Marmora .....	131 75	44 25	22 00	37 00	195 60	430 60
Maynooth .....	52 50	12 00	10 50	2 00	104 50	181 50
Shannonville .....	70 00	82 25	65 00	34 75	164 00	416 00
Stirling .....	269 00	51 70	33 25	31 50	189 60	515 05
Tweed .....	64 85	126 75	53 75	46 00	294 40	585 75
Wollaston .....	81 00	52 00	31 45	19 00	126 00	309 45

## ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES.—Continued.

Societies.	Horses.	Cattle.	Sheep.	Swine.	Miscellaneous.	Total.
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
<b>HURON:</b>						
Bayfield .....	83 50	44 75	29 25	17 50	182 75	357 75
Blyth .....	49 00	47 00	17 00	6 50	175 50	295 00
Dungannon .....	100 50	70 50	28 50	16 00	192 55	408 05
East Huron .....	126 50	57 50	33 50	47 75	393 40	658 65
Exeter .....	178 00	109 00	47 00	24 00	334 15	692 15
Goderich Industrial .....	139 00	102 00	46 00	20 00	438 85	745 85
Howick .....	123 50	74 25	38 00	25 00	218 25	479 00
Seaforth .....	184 00	41 50	23 00	12 00	327 00	587 50
South Huron .....	(Spring	Fair on ly)				
Turnberry .....	154 00	121 00	27 00	45 00	108 91	455 91
Zurich .....	118 00	67 25	14 00	20 00	204 85	424 10
<b>KENORA:</b>						
Dryden .....	31 00	52 00	11 00	4 00	217 15	315 15
Kenora .....	90 00	54 00	.....	9 00	452 00	605 00
<b>KENT:</b>						
Camden .....	126 00	48 25	60 50	22 00	155 35	412 10
East Kent .....	194 50	152 30	100 00	54 00	185 70	686 50
Harwich .....	148 00	69 00	47 00	48 00	264 74	576 74
Howard .....	250 00	150 00	150 00	98 75	333 45	982 20
Orford .....	247 00	133 00	113 75	54 50	222 30	770 55
Raleigh and Tilbury .....	146 00	86 50	40 00	25 50	201 30	499 30
Romney and Wheatley .....	97 75	72 85	64 60	31 50	179 30	446 00
Wallaceburg .....	65 00	34 70	56 50	1 50	205 05	362 75
West Kent .....	195 00	106 50	101 00	66 50	441 90	910 90
<b>LAMBTON:</b>						
Bosanquet .....	94 50	66 50	23 00	17 00	282 40	483 40
Brooke and Alvinston .....	234 00	128 00	64 30	18 75	501 25	946 30
East Lambton .....	123 45	132 50	102 00	46 75	347 80	752 50
Florence .....	161 25	96 00	48 40	19 00	147 35	472 00
Forest .....	136 00	100 00	69 50	45 00	381 77	732 27
Moore .....	171 50	203 00	68 50	35 75	290 00	768 75
Petrolia and Enniskillen .....	207 50	225 00	205 75	70 00	418 25	1,126 50
Plympton and Wyoming .....	100 25	39 50	79 50	45 75	331 20	596 20
Sombra .....	69 00	35 75	36 50	19 00	115 15	275 40
West Lambton .....	231 65	256 50	193 00	75 50	499 00	1,255 65
<b>LANARK:</b>						
Dalhouseie .....	62 00	46 00	19 50	1 00	139 05	267 55
Lanark Tp. ....	51 75	39 50	13 50	6 00	169 60	280 35
Lanark Village & Bathurst .....	208 22	26 16	22 08	32 20	310 88	599 54
Maberly .....	81 00	39 25	.....	3 00	77 10	200 35
North Lanark .....	529 00	182 50	55 00	61 50	479 65	1,307 65
Pakenham .....	240 00	25 00	25 00	.....	280 25	570 25
South Lanark .....	319 75	91 12	36 75	32 25	425 85	905 72
<b>LEEDS:</b>						
Brockville .....	277 00	325 00	44 00	66 00	643 60	1,355 60
Delta .....	87 30	91 57	44 10	42 30	240 15	505 42
Frankville .....	62 75	.....	.....	31 75	327 95	422 45
Lansdowne .....	108 50	103 50	21 00	21 00	224 00	478 00
Lombardy .....	61 25	61 00	24 75	8 25	333 66	488 91
<b>LENNOX AND ADDINGTON:</b>						
Addington .....	(No	Returns)				
Amherst Island .....	57 70	24 65	18 00	4 00	118 85	223 20
Centreville .....	123 50	91 50	15 00	12 00	54 70	296 70
Ernestown .....	144 50	60 50	52 00	25 00	154 60	436 60
Lennox .....	(No	Returns)				
<b>LINCOLN:</b>						
Abingdon .....	30 50	25 50	50 00	4 00	125 75	235 75
Clinton .....	140 00	82 00	63 00	14 00	403 25	702 25
Monck .....	93 75	57 00	50 00	2 50	126 45	329 70
Niagara Town and Tp. ....	(No	fair)				
Peninsular Central .....	107 50	45 75	3 00	7 25	134 25	297 75

## ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES.—Continued.

Societies.	Horses.	Cattle.	Sheep.	Swine.	Miscellaneous.	Total.
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
<b>MANITOULIN ISLAND:</b>						
Billings .....	51 00	54 50	34 50	6 50	208 25	354 75
Gore Bay .....	78 50	55 00	61 00	12 00	340 45	546 95
Howland .....	46 75	29 00	12 00	5 25	114 25	207 25
Manitowaning .....	82 25	95 75	20 75	11 00	154 00	363 75
Providence Bay .....	62 25	41 75	27 50	7 00	154 25	292 75
<b>MIDDLESEX:</b>						
Caradoc .....	154 00	26 50	23 50	3 75	183 25	391 00
Delaware .....	161 00	129 00	54 25	24 50	291 70	660 45
Dorchester .....	291 00	203 00	66 00	22 00	125 60	707 60
London Tp. ....	143 00	64 50	23 00	2 75	106 25	339 50
McGillivray .....	82 00	17 00	14 50	5 50	72 00	191 00
Melbourne .....	337 00	103 00	36 00	19 00	260 35	755 35
Mosa and Ekfrid .....	187 50	153 50	49 25	9 75	272 00	672 00
North Middlesex .....	114 50	60 00	21 00	5 50	197 40	398 40
Parkhill .....	101 00	58 50	13 75	11 00	313 50	497 75
Strathroy .....	317 00	241 00	151 50	72 00	733 40	1,514 90
Thorndale .....	68 50	108 50	16 25	23 75	168 75	385 75
Westminster .....	102 00	83 50	33 00	36 75	192 00	447 25
<b>MUSKOKA:</b>						
Baysville .....	23 50	27 00	18 50	13 50	116 00	198 50
Gravenhurst and Muskoka .....	70 00	74 00	11 50	.....	262 55	418 05
Medora and Wood .....	79 00	92 80	22 00	10 00	210 20	414 00
Morrison .....	42 25	39 75	12 75	8 50	83 05	186 30
North Muskoka .....	109 00	76 00	24 75	8 00	335 25	553 00
South Muskoka .....	302 00	156 00	114 00	28 00	522 15	1,122 15
Stephenson and Watt .....	117 00	65 00	10 50	2 00	288 30	482 80
Stisted .....	61 75	42 75	30 75	5 00	106 50	246 75
<b>NIPISSING:</b>						
Astorville .....	41 00	29 00	14 00	5 00	90 70	179 70
Bonfield .....	46 75	25 50	18 50	6 50	115 50	212 75
East Nipissing .....	74 00	77 50	16 50	14 00	252 17	434 17
Sturgeon Falls .....	190 00	273 50	65 00	29 00	174 50	732 00
Verner .....	60 25	260 50	35 50	24 00	102 45	482 70
<b>NORFOLK:</b>						
Charlotteville .....	130 25	54 75	26 25	12 75	213 40	437 40
Courtland .....	86 75	50 30	19 25	7 50	224 29	388 09
Houghton .....	92 00	83 50	39 50	19 50	126 70	261 20
Norfolk County .....	388 00	298 50	167 00	86 50	904 50	1,844 50
North Walsingham .....	93 00	61 00	22 00	.....	140 15	316 15
Townsend .....	147 50	35 00	17 50	.....	120 15	320 15
Windham .....	123 75	51 25	7 25	10 50	138 85	331 60
<b>NORTHUMBERLAND:</b>						
Alnwick .....	88 50	89 00	25 25	20 00	167 20	389 95
Brighton .....	312 00	193 00	110 00	68 00	254 40	937 40
Cobourg Central .....	230 00	194 50	54 00	53 50	335 85	867 85
Colborne .....	334 50	137 40	38 50	28 75	290 65	829 80
Cramahe .....	158 50	129 50	63 50	39 80	129 32	520 62
Percy Tp. ....	507 00	287 50	178 50	87 25	580 55	1,640 80
Seymour .....	202 25	123 50	75 00	50 00	230 80	681 55
Wooler .....	240 00	105 00	.....	2 75	109 95	457 70
<b>ONTARIO:</b>						
Beaverton .....	236 00	103 00	49 50	25 00	195 00	608 50
Brock .....	102 00	137 00	79 00	21 00	230 10	569 10
Pt. Perry, Reach & Scugog .....	185 00	101 00	83 00	12 00	271 30	652 30
Ramona .....	64 50	18 50	11 00	1 00	44 85	139 85
Scott .....	87 00	87 00	32 00	11 50	104 50	322 00
South Ontario .....	565 00	342 00	199 00	67 50	686 15	1,859 65
Uxbridge .....	219 00	99 00	54 00	23 00	82 75	477 75

## ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES.—Continued.

Societies.	Horses.	Cattle.	Sheep.	Swine.	Miscellaneous.	Total.
<b>OXFORD:</b>						
Drumbo .....	\$ 322 00	\$ 129 00	\$ 120 00	\$ 21 00	\$ 470 25	\$ 1,062 25
East Nissouri .....	220 50	34 00	6 25	.....	171 00	431 75
Ingersoll N. & W. Oxford..	207 50	109 00	10 00	18 00	216 75	561 25
North Norwich .....	162 00	94 00	17 50	20 50	362 45	656 45
South Norwich .....	123 50	43 50	.....	21 50	143 35	341 85
Tavistock .....	289 00	93 00	64 00	76 00	295 00	817 00
Tillsonburg & Dereham ...	179 50	116 25	48 28	41 00	236 17	621 20
West Zorra & Embro ....	212 00	60 00	29 75	39 00	280 75	621 50
Woodstock .....	350 00	257 00	83 00	71 00	548 20	1,309 20
<b>PARRY SOUND:</b>						
Armour, Ryerson & Burk's Falls	220 00	134 00	64 00	25 00	297 25	740 25
Christie .....	76 00	49 00	31 50	3 00	239 68	399 18
Loring .....	38 75	49 50	52 50	14 50	160 50	315 75
Machar .....	24 00	13 50	4 00	2 00	128 25	175 75
Magnetawan .....	53 25	56 75	23 00	13 00	220 00	366 00
McKellar .....	113 50	97 50	51 50	39 50	308 75	610 75
McMurrich .....	105 50	53 25	31 50	16 50	175 50	382 25
Parry Sound .....	187 00	107 00	46 75	33 00	477 50	851 25
Perry .....	84 50	93 00	57 50	10 00	243 00	493 00
Powassan .....	64 00	82 00	63 00	28 00	224 00	461 00
Rosseau .....	119 50	91 50	27 00	9 50	275 50	523 00
Strong .....	58 75	51 00	62 00	.....	196 75	368 50
United Townships .....	60 50	55 00	42 00	10 50	196 50	364 50
<b>PEEL:</b>						
Albion and Bolton .....	318 00	98 00	51 50	42 00	397 75	907 25
Caledon .....	125 00	45 50	30 00	8 50	201 59	410 59
Cooksville .....	290 00	177 00	34 00	17 00	381 50	899 50
Peel .....	374 00	198 00	117 75	74 00	690 25	1,454 00
Toronto Gore .....	(Spring fair only)					
Toronto Tp. ....	314 50	116 00	48 00	10 00	255 25	743 75
<b>PERTH:</b>						
Elma .....	75 69	69 42	6 80	26 35	187 60	365 86
Fullarton, Logan & Hibbert	211 00	110 00	54 00	81 00	556 00	1,012 00
Kirkton .....	155 00	98 50	21 50	6 50	249 65	531 15
Listowel .....	(No Returns)					
Mornington .....	206 75	75 50	18 50	32 00	293 00	625 75
South Perth .....	142 50	55 50	78 00	13 00	327 25	616 25
Stratford .....	313 00	147 00	88 00	28 50	692 55	1,269 05
<b>PETERBOROUGH:</b>						
East Peterborough .....	201 00	335 50	144 50	71 50	628 50	1,381 00
Galway .....	17 50	22 00	16 00	1 75	125 50	182 75
Lakefield .....	100 00	88 50	50 75	30 00	175 40	444 65
Otonabee .....	196 00	82 55	42 50	19 00	122 90	462 95
Peterborough Industrial ..	605 00	398 00	167 00	184 00	829 40	2,183 40
<b>PRESCOTT:</b>						
Alfred .....	73 00	54 50	12 50	21 50	202 80	364 30
South Plantagenet .....	106 25	123 05	9 00	19 50	112 70	370 50
Vankleek Hill .....	300 50	344 50	54 50	51 00	336 25	1,086 75
<b>PRINCE EDWARD:</b>						
Ameliasburg .....	103 75	72 75	27 00	20 50	346 95	570 95
Prince Edward .....	461 50	606 00	118 00	68 00	921 35	2,174 85
Eophasburg .....	103 45	60 00	31 00	14 00	204 90	413 35
<b>RAINY RIVER:</b>						
Atwood .....	208 50	47 75	22 00	40 00	384 50	702 75
Rainy River Valley .....	245 00	100 00	37 00	29 00	361 75	772 75
<b>RENFREW:</b>						
Arnprior .....	225 00	148 50	33 00	.....	332 50	739 00
Cobden .....	279 25	141 75	42 50	53 50	243 25	760 25
North Renfrew .....	357 00	251 25	48 25	38 50	529 80	1,224 80
Renfrew .....	745 59	445 50	122 00	47 75	739 50	2,100 34
<b>RUSSELL:</b>						
Casselman .....	31 50	26 75	.....	.....	22 50	80 75
Clarence .....	97 75	59 25	28 50	.....	119 65	305 15
Russell .....	204 00	149 25	54 50	28 50	251 00	687 25

## ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES.—Continued.

Societies.	Horses.	Cattle.	Sheep.	Swine.	Miscellaneous.	Total.
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ % c.
<b>SIMCOE:</b>						
Alliston .....	150 00	17 00	39 00	15 00	309 45	530 75
Barrie .....	292 00	122 00	84 00	35 00	607 50	1,140 50
Beeton .....	119 00	82 50	28 00	27 00	194 70	451 20
Bradford & W. Gwillimbury	69 00	69 00	71 00	14 00	429 15	652 15
Coldwater .....	91 00	49 00	38 00	19 00	215 00	412 00
Cookstown .....	161 00	95 00	58 00	29 00	239 25	582 25
Flos Tp. ....	102 00	55 00	67 00	9 00	369 40	602 40
Nottawasaga & G. Northern	159 00	65 00	87 00	8 00	411 20	730 20
Oro .....	193 00	102 00	73 00	13 00	241 75	622 75
Tiny and Tay .....	109 00	42 00	47 00	16 00	198 50	412 50
<b>STORMONT:</b>						
Cornwall .....	193 50	231 00	56 00	13 50	452 75	946 75
Finch .....	71 00	47 75	.....	8 50	132 60	259 85
Roxborough .....	237 00	189 25	21 25	36 00	257 05	740 55
Stormont .....	178 00	98 75	44 75	16 00	152 25	489 75
<b>SUDBURY:</b>						
Martland and Cosby .....	48 00	20 00	8 00	2 00	44 95	122 95
Massey .....	102 50	75 00	45 00	28 00	137 26	387 76
Warren .....	99 00	126 00	41 00	13 00	91 50	370 50
<b>TEMISKAMING:</b>						
Charlton .....	33 50	37 50	12 50	4 00	205 00	292 50
Cochrane .....	51 00	35 00	.....	7 00	124 25	217 25
Englehart .....	51 00	66 00	23 50	12 00	217 00	369 50
Matheson .....	23 50	17 50	1 50	6 25	55 00	103 75
New Liskeard .....	69 00	40 25	9 00	7 00	405 45	530 70
<b>THUNDER BAY:</b>						
Oliver .....	87 00	149 00	6 50	9 50	259 50	511 50
West Algoma .....	123 00	98 00	.....	.....	933 75	1,154 75
Whitefish Valley .....	29 00	42 00	5 50	10 00	183 58	270 08
<b>VICTORIA:</b>						
Eldon .....	121 50	44 50	30 00	3 00	172 21	371 21
Fenelon .....	154 00	114 00	40 00	17 00	172 55	497 55
Mariposa .....	100 00	52 00	47 00	8 50	116 35	323 85
South Victoria .....	709 00	518 00	470 00	174 00	747 50	2,618 50
Verulam .....	194 50	160 40	42 00	39 50	247 05	683 45
<b>WATERLOO:</b>						
Elmira and Woolwich ....	143 00	44 50	21 00	25 00	259 70	493 20
South Waterloo .....	533 00	143 00	139 00	75 00	692 25	1,582 25
Wellesley and N. Easthope	214 50	59 50	53 00	10 00	251 85	588 85
Wilmot .....	275 50	116 00	56 00	39 00	396 65	883 15
<b>WELLAND:</b>						
Bertie .....	150 00	80 00	25 10	18 00	146 05	419 15
Fenwick .....	179 00	164 00	95 00	17 00	486 50	941 50
Stamford & Niagara Falls.	64 50	73 00	10 50	3 50	217 35	368 85
Thorold Town and Tp. ....	133 75	161 00	52 00	14 00	256 50	617 25
Wainfleet .....	52 50	43 50	23 75	1 00	124 10	244 85
Welland .....	210 00	331 00	153 00	14 50	620 80	1,329 30
<b>WELLINGTON:</b>						
Arthur .....	226 00	116 50	38 00	41 00	346 75	768 25
Centre Wellington .....	235 50	245 50	68 75	13 00	506 00	1,068 75
Erin .....	187 50	22 00	33 00	18 50	559 70	820 70
Guelph & S. Wellington ..	(No fair)					
Mount Forest .....	339 00	177 00	78 00	16 00	342 05	952 05
Palmerston .....	124 00	74 50	34 00	14 00	209 25	455 75
Peel and Drayton .....	153 00	20 00	39 00	34 00	185 00	431 00
Puslinch .....	112 00	63 50	59 50	9 50	238 00	482 50
Rockwood .....	206 50	161 00	40 50	13 00	193 00	614 00
West Wellington .....	103 00	39 00	15 25	15 00	259 85	432 10



ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES.—*Concluded.*

Societies.	Horses.	Cattle.	Sheep.	Swine.	Miscellaneous.	Total.
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
<b>WENTWORTH:</b>						
Ancaster .....	128 00	50 00	75 00	25 00	374 25	652 25
Binbrook .....	69 00	40 25	39 75	.....	113 80	262 80
Hamilton and Wentworth	(No fair)					
Rockton .....	425 00	130 25	79 00	36 00	405 25	1,075 50
Waterdown .....	153 00	110 00	.....	25 25	250 25	538 50
West Flamboro .....	161 50	29 00	46 50	15 00	237 75	489 75
<b>YORK:</b>						
Markham and E. York ..	329 00	245 00	291 00	89 00	837 50	1,791 50
Newmarket .....	265 00	170 00	199 00	84 00	626 25	1,344 25
Queensville .....	99 00	67 00	75 00	7 25	140 50	388 75
Richmond Hill .....	294 00	88 00	40 00	68 00	134 25	624 25
Scarboro .....	339 00	191 00	39 00	37 00	405 50	1,011 50
Schomberg .....	.....	.....	.....	.....	304 00	304 00
Sutton .....	(Returns incomplete)					
Weston, York & Etobicoke	265 00	50 00	30 00	12 00	415 50	772 50
Woodbridge ..	502 00	116 00	197 00	52 00	810 00	1,677 00
<b>INDIAN SOCIETIES:</b>						
Six Nations .....	133 50	70 00	20 50	25 00	435 65	684 65
United Indians .....	42 00	29 50	.....	18 00	86 05	175 55
<b>CITIES:</b>						
Canadian National (Toronto)	9,931 00	11,906 00	4,172 00	2,623 00	13,134 50	41,766 50
Central Canada (Ottawa)	6,245 73	4,365 00	1,314 00	1,076 00	4,563 85	17,564 58
Western Fair (London)	4,792 50	3,154 00	2,204 50	1,772 00	6,496 75	20,419 75
	75,679 43	55,940 79	24,193 31	14,024 20	115,516 25	285,353 98



Guernsey Heifer.

REPORTS OF AGRICULTURAL SOCIETIES IN ONTARIO, SHOWING RECEIPTS AND EXPENDITURE FOR THE YEAR 1917.

Societies.	Receipts.						Expenditure.						
	Legislative grants.	Municipal grants.	Cash Donations.	Members' fees retained from 1916.	Members' fees paid in 1917.	Gate receipts at exhibitions.	Total actual receipts.	Total prize money paid in cash.	Special attractions.	Officers' salaries.	Total expenditure for agricultural purposes.	Total actual expenditure.	Value of land and buildings.
<b>ALGOMA:</b>													
Bruce Mines	\$ 179	\$ 50	\$ 24	\$ 32	\$ 42	\$ 118	\$ 444	\$ 239	\$ 257	\$ 35	\$ 345	\$ 1,250	
Central Algoma	511	500	139	84	466	800	2,974	1,096	1,176	180	2,962	15,750	
Iron Bridge	96	.....	.....	22	22	14	162	112	131	13	166	.....	
Johnston and Aberdeen	142	.....	10	23	5	16	210	171	183	10	215	500	
North Shore	110	.....	38	30	12	12	371	160	211	22	359	290	
St. Joseph Island	243	20	15	31	20	19	469	218	268	15	445	.....	
Thessalon	299	55	1	50	15	170	776	278	360	37	745	3,000	
<b>BRANT:</b>													
Onondaga	133	240	59	34	74	119	864	341	37	37	727	50	
Paris	371	150	246	72	218	835	2,472	1,161	239	1,251	2,375	9,111	
South Brant	429	150	209	78	126	428	3,564	1,212	235	1,251	4,578	5,300	
<b>BRUCE:</b>													
Arran and Tara	305	200	26	111	206	168	1,595	865	64	64	1,544	2,050	
Carrick	236	150	57	99	184	283	1,326	691	27	736	1,238	.....	
Chesley	186	150	90	94	239	363	1,241	602	25	50	1,000	.....	
Eastnor	94	.....	15	56	20	25	566	110	44	186	535	425	
Hepworth	167	115	41	86	70	259	950	466	52	529	803	.....	
Huron Tp.	200	125	43	93	48	460	1,425	540	77	628	1,331	3,000	
Kincardine	127	75	62	61	44	508	1,281	448	95	482	1,205	.....	
Lucknow	205	115	161	70	35	390	1,366	714	50	769	1,309	1,000	
North Bruce and Saugeen	174	115	81	93	101	264	1,065	586	64	645	1,023	.....	
Northern	146	.....	.....	71	.....	.....	217	.....	10	.....	11	.....	
Paisley	219	150	36	105	127	429	1,454	765	120	806	1,405	.....	
Pinkerton	95	105	45	49	22	49	432	241	30	303	474	300	
Teeswater	224	75	179	112	37	210	1,358	732	40	50	817	1,315	
Tiverton	114	100	63	52	30	182	1,060	395	35	35	409	2,274	
Underwood	133	50	20	67	16	92	514	355	31	378	514	.....	
Warton	161	150	47	76	38	414	1,231	482	75	586	1,078	2,775	
<b>CARLETON:</b>													
Carleton County	438	800	.....	52	218	892	2,661	1,017	135	1,017	2,277	5,100	
Carp	249	100	208	94	63	420	2,083	883	125	1,025	1,748	6,925	

CARLETON.—Continued.

Fitzroy	153	315	126	62	42	314	1,364	530	100	646	2,034	300
Melville	289	450	415	91	49	452	2,093	780	125	781	1,737	6,300
DUFFERIN:												
Dufferin	265	350	495	132	704	635	3,081	796	223	887	1,482	6,400
Dufferin Central	292	250	198	87	68	721	2,639	922	133	977	1,982	4,950
East Luther	255	275	78	104	96	339	1,961	863	85	922	1,899	5,600
DUNDAS:												
Dundas	81	.....	109	60	102	510	1,121	201	80	214	1,231	1,575
Mountain	191	50	148	82	107	589	1,631	693	50	699	1,478	2,500
Winchester	(No returns)											
DURHAM:												
Cartwright	129	38	5	66	124	198	657	435	25	476	629	.....
Clarke Tp.	280	186	178	100	52	608	1,909	962	50	1,013	1,593	2,750
Millbrook	349	278	79	114	42	566	2,121	1,113	115	963	1,984	5,900
Port Hope	415	273	94	121	139	40	2,078	1,187	108	1,187	1,865	1,481
West Durham	423	275	145	135	53	984	2,806	1,386	155	1,446	2,642	6,200
ELGIN:												
Aldboro	214	78	94	90	42	610	1,917	678	74	757	1,728	6,862
Aylmer and E. Elgin	257	335	23	.....	368	566	1,855	408	.....	450	1,384	.....
Shedden	71	124	25	38	25	215	598	283	32	283	556	120
South Dorchester	181	171	73	32	145	300	1,652	621	75	666	937	.....
Stratfordville	89	53	39	8	82	207	615	291	30	332	589	630
West Elgin	323	140	75	93	43	959	2,158	887	64	936	1,859	.....
ESSEX:												
Amherstburg, Anderton & Malden	211	300	218	59	68	275	1,812	662	40	748	1,154	2,100
Colchester South	200	150	150	95	72	443	1,105	584	72	629	955	2,700
Comber	165	150	112	70	61	346	1,167	427	56	496	971	4,800
Essex County	583	515	289	129	176	1,436	3,594	1,496	175	1,589	3,310	.....
Mersca, Leamington & S. Gosfield	446	250	181	121	1,164	1,437	4,795	1,361	81	1,397	7,339	17,850
Windsor and N. Essex	725	2,375	556	87	247	2,640	10,467	2,417	515	2,530	10,092	13,095
FRONTENAC:												
Frontenac	130	50	12	41	22	241	517	362	25	362	477	.....
Kennebec	89	50	.....	28	12	25	200	136	22	137	188	.....
Kingston Industrial	311	300	524	76	149	4,512	7,416	1,413	241	1,724	6,298	.....
Parham	165	50	67	45	40	268	707	265	27	286	586	800
Storrington	89	50	50	27	37	221	601	253	30	214	611	1,250
Wolfe Island	98	75	151	40	40	304	834	279	30	317	828	.....
GLENAGARY:												
Glengarry	165	110	167	75	168	766	2,224	640	80	666	1,616	.....
Kenyon	162	100	68	73	54	622	1,903	445	35	454	1,281	5,200
St. Lawrence Valley	282	.....	196	114	192	649	1,600	886	45	1,036	1,397	4,420
GRENVILLE:												
Kemptville	179	150	118	64	69	513	1,213	463	50	532	967	1,750
Merrickville	177	150	50	83	37	487	1,291	517	77	573	1,108	1,675

REPORTS OF AGRICULTURAL SOCIETIES IN ONTARIO, SHOWING RECEIPTS AND EXPENDITURE FOR THE YEAR 1917.—Continued.

Societies.	Receipts.						Expenditure.						
	Legislative grants.	Municipal grants.	Cash donations.	Members' fees retained from 1916.	Members' fees paid in 1917.	Gate receipts at exhibitions.	Total actual receipts.	Total prize money paid in cash.	Special attractions.	Officers' salaries.	Total expenditure for agricultural purposes.	Total actual expenditure.	Value of land and buildings.
<b>GRENVILLE.—Continued.</b>													
South Grenville .....	193	150	235	39	109	444	1,671	643	533	150	706	1,753	\$
Spencerville .....	132	132	16	75	41	575	1,554	399	248	50	476	1,462	1,750
Ayton .....	133	165	13	80	73	119	554	348	28	34	349	447	.....
Collingwood Tp. ....	139	175	30	63	161	195	913	366	40	65	410	772	425
Desboro .....	175	115	38	100	84	277	877	626	23	38	673	922	250
East Grey .....	103	100	7	53	25	106	820	434	106	53	457	810	1,765
Egremont .....	156	75	75	73	36	285	1,079	462	30	32	487	1,149	2,440
Hanover, Bentinck and Brant ..	150	150	144	60	29	461	1,091	426	218	60	436	996	10,550
Holland .....	145	120	54	70	125	187	814	468	50	30	528	824	.....
Keppel .....	85	100	16	46	37	58	529	201	20	52	295	541	75
Kilsyth .....	225	125	51	111	231	126	1,166	672	.....	35	737	1,037	2,400
Markdale .....	211	75	122	79	37	464	1,462	612	293	88	707	1,347	382
Meaford and St. Vincent .....	211	325	147	74	104	492	2,015	607	63	.....	746	1,623	12,050
Normanby .....	99	100	22	.....	25	113	484	270	25	27	295	452	.....
Osprey .....	135	115	17	73	11	112	745	391	130	47	438	773	1,050
Owen Sound .....	370	275	322	121	85	1,283	2,677	1,133	352	210	1,172	2,421	3,400
Priceville .....	104	100	13	37	28	101	569	267	10	32	310	555	850
Proton .....	230	95	74	102	46	162	1,396	965	28	70	763	1,363	4,200
Rocklyn .....	171	125	.....	63	101	227	942	514	.....	56	589	906	3,725
South Grey .....	168	175	58	68	32	504	1,191	437	118	60	483	1,024	4,300
Sydenham .....	100	125	7	60	116	95	577	336	.....	37	353	551	500
Walter's Falls .....	171	130	141	51	304	180	1,414	395	33	50	491	1,097	1,300
<b>HALDIMAND:</b>													
Caledonia .....	564	50	34	97	91	367	2,277	1,549	300	258	1,600	2,916	8,111
Canboro .....	58	70	14	25	37	41	281	167	6	.....	167	266	1,000
Dunnville .....	164	125	110	63	65	882	1,632	387	416	100	464	1,274	7,000
Haldimand .....	205	120	159	.....	194	504	1,678	620	285	90	692	1,646	2,625
Southern Branch .....	122	75	40	.....	101	236	613	345	25	37	366	574	400
Walpole .....	150	280	.....	.....	203	223	1,015	548	.....	65	575	1,021	550



REPORTS OF AGRICULTURAL SOCIETIES IN ONTARIO, SHOWING RECEIPTS AND EXPENDITURE FOR THE YEAR 1917—Continued.

Societies.	Receipts.						Expenditure.						
	Legislative grants.	Municipal grants.	Cash donations.	Members' fees retained from 1916.	Members' fees paid in 1917.	Gate receipts at exhibitions.	Total actual receipts.	Total prize money paid in cash.	Special attractions.	Officers' salaries.	Total expenditure for agricultural purposes.	Total actual expenditure.	Value of land and buildings.
<b>KENT.—Continued.</b>													
Wallaceburg .....	124	190	5	51	60	354	1,181	363	190	75	425	1,351	5,125
West Kent .....	347	390	202	62	74	2,014	3,944	911	672	253	1,002	3,253	13,150
<b>LAMBTON:</b>													
Bosanquet .....	188	165	29	71	84	280	1,047	483	70	50	539	904	3,510
Brooke and Alvinston .....	259	250	52	77	67	742	1,879	946	140	80	1,063	1,812	6,925
East Lambton .....	254	100	48	79	48	221	1,111	752	27	42	817	1,381	950
Florence .....	166	245	25	95	75	105	905	472	49	62	547	972	2,825
Forest .....	220	245	58	70	111	438	1,345	732	76	59	773	1,211	4,575
Moore .....	246	250	256	86	184	795	2,193	769	262	66	860	1,649	2,700
Petrolia and Enniskillen .....	362	400	108	88	56	700	2,007	1,126	225	125	1,226	2,159	3,000
Plympton and Wyoming .....	161	150	54	54	99	75	817	596	.....	42	607	861	1,610
Sombra .....	109	75	39	54	43	224	841	275	65	50	362	773	1,225
West Lambton .....	275	275	825	84	44	1,703	3,791	1,256	572	250	1,318	3,287	5,650
<b>LANARK:</b>													
Dalhousie .....	104	50	1	50	146	228	829	268	33	50	313	750	2,440
Lanark Tp. ....	136	50	134	58	49	48	1,169	288	6	79	313	1,248	1,485
Lanark Village and Bathurst ..	175	100	217	55	19	456	1,124	600	76	106	601	1,035	.....
Maberly .....	73	50	90	59	39	233	758	200	44	58	236	619	1,580
North Lanark .....	533	425	403	49	187	1,565	3,849	1,308	541	195	1,362	3,500	18,250
Pakenham .....	170	50	140	61	127	371	1,004	570	45	41	577	836	2,170
South Lanark .....	317	325	414	117	18	977	3,371	905	639	135	942	3,050	16,150
<b>LEEDS:</b>													
Brockville .....	383	650	655	97	58	2,731	6,161	1,356	2,506	280	1,432	7,157	3,520
Delta .....	209	150	89	70	39	1,132	2,741	505	260	90	546	1,654	4,000
Frankville .....	191	150	100	228	7	290	908	422	.....	50	454	730	450
Lansdowne .....	168	150	47	68	85	810	1,523	478	364	78	560	1,226	7,375
Lombardy .....	131	131	21	168	17	237	779	489	25	44	534	768	152

LENNOX AND ADDINGTON:												
Addington	(No re turns)	68	59	12	.....	307	223	9	20	229	293	.....
Amherst Island	140	57	39	46	349	676	297	.....	25	330	534	.....
Centreville	78	46	39	35	338	726	437	.....	58	438	929	2,745
Ernestown	99	50	45	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lennox	(No re turns)	46	45	35	.....	726	437	.....	.....	.....	.....	.....
LANCOLN:												
Abingdon	66	57	51	10	48	579	236	109	30	236	620	1,200
Clinton Tp.	215	.....	.....	170	808	1,848	702	276	85	781	2,143	4,765
Monck	107	15	60	22	122	512	330	44	42	331	572	1,840
Niagara Town and Tp.	(No fair)	65	59	60	470	1,025	298	325	70	305	1,128	2,725
Peninsular Central	79	150	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
MANTOULIN:												
Billings	302	42	64	8	120	580	355	.....	36	367	443	2,525
Gore Bay	463	34	73	19	224	943	546	.....	73	586	879	2,125
Howland	189	2	47	35	78	453	207	.....	27	225	371	1,075
Manitowaning	322	28	43	21	131	549	364	.....	50	377	479	700
Providence Bay	254	14	42	5	116	430	293	20	20	333	413	.....
MIDDLESEX:												
Caradoc	135	46	66	194	130	996	391	284	50	454	1,131	2,012
Delaware	162	227	68	70	324	1,198	660	216	35	684	1,488	460
Dorchester	229	40	.....	104	309	830	708	179	104	775	1,358	1,195
London Tp.	102	211	67	67	340	1,227	339	122	40	390	1,057	2,000
McGillivray	59	48	33	20	79	429	191	.....	25	216	389	.....
Melbourne	211	100	91	83	814	1,869	755	363	50	779	1,843	1,825
Mosa and Bkfrid	224	132	94	62	590	1,635	672	265	60	705	1,391	4,620
North Middlesex	117	80	64	33	308	958	398	233	75	424	1,033	2,500
Parkhill	144	154	60	36	495	1,239	498	184	55	498	1,043	14,600
Strathroy	475	277	97	109	1,736	4,447	1,515	1,245	104	1,615	3,868	14,600
Thorndale	120	210	34	114	316	1,194	386	142	90	426	1,087	2,550
Westminster	122	169	25	109	297	882	447	130	50	481	846	125
MUSKOKA:												
Baysville	232	5	38	12	9	312	198	.....	15	210	244	20
Gravenhurst and Muskoka	463	25	54	20	140	884	418	50	60	495	778	400
Medora and Wood	387	65	50	41	60	731	414	20	40	503	811	.....
Morrison	114	6	55	14	39	289	186	.....	30	186	369	985
North Muskoka	459	94	87	30	243	1,291	553	58	68	653	2,041	3,950
South Muskoka	800	359	112	52	536	2,278	1,122	216	105	1,236	1,990	1,585
Stephenson and Watt	448	58	63	12	76	1,054	483	48	68	573	1,002	1,100
Stisted	223	21	33	30	49	363	247	.....	17	261	318	1,035

REPORTS OF AGRICULTURAL SOCIETIES IN ONTARIO, SHOWING RECEIPTS AND EXPENDITURE FOR THE YEAR 1917—Continued.

Societies.	Receipts.						Expenditure.						
	Legislative grants.	Municipal grants.	Cash donations.	Members' fees retained from 1916.	Members' fees paid in 1917.	Gate receipts at exhibitions.	Total actual receipts.	Total prize money paid in cash.	Special attractions.	Officers' salaries.	Total expenditure agricultural purposes.	Total actual expenditure.	Value of land and buildings.
<b>NIPISSING:</b>													
Asterville	\$ 175		23	19	21		\$ 237	180		24	180	256	600
Bonfield	199	25	46	33	13	30	429	213		30	238	378	1,160
East Nipissing	364		16	42	17	142	684	434		10	446	758	1,225
Sturgeon Falls	376	100	61	63	57	367	1,083	732	153	120	750	1,351	
Verner	435	50	5	50	19	52	927	483		20	529	941	
<b>NORFOLK:</b>													
Charlottetown	140		45	9	110	286	659	437	14	70	481	703	6,150
Courtland	103		99	22	160	161	666	388	20	49	414	659	
Houghton	131			31	159	371	751	361	26	95	374	703	
Norfolk County	575	200	616		498	2,489	5,553	1,844	614	290	1,908	4,668	27,000
North Walsingham	107	25	37	25	135	147	572	316		52	356	568	475
Townsend	71	15	54		95	76	1,158	320		75	321	601	1,500
Windham	105		16	20	87	153	531	332		40	344	584	650
<b>NORTHUMBERLAND:</b>													
Alnwick	135	40	27	37	30	253	676	390	105	45	446	685	800
Brighton	241	121	294	85	91	587	1,798	937	205	50	953	1,691	
Cobourg Central	240	71	124	55	62	540	1,309	868	171	95	977	1,456	20,650
Colborne	264	78	166	68	38	458	1,203	830		47	870	1,134	825
Cramahe	162	98	132	54	21	173	880	521	67	40	544	874	850
Percy Tp.	399	100	229	119	37	863	2,256	1,641		75	1,688	2,295	4,450
Seymour	207	161	76	83	231	799	1,815	682	185	112	803	1,434	2,450
Wooler	123	111	112	40	43	362	891	458		35	533	752	575
<b>ONTARIO:</b>													
Beaverton	161	200	139	54	131	647	2,439	608	395	203	688	2,232	7,300
Brock	217	125	163	71	94	334	1,302	569	227	55	585	1,263	
Port Perry, Reach and Seugog	188		175	67	88	240	994	652	94	50	671	1,107	650
Ramona			35	27	36	19	152	140		52	140	192	386
Scott	130		152	41	45	201	798	322		52	359	776	
South Ontario	489	250	646	129	73	2,356	5,014	1,860	905	160	1,861	4,547	7,750
Uxbridge	235	25		44	46		1,355	478		154	478	1,374	



OXFORD:	Drumbo .....	304	48	54	88	657	1,436	1,062	.....	77	1,089	1,477	340	
	East Nissouri .....	101	25	27	202	172	793	432	81	54	499	935	.....	
	Ingersoll and W. Oxford .....	145	165	184	188	700	1,855	561	142	140	595	1,334	2,600	
	North Norwich .....	213	85	243	175	321	1,579	656	267	65	657	1,513	2,000	
	South Norwich .....	141	25	45	113	147	849	342	55	50	408	827	470	
	Tavistock .....	228	17	10	46	408	1,050	817	200	52	852	1,390	200	
	Tiltsburg and Dereham .....	230	.....	54	135	250	1,351	621	.....	105	669	1,324	8,000	
	West Zorra and Embro .....	173	.....	71	287	290	932	621	10	37	701	934	550	
	Woodstock .....	507	200	911	180	2,186	5,615	1,309	864	200	1,373	3,978	20,400	
	PARRY SOUND:													
	Armour, Ryerson and Burk's Falls	637	100	250	15	272	1,609	740	50	95	850	1,399	3,085	.....
	Christie .....	242	25	46	58	42	608	399	.....	40	462	646	155	.....
	Loring .....	296	.....	6	47	56	485	316	.....	29	353	607	675	.....
	Maclar .....	327	25	20	16	.....	803	172	.....	38	256	575	2,825	.....
Magnetawan .....	367	.....	35	52	53	675	366	9	70	482	777	650	.....	
McKellar .....	506	25	46	13	108	1,165	611	.....	29	680	985	1,715	.....	
McMurrich .....	377	10	84	7	450	744	382	.....	50	450	712	1,150	.....	
Parry Sound .....	534	290	260	77	626	2,129	851	280	105	879	2,143	8,475	.....	
Perry .....	431	50	87	16	54	941	493	7	50	584	876	2,345	.....	
Powassan .....	421	.....	166	15	166	966	461	10	60	966	543	1,336	.....	
Rosseau .....	338	65	83	26	47	863	523	.....	48	621	971	.....	.....	
Strong .....	401	.....	46	22	46	666	368	.....	30	436	635	1,020	.....	
United Townships .....	401	.....	60	61	10	646	364	.....	24	391	663	1,000	.....	
PEEL:														
Albion and Bolton .....	269	300	98	98	498	1,582	907	210	60	957	1,470	2,200	.....	
Caledon .....	152	230	111	115	180	1,004	411	117	85	429	898	715	.....	
Cooksville .....	260	225	274	63	288	1,624	899	97	90	940	3,002	1,900	.....	
Peel .....	460	435	406	204	1,593	3,866	1,454	240	259	1,487	3,397	5,250	.....	
Toronto Gore .....	(Spring fair only.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Toronto Tp. ....	346	210	138	100	403	1,749	744	139	108	855	1,690	3,300	.....	
PETERB.														
Elma .....	117	37	47	65	132	742	366	44	62	374	746	1,450	.....	
Fullarton, Logan and Hibbert .....	253	721	180	116	661	4,386	1,012	62	106	1,084	5,174	3,614	.....	
Kirkton .....	184	109	53	82	154	1,144	531	27	79	619	1,119	2,475	.....	
Listowel .....	(No returns)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Mornington .....	185	96	20	88	547	1,688	626	227	88	626	1,252	4,050	.....	
South Perth .....	204	253	10	66	659	1,568	616	190	100	659	1,661	5,800	.....	
Straford .....	346	101	102	129	339	3,519	1,269	608	185	1,377	3,316	.....	.....	
PETERBOROUGH:														
East Peterborough .....	389	175	95	88	1,388	2,425	1,381	170	104	1,459	2,297	2,010	.....	
Galway .....	88	75	28	23	130	547	183	10	25	183	466	2,600	.....	
Lakefield .....	131	175	88	63	222	443	434	112	26	443	1,076	4,425	.....	
Otonabee .....	145	75	84	79	194	783	463	66	37	499	765	1,110	.....	
Peterborough Industrial .....	706	775	71	146	4,363	7,335	2,183	1,298	135	2,206	6,500	.....	.....	

REPORTS OF AGRICULTURAL SOCIETIES IN ONTARIO SHOWING RECEIPTS AND EXPENDITURE FOR THE YEAR 1917—Continued.

Societies.	Receipts.					Expenditure.							
	Legislative grants.	Municipal grants.	Cash donations.	Members' fees retained from 1916.	Members' fees paid in 1917.	Gate receipts at exhibitions.	Total actual receipts.	Total prize money paid in cash.	Special attractions.	Officers' salaries.	Total expenditure for agricultural purposes.	Total actual expenditure.	Value of land and buildings.
<b>PRESCOTT:</b>													
Alfred .....	104	25	84	89	45	347	847	364	22	40	465	760	2,400
South Plantagenet .....	120	25	101	51	9	314	664	370	27	40	382	583	275
Vankleek Hill .....	357	25	200	79	109	1,063	2,003	1,087	21	102	1,122	1,854	7,050
<b>PRINCE EDWARD:</b>													
Ameliasburg .....	161	.....	90	76	97	287	972	571	30	77	664	1,032	.....
Prince Edward .....	556	900	280	66	1,068	3,051	7,363	2,175	1,072	230	2,331	5,495	24,400
Sophasburg .....	123	.....	77	52	30	251	608	414	.....	25	419	546	.....
<b>RAINY RIVER:</b>													
Atwood .....	307	50	274	82	152	82	1,030	703	.....	150	765	1,318	.....
Rainy River Valley .....	734	240	596	90	25	182	2,090	773	.....	60	845	1,599	3,650
<b>RENFREW:</b>													
Arnprior .....	269	325	438	34	190	760	2,716	739	75	190	928	2,185	5,200
Cobden .....	220	155	238	119	31	635	2,477	760	76	79	811	2,888	7,750
North Renfrew .....	355	100	346	76	185	380	2,149	1,225	258	108	1,362	2,594	19,250
Renfrew .....	638	650	264	22	453	3,397	8,811	2,100	507	400	2,219	9,557	24,700
<b>RUSSELL:</b>													
Casselman .....	66	125	238	20	20	167	739	81	.....	55	105	401	5,500
Clarence .....	89	50	.....	80	9	315	524	305	.....	50	317	497	990
Russell .....	248	75	146	93	37	812	1,666	687	174	67	701	1,553	4,653
<b>SIMCOE:</b>													
Alliston .....	168	.....	186	76	62	555	1,190	530	211	50	580	1,104	.....
Barrie .....	415	150	375	133	85	1,480	3,059	1,140	391	185	1,220	3,038	650
Beeton .....	174	35	243	70	36	234	1,171	451	144	84	471	1,089	2,550
Bradford and W. Gwillimbury .....	168	25	107	80	240	555	1,811	652	.....	79	666	2,105	6,000
Coldwater .....	156	140	106	66	11	276	1,384	412	102	50	447	1,144	2,575
Cookstown .....	188	80	72	125	19	184	1,043	582	6	90	603	959	1,330
Flos Township .....	177	.....	89	54	51	949	1,832	602	461	110	628	1,613	4,425
Nottawasaga and G. Northern .....	249	275	324	79	38	1,919	3,282	730	586	125	795	2,492	.....
Oso .....	184	50	188	112	126	402	1,070	623	42	58	641	879	400
Tiny and Tay .....	137	125	104	45	41	718	1,409	413	193	50	461	1,106	.....



REPORTS OF AGRICULTURAL SOCIETIES IN ONTARIO, SHOWING RECEIPTS AND EXPENDITURE FOR THE YEAR 1917—Continued.

Societies.	Receipts.						Expenditure.						
	Legislative grants.	Municipal grants.	Cash Donations.	Members' fees retained from 1916.	Members' fees paid in 1917.	Gate receipts at exhibitions.	Total actual receipts.	Total prize money paid in cash.	Special attractions.	Others' salaries.	Total expenditure for agricultural purposes.	Total actual expenditure.	Value of land and buildings.
<b>WELLINGTON.—Continued.</b>													
Pushinch	\$ 158	50	.....	\$ 57	427	226	\$ 1,049	482	41	53	\$ 545	\$ 1,057	\$ 200
Rockwood	205	50	193	82	69	305	1,190	614	39	64	653	1,090	3,100
West Wellington	.....	50	128	80	81	264	985	432	128	60	437	873	1,350
<b>WENTWORTH:</b>													
Ancaster	202	275	162	48	123	736	1,967	652	325	140	693	1,771	4,380
Binbrook	84	125	203	50	41	156	1,882	263	250	.....	272	764	.....
Hamilton and Wentworth (No Fair)	339	200	173	.....	266	831	2,476	1,075	171	125	1,091	2,459	151
Rockton	178	175	210	49	100	291	1,232	538	57	40	594	1,163	.....
Waterdown	113	150	104	47	90	242	1,123	490	29	77	521	1,115	127
West Flamboro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<b>YORK:</b>													
Markham and E. York	772	150	828	147	114	1,666	6,057	1,791	95	260	1,878	5,405	20,210
Newmarket	436	200	692	113	92	1,632	4,272	1,344	831	175	1,344	4,570	10,250
Queensville	118	60	156	41	86	91	577	389	25	35	389	601	.....
Richmond Hill	202	85	174	52	65	389	1,578	624	115	79	690	2,620	3,900
Scarboro	343	100	829	122	54	416	2,315	1,011	30	115	1,087	2,159	5,184
Schomberg	256	85	35	92	23	.....	1,089	304	.....	52	330	767	2,500
Sutton (Returns incomplete)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Weston, York and Etobicoke	238	200	292	84	89	938	2,242	772	350	150	786	2,291	1,800
Woodbridge	514	275	239	101	55	2,454	4,095	1,677	95	200	1,749	5,107	15,700
<b>INDIAN SOCIETIES:</b>													
Six Nations	100	400	10	41	132	598	1,949	685	261	71	710	2,007	3,103
United Indian	100	150	13	.....	16	207	588	176	100	15	202	360	.....
Totals	76,588	45,709	43,993	24,378	30,260	166,704	517,922	206,271	53,765	26,340	221,518	489,334	1,040,255

15.3

APPENDIX  
TO  
ANNUAL REPORT  
OF THE  
**Agricultural Societies**  
OF THE  
PROVINCE OF ONTARIO  
  
**1918**

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS AND  
PRIZE-WINNING GRAIN AT WINTER FAIRS  
THE CANADIAN NATIONAL AND CENTRAL CANADA EXHIBITIONS

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE)

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PRINTED BY ORDER OF  
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APPENDIX  
TO  
REPORT OF AGRICULTURAL SOCIETIES

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The severe winter of 1917-18 proved disastrous to the Fall Wheat crop in Ontario, the greater portion of it having to be plowed up and the ground sown to other crops. In order to offset to some extent, at least, the diminished wheat supply of the Province the Premier, Sir William Hearst, authorized an increase of \$25.00 in the Government grant to Societies whose members entered Spring Wheat in the Standing Field Crop Competitions, making the total grant to a Society \$75.00 instead of \$50.00 for wheat alone. Owing to this incentive and also as a result of the patriotic spirit shown by our farmers in their endeavor to increase the production of this important cereal, 47 Societies selected Spring Wheat as one of the two crops in which they could enter, being the largest entry for Spring Wheat since these competitions were inaugurated. Marquis Wheat proved most popular among the contestants and ninety per cent. of the entries were of this variety. The results have been most satisfactory and farmers will be encouraged to again sow this crop, which had been discontinued in many parts of Ontario for some years. The Canadian National Exhibition at my suggestion, also increased the prizes offered for Spring Wheat, both grain and sheaves, for which prize winners in the Standing Field Crop Competitions were eligible.

Altogether 176 Societies made entry in Field Crops in 1918, of which 64 competed in one and 112 in two crops. Oats, as usual, were the favorite grain in which 146 Societies entered. Spring Wheat came next with 47; potatoes with 46; corn with 31; barley, 6; turnips, 4; mangels, 3; peas and beans, 2 each; and fall wheat 1.

On the recommendation of the Committee appointed at the last Convention of the Ontario Association of Fairs and Exhibitions, and in order to encourage farmers to take the best possible care in cultivating, sowing and keeping their crops clean, and to ensure purchasers securing a better class of grain through the advertisement given in this Report, it was decided to publish only the names of those whose crops were scored seventy per cent. and over.

As in 1917, the column to the right hand of the total scores gives the weeds found in each competitor's field. By referring to page 113 the names of these weeds will be found opposite the number allotted to each one. As a rule, there was a remarkable freedom from rust and smut in the crops of 1918, due to the excellent weather prevailing during the harvest season. Straw was long and remarkably bright in the older sections of the Province at least. In New Ontario early frosts blighted the potatoes and, in one or two instances, the oats, but generally throughout Ontario crops were bountiful and harvested with a minimum of labor and in the best of condition.

At the Canadian National and Central Canada Exhibitions the field crop exhibits were never excelled, and farmers are to be congratulated on the neat and attractive manner in which their sheaves were put up. The bidding at the auction sale of seed grain at the Winter Fair at Gulph was very spirited and the amounts realized in every instance were far above market prices. Agriculturists are wakening up to the fact that in order to be successful competitors they must secure the best of seed. The highest price realized for oats was \$5.50 per sack: wheat \$8.50, and barley \$6.00. Corn brought \$9.25 per bushel and potatoes \$3.50 per sack.

J. LOCKIE WILSON, *Superintendent.*

## RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.

## OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	Yield and quality of grain.	Totals of scores.	Woods in competitors' fields.
ALGOMA.		(20)	(25)	(10)	(20)	(25)	(100)	
BRUCE MINES AGR. SOCIETY.								
<i>Judge—J. A. McDermid, Collingwood.</i>								
J. R. Stobie, Port Lock	Ligowa	16	24	7	19	22	88	
John Carter, do	O. A. C. 72	15	24	7	18	21	85	
S. Rowe, Bruce Mines	do	14	22	8	18	20	82	
H. Skusky, do	Granary Filler	13½	21	7	17	20	78½	
John Shaule, do	Alaska	13	23	7	16	19	78	
R. S. McEwen, do	Tartar King	14	20	7	15	21	77	
Norman Pace, do	O. A. C. 72	13½	20	8	15	20	76½	
Thos. Humphries, do	Mammoth Cluster	14	21	7	13	21	76	
Walter Wells, do	Granary Filler	14	19	7	15	20	75	
S. H. Jackson, do	Mammoth Cluster	15	16	7	15	21	74	
J. C. Wilson, do	Granary Filler	14	18	7	15	19	73	
Alex. Shaule, do	Mammoth Cluster	13½	19	7	14	19	72½	
Fred. Hopper, do	Banner	14	18	8	12	20	72	
CENTRAL ALGOMA AGR. SOCIETY.								
<i>Judge—J. A. McDermid, Collingwood.</i>								
C. W. Eaglefield, Sault Ste. Marie	Banner	16	23	8	19	19½	85½	2
Chas. A. Sones, Goulais River	O. A. C. 72	14	24	8	16	20	82	15
W. A. Conway, Sault Ste. Marie	20th Century	14	20	7	15	19	75	15
Thos. Avery, do	Banner	15½	10	16	15	23	73½	1, 12
Jno. H. Knight, do	Banner	14	19	6	16	17	72	2, 12
E. L. Allen, do	Daubeney	12½	20	5	18	16	71½	14, 15
NORTH SHORE AGR. SOCIETY.								
<i>Judge—G. H. Farmer, Sault Ste. Marie.</i>								
Alex. Stewart, Bar River	Northland	19	23½	9½	17½	25	94½	17, 15
H. S. Chappell, do	Early Siberian	17½	23	9½	19	24½	93½	17, 15
W. G. Evoy, do	O. A. C. 72	18	23	8	19	24½	92½	17, 15
J. W. Booth, do	Granary Filler	18	22	9	17	24½	90½	17, 15
Alex. Brodie, do	Northland	16	22	7½	17½	23	86	4, 17
H. B. Taylor, do	do	16½	22	8½	17	21½	85½	17
C. Hurley, Echo Bay	do	15	22½	9	17	21½	85	4
C. Stewart, Bar River	do	14½	23	9	18	19½	84	15
A. L. Tuckett, Echo Bay	Imp. Ligowa	14½	23	8	16	20	81½	4, 17
J. A. Davidson, MacLennan	do	16	22	8	15	20	81	4, 15
E. V. Evoy, Bar River	O. A. C. 3	12	24	9	17	18½	80½	

\*General appearance—Considering stand of crop, type of plant, vigor and uniformity of growth, method of seeding and absence of lodging.

†Yield and quality of grain—Considering proportion of well-filled heads of plump grain of good quality and uniformity of maturity.

NOTE.—The figures in parenthesis at the top are maximum possible scores.

‡See key page.



RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
<b>ST. JOSEPH ISLAND AGR. SOCIETY.</b>		(20)	(25)	(10)	(20)	(25)	(100)	
<i>Judge—J. A. McDermid, Collingwood.</i>								
Geo. Hadden, Richard's Landing	O. A. C. 72.....	15	22	9	18	22	86	15, 2, 14
Bert Rains, Sea Gull .....	Banner.....	14	21	9	17	21	82	15
Chas. Young, Richard's Landing	O. A. C. 72.....	13 $\frac{1}{2}$	23	7	16	19	78 $\frac{1}{2}$	15, 17
Thos. White, do .....	do .....	13 $\frac{1}{2}$	20	8	15	20	76 $\frac{1}{2}$	15
John Cheer, do .....	do .....	15	20	7	15	18	75	2, 15
Jno. Fyfe, do .....	Early Yielder....	13 $\frac{1}{2}$	20	8	14	19	74 $\frac{1}{2}$	2, 15
Rains Bros., Sea Gull .....	Banner.....	13	20	8	13	20	74	15
H. Matherson, Richard's Land'g.	O. A. C. 72.....	12 $\frac{1}{2}$	20	8	15	18	73 $\frac{1}{2}$	15, 14, 2
H. Underhill, do .....	Banner.....	12 $\frac{1}{2}$	20	7	15	18	72 $\frac{1}{2}$	15, 2
A. W. Ross, do .....	do .....	12 $\frac{1}{2}$	20	7	14	18	71 $\frac{1}{2}$	15
<b>THESSALON AGR. SOCIETY.</b>								
<i>Judge—G. H. Farmer, Sault Ste. Marie.</i>								
Alex Duff, Bruce Mines, R.R. 1	O. A. C. 72.....	17 $\frac{1}{2}$	24 $\frac{1}{2}$	9	19	22	92	15
Jos. Broughton, Livingston Cr'k	Irish.....	16	22	7	18	22	85	4
Thos. Corduke, Thessalon, R.R. 2	Ligowa.....	14 $\frac{1}{2}$	23	8	18	21	84 $\frac{1}{2}$	15
Proud Bros., Bruce Mines, R.R.1	Granary Filler...	15 $\frac{1}{2}$	23 $\frac{1}{2}$	7	16 $\frac{1}{2}$	21 $\frac{1}{2}$	84	15
Jas. Mills, do R.R.1	Mammoth Cluster.	15	23 $\frac{1}{2}$	8	16	20 $\frac{1}{2}$	83	4, 15
J. H. Hopper, Thessalon .....	Granary Filler...	15 $\frac{1}{2}$	21	8	17	21	82 $\frac{1}{2}$	4, 15
Isaac Leach, do .....	Mammoth Cluster.	15 $\frac{1}{2}$	22	8	16	20 $\frac{1}{2}$	82	4
D. McLennan, do R.R. 2	Banner.....	15 $\frac{1}{2}$	21	7	16	20 $\frac{1}{2}$	80	15
A. J. Bell, Sowerby .....	Abundance.....	14	20	7	17	21	79	15
A. I. Hopkins, Thessalon, R.R. 2	Banner.....	14 $\frac{1}{2}$	22	7	16	19	78 $\frac{1}{2}$	4, 15
Nelson King, do .....	O. A. C. 72.....	14 $\frac{1}{2}$	18	8	18	19 $\frac{1}{2}$	78	15
Thos. McDougall, do .....	Mammoth Cluster.	15	17	7	15	20 $\frac{1}{2}$	74 $\frac{1}{2}$	17, 15
Wm. Weir, Livingston Creek ..	Dodd's White....	13 $\frac{1}{2}$	22	8	10	19	72 $\frac{1}{2}$	
G. E. King, Thessalon .....	Mammoth Cluster.	13	18	7	15	19	72	15
Thos. Bailey, do R.R. 2..	Abundance.....	12 $\frac{1}{2}$	16	7	16	18 $\frac{1}{2}$	70	15
<b>BRANT.</b>								
<b>ONONDAGA AGR. SOCIETY.</b>								
<i>Judge—E. J. Mullins, Woodseele.</i>								
D. B. Campbell, Cainsville, R.R. 2	O. A. C. 72.....	19	25	9	19	25	97	
G. E. Wood, Onondaga .....	do .....	19 $\frac{1}{2}$	23	10	20	22 $\frac{1}{2}$	95	
A. W. Vansickle, do .....	do .....	20	24	9	17	24	94	
A. W. Hamilton, Cainsville, R.R. 2	do .....	18 $\frac{3}{4}$	21 $\frac{1}{4}$	8	19	24	91	1, 14
F. Thomson, do .....	Reg. Banner.....	18	20	7	19 $\frac{1}{2}$	23	87 $\frac{1}{2}$	
Jas. Pate, Paris, R.R. 4 .....	Imp. American...	17	20	8	18	23	86	12
R. J. Robertson, Cainsville, R.R.1	Reg. Banner.....	18	18	9	18	22	85	
Thos. Thomson, do R.R.1	O. A. C. 72.....	17	21	8	16	21	83	
A. Mitchell, Caledonia, R.R. 2..	Banner.....	16	24	7	16	19	82	
W. H. Hird, Cainsville .....	Garton's Victory..	13	24	9	15	20 $\frac{1}{2}$	81 $\frac{1}{2}$	
R. J. McMillan, do R.R. 1..	Banner.....	16	20	7	16	21 $\frac{1}{2}$	80 $\frac{1}{2}$	14
Geo. Thomson, Brantford, R.R. 1	O. A. C. 72.....	15	19	8	19	19	80	
I. Preiss, Middleport, R.R. 1..	.....	12	22	8	18	19	79	
C. W. Cowan, do .....	Argentine.....	19	23	9	5	22	78	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	†Freedom from weeds.	‡Freedom from smut, blight and insects.	§Freedom from other varieties and other kinds of grain.	¶Yield and quality of grain.	Totals of scores.	¶Weeds in competitors' fields.
BRANT.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
PARIS AGR. SOCIETY.								
<i>Judge—J. M. Gardhouse, Weston.</i>								
J. H. McGill, Princeton, R.R. 3	O. A. C. 72.....	18	23	8½	19	22	90½	
Alex. Hall, Ayr, R.R. 3	do .....	18	22	8½	19	22½	90	10
John Doyle, Paris	do .....	18	23	8	18½	22	89½	
D. Patton, do	do .....	16½	22	8	19½	22	88	
T. Sayles, do R.R. 2	do .....	16½	22	7	18	22	85½	
A. Parnell, Richwood, R.R. 1	do .....	16½	20	8½	17	22	84	10
D. A. Holmes, Paris, R.R. 2	do .....	17	20	8	16	21	82	10
J. Martin, do R.R. 3	Banner.....	17	18	8	18	20	81	10
A. Edgar, do R.R. 3	do .....	14	20	8	18	19	79	
T. Carlyle, do R.R. 4	O. A. C. 72.....	15	20	8	18	19	80	
Wm. Weber, do	do .....	15½	18	8	18	19	78½	
Fred. Luck, do R.R. 4	do .....	13½	20	7	18	19	77½	
R. J. McCormick, do R.R. 4	do .....	15	18	7	18	19	77	
A. Deans, do	do .....	12	18	8	18	18	74	
Geo. Bone, do R.R. 3	do .....	14	20	7	12	18	71	
SIX NATIONS AGR. SOCIETY.								
<i>Judge—E. J. Mullins, Woodstee.</i>								
Wm. J. Hill, Burtch	O. A. C. 72.....	19	25	9	19	25	97	
W. A. Russell, Hagersville	do .....	20	24	8	18	24	94	
Geo. Garlow, Ohswekin	do .....	17	25	9	17	22	90	
Hardy Mills, do	Banner.....	19	22	8	18	21	88	
Wm. Smith, Jr., Tuscarora	O. A. C. 72.....	18	24	8	15	20	85	
Geo. Smith, do	Banner.....	16	20	8	17	20	81	
A. Staats, Mohawk, R.R. 1	do .....	15½	20	7	18	18	78½	
Wm. H. Jameson, Ohswekin	O. A. C. 72.....	19	12	8	15	19	73	
Wilfred Smith, Tuscarora	do .....	16	20	5	15	16	72	
J. F. Montine, Hagersville	Royal Prince.....	18	7	8	17	20	70	
BRUCE.								
CARRICK AGR. SOCIETY.								
<i>Judge—J. C. Duff, Tara.</i>								
Andrew Schmidt, Mildmay	O. A. C. 72.....	17½	24	9	19	22½	92	
W. A. Rowand, Walkerton	do .....	17½	23	9	19	21½	90	
J. L. Tolton, do R.R. 3	do .....	17	22	8	19	20	86	
L. Waechter, Mildmay	do .....	17	21	8	18	20½	84½	
J. H. Schnurr, Walkerton, R.R. 3	do .....	17	21	8	18	19	83	
W. A. Tolton, do R.R. 3	Banner.....	16	21	7	18	19	81	
G. B. Armstrong, Teeswater, R.R. 1	do .....	16	21	7	18	18	80	
M. Weiler, Formosa	Yel. Russian.....	15	21	7	18	18	79	
Alex. Fisher, Mildmay	Banner.....	15½	17	7	18	20	77½	1

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OATS.

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			(20)	(25)	(10)	(20)	(25)	(100)	
BRUCE.— <i>Continued.</i>									
CHESLEY AGR. SOCIETY.									
<i>Judge—Robt. Berry, St. Mary's, R.R. 1.</i>									
Jno. Oswald,	Chesley	Siberian	17½	24	9½	18	21½	90½	15
S. K. Ewart,	do	O. A. C. 72	18	23	6	18½	22½	88	15, 14
Robt. Oswald,	do	Siberian	15½	22	6½	18	20½	82½	14, 2, 1
R. Milburn,	do	Bumper King	16½	20	4	19	22½	82	14, 15
F. Lowe,	do	O. A. C. 72	16½	15	8	17½	22½	79½	15, 14, 1
Frank Leggs,	do	do	17½	22	2	16½	21	79	15, 2, 14
P. McTavish,	do	do	13½	21	7½	18	18	78	15, 14
Jno. Thomson,	do	do	12½	24	5	18	15	74½	
Robt. Sloan,	do	Mammoth Cluster	14½	24	7½	8½	19	73½	15, 14
D. Connor,	do	Siberian	17	11	5½	16½	21½	71½	14, 15, 1
W. Thomson,	do	O. A. C. 72	16½	12	4½	16½	21	70½	14, 15, 1
HEPWORTH AGR. SOCIETY.									
<i>Judge—Andrew Schmidt, Mildmay.</i>									
C. A. Barfoot,	Shallow Lake	White Wave	17½	21	9	17	77½	87	14, 15
Chas. Walker,	Hepworth, R.R. 1	O. A. C. 72	19	17	9½	18	23	86½	1, 14
W. H. Sharp,	Shallow Lake	White Wave	18½	14	10	18½	23½	84½	14, 15
H. Anderson,	Hepworth	O. A. C. 72	19½	14	9	17½	24	84	1, 14, 15
Jas. Tomlinson,	do	White Wave	16	21	8½	17	21	83½	15
Geo. Miller,	Allenford	Sensation	18	15	8	17	23	81	15
Jas. E. Miller,	do	O. A. C. 72	19½	5	9	19	23½	76	1, 14
L. Schnurr,	Port Head		19½	14	5	13	24	75½	14, 15, 1
C. A. Millard,	Hepworth	O. A. C. 72	15	21	6	15	17	74	
HURON TP. AGR. SOCIETY.									
<i>Judge—A. Forster, Markham.</i>									
Jas. Steele,	Ripley, R.R. 1	O. A. C. 72	18	24½	9½	19	22½	93½	15
A. H. Reid,	Kincardine, R.R. 1	Imp. Banner	19½	21½	10	19	23	93	1
W. S. Bradley,	Ripley, R.R. 1	O. A. C. 72	19	24	9	18	22½	92½	
W. C. Smith,	do R.R. 1	Irish	16½	24	10	18½	22	91	15
D. Campbell,	do	O. A. C. 72	17	24	9	19	21½	90½	14
W. J. Roulston,	Lucknow, R.R. 6	do	17½	21½	9½	19½	21½	89½	1, 14
J. Roulston,	Ripley, R.R. 1	20th Century	16	24	9½	19	20½	89	
T. J. Scott,	do R.R. 1	do	17	23	9	18	21½	88½	15
J. H. Reid,	do R.R. 1	Reg. Banner	19½	10	9½	19	23½	81½	1
Jos. Colling,	do R.R. 1	Imp. Ligowa	19½	10	10	19½	22½	81½	1
Jno. Watson,	do R.R. 4	O. A. C. 72	18½	10	10	18½	22	79	1
J. L. Bowers,	do R.R. 1	do	18	10	9	19	21½	77½	1

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OATS.

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BRUCE.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
LUCKNOW AGR. SOCIETY.								
<i>Judge—J. W. Patton, Rocklyn, R.R. 2.</i>								
Jno. McDiarmid, Lucknow	O. A. C. 72.....	17 $\frac{1}{2}$	25	9 $\frac{1}{2}$	20	22 $\frac{1}{2}$	94 $\frac{1}{2}$	
J. Wilson, do	Abundance.....	18 $\frac{1}{2}$	25	8	20	22 $\frac{1}{2}$	94	
W. Henderson, do	Lincoln.....	18	25	9 $\frac{1}{2}$	18 $\frac{1}{2}$	22 $\frac{1}{2}$	93 $\frac{1}{2}$	
Alex. McLeod, do	.....	16 $\frac{1}{2}$	25	9	20	22 $\frac{1}{2}$	93	
Jno. Webster, do	Rennie's Early Yields.....	16 $\frac{1}{2}$	25	9 $\frac{1}{2}$	19	22 $\frac{1}{2}$	92 $\frac{1}{2}$	
K. R. McKenzie, do	O. A. C. 72.....	17 $\frac{1}{2}$	25	9	18	22 $\frac{1}{2}$	92	
Jno. McLeod, do	do	17	25	8 $\frac{1}{2}$	20	21	91 $\frac{1}{2}$	
Jas. Forster, do	Danish.....	18 $\frac{1}{2}$	25	8	18	21 $\frac{3}{4}$	91 $\frac{1}{4}$	
D. K. Alton, do	R.R. 7 O. A. C. 72.....	17 $\frac{1}{2}$	25	9 $\frac{1}{2}$	18	21	91	
Peter Watson, do	20th Century.....	18 $\frac{1}{2}$	21	9	20	22 $\frac{1}{2}$	90 $\frac{1}{2}$	14
W. Rutherford, do	Rennie's E. Yields.....	17 $\frac{1}{2}$	25	9	17 $\frac{1}{2}$	21 $\frac{1}{2}$	90 $\frac{1}{2}$	
J. C. McKenzie, do	R.R. 5 Danish.....	17	22	9	20	22	90	
R. J. Wood, do	R.R. 2 O. A. C. 72.....	16 $\frac{1}{2}$	23	9 $\frac{1}{2}$	18	22 $\frac{1}{2}$	89 $\frac{1}{2}$	
L. Grant, do	R.R. 2 W. Marvel.....	16 $\frac{1}{2}$	25	9	18	20 $\frac{1}{2}$	89	
A. W. Alton, do	R.R. 2 O. A. C. 72.....	16 $\frac{1}{2}$	22	8 $\frac{1}{2}$	18	21 $\frac{1}{2}$	86 $\frac{1}{2}$	
S. Phillips, do	R.R. 2 Early Abundance.	16	25	8	16	20	85	
C. M. Aitcheson, do	R.R. 2 New Century.....	15 $\frac{1}{2}$	25	8	16	20 $\frac{1}{2}$	85	
NORTH BRUCE AND SAUGEEN AGR. SOCIETY.								
<i>Judge—Geo. McKague, Woodville.</i>								
Alex. Lamont, Pt. Elgin, R.R. 3	O. A. C. 72.....	17	21	9 $\frac{1}{2}$	20	21	88 $\frac{1}{2}$	1,15
W. J. Pierson, do	R.R. 2 do	18 $\frac{1}{2}$	18	9	19 $\frac{1}{2}$	23	88	15,1,10
W. S. Airth, do	do	17	23	7 $\frac{1}{2}$	18	21 $\frac{1}{2}$	87	15
Jno. Witting, do	R.R. 3 do	16	23	9	18	20 $\frac{1}{2}$	86 $\frac{1}{2}$	15
W. H. Atkinson, do	R.R. 3 do	18	16	9 $\frac{1}{2}$	20	22 $\frac{1}{2}$	86	1
Jno. Wallace, do	R.R. 1 do	17	20	9	19	20 $\frac{1}{2}$	85 $\frac{1}{2}$	1,15
Chas. Song, Southampton	Granary Filler....	15	20	9	19 $\frac{1}{2}$	20 $\frac{1}{2}$	84	15,10
Alex. Geddes, Pt. Elgin, R.R. 1	O. A. C. 72.....	18	14	9	19	21 $\frac{1}{2}$	81 $\frac{1}{2}$	1,15
Jno. Baker, do	R.R. 3 Green Mountain..	17 $\frac{1}{2}$	10	10	19 $\frac{1}{2}$	22 $\frac{1}{2}$	79 $\frac{1}{2}$	1,15
Jas. Scott, do	R.R. 1 O. A. C. 72.....	18	12	9	19 $\frac{1}{2}$	20 $\frac{1}{2}$	79	1,15
A. Upshall, do	R.R. 4 do	18	10	9 $\frac{1}{2}$	19	22	78 $\frac{1}{2}$	1,10
F. W. Elliott, do	R.R. 2 do	15	15	9	19 $\frac{1}{2}$	19 $\frac{1}{2}$	78	15,10,1
Jas. Clazie, do	R.R. 3 do	18 $\frac{1}{2}$	8	10	18	23	77 $\frac{1}{2}$	1,15
W. H. McClinton, do	R.R. 3 do	17 $\frac{1}{2}$	10	9	19 $\frac{1}{2}$	21	77	1,15
J. W. Anderson, do	do	17	10	9 $\frac{1}{2}$	19 $\frac{1}{2}$	20 $\frac{1}{2}$	76 $\frac{1}{2}$	1,15
Jas. T. Wallace, do	R.R. 1 do	18	8	10	19	20 $\frac{1}{2}$	75 $\frac{1}{2}$	1,15,10
PINKERTON AGR. SOCIETY.								
<i>Judge—J. C. Duff, Tara.</i>								
E. Tolton, Walkerton, R.R. 3..	O. A. C. 72.....	17 $\frac{1}{2}$	24	9	19	22 $\frac{1}{2}$	92	
H. G. Clark, Paisley, R.R. 2....	do	17 $\frac{1}{2}$	23	8	19	21 $\frac{1}{2}$	89	
H. H. Young, Eden Grove, R.R.2	Amer. Banner....	16 $\frac{1}{2}$	23	8	18	20	85 $\frac{1}{2}$	

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OATS.

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BRUCE.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
PINKERTON AGR. SOCIETY.— <i>Con.</i>								
D. Pinkerton, Pinkerton	White Wave	17½	18	8	19	21½	84	
J. Holm, Walkerton	O. A. C. 72	15	22	8	18	19	82	
W. J. Cruickshank, Pinkerton	do	14	22	7	17	18	78	
J. A. Garland, Cargill	do	17½	10	8	19	22	76½	1
Garland Bros., Pinkerton	do	15	12	8	18	21	74	2
R. Perdue, Eden Grove	Silver Mine	13	20	6	16	17	72	
Alex. Carr, Glammis	O. A. C. 72	12	20	6	16	16	70	
TEESWATER AGR. SOCIETY.								
<i>Judge—J. C. Duff, Tara.</i>								
T. B. Aitkin, Teeswater	O. A. C. 72	18½	24	8	19	22½	92	
Jos. McKague, do	Bumper King	17½	24	8	19	22½	91	
T. A. Goodfellow, do	O. A. C. 72	17	24	7½	18	22½	90	
Alex. McKague, do	do	16½	24	7½	19	22½	89½	
Wm. McKenzie, do	do	17	22	7½	19	22½	88	
Robt. Keith, do	do	15	22	7½	17	21½	83	
Jas. D. Little, do	do	15	20	7½	16	21½	80	
C. J. Thompson, do	do	14½	20	8	17	19½	79	
W. G. Moffat, do	Siberian	14½	20	6	16	19½	76	
W. Marshall, do	O. A. C. 72	14½	20	6	16	18	74½	
UNDERWOOD AGR. SOCIETY.								
<i>Judge—Geo. McKague, Woodville, R.R. 4.</i>								
G. H. McKay, Tiverton, R.R. 3	O. A. C. 72	17½	23	9	19	21½	90	5, 15
Carl Kopas, do R.R. 2	do	16	22	9	18½	20½	86	15
C. T. Nicholson, N. Bruce, R.R. 1	do	15½	23	8	18	21	85½	15
C. H. Drummond, do R.R. 1	do	15½	21	9	19	20	84½	15, 1
J. W. Johnston, do R.R. 1	do	16	22	8	18	20	84	1
W. A. Begg, Tiverton, R.R. 1	O. A. C. 72	18	15	9½	19	22	83½	1, 1, 10
J. Howe, Paisley, R.R. 4	do	16½	19	8	18	21½	83	15, 14, 10
Jas. Johnson, N. Bruce, R.R. 1	do	17½	10	9½	19	21½	77½	15, 1
C. McDougall, Tiverton, R.R. 2	do	16½	12	9	18	21½	77	1, 15, 2
W. McKay, do R.R. 3	do	16	10	9½	19½	21	76	1, 10, 15
J. B. Struthers, do R.R. 3	do	17	11	8	18	21½	75½	15, 1
T. A. Howe, Paisley, R.R. 4	do	15½	12	8	19	20½	75	1, 15
J. R. Hunter, Tiverton, R.R. 2	do	16	10	8	17½	20½	72	15, 1
WIARTON AGR. SOCIETY.								
<i>Judge—A. Schmidt, Mildmay.</i>								
W. Lambke, Wiarton, R.R. 2	Green Mountain	18	10	10	19	22½	79½	1, 15, 10
D. W. Porter, do R.R. 2	O. A. C. 72	14	20	7½	16	18	75½	10, 14, 15
A. B. Loney, do R.R. 2	Granary Filler	13	18	8	16	19	74	15, 14
H. F. Loney, do R.R. 2	Mammoth Cluster	18	10	9½	12	23	72½	1, 14, 15
G. H. Loney, Oxenden	National	18½	....	10	18	23½	70	1, 14, 15

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Oan.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
CARLETON.		(20)	(25)	(10)	(20)	(25)	(100)	
CARLETON COUNTY AGR. SOCIETY.								
<i>Judge—Robt. McKay, Marville.</i>								
A. H. Foster & Son, Richmond, R.R. 2	O. A. C. 72	17	17½	9	18½	23	85	2
J. B. Wilson, Kars, R.R. 2	Banner	13½	22	8½	18	18½	80½	10, 4
T. H. Seabrook, Richmond	do	14	20	8	17½	20	79½	2, 4
M. Seabrook, do R.R.2	Imp. Banner	16	16	8½	17	21½	79	2
Gilbert Smith, Stanley Corners, R.R. 1	Banner	17	15	9	15	20½	76½	2, 10
Jas. Seabrook, Stanley Corners, R.R. 1	Imp. Banner	16	15	6	18½	20½	76	2
Wm. Nixon, Richmond	Banner	14½	18	7	15	21	75½	2, 10
Jno. Crawford, do	do	16	12	7½	16	21½	73	5, 10, 2
A. C. Lackey, Stanley Corners	20th Century	14	14½	8	16	18	70½	2
Clay'tn Gamble, Richmond, R.R.2	O. A. C. 72	13½	18	7	15	16½	70	2, 10
CARP AGR. SOCIETY.								
<i>Judge—M. J. Casselman, Morrisburg.</i>								
Geo. H. Caldwell, Carp	Banner	19½	23	9	19	24½	95½	4
F. S. Caldwell, do	do	19	22	9½	18	23½	91½	4
H. K. Hodgins, do	20th Century	18½	23	9½	18	22½	91½	4
E. H. Graham & Son, do	O. A. C. 72	17½	18	9½	20	23½	88½	4
Geo. Rivington & Son, do	Banner	18½	22	9	10	23½	83	
Jas. H. Wilson, do	do	17½	19	9½	15	21½	82½	15, 10
H. Downey, do	Banner	18½	15	9	17	22½	82	
W. G. Rivington, do	do	18	15	10	14	23½	80½	4
W. J. McCord, do	Sterling	18	12	10	16	22½	78½	4
J. McBride, do	do	16½	12	9	16	20	73½	4
FITZROY AGR. SOCIETY.								
<i>Judge—H. W. Graham, Britannia Bay.</i>								
A. Miller, Galetta, R.R. 1	O. A. C. 72	17	23	7	18	22	87	15
F. R. Gourlay, Kinburn	Banner	16	20	9	18	23	86	15, 2
J. L. Hunt, Galetta	do	17	23	6	17	22	85	15
H. E. Miller, Arnprior	Imperial	16	20	9	18	21	84	2, 10
L. Stewart, do R.R. 1	O. A. C. 72	16½	19	8	18	21½	83	15
H. Miller, Galetta, R.R. 1	do	16	20	7	17	21	81	10, 15
K. E. Riddell, Kinburn	Banner	14	22	8	16	20	80	
W. A. Miller, Arnprior, Box 215	O. A. C. 72	13	18	7	19	22	79	10
A. J. Halpenny, Galetta	Banner	16	19	10	14	19	78	15
P. M. Herrick, Galetta, R.R. 1	do	16	19	7	14	21	77	10
J. E. Armstrong, Kinburn	O. A. C. 72	14	20	6	17	19	76	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
CARLETON.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
METCALFE AGR. SOCIETY.								
<i>Judge—J. N. Sorley, Ottawa.</i>								
R. & J. Woods, Metcalfe .....	Banner.....	17	23	9	19½	21	89½	15,10
T. J. Sullivan, Edwards .....	do .....	15	20	5	19	20½	79½	2,5
C. H. Acres, Vernon .....	do .....	15	17	6	18	19½	75½	2,15
Wm. H. McKeown, Edwards ...	10th Century.....	15	17	8	15	19½	74½	2,15
P. Anderson, Metcalfe .....	Banner.....	15½	15	6	17	20	78½	2,5
Ben Acres, Vernon .....	do .....	15½	15	6½	16	20	73	2
Geo. Acres, do .....	do .....	16½	15	7	14½	19½	72½	2,15
Andrew Hay, do .....	Ligowa.....	16	10	8	18	19½	71½	2,15
DUFFERIN.								
DUFFERIN AGR. SOCIETY.								
<i>Judge—R. E. Mortimer, Honeywood.</i>								
M. V. Armstrong, Mono Mills...	O. A. C. 72.....	17	20	8½	19	20	84½	
W. H. Gillespie, Orangeville, R. R. 3 .....	do .....	15½	23	7	17½	19	82	
J. H. Jackson, Orangeville, R.R.1	Banner.....	17	18	8½	16	18	77½	15
DUFFERIN CENTRAL AGR. SOCIETY.								
<i>Judge—D. McClure.</i>								
Arch. Greer, Mansfield, R.R. 1..	Derby.....	16	18	9	18	21	82	
Geo. E. Foster, Honeywood ....	O. A. C. 72.....	16	18	8	17	20½	79½	15,1
Rice Hill, Shelburne, R.R. 4 ..	do .....	14	18	8	18	18½	76½	1
Geo. Best, do R.R. 4 .....	do .....	15½	10	8	18	20	71½	1
J. S. Richardson, do R.R. 4 ..	Vel. Russian.....	14½	16	6	17	17	70½	2
Alex. McFarlane, Jessopville ..	White Wave.....	14½	16	7	17	15½	70	
EAST LUTHER AGR. SOCIETY.								
<i>Judge—D. McClure, Norval, R.R. 2.</i>								
H. Berry & Son, G'd.Valley, R.R.3	O. A. C. 72.....	14	18	8	17	20½	77½	
N. Eastwood, do R.R.3 .....	do .....	15	20	7	17	15	74	
W. E. Turner, do R.R.3 .....	do .....	13½	17	8	15	20	73½	
A. Campbell, do .....	Abundance.....	14	17	8	16	18	73	
W. Richardson, do R.R.3 .....	O. A. C. 72.....	13½	15	7	18	19	72½	2,14
DUNDAS.								
MOUNTAIN AGR. SOCIETY.								
<i>Judge—Geo. R. Bradley, Kars.</i>								
J. H. Higginson, Inkerman ..	White Wave.....	15	21	8½	20	22	86½	15
W. G. Timmins, do ..	do ..	17	19	9	18	22	85	2,5
Geo. Timmins, do ..	do ..	16	20	8½	18	21½	84	5
Thos. Carlyle, Osgoode, R.R. 4	Banner.....	17½	17	7½	17½	23½	83	2
Herb. Walter, Winchester, R.R.3	Danish.....	16½	18	8½	18	21½	82½	5,15

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

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DUNDAS.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
MOUNTAIN AGR. SOCIETY.— <i>Con.</i>								
R. K. Graham, S. Mountain	O. A. C. 72	16½	16	8	18	22½	81	5, 2
R. Mulholland, do	Newmarket	18	14	8	17	22	79	2, 5, 15
M. Henderson, do	Danish	16	15	8	18	21	78	2, 5, 15
S. D. Thorpe, do	Banner	14½	17	8	17	21	77½	2, 5, 15
P. Scott, do	O. A. C. 72	14	18	7½	17	20	76½	5, 2
WINCHESTER AGR. SOCIETY.								
<i>Judge—Geo. R. Bradley, Kars.</i>								
H. Annable, Winchester, R.R. 2	O. A. C. 72	16½	19	7½	18	22	83	2, 10
A. Christie, do	R.R. 2	16½	20	8	16	22	82½	15, 10
W. Moffat, do	O. A. C. 72	16½	20	7	17	21½	82	15
S. F. Fulton, Chesterville	Siberian	16½	20	8	15	21	80½	15
Thos. Edgerton, Winchester	Amer. Banner	15½	18	8	18	20½	80	2, 10, 8
R. J. Anderson, do	Banner	15½	20	7½	16	20	79	15, 10
E. J. Christie, do	O. A. C. 72	13½	20	6	18	20½	78	8, 10
A. Edgerton, do	do	16	20	8	12	20½	76½	10
R. W. Justus, do	R.R. 3							
	Yielder	14½	18	7	15	20	74½	8
H. Robinson, do	O. A. C. 72	15	15	7½	15	21	73½	2, 10, 8, 15
Wm. Hamilton, Chesterville	Banner	15½	12	8	15½	21½	72½	2, 15
Wm. Johnston, Winchester	20th Century	13½	17	7	15	19	71½	2, 5, 10
DURHAM.								
CARTWRIGHT AGR. SOCIETY.								
<i>Judge—Thos. Hall, Brooklin.</i>								
F. Taylor, Blackstock	Prince Royal	16½	24½	9½	19	21½	91	15
J. G. Marlow, Burketon, R.R. 1	O. A. C. 72	17½	23½	9	18	22	90	
L. E. Mountjoy, do	Irish	16½	24	9	19	20½	89	
N. H. Marlow, do	R.R. 1	17	22½	8	19	22	88½	15
W. C. Ferguson, Blackstock	do	17½	19½	9	18	21½	85½	1, 13
Jno. Mountjoy, Nestleton	Derby	14½	22½	8	17	22	85	
S. McLaughlin, do	Granary Filler	17½	20	8	17	22	84½	
J. H. Taylor, do	Prince Royal	19	15	10	17	22½	83½	1
A. W. Wright, do	R.R. 2	16½	20	8	18	20½	83	15, 4, 1
Newton Taylor, Burketon	Sensation	13	23	9	18	18	81	
Fred. Gibson, do	Sterling	15	21	8	15	20	79	10
MILLBROOK AGR. SOCIETY.								
<i>Judge—Thos. Hall, Brooklin.</i>								
T. A. Kelly, Fraserville, R.R. 1	O. A. C. 72	18	24	9	19	21½	91½	
W. Brown, Millbrook, R.R. 3	Dew Drop	17	23	9½	19	21½	90	10
D. Sutton, do	R.R. 2	18	22	9	19½	20½	89	15, 4
R. McCamus, Ida	do	17	22½	9	19	20½	88	2, 15
W. R. N. Sharpe, do	Banner	17	24	8	19½	19	87½	15

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## OATS.

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DURHAM.— <i>Continued.</i>			(20)	(25)	(10)	(20)	(25)	(100)	
MILLBROOK AGR. SOCIETY.— <i>Con.</i>									
F. Anderson, Baillieboro	O. A. C. 72	16	22	9	18	21	86	10	
T. McCamus, Millbrook	do	17	19	9	19	21	85	4, 1	
Jas. McCamus, do	R.R. 2 do	14	23	8	19	20½	84½	10, 15	
J. W. Hamilton, do	R.R. 2 Banner	16½	24	7	18	18	83½		
N. Belch, do	R.R. 3 do	16	21	8	17	20	82	2, 15	
G. Armstrong, do	R.R. 2 do	18	14	9	19	21½	81½	1, 10	
A. J. Fallis, do	R.R. 3 O. A. C. 72	14½	20	9	19	18	80½	15, 1, 10	
A. J. Henderson, do	R.R. 3 W. Giant	16	20	7	19	17½	79½	2, 10, 1	
H. L. Moncrief, Baillieboro	O. A. C. 72	15	20	9	15	20	79	2	
L. Fallis, Millbrook	R.R. 3 do	11½	22	7	19	18½	78	4, 10, 2	
R. J. McKnight, do	Banner	18	12	8	18	20½	76½	1, 2, 11	
N. M. Henry, do	R.R. 2 O. A. C. 72	13	20	8	16	17	74		
ELGIN.									
ALDBOROUGH AGR. SOCIETY.									
<i>Judge—Jno. Hamilton, Wallaceburg, R.R. 5.</i>									
W. J. Kelly, Rodney, R.R. 2	O. A. C. 72	18½	22	8	19	20	87½	15	
Carl Vanetter, do	R.R. 1 do	16	22	9	18½	22	87½	15	
R. A. Kerr, do	R.R. 3 do	19	22½	8	17	20½	87	15	
M. W. Purcell, Wardsville	do	16	22	7½	19	22	86½	15	
W. A. Kelly, Rodney, R.R. 2	do	18	19½	9	18½	21	86	15, 17	
B. Partridge, West Lorne, R.R. 1	Granary Filler	15	22	8½	18½	21½	85½		
D. A. Purcell & Son, Wardsville	Amer. Banner	17	22	8½	17	20	84½	15	
W. W. Havens, Rodney, R.R. 2	O. A. C. 72	16½	22	8	19	18½	84	15	
Thos. Haywood, Wardsville	Amer. Wonder	15	22½	8	19	19	83½	15	
J. A. King, do	R.R. 1 Lothian	17	22½	7	18	18½	83		
C. Campbell, do	O. A. C. 72	17½	20	7½	18	20	83		
Arch. Leitch, Jr., do	R.R. 1 Amer. Wonder	16½	21½	8½	19	17½	83	15	
Arch. MacColl, Rodney, R.R. 2	O. A. C. 72	16	20	8½	19	19½	83	14	
D. Carmichael, W. Lorne, R.R. 1	do	16	20	8½	19½	18½	82½	15	
J. F. McGregor, Wardsville, R. R. 1	do	17	20	8½	17	20	82½	15	
Jas. Kelly, Rodney, R.R. 2	do	16½	22	8	17	17	80½		
J. E. Hubbard, Wardsville, R.R. 1	do	16½	19	8	17	20	80½	15	
Alex. Gardiner, Rodney, R.R. 1	do	14	20½	8	18	19½	80		
J. Hesseneaur, do	R.R. 3 do	15	22	6	20	17	80	15	
A. Winger, Wardsville	Banner	18	19	8	17	18	80	5, 15	
A. Wehlann, Rodney, R.R. 2	Storm King	16½	22	8	14	19½	80	15	
A. Green, do	R.R. 3 Banner	16½	22	7½	15	17½	78½	14	
Wilson Turk, Wardsville	do	14	22	8	17½	16½	78	14, 15	
Wm. Kelly, Rodney, R.R. 2	Granary Filler	14	22	9	14	16	75		
STRAFFORDVILLE AGR. SOCIETY.									
<i>Judge—John Hamilton, Wallaceburg, R.R. 5.</i>									
Ed. Knott, Aylmer, R.R. 1	O. A. C. 72	19	23½	8	19	20	89½	14	
Wm. Abell, do	R.R. 1 do	18½	22	8½	18½	21	88½	15	
Wm. Holby, Corinth	do	18	24	8	16½	20½	87		

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## OATS.

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ELGIN.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
STRAFFORDVILLE AGR. SOCIETY. — <i>Continued.</i>								
H. Yeandle, Straffordville	Siberian	18 $\frac{1}{2}$	21 $\frac{1}{2}$	8	19	19 $\frac{1}{2}$	86 $\frac{1}{2}$	15
L. High, do	O. A. C. 72	18	22 $\frac{1}{2}$	7	19	19 $\frac{1}{2}$	86	14
Jno. Holtby, Corinth, R.R. 1	do	18 $\frac{1}{2}$	22 $\frac{1}{2}$	9	16 $\frac{1}{2}$	19	85 $\frac{1}{2}$	15
S. M. Dennis, do	20th Century	16	22	9	18 $\frac{1}{2}$	16 $\frac{1}{2}$	83	15
G. Mitchell, Eden, R.R. 1	O. A. C. 72	16	22 $\frac{1}{2}$	8 $\frac{1}{2}$	19	16 $\frac{1}{2}$	82 $\frac{1}{2}$	15, 14
H. S. Cook, Corinth	do	18 $\frac{1}{2}$	22	9	13	19 $\frac{1}{2}$	82	15
E. Hatch, Straffordville	O. A. C. 72	16	22	7 $\frac{1}{2}$	19	17 $\frac{1}{2}$	82	15
F. Procnier, do	do	17 $\frac{1}{2}$	21 $\frac{1}{2}$	7 $\frac{1}{2}$	17 $\frac{1}{2}$	17	81	15
R. W. Firby, Corinth	do	16	21 $\frac{1}{2}$	8	17	18 $\frac{1}{2}$	81	15
H. E. Hoshal, Springfield, R.R. 2	Banner	17 $\frac{1}{2}$	15	7 $\frac{1}{2}$	18	22	80	15, 2
W. A. Mitchell, Straffordville	O. A. C. 72	16 $\frac{1}{2}$	21	8	17 $\frac{1}{2}$	17	80	14, 15
ESSEX.								
AMHERSTBURG, ANDERDON AND MALDEN AGR. SOCIETY.								
<i>Judge—Thos. Creighton, Mooretown.</i>								
Jas. Martin, Amherstburg, R.R. 2	O. A. C. 72	19 $\frac{3}{4}$	24	10	20	23	96 $\frac{3}{4}$	
W. Sellars, do R.R. 2	do	19	25	9	19	23 $\frac{1}{2}$	95 $\frac{1}{2}$	
Thos. Deslippe, do	Mortgage Lifter	17 $\frac{1}{2}$	25	8	20	21	91 $\frac{1}{2}$	
E. A. Deneau, N. Malden, R.R. 1	Banner	16 $\frac{1}{4}$	24	9	18	23 $\frac{1}{2}$	90 $\frac{3}{4}$	
F. Pettypiece, Auld, R.R. 1	O. A. C. 72	17 $\frac{1}{2}$	24	8	19	22	90 $\frac{1}{2}$	
Forest Pigeon, N. Malden	do	17	23	8	19	23	90	
Frank McGee, do	do	17	23	8	19	21 $\frac{1}{2}$	88 $\frac{1}{2}$	
R. Langlois, Amherstburg, R.R. 1	do	16	25	9	16	21 $\frac{1}{2}$	87 $\frac{1}{2}$	
M. Enderby, do R.R. 2	Wide-Awake	16 $\frac{1}{2}$	19	9	20	21 $\frac{1}{2}$	86	
Alex. Sinasac, Jr., Auld, R.R. 1	O. A. C. 72	16	18	8	19	22 $\frac{1}{2}$	83 $\frac{1}{2}$	15
Wm. Bailey, Amherstburg, R.R. 2	New Zealand	14	21	8	16	21	80	10
W. C. Anderson, do R.R. 1	Marguerite	14	18	9	19	19 $\frac{1}{2}$	79 $\frac{1}{2}$	15
G. H. Anderson, do R.R.	O. A. C. 72	10 $\frac{1}{2}$	24	9	12	21	76 $\frac{1}{2}$	
WINDSOR AND NORTH ESSEX AGR. SOCIETY.								
<i>Judge—Thos. Creighton, Mooretown.</i>								
F. J. Ure, Maidstone, R.R. 3	O. A. C. 72	19	24	8	19	23 $\frac{1}{2}$	93 $\frac{1}{2}$	
P. McKinley, Tecumseh, R.R. 2	Amer. Banner	19	24	8	19	22 $\frac{1}{2}$	92 $\frac{1}{2}$	
E. Durocher, Windsor, R.R. 1	do	17	24	9	16	23	89	
N. Dumouchelle, do R.R. 1	do	16	22	9	18	22	87	
P. M. Major, Belle River, R.R. 1	do	18	22	8	15	22	85	
M. Morand, Jackson Corners	do	15	21	8	17	23	84	15
Thos. Jobin, Maidstone	do	16	22	8	16	21 $\frac{1}{2}$	83 $\frac{1}{2}$	
A. Ouellette, Windsor, R.R. 1	do	16	20	7	17	22	82	
D. Senlouis, Tecumseh, R.R. 1	do	16	18	8	16	21 $\frac{1}{2}$	79 $\frac{1}{2}$	14
A. Soullcar, Windsor, R.R. 1	do	14	16	9	13	21	73	14
P. J. Clapp, Tecumseh, R.R. 2	Amer. Banner	15 $\frac{1}{2}$	16	9	12	19	71 $\frac{1}{2}$	10, 15

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡↓ Seeds in competitors' fields.
<b>FRONTENAC.</b>		(20)	(25)	(10)	(20)	(25)	(100)	
<b>KINGSTON IND. AGR. SOCIETY.</b>								
<i>Judge—W. E. Gray, Elgin, R.R. 3.</i>								
Arthur Day, Portsmouth, R.R. 1	O. A. C. 72.....	19	23	9	19 $\frac{1}{2}$	24	94 $\frac{1}{2}$	15
Jas. Henderson & Son, do R.R.	do .....	18	23	9	19 $\frac{1}{2}$	22 $\frac{1}{2}$	92	10,4,15
Wm. Gordon, Kingston Mills ..	do .....	18	23	8 $\frac{1}{2}$	18 $\frac{1}{2}$	23 $\frac{1}{2}$	91 $\frac{1}{2}$	10,15
Jas. B. Baxter, Kingston, R.R. 1	do .....	17 $\frac{1}{2}$	23	9	19	22 $\frac{1}{2}$	91	10,4,15
J. S. Sibbitt, do R.R. 1	do .....	17	23	8	19 $\frac{1}{2}$	21 $\frac{1}{2}$	89	10,4,15
W. J. Hunter, Kingston Mills ..	Welcome.....	17 $\frac{1}{2}$	23	9	18	21	88 $\frac{1}{2}$	15,10
J. J. Wilmot, Kingston, R.R. 1	O. A. C. 72.....	16	22	8 $\frac{1}{2}$	18	21 $\frac{1}{2}$	86	10,15
C. A. Kincaid, do R.R. 1	do .....	17	20	8 $\frac{1}{2}$	18	20 $\frac{1}{2}$	84	10,4,15
J. L. F. Sproule, Westbrook ...	do .....	16 $\frac{1}{2}$	19	8 $\frac{1}{2}$	18	20	82	15,10
H. J. Simpson, Catarauqui .....	Banner.....	14	20	8 $\frac{1}{2}$	18 $\frac{1}{2}$	20	81	4,10
G. B. Finnegan, Kingston, R.R. 1	Washington.....	16 $\frac{1}{2}$	19	9	16	19 $\frac{1}{2}$	80	4,15,10
C. Rogers, Kingston, R.R. 1 ..	Yel. Russian.....	14	19	8	19	19	79	4,10,15
<b>WOLFE ISLAND AGR. SOCIETY.</b>								
<i>Judge—Wm. E. Gray, Elgin, R.R. 3.</i>								
Arthur Hall, Wolfe Island ....	Banner.....	17 $\frac{1}{2}$	24	9	19 $\frac{1}{2}$	23	93	10
Wm. Allum, do R.R. 4	O. A. C. 72.....	17 $\frac{1}{2}$	24	8 $\frac{1}{2}$	20	22	92	
Jas. Grant, do R.R. 2	Banner.....	18	23 $\frac{1}{2}$	9	19	22	91 $\frac{1}{2}$	4,10
H. McCreedy, do R.R. 2	do .....	17 $\frac{1}{2}$	23	9	19	22 $\frac{1}{2}$	91	4,10
F. M. Baker, do ...	do .....	17 $\frac{1}{2}$	23	8	19 $\frac{1}{2}$	21 $\frac{1}{2}$	89 $\frac{1}{2}$	4,10
Sam'l. Woodman, do R.R. 1	do .....	16 $\frac{1}{2}$	24	9	19	20 $\frac{1}{2}$	89	4,15
Ace Hough, do R.R. 4	do .....	17	22 $\frac{1}{2}$	7 $\frac{1}{2}$	19	22 $\frac{1}{2}$	88 $\frac{1}{2}$	5,10,4
Wm. Cooper, do R.R. 2	Dew Drop.....	16 $\frac{1}{2}$	22 $\frac{1}{2}$	7	19	21	86	10
Geo. McDonald, do R.R. 1	do .....	15 $\frac{1}{2}$	22	6 $\frac{1}{2}$	19	20 $\frac{1}{2}$	83 $\frac{1}{2}$	4
G. W. Keyes, do R.R. 2	O. A. C. 72.....	13	22 $\frac{1}{2}$	9	19	19	82 $\frac{1}{2}$	4,10
J. W. Niles, do R.R. 1	Amer. Banner....	13	22	7	18	21 $\frac{1}{2}$	81 $\frac{1}{2}$	4,10,15
H. J. Hall, do ...	20th Century.....	14 $\frac{1}{2}$	23	7	16 $\frac{1}{2}$	20	81	9,4
Craig Russell, do R.R. 4	Washington.....	15 $\frac{1}{2}$	19	9	18	19	80 $\frac{1}{2}$	4,10
Wm. Kyle, do ...	Banner.....	14	22	6	18	20	80	5,15
<b>GLENGARRY.</b>								
<b>KENYON AGR. SOCIETY.</b>								
<i>Judge—S. G. Gourlay, Ottawa.</i>								
Thos. Blaney, Maxville .....	Siberian.....	17 $\frac{1}{2}$	24	8	18	23	90 $\frac{1}{2}$	
A. A. McLeod, Dunvegan .....	Banner.....	18	22	8	19	22	89	
W. L. Arkinstall, Athol .....	do .....	17	25	7	17	20	86	
N. Campbell, Moose Creek, R.R.1	do .....	16 $\frac{1}{2}$	21	8 $\frac{1}{2}$	19	20 $\frac{1}{2}$	85 $\frac{1}{2}$	
A. J. McLeod, Dunvegan .....	do .....	18	17	10	18	21	84	
Fred. McLeod, do .....	do .....	15	22	7	17	22	83	
J. J. Kennedy, Maxville .....	Siberian.....	14 $\frac{1}{2}$	17	7 $\frac{1}{2}$	19 $\frac{1}{2}$	21 $\frac{1}{2}$	80	
J. J. Campbell, Athol .....	Banner.....	15 $\frac{1}{2}$	20 $\frac{1}{2}$	7	17	19	79	
N. K. McLeod, Dunvegan .....	20th Century.....	17	16 $\frac{1}{2}$	8	16 $\frac{1}{2}$	20 $\frac{1}{2}$	78 $\frac{1}{2}$	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.		Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, bight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	†Weeds in competitors' fields.
GLENGARRY.— <i>Continued.</i>			(20)	(25)	(10)	(20)	(25)	(100)	
KENYON AGR. SOCIETY.— <i>Con.</i>									
N. D. McLeod, Dunvegan	.....	O. A. C.	17	16	7	18	20	78	
Jno. Nicholson, Maxville	R.R. 1	Banner	15	20	6	17	19	77	
J. J. Cameron, do	R.R. 1	do	15	17	8	17	18	75	
Chas. Morrow, do	.....	do	14	15	6	18	20	73	
Chas. Blaney, do	.....	do	13	16	8	16	17	70	
ST. LAWRENCE VALLEY AGR. SOCIETY.									
<i>Judge—J. W. Hess, Trenton, R.R. 2.</i>									
Jas. Boden, Williamstown	.....	Scottish Chief	16	22	8	18	19	83	15
F. Robertson, do	.....	O. A. C. 72	14	20½	9	18	21	82½	
Thos. Munroe, Lancaster	.....	.....	16	20	8	17	21	82	4, 2
J. P. Snider, Bainsville, R.R. 1	.....	Early Angus	16	17½	9	18	21	81½	2, 15
G. H. Goodfellow, Williamstown	.....	Irish	16	20	8	15	22	81	
F. W. Fraser, Lancaster	.....	Siberian	16	18	9	17½	20	80½	2
Wm. Condie, Bainsville, R.R. 1	.....	O. A. C. 72	15	16	8	19	22	80	2
Thos. Craig, Lancaster	.....	Banner	15	18	8	17½	21	79½	2
D. J. McGregor, Martintown	.....	do	14	18	8	18	21	79	
J. D. McLennan, Lancaster	.....	.....	13	18	8	18	21	78	15, 2
Wm. Mitchell, Bainsville, R.R. 1	.....	Siberian	14	18	7	18	20	77	2, 4
P. S. Snider, do	R.R. 1	O. A. C. 72	15	18	8	16	20	77	15, 2
J. McNaughton, Williamstown	.....	Scottish Chief	14	18	7	17	21	77	15, 2
Geo. McRae, Bainsville	.....	Amer. Banner	14	17	7	18	20	76	2, 4
A. A. McLennan, Lancaster	.....	Irish	13	18	7	16	20	74	2
Wm. Wightman, do	.....	Banner	12	18	7	17	19	73	15, 4
J. W. Clarke, do	.....	.....	13	15	8	17	20	73	
J. Goodfellow, do	.....	Irish	12	18	7	16	19	72	2
GREY.									
HOLLAND AGR. SOCIETY.									
<i>Judge—Alex. Morrison, Creemore.</i>									
W. I. Bryans, Chatsworth, R.R. 3	.....	New Zealand	17	25	10	18	21	91	
Jno. McKenzie, do	R.R. 3	O. A. C. 72	17	24	9	18½	22	90½	
R. S. Lee, do	R.R. 1	do	17	24	8	18	23	90	15
Mac Cameron, Owen Sound, R.R. 4	.....	do	17	23	9	18	22½	89½	14
Geo. Milson, Chatsworth, R.R. 3	.....	do	16	22	9	19	22	88	15
E. P. Hammill, do	R.R. 4	Banner	16	24	8½	17	22	87½	
Wm. Halliday, do	R.R. 3	O. A. C. 72	16	22	9	18	22	87	15
V. Barber, Owen Sound, R.R. 4	.....	.....	16	21½	9	18	22	86½	1
J. McDonald, Chatsworth, R.R. 3	.....	.....	15	22	8	19	22	86	15
G. Hamilton, Owen Sound, R.R. 4	.....	.....	16	19	9	19	22	85	15, 1
T. Leavens, Chatsworth, R.R. 4	.....	.....	16	19	9	17	23	84	1
Wm. Bye, Owen Sound, R.R. 4	.....	.....	17	18	9	15	24	83	1, 14
L. Mannerow, Desboro, R.R. 1	.....	O. A. C. 72	16	19	8	17	22	82	1
R. A. Price, Owen Sound, R.R. 3	.....	do	13	24	7	17	20	81	
R. J. Jordison, do	R.R. 4	.....	14	22½	7½	16	19	79	
J. McCombe, Chatsworth, R.R. 1	.....	\$1,000	13	18	9	18	20	78	11

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

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GREY.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
KEPPEL AGR. SOCIETY.								
<i>Judge—Jno. McDiarmid, Lucknow.</i>								
Geo. McKenzie, Kemble, R.R. 1	O. A. C. 72.....	18	23 $\frac{1}{2}$	9 $\frac{1}{2}$	19 $\frac{1}{2}$	23	93 $\frac{1}{2}$	15
M. Bedell, do	do	17	24	9 $\frac{1}{2}$	20	22 $\frac{1}{2}$	93	
H. Hurlbut, do	Derby.....	16	23	10	20	21	90	
Dan. Davidson, North Keppel ..	do	16	21	9	18	21 $\frac{1}{2}$	85 $\frac{1}{2}$	15, 12
A. Cameron, East Linton ....	Golden Russian...	16 $\frac{1}{2}$	21	8	17	21	83 $\frac{1}{2}$	15, 14
Doug. Davidson, Kemble, R.R. 1	Prince Royal.....	15	21	8	17	22	83	15, 14
Chas. Garvie, do	do	15 $\frac{1}{2}$	20	9	16 $\frac{1}{2}$	21 $\frac{1}{2}$	82 $\frac{1}{2}$	15, 14, 16
Thos. Johnston, do	O. A. C. 72.....	16 $\frac{1}{2}$	18	10	17	20 $\frac{1}{2}$	82	1, 15, 10
Lynn Hurlbut, do	do	14 $\frac{1}{2}$	20	9	18	20	81 $\frac{1}{2}$	15, 13
F. Davidson, do R.R. 1	Banner.....	16	17	9	18	21	81	
Ed. Johnston, do R.R. 2	Derby.....	14 $\frac{1}{2}$	18	8 $\frac{1}{2}$	16	20	77	1, 14, 15
KILSYTH AGR. SOCIETY.								
<i>Judge—Jno. McDiarmid, Lucknow.</i>								
A. S. Donald, Tara, R.R. 5 ....	Banner.....	19	24	10	19	24	96	
E. H. Coulter, O'en Sound, R.R. 3	Amer. Beauty.....	18 $\frac{1}{2}$	25	9	19	24	95 $\frac{1}{2}$	
Wm. Breen, Tara, R.R. 5.....	Banner.....	17 $\frac{1}{2}$	24	10	19	23	93 $\frac{1}{2}$	14
Albert Fleming, do R.R. 5.....	do	17	24	9	20	21 $\frac{1}{2}$	91 $\frac{1}{2}$	
V. Barber, Owen Sound, R.R. 3	do	18 $\frac{1}{2}$	20	9	19	23 $\frac{1}{2}$	90	1, 15
J. J. Fleming, do R.R. 3	do	16 $\frac{1}{2}$	24	9	19	21	89 $\frac{1}{2}$	
G. A. Sargeant, do	O. A. C. 72.....	17 $\frac{1}{2}$	20	9	18	24	88 $\frac{1}{2}$	1, 15
J. A. Forgrave, do R.R. 5	Banner.....	16 $\frac{1}{2}$	18	9	18	23	84 $\frac{1}{2}$	1, 14, 15
Melville Lynn, do R.R. 3	do	17	17 $\frac{1}{2}$	9	17 $\frac{1}{2}$	22	83	1, 15
W. E. Fleming, Tara, R.R. 5....	O. A. C. 72.....	17	17	8 $\frac{1}{2}$	18	22	82 $\frac{1}{2}$	1, 15
Geo. Wylie, Kilsyth .....	Banner.....	16	18	9	18	21	82	1, 15, 14
P. Garvie, Tara, R.R. 4 .....	do	16	18	7	17	21	79	15, 14
D. T. Waddell, Kilsyth .....	Silver Mine.....	15	17	8	17	21	78	1, 14, 15
MARKDALE AGR. SOCIETY.								
<i>Judge—J. Cokc, Erin.</i>								
J. Buchanan, Flesherton, R.R. 1	O. A. C. 72.....	18	18	9	19	21 $\frac{1}{2}$	85 $\frac{1}{2}$	1, 15
E. McLoughry, Markdale, R.R. ...	do	15 $\frac{1}{2}$	20	8	20	20	83 $\frac{1}{2}$	15
Earl Davis, do R.R. 4	do	14 $\frac{1}{2}$	20	9	19 $\frac{1}{2}$	19	82	15
Jas. Findlay, do R.R. 4	do	15 $\frac{1}{2}$	20	8	19 $\frac{1}{2}$	16	79	15, 14
David Foster, do R.R. 4	do	14	15	9	19	20 $\frac{1}{2}$	78	
Wm. McLoughry, do R.R. 4	O. A. C. 72.....	15	19	9	19 $\frac{1}{2}$	15	77 $\frac{1}{2}$	15
J. A. Halbert, do R.R. 3	do	15 $\frac{1}{2}$	17	7	18	15	72 $\frac{1}{2}$	
F. Boland, do R.R. 4	Granary Filler....	15 $\frac{1}{2}$	18	7	18	14	72 $\frac{1}{2}$	1, 15
T. L. Mercer, do R.R. 4	O. A. C. 72.....	17	10	7	19	19	72	

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## OATS.

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GREY.— <i>Continued.</i>				(20)	(25)	(10)	(20)	(25)	(100)	
MEAFORD AND ST. VINCENT AGR. SOCIETY.										
<i>Judge—Wilson Black, Stroud.</i>										
Wm. Pollock,	Meaford	.....	Banner.....	18	19	9	18½	22½	77	1,15
Wm. Camp,	do	.....	do .....	16	22	9	19	20	86	1
W. A. Johnson,	do	.....	do .....	16½	22	8	18	20½	85	15,14
F. J. Eaton,	do	.....	do .....	17	14½	9	18	22	80½	15,14,1
J. M. Gardener,	do	.....	Danish.....	14	19½	9	18	19½	80	2
C. R. Shields,	do	.....	do .....	17	14	9½	18	21	79½	1,14
E. E. Martin,	do	.....	Granary Filler....	17½	13	8	19	21½	79	1
A. Mason,	do	.....	Banner.....	16½	15	9	18	20	78½	1
J. E. Loughheed,	do	.....	Sheffield Standard	16½	15	8	18	20	77½	1,2
A. McVittie,	do	.....	Banner.....	15½	14	7	18	19	73½	1
Hy. Boyes,	do	.....	do .....	14½	15	7½	18	18	72	1
NORMANBY AGR. SOCIETY.										
<i>Judge—J. A. Kernahan, Maxwell,</i>										
Jas. Booth,	Ayton, R.R. 3	.....	.....	19	24	9½	18	23	93½	
J. Alliston,	Neustadt, R.R. 1	..	O. A. C. 72.....	18	24	9	20	22	93	
A. Huehn,	do	.....	do .....	17½	22	7	19	21	86½	2
Jos. Goessel,	Ayton, R.R. 1	....	Mammoth Cluster.	17	23	6	18	22	86	
J. W. Hollwig,	Carlsruhe, R.R.	.....	Danish Island....	14½	23	9	18	19	83½	15
Henry, Hill,	Ayton, R.R. 1	....	do .....	17	20	8	16	22	83	15,2
Chas. Holm,	do R.R. 1	....	O. A. C. 72.....	15	23	5	19	20	82	15
Jno. Bickel,	Mildmay, R.R. 4	..	do .....	17½	22	9½	19	23½	81½	1
Wm. Marshall,	Neustadt, R.R. 1	.....	Banner.....	16	12	8½	16	18½	71	1
H. A. Duneman,	do	.....	Burnett.....	16	18	5	10	21	70	2
OSPREY AGR. SOCIETY.										
<i>Judge—J. Coke, Erin.</i>										
A. J. Brownridge,	Maxwell	....	O. A. C. 72.....	17½	20	9	19	20	85½	15,1
Angus Morrison,	do	....	\$1,000.....	17	15	9	19	19½	79½	1,15
R. J. Alliston,	Feversham	.....	O. A. C. 72.....	15½	17	9	18	19	78½	1,15
J. A. Kernahan,	Maxwell	.....	do .....	15½	16	9	18	19	77½	15
G. W. McDonald,	McIntyre	.....	.....	16	20	8	15	18	77	15
E. Hawton,	Feversham	.....	O. A. C. 72.....	18	12	7	18	19	74	1,15
W. H. Grey,	Maxwell	.....	Banker.....	17	10	9	18	19	73	1,10,15
F. J. D. Spofford,	Eugenia	....	O. A. C. 72.....	14½	12	8	19	18	71½	
PRICEVILLE AGR. SOCIETY.										
<i>Judge—R. R. Fleming, Orton.</i>										
Wm. Paton,	Priceville, R.R. 3	..	O. A. C. 72.....	20	24½	8	18	25	95½	
O. Konold,	do R.R. 1	..	Banner.....	16½	24½	9	20	25	95	
D. Nichol,	do R.R. 1	..	Can. Pride.....	20	24	8	16	25	93	15
Robt. Knox,	Proton, R.R. 1	....	O. A. C. 72.....	20	16	10	20	25	91	1,10
Jos. Ferris,	Priceville, R.R. 3	..	do .....	20	15	10	20	25	90	1,2

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OATS.

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		(20)	(25)	(10)	(20)	(25)	(100)	
GREY.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
PRICEVILLE AGR. SOCIETY.— <i>Con.</i>								
Jas. Turner, Priceville, R.R. 3..	O. A. C. 72.....	20	14	10	20	25	89	1, 2
Thos. Nichol, do R.R. 1..	Mammoth Cluster.	20	20	8	9	25	82	1, 2
D. Campbell, Ceylon, R.R. 1 ..	Siberian.....	18	8	5	18	24	73	1, 10
Wm. W. Ramage, Varney, R.R. 1	O. A. C. 72.....	17	8	8	15	24	72	1, 10, 2
D. MacMillan, Priceville, R.R. 3	Northern Pride...	18	3	8	17	25	71	1
PROTON AGR. SOCIETY.								
<i>Judge—J. A. Kernahan, Maxwell.</i>								
W. Lonsway, Corbetton, R.R. 3	Sensation.....	18	18	8½	20	23½	88	1
Rich. Cronin & Son, Riverview, R.R. 1 .....	Russian.....	17½	24	5	18	22½	87	
Ernest Ebel, Corbetton .....	Bonanza.....	16	24	8	18	20	86½	
Jno. A. Rath, Dundalk, R.R.1	O. A. C. 72.....	18	22½	5	18½	22	86	
J. W. Hanna, do R.R.2	Dew Drop.....	18	20	6	18	23	85	2
R. N. Fowler & Son, do R.R.2	Yel. Russian.....	18	23	6	17	20½	84½	
W. H. Russell, do R.R.4	Sensation.....	17½	22	7	17	20½	84	
J. H. Nicholls & Son, Corbetton do .....	do .....	13½	24	9	18	19	83½	
J. A. Russell, Dundalk, R.R. 4	Ligowa.....	17	22	6	10	21½	76½	
Geo. Bell, Corbetton, R.R. 3 ..	Banner.....	17	16	6	13	21	73	
Jas. Coulter, Dundalk, R.R. 1 ..	Dew Drop.....	13½	20	4	15	19	71½	
W. H. Green, do R.R. 1.	Ligowa.....	15	20	5	12	19	71	
ROCKLYN AGR. SOCIETY.								
<i>Judge—Wilson Black, Stroud.</i>								
Geo. Reid, Goring .....	O. A. C. 72.....	18	21	8	18½	22½	88	15
G. L. Sewell, Meaford, R.R. 2..	do .....	16	14	8	18	20	76	1
Jno. Yeadell, Rocklyn, R.R. 2..	Abundance.....	17	10	9	18	20	74	1, 14
J. A. Perry, Fairmount .....	Reg. Banner.....	17	9	8	19	20	73	1, 14
J. J. Johnston, Markdale, R.R. 2	O. A. C. 72.....	16	10	8	18	20	72	1, 15
W. Patton, Rocklyn, R.R. 2 ..	Banner.....	17	9	7	18	20	71	1, 15
M. Abercrombie, Meaford, R.R.4	New Century.....	14½	14	7	17½	17½	70½	1, 15
J. McKnight, do R.R.4	do .....	14½	14	7	17	17½	70	1, 15
SOUTH GREY AGR. SOCIETY.								
<i>Judge—R. R. Fleming, Orton.</i>								
D. Edge, Durham, R.R. 1.....	O. A. C. 72.....	19	25	9	20	24	97	
Jos. A. Dixon, Varney, R.R. 1 ..	Banner.....	19½	23	9	20	25	96½	15
M. Barber, Durham, R.R. 3 ...	O. A. C. 72.....	17	24	9½	20	25	95½	15
H. G. Brigham, Allan Park, R.R. 3 .....	do .....	18	24	7	20	24	93	15
Jas. W. Mather, Hanover, R.R. 1	do .....	16	24	7	20	24	91	15
R. T. Edwards, Markdale, R.R. 1	Mammoth Cluster.	19	10	10	18	25	82	2
C. & A. Smith, Durham, R.R. 4 .....	do .....	17	10	7	18	25	77	2, 15
Alex. Grierson, Harrow, R.R. 1	Banner.....	19	6	7	18	25	75	1, 15, 14
W. G. Blyth, Varney .....	New Sensation...	18	6	7	18	22	71	1, 11, 15
Geo. Ritchie, Durham, R.R. 1..	Sterling.....	19	4	7	18	22	70	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
GREY.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
WALTER'S FALLS AGR. SOCIETY.								
<i>Judge—Alex. Morrison, Creemore.</i>								
Russel Thom, Walter's Falls ..	Banner.....	16	22	8	19	21	86	
A. D. Gillies, Bognor .....	O. A. C. 72.....	15	24	8	18	20	85	
W. T. King, Markdale, R.R. 3	Imp. Banner.....	14	22	9	18	20	83	1
J. J. Seabrook, do R.R. ...	Banner.....	13½	23	8	17	20½	82	
Chas. Saunders, Walter's Falls.	do .....	14½	22	6	18	20½	81	10
John Hoighes, do	Reg. Banner.....	15	18	8	18	21	80	1
E. W. Quinton, do	Imp. Banner.....	15	18	7	18	21	79	11
Thos. Quinton, do	Banner.....	14	18	8	17	21	78	1,15
W. I. Seabrook, do	O. A. C. 72.....	15	13	9	18	22	77	1,15
W. G. Dixon, do	Banner.....	14½	18	7	16	20	75½	1
HALDIMAND.								
CALEDONIA AGR. SOCIETY.								
<i>Judge—F. A. Clark, Gormley, R.R. 2.</i>								
I. Wylie, Caledonia .....	Siberian.....	18	24	9½	18	22½	92	15
Alex. Cowie, do .....	O. A. C. 72.....	17	23	8	19½	21½	89	14,10
R. F. Duncan, do R.R. 3	Reg. Banner.....	15½	24	7½	18	21	86	
N. Hyslop, Glanford Sta., R.R.3	Silver Mine.....	15½	24	8½	17	19	84	14
W. J. Gringer, Caledonia, R.R. 2	O. A. C. 72.....	15½	18½	9	18	20½	81½	14,10
J. Dixon, do R.R. 2 .....	.....	15	14	8½	19	22½	79	2,15,10,14
W. J. Moffat, Glanford Station, R.R. 3 .....	O. A. C. 72.....	16½	12	8½	18	22	77	1
H. McMorrان, Jr., Caledonia, R.R. 3 .....	do .....	14½	17	7	18	20	76½	9,10,4
Jas. Yule, Caledonia .....	Silver Mine.....	14	23	5	16	18	76	
Jas. Douglas, do R.R. 2	Banner.....	14	18	8	18	17	75	10
W. A. Douglas, do R.R. 2	do .....	15½	20	7	12	20	74½	10,15,14
Robt. Wren, do R.R. 2	Silver Mine.....	14½	17½	6½	17	18½	74	10,15,1
John Yule, Hagersville, R.R. 3	O. A. C. 72.....	13	15	6½	17	18	69½	15,10,1,2
HALDIMAND AGR. SOCIETY.								
<i>Judge—Robt. Murphy, Alliston.</i>								
S. A. Best, Cayuga .....	O. A. C. 72.....	17½	23	9	19	22½	91	
H. Gardiner, do R.R. 2....	Granary Filler....	17	23	9	19	21½	89½	14
P. Hartwick, Fisherville, R.R. 2	Amer. Banner....	17½	21	8	17½	22½	86½	4
J. Nablo, Cayuga, R.R. 3	O. A. C. 72.....	16	23	7½	18	20	84½	
A. Mehlenbacher, do R.R. 3	do .....	15½	20	9	18	19	81½	1
Wm. Roth, Fisherville .....	Early Yelder....	16	20	7½	16	21½	81	4
Alex. Walker, Cayuga, R.R. 2	Granary Filler....	16	15	9	18	22	80	
W. J. Mitchell, do R.R. 3	Silver Mine.....	16	14	9	18	22	79	10
Art. Williamson, do R.R. 3	Granary Filler....	15½	15	9	18	20	77½	10
N. Mehlenbacher, do R.R. 3	Big Four.....	14½	16	7½	16	19½	73½	4
Jno. McConnell, do R.R. 2	do .....	18	5	9	18	23	73	5,10
H. Parsons, do R.R. 2	O. A. C. 72.....	15	10	9	18	19	71	10

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—(Con.)  
OATS.

Competitors in Order of Merit.		Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	†Weeds in competitors' fields.
			(20)	(25)	(10)	(20)	(25)	(100)	
HALDIMAND.—Continued.									
SOUTHERN BRANCH AGR. SOCIETY.									
<i>Judge—Robt. Murphy, Alliston.</i>									
G. A. Fitzgerald, Selkirk, R.R. 2	O. A. C. 72.....	17	22	9	19	21½	88½	4	
Wm. Beabon, do R.R. 2	do .....	16	24	7½	18	21½	87	15	
J. Nagel, Fisherville, R.R. 2	Granary Filler....	16	22	9	18	21½	86½	15.14	
Jno. T. Hartwick, do R.R. 2	Banner.....	17½	22	9	15	22½	86		
M. Nagel, do R.R. 2	Silver Mine.....	16	22	8½	17	21½	85		
Jos. Foreman, S. Cayuga, R.R. 1	Early Yielder....	16	21	7½	18	21	83½		
O. Morschfelder, Fisherville, R.R. 2	Silver Mine.....	15½	21	9	17	20½	83	4	
A. Nagel, Fisherville, R.R. 2	do .....	16½	20	8	17	21	82½	10	
Jos. Featherstone, Selkirk, R.R. 2	Early Yielder....	17	19	8	16	22	82	4	
A. E. Havill, S. Cayuga, R.R. 2	O. A. C. 72.....	16	16	9	18½	21½	81	10	
G. H. Yocum, Selkirk, R.R. 2	Amer. Banner....	15½	19	7½	17	20½	79½	10.14	
Wm. Nagel, do R.R. 2	Silver Mine.....	14	21	9	17	18	79	14	
Wm. Holland, Fisherville, R.R. 2	Early Yielder....	15	21	7½	15	20	78½	10	
Wm. Messner, do R.R. 2	Big Four.....	15	18	8	16	20	77	4,15,14	
E. Messner, do R.R. 2	Empire.....	16	14	8	16½	21½	76	1,10	
HALTON.									
HALTON AGR. SOCIETY.									
<i>Judge—M. W. Sexsmith, Ridgeway.</i>									
H. R. Franklin, Hornby .....	O. A. C. 72.....	20	18½	10	20	25	93½	15,14	
G. E. Gastle, Milton, R.R. 2 ..	do .....	17	21½	10	19	25	92½		
Geo. A. Wilson, Georgetown ...	Banner.....	18	25	9	18	22	92		
H. W. Richardson, Milton, R.R. 2	Gunson's G. Filler.	19½	22	9½	18	23	91¾		
A. S. Wilmott, do .....	O. A. C. 72.....	19	22½	9½	19½	21	91½		
W. R. Hume, do R.R. 2	do .....	18½	20	9½	18	25	91		
W. A. McCartney, do .....	do .....	18½	23	9	16	20½	87		
Ed. McCann, do .....	Granary Filler....	17	22	9	17	21	86		
Geo. Colton, do .....	O. A. C. 72.....	20	15	9½	18	23	85½	4,10,1	
J. F. Ford, do .....	do .....	20	13	9½	19	23	84¾	14,2	
Edwin, Harrop, do .....	do .....	18½	9	9½	19½	24½	81	15,14,2	
A. Stark, do .....	Rennie's Early....	19½	10	9½	15	24	78		
E. M. Readhead, do R.R. 2	O. A. C. 72.....	15	15	7	20	20	77	15	
Wm. McCartney, do .....	do .....	18½	10	9	18	21	76½	1,4	
E. A. McDougald, do R.R. 4	Banner.....	18	....	10	20	22	70	2	
NELSON AND BURLINGTON AGR. SOCIETY.									
<i>Judge—Alex. Morrison, Creemore.</i>									
Leslie Kerns, Freeman .....	O. A. C. 72.....	17	24	9	19½	22½	92		
A. Heslop, do R.R. 2	do .....	17	24	9	19	22	91		
M. Easton, do R.R. 2	do .....	17	25	8	18	22	90		

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

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HALTON.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
NELSON AND BURLINGTON AGR. SOCIETY.— <i>Continued.</i>								
W. W. Cline, Freeman, R.R. 2	O. A. C. 72.....	16	23½	8½	18	22	88	
Peter Cole, do R.R. 2	do .....	16	22	8	18	22	86	15
Jno. Heatherington, Campbellville, R.R. 3 .....	Great Dane.....	16½	21½	8	18	21	85	15
John Heslop, Freeman, R.R. 2	O. A. C. 72.....	15	22	8	18	21	84	15
I. I. Devitt, do R.R. 2	do .....	15½	20	8½	18	21	83	15
C. N. Blanshard, do R.R. 2	do .....	16	20	7	15	24	82	15
W. E. Breckon, do R.R. 2	do .....	14½	19½	8½	17	22	81½	14
J. H. Wilson, Hamilton, R.R. 4	Amer. Banner....	14	21½	9	15	20½	80	
A. Foster, Campbellville, R.R. 3	Granary Filler....	14½	20	8	17	20	79½	15
Gordon Breckon, Merton .....	O. A. C. 72.....	13	22	7	18	18	78	15
G. S. Peart, Freeman, R.R. 1 ..	do .....	14	20	7	16	19	76	14
HASTINGS.								
FRANKFORD AGR. SOCIETY.								
<i>Judge—D. English, Burketon.</i>								
M. Vanderwater, Bellville, R.R. 45	O. A. C. 72.....	20	20	10	20	23	93	4, 10
D. E. Coon, Frankford, R.R. 2	Banner.....	20	18	9	18	23	88	10, 2, 15
L. Badgly, do .....	do .....	18	18	10	18	23	87	10, 15
F. R. Mallory, do .....	Banner.....	16½	20	7	15	22	80½	
C. H. Ketcheson, Belleville, R.R. 2	O. A. C. ....	16	18	7	18	20	79	
T. H. Ketcheson, do R.R. 2	Early Yields....	14	19	8	18	19	78	10
D. I. Rose, Frankford .....	Mammoth Cluster.	16	16	7	18	19	76	10, 15
Geo. Pollard, do R.R. 2	Banner.....	17	15	8	14	21	75	10, 7
Wm. E. Welbourn, do .....	Sensation.....	16	15	7	16	20½	74½	10
Jas. Gay, do R.R. 2	Banner.....	11	17	8	18	16	70	10, 15
MADOC AGR. SOCIETY.								
<i>Judge—J. W. Hess, Trenton, R.R. 2.</i>								
John Keene, Eldorado .....	Gunson's G. Filler.	16	19½	8	19	22	84½	15
I. Broadworth, Madoc .....	Imp. Banner.....	15	20	8	19	21	83	
Jas. Caskey, do .....	O. A. C. 72.....	16	20	8	17½	21	82½	15
Herb. Blakely, Eldorado .....	Banner.....	16	19	8	17	22	82	
Jas. Moore, Queensboro .....	Granary Filler....	15	20	9	16½	20	80½	15
Henry Kells, Madoc .....	Banner.....	15	20	7	16½	21	79½	15
H. Tokley, Queensboro .....	do .....	14	20	7	18	20	79	15
Thos. Peck, Eldorado .....	Banner.....	14	19	8	17	20	78	15
Robt. McCann, do .....	do .....	14	18	8	17½	20	77½	
E. M. Comerford, do .....	O. A. C. 72.....	15	17	7	17	21	77	15
W. T. Harris, Madoc .....	Swedish Victory..	14	17	8	18	20	77	1, 15
John Smith, do .....	do .....	15	17	7	17	20	76	15
John Rollins, Cooper .....	Granary Filler....	14	18	7	16	21	76	
Samuel McCarry, Eldorado .....	Early Yields....	14	18	7	16	20	75	2, 15
J. A. Empey, do .....	do .....	13	15	7	17	20	72	

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OATS.

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HASTINGS.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
MAYNOOTH AGR. SOCIETY.								
<i>Judge—J. W. Hess, Trenton.</i>								
Jno. McAlpine, Sr., Maynooth ..	Banner.....	15	20	9	19	23	86	4
Hector Scott, do ..	Great Dane.....	15	23	8	18½	21	85½	
Chas. Kelusky, do ..	O. A. C. 72.....	16	21	7	19	22	85	15
Jas. McAlpine, Sr., do ..	Yel. Russian.....	15	22	7	19	21	84	
E. Douglas, Greenview .....	Bumper King.....	14	22½	6	19	22	83½	15
Jas. L. McLean, Maple Leaf ..	Banner.....	15	23	5	17	23	83	
Jos. H. Davis, do ..	Mammoth Cluster.	16	22	7	17	20	82	2
Jno. Hines, Maynooth .....	Granary Filler....	16	21	7	17½	20	81½	
Robt. Davis, Maple Leaf .....	Banner.....	14	22	7	17	21	81	10
Thos. Vanallan, do .....	do .....	14	22	6	17½	21	80½	
Jos. L. Gannon, Maynooth .....	do .....	14	20	8	18	20	80	
STIRLING AGR. SOCIETY.								
<i>Judge—S. H. Treverton, Belleville.</i>								
T. Montgomery, Sr., Stirling ..	Banner.....	18½	24	9	19	25	95½	
D. Fargey, W. Huntingdon .....	do .....	17½	22	9	18	23	89½	
Jas. A. Bailey, Harold .....	do .....	17	20	9½	18	22½	87	
M. Shea, Stirling .....	do .....	17½	21	9	18	21	86½	
C. M. Sine, do .....	Sensation.....	17	21	9	18	21	86	
A. Wilson, W. Huntingdon .....	O. A. C.....	17	20	9	18	21	85	
T. J. Thompson, Springbrook .....	do .....	17½	20	9	16	21½	84	
G. Thompson, Harold .....	Banner.....	15½	20	9	17	21	82½	
Roy Heath, do .....	do .....	16	20	9	18	19	82	4
C. W. Thompson Stirling .....	do .....	17½	19	9	16	19½	81	4
Geo. Richardson, Harold .....	Banner.....	16½	18	9	17	20	80½	4
E. O. Abbott, Frankford .....	White Wave.....	16	19	8	17	19	79	
Alex. Fargey, W. Huntingdon .....	do .....	15½	16	8	16	22	77½	
WOLLASTON AGR. SOCIETY.								
<i>Judge—S. H. Treverton, Belleville.</i>								
C. McGregor, Coe Hill .....	O. A. C. 72.....	18½	22	9	20	22½	92	
Herb. Moore, The Ridge .....	do .....	16½	21	9	18	21	85½	
D. Maitland, do .....	do .....	16½	20	9	17	21½	84	4
Jno. Gilroy, Coe Hill .....	Banner.....	16	20	8	18	20½	82½	
D. Henderson, The Ridge .....	O. A. C. 72.....	14½	20	9	17	21	81½	
Irvine Moore, Lake .....	Rennie's E. Yielder.....	15	17	9	17	21	79	4
H. Hennessy, Coe Hill .....	Banner.....	15½	19	8	16	20	78½	
A. Danforth, do .....	do .....	14	20	8	16	19	77	
R. J. Henderson, The Ridge .....	do .....	14½	16	8	16	21	75½	
A. Ingram, Faraday .....	do .....	13	17	8	16	19	73	
R. Hoard, The Ridge .....	O. A. C. 72.....	14	18	7	15	18	72	10

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OATS.

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			(20)	(25)	(10)	(20)	(25)	(100)	
<b>HURON.</b>									
BLYTH AGR. SOCIETY.									
<i>Judge—Lee Cascadden, Aylmer West.</i>									
D. Laidlaw, Blyth		Danish	18	23	10	17	22	90	15
J. & F. Laidlaw, Walton, R.R. 3		Reg. Banner	18	24	10	17	20½	89½	
Jno. Cuming, Blyth		Danish	19½	18	10	18	23	88½	1
J. W. Gray, do R.R. 1		Imp. Banner	19½	18	10	17	23	87½	1
Robt. Wightman, do		Bumper King	17	20	10	18	21¼	86¼	15
D. McCallum, do		O. A. C. 72	19	15	9	18	23	84	1,15,14
Duncan Laidlaw, Walton, R.R. 3		Banner	17	17	10	17	22½	83½	1,15
John Barr, Blyth		Imp. Banner	17	18	8	18	21	82	15
Jas. Jackson, do		do	17½	12	7	16	22	74½	1,15
<b>EAST HURON AGR. SOCIETY.</b>									
<i>Judge—Lee Cascadden, Aylmer.</i>									
Robt. Hoover, Brussels, R.R. 3		O. A. C. 72	19	22	10	18	23	92	1
Wm. R. Moses, Bluevale, R.R. 2		Golden Gem	17	24	10	17	23	91	15,14
R. L. Taylor, Brussels, R.R. 2		O. A. C. 72	20	20	10	18	22½	90½	1
L. Nichol, do R.R. 4		do	20	20	8	18½	23	89½	1
F. A. Kelly, Blyth, R.R. 2		Banner	16	24	9	18	22	89	15
L. E. Cardiff, Brussels		do	18	22	10	17	21½	88½	15,4
John Lowe, do R.R. 3		O. A. C. 72	16	22	10	18	22	88	1
H. Hoover, do R.R. 3		do	18	20	10	17	21	86	1
O. Turnbull, do R.R. 2		do	16	20	8	19	22	85	1
A. Lamont, do R.R. 3		do	16½	22	7	19	20	84½	15,4
J. Armstrong, do R.R. 3		do	19	15	9	18	23	84	1
Jno. Crerar, do R.R. 3		do	19	12	10	18	23	82	1
Wm. Armstrong, do		Golden Drop	18½	15	9	18	21	81½	1
R. L. McDonald, do R.R. 3		O. A. C. 72	17	18	6	17	23	81	15
A. G. Bishop, Ethel, R.R. 1		do	19½	12	10	17	22	80½	1,15
Ed. Fulton, Brussels, R.R. 2		do	15	15	10	18	22	80	1,2,15,14
O. Hemingway, do R.R. 3		do	15	17	8	18	21	79	1
Watson Brown, Listowel, R.R. 2		Imp. Banner	17	13	10	18	20	78	15,1
Thos. Ellis, Brussels, R.R. 5		Golden Dew Drop	16	13	8	18	21	76	1,2,15,14
<b>HOWICK AGR. SOCIETY.</b>									
<i>Judge—A. Forster, Markham.</i>									
Wm. Brown, Sr., Gorrie, R.R. 1		O. A. C. 72	19	24½	9½	19½	23½	96	15
Alex. McLaughlan, do R.R. 1		do	19	25	9½	19½	22½	95½	
T. & A. McKercher, Wroxeter		do	18½	24	16	19	23	94½	14
H. Sparling, Gorrie, R.R. 2		do	18½	24	9½	19½	22½	94	15
Chas. Dickert, do R.R. 1		Sterling	16	14½	9½	19	22	81	1,15
J. A. Edgar, Wroxeter		O. A. C. 72	18	10	10	19½	22	79½	1,15
A. W. Keil, Gorrie, R.R. 2		do	17½	10	9½	19½	22½	79	1
R. Wilkin, Palmerston, R.R. ..		do	18	9	9	19½	23	78½	1,15
G. Edgar, Gorrie, R.R. 2		do	17	10	9½	19½	22	78	1
Robt. Edgar, do R.R. 2		Amer. Banner	17½	10	9½	19½	21	77½	1
H. W. Edgar, do R.R. 2		O. A. C. 72	17½	9	9	19½	21½	77	1,2
Jno. Wylie, do		do	18	8	9½	19½	21½	76½	1,2
R. J. Sanderson, Fordwich		do	17	9	9½	19	21½	76	1,10

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
<b>HURON.—Continued.</b>		(20)	(25)	(10)	(20)	(25)	(100)	
<b>TURNBERRY AGR. SOCIETY.</b>								
<i>Judge—A. Forster, Markham.</i>								
Wm. Webster, Lucknow, R.R. 2	O. A. C. 72.....	18½	25	10	20	22	95½	
R. Wilton, Wingham, R.R. 1	do .....	18½	25	10	20	21½	95	
G. N. Underwood, do R.R. 1	Sensation.....	17	25	10	20	22	94	
Jno. Shiell, do R.R. 5	Yel. Russian.....	18½	24	10	19	22	93½	
J. W. Fortune, do R.R. 1	O. A. C. 72.....	19	21½	9½	19½	22½	92	2, 15
Jno. Armstrong, Belgrave .....	do .....	20	9	10	20	24	83	1, 15
A. Proctor, Brussels, R.R. 5.....	do .....	19½	10	10	20	23	82½	1
H. T. Perdue, Wingham, R.R. 5	do .....	17½	10	10	19½	22	79	1
O. Campbell, do R.R. 4	Tartar.....	17½	9½	10	19½	22½	79	1, 15
C. G. Campbell, do R.R. 4	Leviathan.....	17½	9½	10	19	22	78	1, 15
P. Leaver, do R.R. 3	O. A. C. 72.....	17½	9	9½	19½	21½	77	1, 15
Malcolm Ross, Lucknow, R.R. 5	Granary Filler....	16½	9	9½	19½	20½	75	1, 15, 14
<b>ZURICH AGR. SOCIETY.</b>								
<i>Judge—P. L. Fancher, Chatham.</i>								
O. Klopp, Zurich .....	O. A. C. 72.....	18	24	9½	19½	22	93	
Alex. Rannie, do R.R. 3.....	do .....	18	23	9	19	21½	90½	
W. C. Pearce, Hensall, R.R. 2...	do .....	18½	20	8½	19	22	88	
E. F. Klopp, Zurich .....	do .....	14½	22	9	19	20½	85	
J. A. Manson, do R.R. 1.....	Banner.....	17	20	9½	16	21½	84	1
C. Truemner, do R.R. 2.....	O. A. C. 72.....	18	14	9½	19	21½	82	2
E. G. Krueger, Dashwood .....	do .....	18	13	9	19	21	80	2
Louis Schilbe, Zurich, R.R. 2...	do .....	19	10	8	19½	23	79½	1
F. Willert, Dashwood .....	do .....	18	10	9	19½	21½	78	1
Wm. Thiel, Zurich, R.R. 3.....	do .....	18½	12	9½	15	21½	76½	1
<b>KENORA.</b>								
<b>DRYDEN AGR. SOCIETY.</b>								
<i>Judge—J. Alexander Brink, Fort William.</i>								
A. R. Hutchison, Dryden .....	O. A. C. 3.....	18	25	7	20	20	90	
T. H. Lewis, Oxdrift .....	Gold Rain.....	19	24	6	19	21	89	
S. Richardson, Dryden .....	do .....	16	23	8	18	20	85	
Jas. M. Hutchison, do .....	Great Ligowa....	18	23	5	16	22	84	
W. H. Martin, do .....	do .....	15	24	7	19	18	83	
John Hutchison, do .....	Victor.....	17	22	6	17	19	81	
E. W. Wice, do .....	Great Ligowa....	16	23	7	19	18	80	2
Wm. H. Devoe, Oxdrift .....	Victor.....	16	23	5	18	17	79	
A. Spencer, Eagle River .....	O. A. C. 3.....	18	24	5	10	21	78	
D. F. MacKenzie, do .....	Gold Rain.....	13	24	6	18	16	77	
A. W. Pollard, Dryden .....	Banner.....	12	24	6	18	16	76	
H. A. Skene, do .....	Gold Rain.....	12	24	8	18	14	76	
Jas. A. Reid, do .....	do .....	15	20	5	14	19	73	
A. E. Browning, Oxdrift .....	Abundance.....	16	20	7	12	17	72	
Wm. Morton, Dryden .....	Banner.....	15	22	6	12	17	72	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.			Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
KENCORA.— <i>Continued.</i>				(20)	(25)	(10)	(20)	(25)	(100)	
KENCORA AGR. SOCIETY.										
<i>Judge—R. A. Brink, Fort William.</i>										
Gould Bros.,	Kenora	.....	Banner.....	18	24	8	17	24	91	
G. H. Alcock,	do	.....	Victor.....	18	24	8	18	22	90	
Wm. Tew,	do	.....	Banner.....	17	24	9	15	23	88	
A. R. Ascough,	do	.....	do .....	18	22	4	18	23	85	
J. Sim,	do	.....	do .....	18	10	9	19	21	77	2, 4
Mrs. A. F. Brock,	do	.....	do .....	13	10	9	19	21	72	2, 15, 1, 4
S. Sundine, Keewatin	.....	.....	do .....	16	10	9	15	20	70	2, 15
KENT.										
WALLACEBURG AGR. SOCIETY.										
<i>Judge—R. J. Wilson, Charing Cross.</i>										
C. Crowe, Wallaceburg, R.R. 5			O. A. C. 72.....	18 <sup>1</sup> <sub>2</sub>	23	9 <sup>1</sup> <sub>2</sub>	18	23 <sup>1</sup> <sub>2</sub>	92 <sup>1</sup> <sub>2</sub>	
D. L. McCreary, do R.R. 2			Banner.....	17 <sup>1</sup> <sub>2</sub>	24	8 <sup>1</sup> <sub>2</sub>	19	22 <sup>1</sup> <sub>2</sub>	91 <sup>1</sup> <sub>2</sub>	
D. Crawford, Electric, R.R. 1..			Bonanza.....	16 <sup>1</sup> <sub>2</sub>	23	9 <sup>1</sup> <sub>2</sub>	19 <sup>3</sup> <sub>4</sub>	22 <sup>1</sup> <sub>2</sub>	90 <sup>3</sup> <sub>4</sub>	15
D. Coveny, do R.R. 1..			Imp. Banner.....	18 <sup>1</sup> <sub>2</sub>	23	9	17	22 <sup>1</sup> <sub>2</sub>	90 <sup>1</sup> <sub>2</sub>	
G. L. Mickle, Wallaceburg, R.R.2			Banner.....	17 <sup>1</sup> <sub>2</sub>	23 <sup>1</sup> <sub>2</sub>	9	18	22 <sup>1</sup> <sub>2</sub>	90	
Jno. Coveny, Electric .....			Imp. Banner.....	19 <sup>1</sup> <sub>2</sub>	20	9 <sup>1</sup> <sub>2</sub>	18	23	89 <sup>1</sup> <sub>2</sub>	15
O. Crowe, Wallaceburg, R.R. 5			O. A. C. 72.....	17 <sup>1</sup> <sub>2</sub>	22	9 <sup>1</sup> <sub>2</sub>	17 <sup>1</sup> <sub>2</sub>	22 <sup>1</sup> <sub>2</sub>	89 <sup>1</sup> <sub>2</sub>	
W. C. Gordon, Electric, R.R. 1..			Bonanza.....	16 <sup>1</sup> <sub>2</sub>	23	8 <sup>1</sup> <sub>2</sub>	18	22 <sup>1</sup> <sub>2</sub>	89	
Thos. Fox, do R.R. 1..			Banner.....	17 <sup>1</sup> <sub>2</sub>	22	9 <sup>1</sup> <sub>2</sub>	17	22 <sup>1</sup> <sub>2</sub>	88	15
J. E. Richardson, Wallaceburg, R.R. 2 .....			Reg. Banner.....	17	23	9	16 <sup>1</sup> <sub>2</sub>	21 <sup>1</sup> <sub>2</sub>	87 <sup>1</sup> <sub>2</sub>	
J. M. Langstaff, Tupperville, R.R. 3 .....			O. A. C. 72.....	17	23	6 <sup>3</sup> <sub>4</sub>	18 <sup>1</sup> <sub>2</sub>	22	87	
E. McFadden, Tupperville, R.R.3			do .....	17	22 <sup>1</sup> <sub>2</sub>	7	18 <sup>1</sup> <sub>2</sub>	22 <sup>1</sup> <sub>2</sub>	86 <sup>3</sup> <sub>4</sub>	
F. McCreary, Wallaceburg, R.R.2			Banner.....	16 <sup>1</sup> <sub>2</sub>	22	8	17 <sup>3</sup> <sub>4</sub>	21 <sup>1</sup> <sub>2</sub>	85 <sup>1</sup> <sub>2</sub>	1
Alex. McCreary, do R.R.2			do .....	17	21	9	15	21 <sup>1</sup> <sub>2</sub>	83 <sup>1</sup> <sub>2</sub>	15, 1
Chas. Harrett, do R.R.2			Siberian.....	17	20	8 <sup>1</sup> <sub>2</sub>	16 <sup>1</sup> <sub>2</sub>	21 <sup>1</sup> <sub>2</sub>	83	14, 15
LAMBTON.										
BROOKE AND ALVINSTON AGR. SOCIETY.										
<i>Judge—A. B. Rose, Echo Place.</i>										
Jas. Hand, Alvinston, R.R. 4			Banner.....	18	23 <sup>1</sup> <sub>2</sub>	8 <sup>1</sup> <sub>2</sub>	19	23	92	
F. W. Oke, do R.R. 2			O. A. C. 72.....	18	23	9	19	22 <sup>1</sup> <sub>2</sub>	91 <sup>1</sup> <sub>2</sub>	14
D. G. Maddock, do R.R. 7			Abundance.....	18	23	9	18 <sup>1</sup> <sub>2</sub>	22 <sup>1</sup> <sub>2</sub>	91	
Jas. McCallum, do R.R. 4			do .....	18	23	8	19	20 <sup>1</sup> <sub>2</sub>	90 <sup>1</sup> <sub>2</sub>	
T. H. Lovell, do R.R. 4			O. A. C. 72.....	18	23	8	19	21 <sup>1</sup> <sub>2</sub>	89 <sup>1</sup> <sub>2</sub>	
E. Reader, do R.R. 4			Bonanza.....	17 <sup>1</sup> <sub>2</sub>	22	9	18	22 <sup>1</sup> <sub>2</sub>	89	13
D. Hayter, do R.R. 4			Abundance.....	17	21 <sup>1</sup> <sub>2</sub>	8	19	23	88 <sup>1</sup> <sub>2</sub>	10
W. J. Bourne, do R.R. 1			do .....	17 <sup>1</sup> <sub>2</sub>	22	9	17	22	87 <sup>1</sup> <sub>2</sub>	
Herb. Darvill, do R.R. 7			Banner.....	17 <sup>1</sup> <sub>2</sub>	23	9	16	21 <sup>1</sup> <sub>2</sub>	87	14
L. W. Oke, do R.R. 2			Silver Mine.....	16	23	8	17	21	85	
Geo. Lightfoot, do R.R. 2			O. A. C. 72.....	15	23	7	19	20 <sup>1</sup> <sub>2</sub>	84 <sup>1</sup> <sub>2</sub>	13
H. A. Gilroy, do R.R. 6			Banner.....	15 <sup>1</sup> <sub>2</sub>	20	8 <sup>1</sup> <sub>2</sub>	18	20 <sup>1</sup> <sub>2</sub>	82 <sup>1</sup> <sub>2</sub>	15, 14
D. L. Fisher, do R.R. 2			O. A. C. 72.....	14	20	8	18	18	78	14, 4

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
LAMBTON.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
EAST LAMETON AGR. SOCIETY.								
<i>Judge—A. B. Rose, Echo Place.</i>								
Jno. Zavitz, Alvinston, R.R. 7..	Banner.....	16	24	7	19	20	86	
E. H. Shirley, Watford, R.R. 5	Silver Mine.....	17	20	8	18	21	84	4, 14
E. A. Kidd, do R.R. 3	Banner.....	17	18	8	19	21	83	4, 13
Geo. McCabe, Alvinston, R.R. 7	Silver Mine.....	15½	22	8	17	18½	81	14
W. S. Shugg, do R.R. 7	Abundance.....	15½	20	7	19	19	80½	
W. W. Taylor, do R.R. 7	O. A. C. 72.....	15½	18	7	18	20	78½	14
W. Annett & Sons, Watford, R.R. 3	Banner.....	14½	23	7	16	17½	78	14
Thos. Kidd, Watford, R.R. 3	do .....	15½	22	7	14½	17½	76½	
J. McCormick, do R.R. 5	do .....	13	20	7	16	18½	74½	
Edgar Pearslee, Alvinston, R.R. 7	Scotchman's Pride	14	19	7	14	18	72	4
PLYMPTON AND WYOMING AGR. SOCIETY.								
<i>Judge—J. A. Mallough, Dungannon.</i>								
Arch Smith, Wyoming, R.R. 3	O. A. C. 72.....	18	20	8	18	22½	86½	
Jos. Bryson, do R.R. 1	Banner.....	17	18	8½	19	22½	85	
H. Hunter, Petrolia, R.R. 3 ...	O. A. C. 72.....	16	20	8	18	22½	84½	
J. F. Donald, Wyoming, R.R. 1.	do .....	16	19	9	18	22	84	
R. S. Jardine, Camlachie, R.R. 2	Abundance.....	17	19	8	18	21½	83½	
Geo. A. Dewar, Wyoming, R.R. 2	Jewel.....	16	19	8	18	22	83	
Geo. Hartley, do R.R. 3	Heavy Weight....	16	18	8	18	22½	82½	
H. Bryson, do R.R. 2	O. A. C. 72.....	17	17	8	18	22	82	
Chas. Smith, do R.R. 3	do .....	15½	19	8	18	21	81½	
Richard Smith, do R.R. 3	do .....	16	17	8	18	22	81	1
Jas. Bryson, do R.R. 2	Banner.....	16	18	8	18	20½	80½	
A. S. Minielly, do R.R. 2	O. A. C. 72.....	16	17	8	18	21	80	
D. Dewar, do R.R. 3	Heavy Weight....	16	17	7½	17	19	76½	1
Harvey, Anderson, do R.R. 3	\$1,000.....	14	18	8	15	20	75	
Isaac Ferguson, do R.R. 3	Banner.....	13	18	8	16	19	74	
Thos. Anderson, do R.R. 3	do .....	13	18	7	15	20	73	
SOMBRA AGR. SOCIETY.								
<i>Judge—J. A. Mallough, Dungannon.</i>								
J. Johnston, Pt. Lambton, R.R. 1	Banner.....	18	21	9	18	22½	88½	
H. Sheller, do R.R. 2	O. A. C. 72.....	16½	19	8½	19	22	85	
J. C. Reid, Wallaceburg, R.R. 5	do .....	16½	19	8	18	22	83½	
A. Nottley, Sombra .....	do .....	16	18½	8	18½	22	83	
S. S. Deyo, Wallaceburg, R.R. 5	Wide-a-Wake....	17	18	8	17	22	82	4
Ed. Carrothers, Wilkesport ...	Imp. Banner.....	16	18	8	18	21	81	
Jas. A. Grant, Bickford, R.R. 1	Banner.....	15	18	8	18	21½	80½	14

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

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		(20)	(25)	(10)	(20)	(25)	(100)	
LAMBTON.— <i>Continued.</i>								
SOMBRA AGR. SOCIETY.— <i>Con.</i>								
R. Stenton, Pt. Lambton, R.R. 2	Abundance.....	15½	18	8	17	21½	80	
J. E. Dupuis, Sombra, R.R. 3..	O. A. C. 72.....	16	18	8	17	20½	89½	4
S. McDonald, Pt. Lambton, R.R.2	do .....	16	17	8	17	21	79	10
Bert Payne, Pt. Lambton ....	do .....	15	17	7	18	20½	77½	
J. T. Dawson, do .....	Wide-a-Wake.....	14½	17	8	17	20	76½	
R. Pretty, Bickford .....	Imp. Banner.....	16	15	7	16	21	75	10
J. C. McMillan, Pt. Lambton, R.R. 2 .....	O. A. C. 72.....	13	17	7	17	19½	73½	
Jno. McRae, Pt. Lambton, R.R. 2	do .....	13	17	8	17	18	73	
Peter Stenton, do R.R. 2	do .....	13	17	7	17	18	72	
LEEDS.								
BROCKVILLE AGR. SOCIETY.								
<i>Judge—S. G. Courlay, Kinburn.</i>								
J. D. Dack, Lyn .....	Granary Filler...	19	23	9	18	23	92	
Jos. Hudson, do .....	Newmarket.....	14	23	9	19	19½	84½	
Hill'rd Kendrick, Bellamy, R.R.1	Banner.....	17	23	6	18	19½	83½	
Geo. Jackson, Lyn .....	O. A. C. 72.....	17	22	7½	17	19½	83	
M. F. Horton, Bellamy, R.R. 1..	Banner.....	16½	19	7	17½	21	81	
J. W. Stewart, Lyn .....	do .....	15½	20	7	17	20½	80	
J. S. Moore, Bellamy, R.R. 1..	do .....	14	20	7	16	21	78	
D. J. Forth, Glen Buell .....	White Wave.....	13½	18	7	16	19	73½	
Fred. Kerr, Rockspring .....	Banner.....	14	18	6	17	18	73	
LANSDOWNE AGR. SOCIETY.								
<i>Judge—Cecil Schuyler, Brockville.</i>								
W. H. Rath, Lansdowne ....	20th Century.....	16	23	9	19	23	90	15
Geo. Loney, do .....	Washington.....	16½	22	9	18	22	87½	10
R. Breckenridge, do .....	Panner.....	15½	22	8	19	22	86½	
B. Cook, do .....	Mammoth Cluster.	16½	20	9	14	22½	82½	10
Jos. Shields, do .....	Banner.....	15½	22	9	16	19	81½	15
W. H. Bradley, do R.R. 4	20th Century.....	17½	17	9	16	21	80½	10
Robt. Steacy, do .....	Banner.....	15	19	9	17	20	83	10
R. N. Heaslip, do .....	do .....	14	17	9½	19	20	79½	10
Robt. Foley, do .....	do .....	17½	19	9½	12	21	79½	10, 15
R. E. Steacy, do .....	do .....	15½	16	8½	17	21½	78½	10, 15
R. Shields, do .....	do .....	13½	20	9	17	18½	78	10
W. Landon, do .....	Abundance.....	15½	14	9½	18½	20	77½	10, 15
H. McD. Gray, do .....	O. A. C. 72.....	14½	17	9	16	19	75½	10
W. O. Webster, Mallorytown ..	do .....	13½	15	9	18	19	74½	10
Geo. Ruttie, Lansdowne .....	Washington.....	15	18	9	13	18	73	10, 15

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

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		(20)	(25)	(10)	(20)	(25)	(100)	
LEEDS.— <i>Continued.</i>								
LOMBARDY AGR. SOCIETY.								
<i>Judge—Cecil Schuyler, Brockville.</i>								
Jno. Homer, Lombardy	O. A. C. 72	17 $\frac{3}{4}$	19	8	19 $\frac{1}{2}$	22 $\frac{1}{2}$	86 $\frac{3}{4}$	10
H. Chalmers, Smith's Falls	Banner	15 $\frac{3}{4}$	20	9	19 $\frac{1}{2}$	21 $\frac{1}{4}$	85 $\frac{1}{4}$	2
E. C. Kelly, Lombardy, R.R. 2	do	17 $\frac{1}{4}$	17	9 $\frac{1}{4}$	19	22	85	10, 15
J. N. McLean, do	O. A. C. 72	16	18	8 $\frac{3}{4}$	19 $\frac{1}{2}$	21 $\frac{1}{2}$	83 $\frac{3}{4}$	2
Jno. Duffield, do	Banner	14	24 $\frac{1}{2}$	8 $\frac{1}{2}$	17	19 $\frac{1}{2}$	83 $\frac{1}{2}$	15
H. R. Covell, do R.R. 1	do	14 $\frac{3}{4}$	21	8	19 $\frac{1}{2}$	19	82 $\frac{1}{2}$	15
Ed. O'Meara, do	do	16	15	7	19	20 $\frac{1}{2}$	77 $\frac{1}{2}$	2, 10, 15
F. Covell, do R.R. 1	do	13 $\frac{3}{4}$	23	8	12	17 $\frac{1}{4}$	74	
Dudley Joynt, do	White Wave	12	18	8	16	17 $\frac{1}{4}$	71 $\frac{1}{4}$	15
LINCOLN.								
CLINTON AGR. SOCIETY.								
<i>Judge—Alex. Morrison, Creemore.</i>								
J. A. Lind, Beamsville, R.R. 1	O. A. C. 72	18	22	9	19	23	91	10, 15
S. H. Culp, Vineland, R.R. 1	do	17	23	9	19	22 $\frac{1}{2}$	90 $\frac{1}{2}$	15
D. H. Moyer, do R.R. 1	do	17	23 $\frac{1}{2}$	8 $\frac{1}{2}$	19	22	90	
H. H. Tufford, Beamsville, R.R. 1	do	17	23	9	18	22	89	14
J. A. Book, do R.R. 2	Banner	17	22	8 $\frac{1}{2}$	18	22 $\frac{1}{2}$	88	14
H. L. Culp, do R.R. 1	O. A. C. 72	16 $\frac{3}{4}$	21	9	19	21 $\frac{1}{2}$	87	14, 15
A. W. Culp, do R.R. 1	do	15	22	9	18	22	86	15
Aubrey Fleming, do	do	16	21	9	18	21	85	
W. Honsberger, Jordan	do	15	20	7	18	22	82	
J. I. Merritt, Beamsville	do	15 $\frac{1}{2}$	19	9	16	21 $\frac{1}{2}$	81	14, 15
Curtis Haynes, Jordan	Banner	14	19	8	18	21	80	14, 15
D. Ryckman, Beamsville	O. A. C. 72	13	20	8	18	20	79	15
R. F. Martin, do R.R. 1	do	15	19	7 $\frac{1}{2}$	16	20 $\frac{1}{2}$	78	15
W. Boughner, do R.R. 2	Scottish Chief	14	18	7	17	20 $\frac{1}{2}$	76 $\frac{1}{2}$	
J. A. Miller, do	Golden Cluster	14	18	8	17	19	76	15
NIAGARA TOWN AND TP. AGR. SOCIETY.								
<i>Judge—Alex. Morrison, Creemore.</i>								
J. J. Craise, Niagara-on-the-Lake	Granary Filler	17	20	10	20	22	89	10
R. G. Dawson, Niagara, R.R. 2	Reg. Banner	17	20	9	19	23	88	10
C. S. Knox, do R.R. 2	Early Yielder	17	20	8	20	22	87	
J. D. Cooper, do R.R. 2	Imp. Banner	16 $\frac{1}{2}$	17	9	17 $\frac{1}{2}$	23	83	14, 15
Jas. Hope, do R.R. 1	O. A. C. 3	16	20	9	16	21	82	14
J. R. Murray, do	Reg. Banner	16 $\frac{1}{2}$	21	7 $\frac{1}{4}$	15	21	81	15
J. A. High, do R.R. 2	Sensation	16	19	8	15	21	79	
A. Muir, do R.R. 1	O. A. C. 72	15 $\frac{1}{2}$	18	8	16	19 $\frac{1}{2}$	77	14
J. Stewart, do R.R. 2	Ligowa	13 $\frac{1}{2}$	18	8	15	19 $\frac{1}{2}$	74	10, 14
A. E. Niven, do R.R. 2	Silver Mine	13 $\frac{1}{2}$	17	8	15 $\frac{1}{2}$	18	72	10, 14

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
MIDDLESEX.		(20)	(25)	(10)	(20)	(25)	(100)	
CARADOC AGR. SOCIETY.								
<i>Judge—Jas. Boyd, Markham.</i>								
F. Farrow, Mt. Brydges	O. A. C. 72	17	23	8	20	23	91	15
D. A. McNeill, Strathroy, R.R. 1	do	16	22	9	20	23	90	15
D. Campbell, Mt. Brydges, R.R. 2	do	17	23	8	19	22	89	8
Alex. Lamont, do R.R. 2	do	15	23	9	19	22	88	14, 15
M. S. Leitch, Strathroy	do	16	20	9	19	23	87	12, 14
Jno. Walker, Mt. Brydges, R.R. 2	do	15	22	8	19	21	85	15
J. T. Crawford, Strathroy, R.R. 1	do	13	21	8	19	20	81	15
Archie Graham, do R.R. 1	Silver Mine	15½	23	8	10	23	79½	
EAST MIDDLESEX AGR. SOCIETY.								
<i>Judge—Jas. McLean, Richmond Hill.</i>								
J. Murray, Wilton Grove, R.R. 1	O. A. C. 72	18	23	8½	19½	23½	92½	3, 15
W. Hueston, Thorndale	Banner	18	23	8½	19	23	91½	14, 15
And. Cornish, Ealing	O. A. C. 72	18	22	8½	19	23½	91	3, 15
Chas. Hunt, Dorchester	do	18	20	9	18	22	87	3, 7, 14, 15
And. Irwin, do R.R. 1	Banner	17½	22	8	17	21	85½	3
Thos. Barrie, do R.R. 1	O. A. C. 72	17	20	7½	19	21	84½	15
Gordon Harris, do	Banner	16½	20	7½	18½	21	83½	15
J. H. Wheaton, Thorndale, R.R. 2	O. A. C. 72	15	21	8	17½	20½	82	
G. B. Laidlaw, Wilton Grove, R.R. 1	do	16	21	8½	15	21	81½	15
Jno. Armitt, Hyde Park	Banner	15	20	8	18½	18½	80	14, 15
Wm. Bell, London, R.R. 8	do	16½	19	8	14½	21½	79½	1
J. W. Laidlaw, Wilton Grove, R.R. 2	do	12½	21	8½	18	19	79	3, 15
Jas. Weir, Dorchester, R.R. 1	Banner	14	17	6½	18	20	75½	1, 15
E. Vinning, Belton	do	15	10	8½	17	22	72½	1, 4, 5, 15
LONDON TP. AGR. SOCIETY.								
<i>Judge—Jas. Boyd, Markham.</i>								
Jno. Armitt, London, R.R. 3	Amer. Banner	17	23	9	19	23	91	14, 15
G. Pincombe, Strathroy, R.R. 1	O. A. C. 72	17	22	8	19	23	89	14, 15
C. W. Hobbs, Denfield, R.R. 4	do	17	21	9	19	22	88	15
Jas. Smibert, Ettrick, R.R. 1	do	16	23	7½	19	22	87½	14, 15
P. L. Graham, Ilderton, R.R. 2	Wyatt	16	23	8	18	22	87	15
Geo. Charlton, Denfield, R.R. 1	do	16	22	8	18	22	86	15
R. S. Douglas, Ilderton, R.R. 2	E. Sensation	14	23	8	19	21½	85½	15
V. Wilson, Lobo	O. A. C. 72	14	23	8	18	22	85	15
B. Kennedy, Ilderton, R.R. 4	do	15½	19	9	19	22	84½	1, 15
R. Dale, do R.R. 2	A. Banner	14	22	8	18	22	84	15
W. W. Kerr, Denfield, R.R. 4	O. A. C. 72	14½	20	8	19	22	83½	15
W. T. Whillans, Ilderton, R.R. 2	do	15	20	8	18	22	83	10, 15
A. C. Hodgins, Denfield, R.R. 4	White Jewel	17	20	8	14	22½	81½	15
C. McNair, do	Mortgage Lifter	15	19	8	17	22	81	2, 15

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
MIDDLESEX.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
LONDON TR. AGR. SOCIETY.— <i>Con.</i>								
J. Walls & Sons, Denfield, R.R. 4	E. Derby	14	20	8	16½	22	89½	15
Alex. Stewart, Ilderton, R.R. 1	O. A. C. 72	17	16	8	17	22	80	1
E. Caverhill, do R.R. 1	do	16	14	9	18	22	79	1, 15
Jas. Cossant, Etrick, R.R. 1	do	11	15	7	18	20	71	1, 15
MCGILLIVRAY AGR. SOCIETY.								
<i>Judge—J. H. McKee, Shelburne, R.R. 4.</i>								
A. Stewart & Sons, Ailsa Craig R.R. 3	O. A. C. 72	17½	23	9½	20	23½	93½	
F. J. Neil, Ailsa Craig	Banner	18	24	9	19	22½	92½	
W. T. Corbett, do R.R. 2	O. A. C. 72	18	21½	8	19½	23	90	15
A. B. Erskine, Parkhill, R.R. 8	do	17½	21	8½	17½	23	87½	15
J. Darling & Sons, do R.R. 8	Banner	17½	20	9	19	21½	87	
Jas. Gibson, Ailsa Craig	do	17	21½	9	16	22	85½	
J. J. Amos, Parkhill, R.R. 8	do	16½	22	8½	17	21	85	15
E. Faulder, Ailsa Craig, R.R. 2	O. A. C. 72	15½	22	6½	19	21	84	15
Jno. Dixon, do R.R. 2	do	17	13	8½	19	23½	81	1
W. T. & O. Amos, Parkhill, R.R. 8	Banner	16	21	6	12	21	76	
E. Darling, Clandeboye, R.R. 1	do	16½	14	8	13	21	72½	1
MELBOURNE AGR. SOCIETY.								
<i>Judge—A. Forster, Markham.</i>								
C. McCallum, Appin	O. A. C. 72	19	24½	10	18	24	95½	
C. B. McLean, Melbourne	do	18	24½	9½	20	23	95	15
A. F. Laidlaw, do	O. A. C. 72	17½	24	9½	19½	22½	93	15
W. P. Corneil, Appin	do	17½	24	9	19	23	92½	
F. Eaton, do	do	17	24	9	19½	22½	92	
G. Hyndman, Melbourne	do	17½	24	9	19	22	91½	15
D. A. McLean, do	do	17	24	9½	19	21½	91	14
W. Stevenson, do	A. Banner and O. A. C. 72	16½	23½	9½	18	22	89½	
R. Eaton, Appin	O. A. C. 72	15½	23½	9	19	22	89	14
H. Mullens, Melbourne	Dalmeny	16½	23	9½	18½	21½	89	15
H. A. Fletcher, do	O. A. C. 72	16	23	9	18	20	86	15
MOSA AND EKFRID AGR. SOCIETY.								
<i>Judge—S. M. Pearce, Fingal, R.R. 1.</i>								
D. N. Munro, Glencoe	O. A. C. 72	17½	23	9	19	20½	89	14
D. McKellar, do	do	17	22	8	19	21	87	14, 15
Jas. McRae, do R.R. 3	do	17	20	9½	18	21	85½	15
W. McCutcheon, do	do	17	22	7½	19	19½	85	14
T. Henderson, do	Granary Filler	14	23	9½	19	19	84½	15
McKellar Bros., do	Ligowa	16	21	8½	18	20½	84	14

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
MIDDLESEX.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
MOSA AND EKFRID AGR. SOCIETY. — <i>Continued.</i>								
G. McMurchy, Glencoe	Banner	15 $\frac{1}{2}$	20	10	18	20	83 $\frac{1}{2}$	14, 15
A. Gillies & Bros., do	Reg. Banner	15	22	8	18	20	83	14
Jas. Walker, do	Banner	15	22	7	17	21 $\frac{1}{2}$	82 $\frac{1}{2}$	
Jno. Gould, do	E. Ligowa	15 $\frac{1}{2}$	21	9	15	20	80 $\frac{1}{2}$	15
D. J. McKellar, do	Silver King	16 $\frac{1}{2}$	18	9	16	20	79 $\frac{1}{2}$	15
NORTH MIDDLESEX AGR. SOCIETY.  <i>Judge—Jas. H. McKee, Shelburne, R.R. 4.</i>								
Jno. Oliver, Ilderton	Wyatt	18	24	9 $\frac{1}{2}$	19	21 $\frac{1}{2}$	92	
Wm. Dixon, Ailsa Craig	O. A. C. 72	18	22 $\frac{1}{2}$	8	19	23	90 $\frac{1}{2}$	
D. Macarthur, do	Banner	17	23	9 $\frac{1}{2}$	19 $\frac{1}{2}$	21	90 $\frac{1}{2}$	15
C. Lynn, Clandeboye	do	17 $\frac{1}{2}$	23 $\frac{1}{2}$	9	18	21 $\frac{1}{2}$	89 $\frac{1}{2}$	
A. E. Rosser, Ailsa Craig	O. A. C. 72	16 $\frac{1}{2}$	23	9 $\frac{1}{2}$	17 $\frac{1}{2}$	22	88 $\frac{1}{2}$	
Hughes Bros., Denfield	do	18	22	9 $\frac{1}{2}$	16	22 $\frac{1}{2}$	88	15
Geo. Grieve, Clandeboye	do	17	20	9 $\frac{1}{2}$	18	22	86 $\frac{1}{2}$	1
Gilbert Grieve, Denfield	do	18	16	9 $\frac{1}{2}$	19	22 $\frac{1}{2}$	85	1
C. Bean, Ailsa Craig	Banner	16 $\frac{1}{2}$	23	5	19	21	84 $\frac{1}{2}$	15
Percy Robinson, do	Czar	18	15	9	18 $\frac{1}{2}$	22 $\frac{1}{2}$	83	1, 15
E. I. Hughes, do	O. A. C. 72	17	18	5	18 $\frac{1}{2}$	22 $\frac{1}{2}$	81	1
Jas. McFarlane, do	Abundance	18	11	8	18	22 $\frac{1}{2}$	77 $\frac{1}{2}$	1
STRATHROY AGR. SOCIETY.  <i>Judge—S. M. Pearce, Fingal, R.R. 1.</i>								
W. B. Ferguson, Strathroy	O. A. C. 72	18	22	8	19	23	90	15
M. Toohill, do	Banner	17 $\frac{1}{2}$	24	8	19	19 $\frac{1}{2}$	88	15
Allen McDougall, do	O. A. C. 72	16 $\frac{1}{2}$	23	8	19	21	87 $\frac{1}{2}$	14
Dugald Leitch, do	do	16	21	9	20	21	87	
W. H. Oakes, do	Banner	18	21	9	19	19 $\frac{1}{2}$	86 $\frac{1}{2}$	15
Jas. Sabine, do	O. A. C. 72	17	22	7	19	21	86	15
Hy. Thompson, do	Victor	16	24	7	18	20 $\frac{1}{2}$	85 $\frac{1}{2}$	
J. Ogg & Sons, do	Banner	17	22	8	18	19 $\frac{1}{2}$	84 $\frac{1}{2}$	15
D. M. McNeill, do	O. A. C. 72	16 $\frac{1}{2}$	19	9	19	20 $\frac{1}{2}$	84	14
Angus Limon, do	do	16 $\frac{1}{2}$	18	9	19	20 $\frac{1}{2}$	83	12, 14, 15
Alf. Fonger, Ilderton	Siberian	18 $\frac{1}{2}$	13 $\frac{1}{2}$	7 $\frac{1}{2}$	19	21 $\frac{1}{2}$	80	1, 15
UNITED INDIAN AGR. SOCIETY.  <i>Judge—A. Forster, Markham.</i>								
Jos. Antone, Southwold	O. A. C. 72	18	24	9 $\frac{1}{2}$	20	22	93 $\frac{1}{2}$	
Sam. Thomas, Muncey	do	19	24	9 $\frac{1}{2}$	17 $\frac{1}{2}$	23	93	10
Thos. Riley, Christina	O. A. C. 72	18	23	9 $\frac{1}{2}$	20	22	92 $\frac{1}{2}$	5
Geo. Dolson, Melbourne	do	18	23	9 $\frac{1}{2}$	19	22 $\frac{1}{2}$	92	5, 14, 15
Thos. Summers, Muncey	do	18	23	9 $\frac{1}{2}$	19 $\frac{1}{2}$	21 $\frac{1}{2}$	91 $\frac{1}{2}$	10

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
		(20)	(25)	(10)	(20)	(25)	(100)	
<b>MIDDLESEX.—Continued.</b>								
<b>UNITED INDIAN AGR. SOCIETY.</b>								
<i>—Continued.</i>								
J. Sutherland, Muncey	O. A. C. 72	16 $\frac{1}{2}$	24	9 $\frac{1}{2}$	20	21	91	10
Wesley Henry, do	do	17 $\frac{1}{2}$	23	9	19	21 $\frac{1}{2}$	90	14, 15
P. Schuyler, do	do	17	22	9	20	21	89	10
E. Hill, Melbourne	do	16 $\frac{1}{2}$	22	10	19	21 $\frac{1}{2}$	89	10
Lilian Powles, Muncey	do	17	23	9 $\frac{1}{2}$	18	20 $\frac{1}{2}$	88	10
J. A. Riley, Christina	20th Century	15	23	10	19	20 $\frac{1}{2}$	87 $\frac{1}{2}$	5
A. J. Smith, Muncey	O. A. C. 72	17	21	9	19 $\frac{1}{2}$	20 $\frac{1}{2}$	87	10
A. Webster, Southwold	do	16	23	9 $\frac{1}{2}$	18	20 $\frac{1}{2}$	87	10
Job. Fisher, Muncey	O. A. C. 72	15 $\frac{1}{2}$	22	9	20	20 $\frac{1}{2}$	87	14, 15
Abram Antone, Southwold	do	17	22 $\frac{1}{2}$	9	17 $\frac{1}{2}$	20 $\frac{1}{2}$	86 $\frac{1}{2}$	14
Jos. Young, Christina	O. A. C. 72	16	21	9 $\frac{1}{2}$	18	21 $\frac{1}{2}$	86	5
Louis Delaney, Muncey	do	16 $\frac{1}{2}$	20	9	19	21 $\frac{1}{2}$	86	15
Jos. Waddilove, Middlemiss	do	16	20	9	19	21 $\frac{1}{2}$	85 $\frac{1}{2}$	5, 14
S. Miskokoman, Muncey	Amer. Banner	15 $\frac{1}{2}$	22	9 $\frac{1}{2}$	18	20 $\frac{1}{2}$	85 $\frac{1}{2}$	10, 15
Smith Antone, do	O. A. C. 72	15	20	9 $\frac{1}{2}$	20	20 $\frac{1}{2}$	85	5, 10
Eli Snake, Middlemiss	do	16 $\frac{1}{2}$	22	8 $\frac{1}{2}$	16	21 $\frac{1}{2}$	84 $\frac{1}{2}$	14
S. Delaney, Muncey	do	16	19	9	19	21	84	10, 15
Geo. French, Christina	do	15 $\frac{1}{2}$	20	9	18	21 $\frac{1}{2}$	84	5, 14, 15
D. Duval, Muncey	do	15 $\frac{1}{2}$	19	9	18	20 $\frac{1}{2}$	82	5, 15
E. Burch, do	Amer. Banner	13 $\frac{1}{2}$	20	9	19	19 $\frac{1}{2}$	81	10, 15
Elizabeth Cady, do	O. A. C. 72	19	10	9 $\frac{1}{2}$	19	22 $\frac{1}{2}$	80	1
O. DeLearey, do	do	14 $\frac{1}{2}$	18	9	18	20	79 $\frac{1}{2}$	5, 10
E. Waddilove, Middlemiss	do	12	20	9	19	19	79	14
Myles McDougald, Melbourne	do	16	10	9	19	21	75	1
A. D. Fisher, Middlemiss	do	14 $\frac{1}{2}$	13	8 $\frac{1}{2}$	18	20	74	
<b>WESTMINSTER AGR. SOCIETY.</b>								
<i>Judge—Jas. McLean,</i>								
<i>Richmond Hill.</i>								
F. Bodkin, Wilton Grove, R.R. 2	O. A. C. 72	18	23	8 $\frac{1}{2}$	19 $\frac{1}{2}$	23	92	10, 15
Fred. Poole, Lambeth	do	17 $\frac{1}{2}$	22	8 $\frac{1}{2}$	19	22 $\frac{1}{2}$	89 $\frac{1}{2}$	14, 15
O. D. Griffith, do R.R. 3.	do	16	24	8	19	22	89	
Hy. Bennett, Glanworth	do	16 $\frac{1}{2}$	22 $\frac{1}{2}$	8	19 $\frac{1}{2}$	22	88 $\frac{1}{2}$	14, 15
V. Fisher, Wilton Grove	do	16	22	8	19	21 $\frac{1}{2}$	86 $\frac{1}{2}$	14, 15
A. Baker, Lambeth, R.R. 3	Mammoth Cluster	16 $\frac{1}{2}$	22	8	16	22	84 $\frac{1}{2}$	15
W. E. Wright & Son, Glanworth	Banner	16 $\frac{1}{2}$	23	7	16	21	83 $\frac{1}{2}$	14, 15
G. Campbell, Lambeth, R.R. 3.	O. A. C. 72	17 $\frac{1}{2}$	21 $\frac{1}{2}$	7 $\frac{1}{2}$	13	22	81 $\frac{1}{2}$	14, 15
Fred. Adams, do R.R. 3.	do	14	19	8 $\frac{1}{2}$	17 $\frac{1}{2}$	21	80	14, 15
<b>MUSKOKA.</b>								
<b>MEDORA AND WOOD AGR. SOCIETY.</b>								
<i>Judge—Geo. W. Glover, Nottawa.</i>								
A. Mitchell Bardsville	O. A. C. 72	18 $\frac{1}{2}$	24 $\frac{1}{2}$	9 $\frac{1}{2}$	19 $\frac{1}{2}$	24	96	
Jno. Smith, Brackenrig	Garton's							
	Abundance	16	24 $\frac{1}{2}$	9 $\frac{1}{2}$	19 $\frac{1}{2}$	22 $\frac{1}{2}$	92	
W. A. Pooler, Port Carling	G. A. C. 72	15 $\frac{1}{2}$	24	10	19 $\frac{1}{2}$	22 $\frac{1}{2}$	91 $\frac{1}{2}$	
Wm. Green, Bardsville	Reg. Banner	14 $\frac{1}{2}$	24 $\frac{1}{2}$	9 $\frac{1}{2}$	19 $\frac{1}{2}$	22	90	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

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<b>MUSKOKA.—Continued.</b>		(20)	(25)	(10)	(20)	(25)	(100)	
<b>MEDORA AND WOOD AGR. SOCIETY.—Continued.</b>								
Wm. Chambers, Bardsville .....	Imp. Scotch.....	14½	23½	9½	19½	22	89	
Wm. R. Mason, do .....	do .....	13½	24½	9½	19½	21½	88½	
D. G. Fraser, Brackenrig .....	do .....	15	22	9½	19½	22	88	
W. K. Foreman, Port Carling ..	O. A. C. 72.....	12	24½	10	20	20½	87	10
H. J. Foulkes, Brackenrig .....	Reg. Banner.....	12½	24½	9½	19½	21	87	
H. L. Riley, Milford Bay .....	O. A. C. 72.....	11½	24½	10	20	20½	86½	
T. W. Knight, Brackenrig .....	do .....	9½	25	9½	19½	19½	83	
Alex. Ennis, Port Carling .....	do .....	9½	23½	9½	20	19½	82	10
R. D. Riley, Milford Bay .....	do .....	16½	9½	10	20	23	79	2
D. Brown, Port Carling .....	Banner.....	10	20	9½	19	19½	78	
R. C. Harris, do .....	do .....	13	9	10	19	21½	72½	10, 1
<b>NORTH MUSKOKA AGR. SOCIETY.</b>								
<i>Judge—R. Murphy, Alliston.</i>								
Jas. E. May, Ravenscliffe .....	Siberian.....	17	23	9	14	21	84	
Stanley Martin, do .....	O. A. C. 72.....	16½	20	8½	18	20½	83½	4
Gordon Hill, Hillside .....	Banner.....	17½	18	8	17½	22	83	10, 4
C. A. Brown, Jr., Huntsville ...	do .....	17½	22	8	17	16	80½	15
Jno. Pleace, do .....	Scottish Pride....	15½	20	8	16	20½	80	1
Jos. Bradley, Allensville .....	O. A. C. 72.....	15½	20	8	16	20	79½	4
F. A. Cochrane, Huntsville .....	Banner.....	15½	20	8	16	19	78½	10
Allan Brown, do .....	Rennie's Early Yielder.....	15½	10	9	18	20	72½	4
<b>SOUTH MUSKOKA AGR. SOCIETY.</b>								
<i>Judge—David Smith, Smithdale.</i>								
P. C. Kaye, Bracebridge .....	O. A. C. 72.....	18½	22	8	18	22	88½	
Chas. H. Kaye, do .....	do .....	18	22	8	19	21	88	
H. L. Goltz, Bardsville .....	do .....	17	22	8	18	22	87	15
Alex. Barron, Bracebridge .....	Banner.....	17	22	9	18	20½	86½	
Thos. Bruce, do .....	Abundance.....	16½	22	8	18	20½	85	
H. Richard, do .....	Imp. Scotch.....	17	20	8	16	21	82	15
Geo. F. Armstrong do .....	Russian Yellow...	16½	20	8	17	20	81½	15
J. Byron Kaye, do .....	O. A. C. 72.....	16	22	8	18	16½	80½	
R. A. Goltz, Bardsville .....	Imp. Scotch.....	15½	21	7	18	18½	80	15
Wm. McNabb, Bracebridge .....	O. A. C. 72.....	15½	21	6	19	18	79½	
J. J. Beaumont & Sons, do .....	Siberian.....	14½	20	9	17	18	78½	
Mrs. G. Yearley, Falkenburg ..	Imp. Scotch.....	15	22	7	17	17	78	15
Wm. Ball, Bracebridge .....	Banner.....	17½	18	8	15	19	77½	1
H. B. Buckerfield, do .....	20th Century.....	14	21	7	18	16	76	
<b>STEPHENSON AND WATT AGR. SOCIETY.</b>								
<i>Judge—R. Murphy, Alliston.</i>								
H. Putnam, Ullswater .....	O. A. C. 72.....	16½	22	8½	18	22	87	
N. Hammill, Raymond .....	Reg. Banner.....	16	22	7½	18	21½	85	4
A. Kay, Port Sydney .....	O. A. C. 72.....	16	21	8	18	21½	84½	10

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
<b>MUSKOKA.—Continued.</b>		(20)	(25)	(10)	(20)	(25)	(100)	
<b>STEPHENSON AND WATT AGR. SOCIETY.—Continued.</b>								
Chas. Nicol, Port Sydney	Early Russian	15	24	8	18	19	84	
Thos. Hammill, Raymond	Reg. Banner	16	21	7½	18	20½	83	4
Jas. McKenzie, do	do	15	22	7½	18	20	82½	
W. Hamilton, do	20th Century	16	23	8½	14	20	82	4
A. E. Watson, Port Sydney	O. A. C. 72	14½	24	7	17	19	81½	
H. Creasor, Ullswater	Imp. Scotch	15½	18½	8½	18	20½	81½	4, 10
H. Rawson, Raymond	Reg. Banner	16	18½	7½	17	22	81	
Leslie Bunn, Ullswater	O. A. C. 72	15½	18	8½	18	20½	80¾	4
Geo. Hammell, Raymond	Reg. Banner	15½	19	7½	17½	21	80	4
W. J. Patterson, Utterson	O. A. C. 72	15½	21	7	17½	19	80	
Jno. McNicol, Allensville	Amer. Banner	14	22	7	18	18	79	
H. Patterson, Utterson	Reg. Banner	14	20	7	18	19½	78½	
W. Hares, Allensville	O. A. C. 72	16	19	7	16	20	78	
Wm. J. Hammell, Raymond	Reg. Banner	15	17	8	17½	20	77½	10, 4
Geo. Wingfield, Utterson	O. A. C. 72	15	15	8	18½	20	76½	10
J. M. Patterson, do	Reg. Banner	14	19	7	17	19	76	10
Jas. H. McNicol, Allensville	Amer. Banner	13½	22	7	16	17	75½	
Chas. Oldham, Ufford	O. A. C. 72	16	10	8	17	20½	71½	1, 4
Thos. Graham, Raymond	Amer. Banner	16	10	7½	18	19	70½	
<b>NIPISSING.</b>								
<b>BONFIELD AGR. SOCIETY.</b>								
<i>Judge—J. D. McKenna, Loretto.</i>								
J. A. Boivin, Bonfield	O. A. C. 72	15	23	8	18	21	85	15
P. Boissonneault, Great Desert	do	16	23	8	17	20	84	15
E. Beaulieu, Bonfield		16	20	8	18	21	83	15, 17
A. Boissonneault, Great Desert		16	20	8	15	21	80	10
F. Boulanger, do		13	22	8	18	18	79	15
O. Foisy, Bonfield		17	16	8	16	21	78	4, 17
P. Tremblay, Great Desert		14	16	8	18	20	76	10
Geo. Proulx, Bonfield		16	15	8	15	21	75	4, 10
Geo. Quinn, Great Desert		16	15	7	18	28	74	10, 15
Thos. McNulty, Bonfield	Banner	16	18	7	14	18	73	15, 17
H. Foisy, Bonfield	Siberian	14	15	9	15	19	72	4, 15, 17
<b>NORFOLK.</b>								
<b>COURTLAND AGR. SOCIETY.</b>								
<i>Judge—C. W. Buchanan, Dutton.</i>								
V. McDonald, Tillsonburg, R.R. 1	Banner	16¾	22	8½	22	21½	90½	14
G. B. Ryan, do R.R. 4	O. A. C. 72	16¾	22	9½	19	20½	87¾	
G. Albright, Delhi, R.R. 3	Banner	16¾	22	7	16	21	82¾	15
J. F. Robinson, Courtland	O. A. C. 72	14½	19	8	19	19½	80	15, 14
M. Ostrander, do	English	16½	21	8½	14	18½	78½	
Jacob Nunn, do R.R. 2	Banner	16	20	8	16	18	78	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
		(20)	(25)	(10)	(20)	(25)	(100)	
NORFOLK.— <i>Continued.</i>								
COURTLAND AGR. SOCIETY.— <i>Con.</i>								
J. T. Simmons, Courtland, R.R. 2	O. A. C. 72.....	16	21	8½	14	18	77½	14
Peter Mabee, Tillsonburg, R.R. 4	do .....	13½	22	8	16	17½	77½	
A. Swinn, do R.R. 1	do .....	15	19	7	17½	18½	77	14
R. W. Dick, do R.R. 1	do .....	13½	20	8½	18	16½	76½	
W. A. Buckner, Delhi, R.R. 3..	Banner.....	15½	18	8	16	16½	74	
NORFOLK AGR. SOCIETY.								
<i>Judge—F. D. Shaver, Toronto.</i>								
Geo. Erwin, Simcoe, R.R. 4	Banner.....	18	24	9½	19½	24	95	
W. H. Mason, do R.R. 4	O. A. C. 72.....	19	23½	9	19	24	94½	
P. Potts, do R.R. 3	do .....	17½	24	9	20	22½	93	
Wm. Woodley, Waterford, R.R. 3	do .....	17½	23	9	18	23	90¾	
Leo Challand, Simcoe, R.R. 5	do .....	17½	23	9	17	23	89½	
Wm. E. Mason, do R.R. 4	do .....	17½	21	9	18	23½	88¾	10, 14
J. Austin & Son, do R.R. 3	do .....	18	19	9½	18	23	87½	10
Nelson Hall, Villa Nova .....	Banner.....	17	21	9	17	22½	86½	14
H. Nunn, Port Dover, R.R. 2..	Waterloo.....	17	20	9	17	22	85	10
H. Downing, Nixon, R.R. 1 ...	Abundance.....	17	20	8½	16	22½	84	
B. Wilson, Wilsonville .....	O. A. C. 72.....	17½	18	8½	17	22½	83½	14
W. Z. Nixon, Simcoe, R.R. 5 ..	Waterloo.....	16	19	8	17	22	82	8.1+
NORTHUMBERLAND.								
SEYMOUR AGR. SOCIETY.								
<i>Judge—D. English, Burketon.</i>								
Chas. Bonnycastle, Campbellford	O. A. C. 72.....	20	23	8	20	23	94	15
Chas. Bedford, do ....	Sheffield Standard	18½	20	8	20	23	89½	10
C. A. Loucks, do ....	Granary Filler....	17	22	8	20	22	89	
W. J. Ross, Myersburg .....	O. A. C. 72.....	17	22	8	17½	23	87½	15
W. Whitton, Campbellford, R.R. 3	Mammoth Cluster.	28	18	10	16	23	87	10, 15
Thos. Dunham, do R.R. 4	O. A. C. 72.....	15	18	8	20	23	84	10
Alex. Hume, do R.R. 3	do .....	16	18	8	18	23	83	10, 15
Jno. S. Wallace, do R.R. 5	Rennie's E. Yielder.....	17	20	8	16	20	81	15
D. C. West, do R.M.D.	O. A. C. 72.....	14½	16	8	17	22½	78	10
A. H. McColvie, do R.R. 4	do .....	15½	16	7	17	21	76½	10, 15
Benj. Hopp, do R.R. 5	do .....	13½	20	7	16	19	75½	10
Wm. Rannie, do R.R. 3	do .....	10	17	7	18	20	72	10, 15
WOOLER AGR. SOCIETY.								
<i>Judge—D. English, Burketon.</i>								
H. Scott, Wooler .....	O. A. C. 72.....	20	18	7	17	23	85	10
L. A. Dalmas, do .....	do .....	19	14	10	16	21	80	10, 15, 2
L. C. McColl, do .....	Banner.....	16½	15	10	15	23	79½	10, 15, 4
David Teal, do .....	O. A. C. 72.....	15½	15	6	15	22	73½	10, 14
W. Wessels, Trenton .....	Abundance.....	14½	17	8	15	18	72½	10, 15, 2
R. E. McMaster, Hilton .....	O. A. C. 72.....	12½	15	8	18	18	71½	10, 2
J. N. Dalmas, Wooler .....	do .....	15	15	7	17	17	71	10, 15

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	Yield and quality of grain.	Totals of scores.	!Weeds in competitors' fields.
		(20)	(25)	(10)	(20)	(25)	(100)	
<b>ONTARIO.</b>								
<b>SCOTT AGR. SOCIETY.</b>								
<i>Judge—Geo. McKague, Woodville.</i>								
Thos. Sellers, Zephyr .....	Abundance.....	18½	23	9½	19	22	92	15
W. J. Rynard, do .....	do .....	18½	23	9	19	22	91½	15
Geo. R. A. Miller, Sunderland ..	do .....	18	24	9½	17½	22	91	15
F. Feasby, Uxbridge, R.R. 1....	O. A. C. 72.....	18½	22	9	19	22	90½	4
J. H. Lockie, Zephyr .....	Abundance.....	18½	21	9½	19½	21½	90	1
Wm. Riseborough, Sandford ..	O. A. C. 72.....	18	22	7½	20	21½	89	15
Jno. Miller, Sunderland, R.R. 2	do .....	19	17	9½	18	22	85½	1,15
E. O. Moore, Uxbridge, R.R. 1..	Banner.....	19	12	8	19½	21½	80	10,1,4
Geo. Weller, Zephyr .....	Imp. Banner.....	17½	13	9½	18	21½	79½	15,2,1
T. H. Oliver, Uxbridge, R.R. 1..	O. A. C. 72.....	17½	12	7	17	21½	75	1,15,4
<b>OXFORD.</b>								
<b>EAST NISSOURI AGR. SOCIETY.</b>								
<i>Judge—Jas. Boyd, Markham.</i>								
W. J. Hogg, Thamesford, R.R. 2	O. A. C. 72.....	17	22	9	19	24	91	15
Jno. Bradshaw, do R.R. 2	do .....	17	22	9	19	23	90	15,4
J. F. Day, do R.R. 1	do .....	16	24	9	19	21	89	15
G. R. Matheson, Lakeside, R.R. 2	Imp. Banner.....	15	24	9	18	22	88	15
Mercer Bros., Thamesford ....	Amer. Banner....	15	23	9	18	22	87	15,10
F. G. Seaton, Lakeside .....	O. A. C. 72.....	16	22	8	18	22	86	15
D. Thompson, Thamesford, R.R. 2	Amer. Banner....	18	20	9	15	23	85	2
Arnold Hogg, do .....	O. A. C. 72.....	13	23	7	18	22	83	15
W. H. Mead, Lakeside .....	do .....	13	20	8	18½	22	81½	
D. Quinn, Thamesford .....	Amer. Banner....	16	15	9	18	23	81	2
H. Rutledge, Kintore .....	O. A. C. 72.....	14	19	9	17	21	80	15,14
J. A. Calder, Lakeside, R.R. 2	do .....	16	17	8	18	20	79	1,15
A. Whitstone, do R.R. 2	Imp. Banner.....	14	19	9	15	21½	78½	2,15
J. C. Henderson, do R.R. 2	do .....	15	17	8	18	20	78	2,14
W. B. Bent, Thamesford, R.R. 2	Western.....	13	20	6	17	21½	77½	14,15
Alex. McDonald, Lakeside, R.R. 2	Manitoba.....	13	21	7	16	20	77	10
<b>TILLSONBURG AND DEREHAM AGR. SOCIETY.</b>								
<i>Judge—F. A. Clark, Gormley, R.R. 2.</i>								
O. Peltan, Tillsonburg, R.R. 3	Green Mountain..	18	24	9	19	22	92	15
Thos. Nant, Brownsville .....	Amer. Banner....	17	23	8	19	21½	88½	15,14,10
L. Fewster, Tillsonburg, R.R. 3	O. A. C. 72.....	15	21	8	18	20	82	15,14
E. J. Pearce, Mount Elgin ....	Banner.....	15½	18	9	17	21½	81	15,14,2
J. D. McAlpine, Tillsonburg ...	Mammoth Cluster.	14½	23	8	16½	18½	80½	15
Colin Hawkins, Brownsville ...	Mammoth Cluster.	14½	23	8	14	18½	78	15,14
J. A. Morrison, Mount Elgin ...	O. A. C. 72.....	11	21	8	18	17	75	15,14
F. H. P. Harris, do ..	Mammoth Cluster.	13½	19	8	14	18	72½	15,10,14
A. Turnbull, Ostrander, R.R. 1	Banner.....	13	18	8	16	17	72	14,2
Jas. Green, Tillsonburg .....	Prince Royal.....	12	20	8	14	17	71	15,10,14

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
		(20)	(25)	(10)	(20)	(25)	(100)	
<b>OXFORD.—Continued.</b>								
<b>WEST ZORRA AND EMBRO AGR. SOCIETY.</b>								
<i>Judge—J. M. Gardhouse, Weston.</i>								
R. H. Marshall, Embro, R.R. 6	O. A. C. 72.....	19	23	8½	19	22½	92	
R. & G. Matheson, do R.R. 3	Banner.....	18	22	9	19	23	91	
J. & L. McKay, do R.R. 5	do .....	17	22	8	18	22	87	
H. Turner, Woodstock, R.R. 2..	do .....	18	20	8	18	22	86	
Jas. Ward, Embro, R.R. 4	O. A. C. 72.....	16½	22	8	18	21	85½	
A. Manson, do R.R. 1	Banner.....	16	18½	8	15	22	79½	
Geo. Smith, do R.R. 3	do .....	15	20	8	16	20	79	
Wilbert Smith, do R.R. 1	do .....	14	18	8	16	21	77	
H. McCorquodale, do R.R. 3	Early Wisconsin..	16	20	7	14	18	75	10
Alex. Smith, do R.R. 5	do .....	12	20	8	16	19	75	14
Glendenning Bros., do R.R. 3	Early Wisconsin..	15	15	8	15	20	73	14
A. & J. Matheson, do R.R. 3	Reg. Banner.....	12	18	8	15	18	71	14
Wm. McCorquodale, do R.R. 3	Banner.....	13	18	6	15	18	70	
<b>PARRY SOUND.</b>								
<b>CHRISTIE AGR. SOCIETY.</b>								
<i>Judge—P. R. Owens, Powassan</i>								
J. A. Morrison, Maple Lake ...	Amer. Banner....	18½	23	7	18	22	88½	
W. H. Burns, Orrville .....	O. A. C. 72.....	17½	20½	10	18	22	88	
Jno. Lawson, Maple Lake .....	Amer. Banner....	18	20	9	18	22	87	4
Jas. White, Orrville .....	O. A. C. 72.....	17½	21	8	19	21	86½	15
E. White, do .....	Garton's Abundance.....	16	20	7½	18	20½	82	
David Sword, Maple Lake ....	Amer. Banner....	17	20	6	15	23	81	1, 14
C. A. Kloss, Maple Lake .....	White Wave.....	17	17	8	15	23	80	10
Geo. Culp, Orrville .....	Storm King.....	16	17	8	15	23	79	13
J. Hannon, do .....	Abundance.....	14½	19	6	17	21½	78	13
G. C. Flumerfelt, Broadbent ...	Banner.....	17	15	8	16	21	77	15
H. Healey, Orrville .....	.....	15	21	8	12	20	76	
A. E. Healey, do .....	.....	15	15	7	18	20	75	17
<b>LORING AGR. SOCIETY.</b>								
<i>Judge—Jas. Boyd, Markham.</i>								
J. H. Bain, Loring .....	White Wave.....	15	22	9	18	22	86	
Jas. R. Bain, do .....	do .....	14	22	8	19	21	84	15
Wm. Robertson, do .....	O. A. C. 72.....	16	22	5	18	22	83	15
J. Haggart, do .....	White Wave.....	14	19	9	19	21	82	15
R. Yeo, do .....	O. A. C. 72.....	15	20	6	18	22	81	15, 9
Jno. A. Bain, do .....	White Wave.....	12½	21	8	19	20	80½	15
Donald Smith, do .....	do .....	16	14	9	19	22	80	1, 10, 15
Jno. Bain, Sr., do .....	do .....	14	22	8	15	20½	79½	15
Hugh Bain, do .....	do .....	13	20	8	18	20	79	15
D. Sinclair, do .....	Sterling.....	14	19	8	15	22	78	15, 10, 9
H. Haggart, do .....	Imp. Banner.....	15	18	6	15	22	76	1, 10, 15

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	Yield and quality of grain.	Totals of scores.	1/4 Weeds in competitors' fields.
PARRY SOUND.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
MACHAR AGR. SOCIETY.								
<i>Judge—Jas. Boyd, Markham.</i>								
L. Ardiel, South River, R.R. 1	O. A. C. 72.....	13	20	7	18	20	78	15,9
Jas. Hawthorn, do	Amer. Banner.....	15	23	8	11	20	77	15
Mrs. S. Scarlett, do	R.R. 1 Mammoth Cluster.	13	20	6	18	19	76	15,9
J. H. Tough, do	R.R. 1 do	13	21	8	17	16	75	15
Thos. Bottomley, do	R.R. 1 Sterling.....	12	18	7	18	19	74	10,9
Robt. Carter, do	do	12	20	7	15	18	72	10,15
Jos. McGirr, do	O. A. C. 72.....	10	22	7	18	14½	71½	
J. S. Cole, do	do	13	14	9	19	16	71	1,10,15
F. J. Hearn, do	do	12	24	8	12	14	70	15
MCKELLAR AGR. SOCIETY.								
<i>Judge—P. R. Owens, Powassan.</i>								
J. E. Taylor, McKellar	O. A. C. 72.....	18	22½	8	18	23	89½	17
Wm. Watkins, do	Yel. Russian.....	16½	22	9	19	22	88½	17
C. J. McKeown, do	O. A. C. 72.....	16	21	9	18½	23½	88	
H. Moffatt, do	Sterling.....	17	20	10	18	22½	87½	
Jos. H. Ball, do	Yel. Russian.....	16½	22	8	19	20½	86	
Wm. E. Taylor, do	O. A. C. 72.....	15½	22	9	18	21	85½	
Thos. Moffatt, do	do	18	16	9	18	24	85	17
W. Quinn, do	Early Yielder.....	16	20	9	18	21	84	
R. A. Moore, do	Prize Winner.....	15½	26	8	18	22	83½	17
Robt. Moffatt, do	Sterling.....	17	18	9	17	22	83	
Wm. H. Moore, do	O. A. C. 72.....	15	21	7	18	21	82	
Jno. McKeown, do	Yel. Russian.....	17	16	9	18	21	81	
MCMURRICH AGR. SOCIETY.								
<i>Judge—W. H. Davis, Ivy, R.R. 7.</i>								
Jas. Downes, Sprucedale	O. A. C. 72.....	17	22	9	19	22	89	
P. J. Farrell, do	Rennie's E. Yielder.....	16	20	6	17	20	79	15
Marshall & Son, do	Abundance.....	14½	18	8	16	20	76½	15,10
Wm. E. Pearce, do	Bumper King.....	13½	19	6	18	18	74½	15
Fletcher Walker, do	Granary Filler.....	13	17	7	18	18	73	10
J. F. Nelles, Doe Lake	do	14½	15	6	16	21	72½	15
H. Watson, Sprucedale	do	13	16	8	16	19	72	10
H. H. Turnbull, Doe Lake	Abundance.....	13	18	6	16	18	71	10,15
PERRY AGR. SOCIETY.								
<i>Judge—W. H. Davis, Ivy.</i>								
T. Teby, Fern Glen	O. A. C. 72.....	16	18	8	18	22	82	15
J. D. Hanham, Emsdale	Australian Banner	16	18½	8	16	22	80½	15
Wm. M. George, do	Granary Filler.....	16	18	8	16	22	80	9
T. E. Rowley, do	Bumper King.....	15	18	8	18	20	79	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.		Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
PARRY SOUND.— <i>Continued.</i>			(20)	(25)	(10)	(20)	(25)	(100)	
PERRY AGR. SOCIETY.— <i>Con.</i>									
Geo. Gilpin,	Emsdale	.....	16	17	7	17	21	78	15, 10
Jos. Irwin,	do	.....	16	16	8	16	21	77	9, 15, 10
Wm. J. Murdy,	do	.....							
		Swedish Giant	16	16	8	16	21	77	9, 15, 10
		Rennie's E. Yielder	13	19	6	18	18	74	
Geo. Bennett,	do	.....	13	18	6	16	18	71	10, 15
Chas. T. Hayward,	do	.....	13	18	7	14	18	70	15
Mrs. Ed. Tonner,	do	.....	13	16	7	16	18	70	10
POWASSAN AGR. SOCIETY.									
<i>Judge—J. D. McKenna, North Bay.</i>									
H. B. Purdon,	Himsworth	.....	17	24	9	18	21	89	15
Owen Gough,	Powassan, R.R. 3	.....	16	24	7	18	20	85	15
L. Purdon,	S. Himsworth	.....	15	23	7	18	20	83	15
E. J. Purdon,	Powassan	.....	16	18	9	18	21	82	4, 15
S. H. Gongeon,	do R.R. 2	.....	15	22	8	17	19	81	14
Jos. Alston,	do	.....	16	22	7	16	19	80	15
Jno. Hogan,	do	.....	16	18	8	17	20½	79½	15
P. R. Owens,	do	.....	16	23	5	15	20	79	15
L. A. Purdon,	do	.....	16	17	7	16	22	78	4, 17
Jno. Poull,	do	.....	16	18	7	16	20	77	15
D. McIntyre,	do	.....	16	22	8	10	19	75	15
D. Graff,	do	.....	15	18	4	17	19	73	15
Jas. Oldfield,	do	.....	15	10	8	17	22	72	15, 17
Jas. M. Healey,	do	.....	16	15	7	12	21	71	15, 14, 10
Jas. D. Healey,	do	.....	16	21	5	10	18	70	17
ROSSEAU AGR. SOCIETY.									
<i>Judge—G. W. Glover, Nottawa.</i>									
Alex. Crawford,	Rosseau	.....							
		Garton's Abundance	19	24	9½	19½	24	96	10
H. Stoneman,	Turtle Lake	.....	17½	24½	10	19½	23½	95	
Geo. Cole,	Rosseau	.....	18	24	9½	19½	23½	94½	10
Jno. McCans,	do	.....	16	25	10	20	22½	93½	
S. Kettle, Jr.,	Maple Lake	.....	16	24½	10	20	22½	93	
Robt. Wilson,	Rosseau	.....	16	25	8½	19½	22½	91½	
Wm. Fry,	Rosseau Falls	.....	15	24½	9½	19½	22	90½	
H. J. Sirett,	Rosseau	.....	14	24½	10	19½	22	90	
Harry Sirett,	do	.....	14	24	9½	20	21½	89	10
G. Grenke,	Hekkla	.....	15	25	7	19½	22	88½	
Jno. Crawford,	Rosseau	.....	12	24½	9½	19½	20½	86	
R. B. Mahon,	do	.....	11	17½	9½	19½	20	77½	1
Jno. R. Cronin,	Humphrey	.....	10	23½	9	15	19½	77	
S. Stoneman,	Turtle Lake	.....	14	9½	10	19½	21½	74½	1
Wm. McCauley,	Rosseau	.....	12	10	9½	19½	20½	71½	1

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
OATS.

Competitors in Order of Merit.	Name of variety.							Totals of scores.	Weeds in competitors' fields.
		*General appearance.	†Freedom from weeds.	‡Freedom from smut, blight and insects.	§Freedom from other varieties and other kinds of grain.	¶Yield and quality of grain.	Totals of scores.		
		(20)	(25)	(10)	(20)	(25)	(100)		
PARRY SOUND.— <i>Continued.</i>									
UNITED TPS. AGR. SOCIETY.									
<i>Judge—P. R. Owens, Powassan</i>									
Wm. Todd, Maple Island	O. A. C. 72	17	22	8	19	22½	88½	10	
Jas. LeBrash, do	do	17	22	9	19	21	88		
Wm. Willard, Dunchurch	do	17	22	7	17	24	87		
Samuel Irvin, McKellar	Mammoth Cluster	17½	20	7	19	22	85½	17	
Jno. LeBrash, Maple Island	O. A. C. 72	17	22	6	19	21	85		
W. T. Lundy, Dunchurch	Sterling	16	18	8	18	22	82	10	
Jos. Whitnell, do	O. A. C. 72	15½	19	8	18	21	81½	17, 10	
A. Whitnell, do	Northland	14	21	6	18	21	80	10	
W. Brear, Maple Island	O. A. C. 72	16	17	7	18	21	79	1	
Jno. Moore, Dunchurch	White Cluster	12	15	8	16	20	71	15	
PEEL.									
PEEL AGR. SOCIETY.									
<i>Judge—R. Murphy, Alliston.</i>									
Jno. V. Snell, Brampton, R.R. 3	O. A. C. 72	17	24	9½	19	21	90½		
T. C. Fraser, Streetsville, R.R. 3	do	17½	24	8	18½	22	90		
W. J. Fraser, do R.R. 3	do	17	24	8	18½	22	89½		
J. A. Fletcher, Brampton	do	17	23	8	17	22	87		
Wm. G. Witherspoon, Wood-bridge, R.R. 1	do	17½	19	9	19	21½	86	1	
A. McLean, Brampton, R.R. 2	Early Yelder	18	21	9	14	22	84	14	
Lansdell Bros., do R.R. 3	O. A. C. 72	17½	16	8½	18	22	82	1	
A. M. Thomson, do R.R. 1	Snow Flake	17	22	8	14	20½	81½	15	
A. E. Might, do R.R. 6	Imp. Banner	15½	22	8	16	19½	81	15	
D. McClure, Norval, R.R. 2	O. A. C. 72	16	17	8	18	21	80	2	
Jas. R. Fallis, Brampton	Abundance	18	9	9½	19½	23	79	1	
A. W. Snyder, do	O. A. C. 72	16	12	8	18	20	74	4	
M. Laidlaw, do R.R. 3	do	16	15	8½	12	21	72½	1	
TORONTO TP. AGR. SOCIETY.									
<i>Judge—R. Murphy, Alliston.</i>									
J. D. Steen, Streetsville, R.R. 2	O. A. C. 72	18	24	9	19	22	92	14	
C. W. Sparling, do R.R. 2	do	16	22	9	18½	20½	86	14	
W. J. Drinkwater, do	do	16	22	8	18	21	85	14	
W. E. W. Steen, do R.R. 2	do	15½	22	8	18	20½	84		
Jno. Weylie, do R.R. 3	Yel. Russian	16½	18½	9	18	21½	83½	2	
J. W. Miller, do R.R. 2	Siberian	15½	21	9	18	19½	83	4	
Jas. B. Ross, do	O. A. C. 72	16	15	9	18½	20	78½	1	
D. McCaugherty, do	do	14½	23	8	10	19	74½	15	
R. R. Kay, Erindale	Siberian	16	10	8	19	21	74	1	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

Competitors in Order of Merit.		Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Woods to competitors' fields.
			(20)	(25)	(10)	(20)	(25)	(100)	
PERTH.									
FULLARTON, LOGAN AND HIBBERT AGR. SOCIETY.									
<i>Judge—Robt. Berry, St. Mary's.</i>									
Geo. Hillebrecht, Brodhagen ..	O. A. C. 72.....	20	24	5½	19½	21½	90½	15	
Robt. Norris, Staffa .....	O. A. C. 3.....	18	24	10	17½	20½	90	15	
H. Greenwood, Mitchell, R.R. 1	O. A. C. 72.....	18½	23	7½	18½	22	89½	15	
Jas. Norris, Munro .....	do .....	20	22½	7	12½	23	85		
Geo. Krauskopf, Dublin .....	do .....	17½	18½	9	19	17½	81½		
Alex. Cole, Mitchell, R.R. 1	Banner.....	16	12	8	17	20	73		1, 15, 14
H. McPhail, do R.R. 1	do .....	16½	10	9	15½	21½	72½	1	
J. A. Drummond, do R.R. 5	do .....	16	13	5	16½	21½	72		14, 15
D. Graham, do .....	do .....	16½	15	5	14½	19½	70½		
W. G. Millson, Munro, R.R. 1 ..	O. A. C. 72.....	12½	14	7½	18	18	70		
KIRKTON AGR. SOCIETY.									
<i>Judge—P. L. Fancher, Chatham.</i>									
Robt. Bickle, St. Mary's, R.R. 1	Banner.....	17½	21	9	17	21½	86		
H. Switzer, Kirkton .....	do .....	16	22	9½	17	20½	85		
Wm. Harding, St. Mary's, R.R. 1	do .....	15½	22	7½	18	20	83		
Robt. S. Radcliffe, do R.R. 1	Yel. Russian.....	18½	16	9	17	21½	82		1
Jas. Stephen, do R.R. 1	Gold Drop.....	17½	15	9	16	21½	79		1, 2
M. Brethour, do R.R. 6	O. A. C. 72.....	17½	12	9	18	20½	77		1
Wm. Houlingshead, do R.R. 1	do .....	18	10	9	18	20	75		1
H. Armstrong, do R.R. 1	do .....	17½	8	9½	18	21	74		1, 2
L. Fletcher, Kirkton .....	New Century.....	18½	7	9½	17	21½	73½		1, 10
P. Sparling, Cromarty .....	Banner.....	18	6	9	18	21½	72½		1, 10
Jno. Urquhart, St. Mary's .....	do .....	19	5	6	19	23	72		2
Wm. Denham, do .....	do .....	17	13	6	15	20	71		2, 4, 1
H. Berry, Woodham .....	Reg. Banner.....	18	7	8½	17	20½	71		1
STRATFORD AGR. SOCIETY.									
<i>Judge—Jas. Boyd, Markham.</i>									
R. Thompson, St. Paul's R.R. 2	Yel. Russian.....	17	25	9	20	24	95		
H. Stewart, do R.R. 2	do .....	16	24	9	19	23	91		15
Alex. Horne, Gadshill, R.R. 1 ..	O. A. C. 72.....	16	24	9	19	22	90		15
W. Rennie, New Hamburg, R.R. 3	do .....	16	24	7	18	22	87		15
Geo. Gibb, Stratford, R.R. 3 ....	Amer. Banner....	15	24	9	18	20½	86½		15
Wm. T. Woods, St. Paul's, R.R. 2	do .....	14	23	8	19	22	86		15
M. Ballantyne, Stratford .....	do .....	15½	21	9	17	23	85½		15
Jno. McCallum, Shakespeare ..	Granary Filler....	18	18	8	18	23	85		2
H. Dunsmore, Stratford, R.R. 2	O. A. C. 72.....	15½	20	9	18	22	84½		1, 15
Alex. Hotson, St. Paul's R.R. 2	Granary Filler....	14	22	8	19	21	84		15
Jno. Murray, do R.R. 2	Imp. Banner.....	16	19	9	18	21	83		15, 2

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	Yield and quality of grain.	Totals of scores.	!Weeds in competitors' fields.
		(20)	(25)	(10)	(20)	(25)	(100)	
<b>PERTH.—Continued.</b>								
<b>STRATFORD AGR. SOCIETY.—Con.</b>								
J. Litt, Sebringville .....	Amer. Banner....	16	19	10	15	22	82	1,2,15
Jno. Frazer, Stratford, R.R. 5.	do .....	13½	21	8	17	22	81½	2,15
W. H. Douglas, St. Paul's, R.R.2	Imp. Banner.....	17	17	8	17	22	81	1,2
J. Schmidt, Stratford, R.R. 1	Danish Islander..	15	19	7	18	21	80	2,4
D. M. Ballantyne, do R.R. 3	Amer. Banner....	14	16	9	18	22	79	1,15
D. McCallum, do R.R. 1	do .....	15	15	8	18	21	77	2,15
H. Thistle, St. Paul's, R.R. 1	Newmarket.....	17	15	6	16	22	76	1,15
M. A. Arbogast, Stratford, R.R. 3	Amer. Banner....	16	13	8	17	21	75	2,1
R. Clyne, St. Paul's R.R. 2 ....	Imp. Banner.....	16	14	7	15	22	74	1,2,15
<b>PETERBOROUGH.</b>								
<b>EAST PETERBOROUGH AGR. SOCIETY.</b>								
<i>Judge—W. Hickson, Bobcaygeon.</i>								
T. Dunham, Campbellford, R.R.4	O. A. C. 72.....	15	24	8½	20	22	89½	10
Sargent & Son, Westwood ....	do .....	15½	23	8	20	22	88½	15
D. Barrie, Norwood, R.R. 2....	do .....	16	24	6½	19	22	87½	15
Thompson Bros., Indian River, R.R. 3 .....	do .....	17½	20	8½	19½	22	87½	15
W. C. Brackenridge, Westwood.	do .....	17	19	8	20	23	87	4,14
A. Humphries, Norwood .....	White Wave.....	16½	23	7	19	21	86½	15
Wm. Scott, do R.R. 4	O. A. C. 72.....	15½	23	8	19	19	84½	15
P. H. Grover, do .....	Banner.....	16	18	8	17	22½	81½	4,15,10
Geo. A. Elliott, do R.R. 1	Abundance.....	14	22	9	16	20½	81½	15,10
T. B. McMaster, do R.R. 3	O. A. C. 72.....	15	18	7	20	21	81	2,15
<b>OTONABEE AGR. SOCIETY.</b>								
<i>Judge—W. Hickson, Bobcaygeon.</i>								
M. O'Keefe, Keene, R.R. 1.....	Banner.....	18	24	8	18	23½	91½	
R. E. Drummond, Peterboro, R.R.8	Siberian.....	17	22	9	20	22½	90½	2
W. A. Drummond, do R.R.8	Ligowa.....	17	22	8	20	22½	89½	2
J. E. Manley, do R.R. 8	Abundance.....	14½	25	9	19	21	88½	
F. A. Esson, Keene .....	O. A. C. 72.....	16	23	9½	18	22	88½	15,14
S. Comrie, Peterboro, R.R. 8...	Abundance.....	16	24	8½	19½	20	88	10
R. McIntyre, Keene, R.R. 2....	Ligowa.....	16	23	8½	19	20	86½	2
H. McPhee, do R.R. 2....	Sterling.....	17	23	9	18	19	86	
R. A. Nelson, do R.R. 1....	Danish Swede....	17	17	9	20	22½	85½	
W. A. Nelson, do R.R. 1....	do .....	11½	19	9½	19	20½	84½	4,10,15
H. McFarlane, Peterboro, R.R. 8	O. A. C. 72.....	18	12	9	19½	23	81½	1
Wm. Bishop, Keene, R.R. 1 ...	Wide-a-Wake....	16½	12	10	20	19½	78	10,15

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
PETERBOROUGH.— <i>Con.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
PETERBOROUGH IND. AGR. SOCIETY.								
<i>Judge—W. H. C. Roblin, Ameliasburg.</i>								
A. B. Mann, Peterborough	Yel. Russian	16	18	8	16	20	78	
J. Gillespie, do	Sterling	16	18	8	16	19	77	10, 15
W. W. Dawson, do	O. A. C. 72	14	19	8	16	19	76	
Wm. J. McGregor, do	do	16	18	8	14	19	75	10, 15
S. J. Dixon, do	Sterling	15½	16	7	16	20	74½	10
F. Buckham, do	O. A. C. 72	15	18	7	16	18	74	10
S. T. Milburn, do	do	13	15	8	17	20	73	10, 15
Wm. Steinkrauss, do	New Century	15	16	6	15	20	72	10, 15
H. Sanderson, do	O. A. C. 72	12	18	6	15	20	71	10, 15
PRESCOTT.								
ALFRED AGR. SOCIETY.								
<i>Judge—M. J. Casselman, Morrisburg.</i>								
A. Charbonneau, Alfred		19½	23	9	19	23½	94	
Jos. Robillard, do	Banner	19¼	21	10	18	24¾	93	
M. Leroux, do	do	18¾	23	9	17	23½	91½	1
O. Parisien, do	do	19¼	19	9½	19	24	90¾	1
Samuel Parisien, do	do	19	21	9	19	22½	90¾	1
J. Bte. Rouleau, do	do	19½	23	9	15	23	89½	1
D. Parisien, do	do	19¼	20	9	18	23	89¼	4
A. Daoust, do	Washington	18½	20	9¾	18½	22¾	89	1
E. H. Gouburg, do	Banner	17¾	21	9½	18	21½	87¾	
F. Daoust, do	do	17¾	20	10	17	20½	85	1
J. Brisebois, do	do	17	20	9	15	21½	82½	1
A. Blondin, Plantagenet	Early Florin	17	20	9½	12	22½	81	1
F. Bertrand, Alfred	Banner	18½	15	9½	15	22½	80½	1
Henri Doth, Caledonia Springs	do	16½	16	9	17	21	79½	1
Alex. Langevin, Alfred	Washington	18	18	9½	12	21½	79	
J. A. Cadieux, do	Banner	18¾	15	9½	14	20½	77¾	1
Geo. Barbarie, Plantagenet	do	16½	16	9	10	21½	73	1
E. St. Denis, do	do	17	15	9	10	21½	72½	1
F. Blondin, do	do	16	20	9	5	20	70	1
PRINCE EDWARD.								
AMELIASBURG AGR. SOCIETY.								
<i>Judge—D. English, Burkton, R.R. 3.</i>								
J. R. Anderson, Mountain View	Industrial	19	24	10	20	23	96	
W. J. Barber, Rossmore	Yel. Russian	19	22	10	20	23	94	
H. Young, do	do	18	20	9	18	23	88	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

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PRINCE EDWARD.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
AMELIASBURG AGR. SOCIETY.								
— <i>Continued.</i>								
N. Weese, Ameliastburg .....	S. Victory.....	16½	20	10	18	23	87½	15
N. Parliament, do .....	Banner.....	17	20	9	18	23	87	10, 15
Jas. S. Wallbridge, Rossmore ..	do .....	20	15	10	18	22	85	15, 4
D. W. Valleau, do .....	Yel. Russian.....	14½	16	7	20	22	79½	10, 4
E. S. Anderson, Mountain View	do .....	14	18	8	18	21	79	10
Jno. A. Walker, Rossmore ....	do .....	16	16	8	16	19	75	15, 10, 1
E. E. Wallbridge, do .....	do .....	15½	17	7	15	20	74½	10
H. E. Redner, Ameliastburg ....	Banner.....	13½	16	7	18	17½	72	10, 15
W. H. C. Roblin, do .....	do .....	13	18	10	14	16½	71½	
Jno. A. Weese, Rossmore .....	White Wave.....	13	16	6	17	19	71	15
PRINCE EDWARD AGR. SOCIETY.								
<i>Judge—Adam Hood, Hagerman.</i>								
M. Gilbert, Demorestville, R.R. 3	Mammoth Cluster	18½	22	9	19	24	92½	15
M. Foster, Bloomfield, R.R. 2	Banner.....	18	23	8½	19	23½	92	
W. H. Gough, do .....	O. A. C. 72.....	18	23	8½	18	23½	91	15
Homer White, Picton, R.R. 1..	do .....	17½	23	8	19	22½	90	10
E. B. Purtelle, Bloomfield ....	do .....	18	22	8	18	22½	88½	15
B. R. Leavens, do .....	do .....	18	21	8	18	22½	87½	1
J. E. Huff & Son, do .....	do .....	16½	22	8½	19	20½	86½	
R. Reed, Picton .....	do .....	16	21	8½	18	21½	85	15
E. E. Ackerman, Picton, R.R. 6	do .....	15½	18	8	18	21	80½	10
G. H. Bolton, do R.R. 6 .....	do .....	15½	17	8	16	22	78½	10
H. A. Anderson, Hillier .....	Banner.....	16½	15	7	18	21	77½	1, 4
McMullen-Roblin Farming Co., Picton .....	do .....	14	16	8	16	20	74	10
E. Delong, Picton, R.R. 6 .....	O. A. C. 72.....	14	15	8	15	19	71	4, 15
SOPHIASBURG AGR. SOCIETY.								
<i>Judge—Adam Hood, Hagerman.</i>								
E. W. Gorsline, Demorestville..	O. A. C. 72.....	18	23	9	19	22½	91½	
A. F. Rightmeyer, Picton, R.R. 8	Banner.....	18	23	9	19	22	90	15
W. Rightmeyer, do R.R. 8	do .....	17½	23	9	18	21½	89	
Trumbel Bros., do R.R. 8	do .....	16½	20	8½	18	20	83	15
Urias Nelson, Demorestville ...	O. A. C. 72.....	16½	20	8	17	20	81½	
K. Spafford, Picton, R.R. 8	Banner.....	16	20	8	17	19½	80½	1
T. A. Crawford, do R.R. 8	Rennie's E. Yielder.....	15½	17	8	17	20	77½	4, 10
F. R. Morden, Demorestville ..	Banner.....	14½	17	7	16	19½	74	
RAINY RIVER.								
ATWOOD AGR. SOCIETY.								
<i>Judge—J. McKay, Emo.</i>								
F. E. Longhurst, Sleeman .....	Banner.....	17	24	8	18	22½	89½	
L. J. Armstrong, do .....	do .....	16	22	8	19	22	87	7
D. J. Ewald, Rainy River .....	Banner.....	18	18	9	17	22	84	15
W. McKenzie, Sleeman .....	do .....	17	24	....	19	22	82	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
		(20)	(25)	(10)	(20)	(25)	(100)	
RAINY RIVER.— <i>Continued.</i>								
ATWOOD AGR. SOCIETY.— <i>Con.</i>								
A. Russell, Rainy River	Banner	13	20	9	16	22	80	
Thos. A. Smart, Pinewood	Gold Rain	15	16	8	17	22	78	15
O. M. Isberg, Sleeman	Banner	16	14	7	17	22 $\frac{3}{4}$	76 $\frac{3}{4}$	
H. J. Hunter, do	do	13	17	8	16	22	76	7
Jos. Gagnon, Pinewood	O. A. C. 72	12	20	8	15	20 $\frac{1}{2}$	75 $\frac{1}{2}$	15
A. J. Hunter, Sleeman	Banner	14	15	8	17	21	75	15, 8
R. A. Armstrong, do	do	16	13	5 $\frac{1}{2}$	18	21	73 $\frac{1}{2}$	
H. Engebretson, do	do	15	12	9	15	22	73	
RENFREW.								
ARNPRIOR AGR. SOCIETY.								
<i>Judge—H. W. Graham.</i>								
<i>Britannia Bay.</i>								
A. Russell, Arnprior	O. A. C. 72	18	23	10	20	24	95	10
M. McLaren, Castleford	Banner	16	23	10	18	23	90	15
Jas. Wallace, Arnprior	O. A. C. 72	16	22	10	18	22	88	15
L. Arnott, do	R.R. 3 Banner	17	20	7	18	22	84	
W. A. Mackey, do	do	16	20	8	17	22	83	15
Chas. Mackey, do	do	15	20	8	17	22	82	15
W. A. Young, do	R.R. 3 Victory	14	20	10	18	18	80	15
Jno. Rafter, do	Imp. Banner	16 $\frac{1}{2}$	21 $\frac{1}{2}$	7	15	19	79	
Wm. Storie, Sand Point	Banner	14	19	9	16	19	77	15
Jno. Affleck, Glasgow Station	do	13	20	8	17	18	76	15
J. O'C Havey, Arnprior	O. A. C. 72	15	14	8	17	19	73	15
Chas. Wallace, do	R.R. 3 Banner	15	10	9	17	21	72	1, 10
J. S. Havey, do	do	14	15	5	15	22	71	15
NORTH RENFREW AGR. SOCIETY.								
<i>Judge—J. N. Sorley, Ottawa.</i>								
S. McClelland, Beachburg	Granary Filler	14	22	8	19	18 $\frac{1}{2}$	81 $\frac{1}{2}$	13
Jos. Keyes, Westmeath, R.R. 2	Banner	16	17	8 $\frac{1}{2}$	19	19 $\frac{1}{2}$	80	2, 15, 4
Wm. McClelland, Cobden	Imperial	12 $\frac{1}{2}$	22	7	19	19	79 $\frac{1}{2}$	15, 4
Wm. J. Richardson, Forester's Falls	Sterling	12	23	7	17 $\frac{1}{2}$	18 $\frac{1}{2}$	78	4, 15
A. Munroe, Beachburg	O. A. C. 72	11 $\frac{1}{2}$	23	6	19 $\frac{1}{2}$	17 $\frac{1}{2}$	77 $\frac{1}{2}$	5, 17
A. M. Barr, do	do	11	22 $\frac{1}{2}$	7	19	15 $\frac{1}{2}$	76	10
A. R. Bulmer, Westmeath	Imperial	11 $\frac{1}{2}$	22	8	19	15 $\frac{1}{2}$	75	15
Jno. Stevenson, Beachburg	do	11	23	6 $\frac{1}{2}$	15	19	74 $\frac{1}{2}$	
Jas. W. Buchanan, do	Vel. Russian	10	21	6 $\frac{1}{2}$	19	18	74 $\frac{1}{2}$	4
Robt. Bennie, do	Newmarket	10 $\frac{1}{2}$	23	7	17	16 $\frac{1}{2}$	74	
Samuel McCarthy, Westmeath	do	13 $\frac{1}{2}$	21	5 $\frac{1}{2}$	18	16	74	4
Jno. A. Brown, Beachburg	O. A. C. 72	10	23	5	19	16 $\frac{1}{2}$	73 $\frac{1}{2}$	
Wm. H. Metcalfe, do	do	12	22	5	17	16 $\frac{1}{2}$	72 $\frac{1}{2}$	15
Wm. Headrick, do	do	12	15	6	19	19 $\frac{1}{2}$	71 $\frac{1}{2}$	2
G. McClelland, do	Banner	10	22	5	18 $\frac{1}{2}$	15 $\frac{1}{2}$	71	
L. O. Christmann, do	Granary Filler	13	20	5	16	17	71	10, 4

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
SIMCOE.		(20)	(25)	(10)	(20)	(25)	(100)	
COLDWATER AGR. SOCIETY.								
<i>Judge—David Smith, Smithdale.</i>								
O. H. Swan, Victoria Harbor ..	Golden Drop.....	18	22	9	18	22	89	15
Chas. Gratrix, Waubaushene ..	O. A. C. 72.....	17	22	9	18	21	87	
L. S. Taylor, Victoria Harbor ..	\$1,000.....	17	22	8	18	21	86	
A. Hawke, Coldwater, R.R. 3 ..	.....	18	19	7	17	21	82	4
A. Walker, do R.R. 3 ..	.....	17	22	7	15	19	80	
Wm. J. Walker, do .....	O. A. C. 72.....	16	20	7	16	20	79	15, 10
Chas. Spence, do R.R. 1 ..	.....	16½	20	7	15	20	78½	
Jno. Doyle, do R.R. 1 ..	.....	16	21	7	12	20	76	1, 4
H. A. Lee, Victoria Harbor, R R 1	Golden Drop.....	15½	18	8	14	19	74½	15
B. D. Durnford, Coldwater, R R 1	.....	15½	20	7	14	17	73½	4
Wm. Gladall, do R.R. 1 ..	.....	17½	15	8	12	20	72½	10, 4
Wm. Ryan, do .....	.....	15½	12	8	16	18½	70	4
TEMISKAMING.								
CHARLTON AGR. SOCIETY.								
<i>Judge—J. Byron Kaye, Bracebridge.</i>								
H. T. Kenny, Charlton .....	O. A. C. 3.....	18½	23	9	18	21	89½	4
Geo. Gillett, Brentha .....	do .....	17	22	9	18	20½	86½	
N. M. Fraser, Charlton .....	Mammoth Cluster.	17	22	9	12	21	81	
H. W. Netherton, Brentha .....	Banner.....	16	23	.....	18	19	76	
Jno. McFarlane, Charlton .....	Gold Medal.....	16	22	5	15	17	75	
W. J. Netherton, Brentha .....	O. A. C. 72.....	16	22	.....	15	19	72	
F. Pummell, Charlton .....	O. A. C. 3.....	14	22	9	12	14	71	14
ENGLEHART AGR. SOCIETY.								
<i>Judge—J. Byron Kaye, Bracebridge.</i>								
Geo. Stephenson, Englehart ...	Imp. Banner.....	18	23	9	19	21½	90½	14
A. W. Skinner, do .....	O. A. C. 3.....	17	22	9	18	20	86	
Geo. Harman, Healslip .....	Imp. Banner.....	16	20	9	18	17	80	17
Jas. Harman, do .....	do .....	17½	19	8	17	18	79½	17, 11
Jno. Allen, do .....	O. A. C. 3.....	17	21	9	18	14	79	17
E. Winlau, do .....	Lincoln.....	16½	20	8	18	16	78½	15
NEW LISKEARD AGR. SOCIETY.								
<i>Judge—R. McCowan, Scarborough.</i>								
Bruce Kerr, New Liskeard ....	O. A. C. 72.....	18	20	10	19	25	92	
Jno. McFarlane, do .....	Rennie's E.	18	22½	8	18	24	90½	
D. MacKay, do .....	Yielder.....	18	22½	6	18	24	88½	
	do .....	18	22½	6	18	24	88½	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
TEMISKAMING.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
NEW LISKEARD AGR. SOC.— <i>Con.</i>								
Robt. Jelly, New Liskeard	O. A. C. 72	16	22	7	19	24	88	
E. J. Stephenson, do	Banner	18	20½	6	18	25	87½	
Jno. Burnett, do	do	18	18	8	18	25	87	
Geo. Welsh, do	O. A. C. 72	16	20	6	18	25	85	
Ias. Carter, do	do	16	15½	8	18	23	80½	
F. Petit, do	do	12	21	7	18	22	80	
G. C. Foster, Uno Park	Abundance	20	15	5	18	21	79	
THUNDER BAY.								
WHITEFISH VALLEY AGR. SOCIETY.								
<i>Judge—J. McKay, Emo.</i>								
H. Wheal, Hymers	do	17½	23	7	18	22	87½	
Geo. E. Hymers, do	O. A. C. 72	17	22	7	18	23	87	13
A. Parker, do	do	15	23	8	17	22	85	1
P. Sisson, do	do	16	22	7	17	21	83	7
C. D. Blaikie, do	O. A. C. 72	15	21	5	19	21	81	
F. Sharpe, do	do	16	24	6	16	17	79	
Jos. Withinshaw, do	O. A. C. 72	13	22	7	19	14	75	7
VICTORIA.								
EMILY AGR. SOCIETY.								
<i>Judge—W. H. C. Roblin, Ameliasburg.</i>								
D. H. Dick, Omeme	O. A. C. 72	16½	22	9	20	20½	88	15
Thos. H. Ingram, do	New Century	17	20	9	18	22	86	10, 15
J. Smith, do	Reg. Banner	16	22	9	16	22	85	
Robt. Boyd, do	O. A. C. 72	16	20	8	18	22	84	
A. Sanderson, do	Reg. Abundance	14	22	8	15	18	77	15
A. Irwin, do	Marble	16	16	8	16	20	76	10, 15
H. Miller, do	Gotheline	13	18	8	16	18	73	10, 15
R. H. Johnson, do	Reg. Abundance	13	15	8	16	20	72	10
FENELON AGR. SOCIETY.								
<i>Judge—R. McCowan, Scarboro.</i>								
Jno. Lean, Cameron, R.R. 1	Yel. Russian	19	24	9	19	24	95	
Wm. Gillis, Fenelon Falls	O. A. C. 72	20	20	10	19	23	92	
Wm. Hetherington, do	Sensation	19	20	9	18	25	91	1
John Knox, do	O. A. C. 72	19	20	8	18	25	90	1
Jno. Graham, do	Yel. Russian	19	20	8	18	23½	88½	1
Thos. Curtis, do	O. A. C. 72	19	18	8	18	25	88	1
R. Isaac, do	Yel. Russian	20	15	8	19	25	87	
A. Goodhand, do	R.R. 3 O. A. C. 72	17	13	10	19	25	84	1
Geo. D. Isaac, do	do	17	15	8	18½	24	82½	1, 4
F. Smitheran, Cameron	Irish	14	22	8	16	22	82	
M. Moynes, do	O. A. C. 72	15	15	8	20	23	81	1

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OATS.

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VICTORIA.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
VERULAM AGR. SOCIETY.								
<i>Judge—R. McCowan, Scarborough.</i>								
R. E. Thurston, Bobcaygeon ..	Northland.....	18	25	9	20	25	97	
M. M. Boyd & Co., do ....	Banner.....	20	24	10	19	23	96	
Elmer Long, do ....	Yel. Russian.....	19	23	10	18	25	95	
Thos. Cosh, do ....	do .....	18	24	7½	20	25	94½	
Chas. H. Thurston, do ....	do .....	18	23	10	20	23	94	
H. R. Seymour, do ....	do .....	18	22	9	20	23	92	
R. T. Robertson, Dunsford, R.R.1	Sensation.....	16	24	10	15	25	90	
G. Kennedy, Bobcaygeon ....	do .....	18	17	10	18	25	88	1
A. Thompson, do ....	O. A. C. 72.....	17	15	10	18	25	85	
Ross Kemble, do ....	Ligowa.....	16	15	9	20	22	82	
WATERLOO.								
SOUTH WATERLOO AGR. SOCIETY.								
<i>Judge—A. B. Rose, Echo Place.</i>								
I. & J. S. Hilborn, New Dundee.	O. A. C. 72.....	17½	23	8	19	21½	89	13
Wm. Gillespie, Galt, R.R. 5....	do .....	16	23½	7½	19½	21	87½	
R. & D. Arthur, Branchton ....	White Wave.....	17	23	7	18½	21½	87	
E. Z. Kemkes, do R.R. 1	O. A. C. 72.....	16½	24	8	17	21	86½	8
Thos. Young, Galt, R.R. 4....	do .....	17	23	7	17	22	86	
J. A. Slater, do R.R. 4....	do .....	15	23	8½	19	20	85½	
S. Gingrich, Blair, R.R. 1 ....	Banner.....	16	21	8	19	20	84	14
Geo. R. Barrie, Galt, R.R. 7 ...	White Wave.....	16½	21	8	17	21	83½	14
W. C. Shaw, Hespeler, R.R. 2..	Banner.....	15½	24	7½	17	19	83	
R. E. Cowan, Galt, R.R. 3	do .....	15½	20	7	18½	19	80	10
A. Turnbull & Son, do R.R. 3	do .....	15	18	8	18	19	78	1
A. B. McPhail, do R.R. 4	Sterling.....	13	20	7	19	18½	77½	
Jno. Brown & Sons, do .....	O. A. C. 72.....	17½	17	8	12	21½	76	1
WELLAND.								
BERTIE AGR. SOCIETY.								
<i>Judge—Alex. Morrison, Creemore.</i>								
M. W. Sexsmith & Son, Ridge- way, R.R. 2 .....	O. A. C. 72.....	17	24	9	19	22	91	
J. E. Phillips, Fort Erie, R.R. 1	do .....	17½	22	9	19	22½	90	15
H. J. Miller, Bridgeburg, Box 135 .....	do .....	17½	21	8½	19	23	89	15, 14
Wm. Wohl, Bridgeburg .....	do .....	16	23½	9	19	21	88½	
D. L. Hershey, Fort Erie .....	do .....	17	20	9	19	22	87	15
J. W. Jewson, do R.R. 1	do .....	17	20½	9	18	22	86½	
J. M. McGaw, do R.R. 1	do .....	16½	20	8½	19	22	86	15
Chas. R. Baxter, do R.R. 1	Granary Filler....	16½	20	8	18	22	84½	14
G. W. Miller & Son, Stevensville	do .....	16½	18½	8	18	22	83	15

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## OATS.

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WELLAND.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
BERTIE AGR. SOCIETY.— <i>Con.</i>								
C. Fretz, Fort Erie .....	Danish.....	16	18	8	18	21 <sup>a</sup>	81	14, 10
W. W. Bowen, Ridgeway .....	Mammoth Cluster.....	14	22	7 $\frac{1}{2}$	16	20	79 $\frac{1}{2}$	
A. W. Athoe, do R.R. 2 .....	O. A. C. 72.....	14	21	6	15	22	78	
Jno. F. Miller, Stevensville ....	Granary Filler....	15 $\frac{1}{2}$	16	8	17	20 $\frac{1}{2}$	77	14, 10, 15
Geo. Sexsmith & Son, Ridgeway, R.R. 2 .....	O. A. C. 72.....	14	19	8	17	18	76	14
W. J. Wale, Bridgeburg .....	Granary Filler....	13	21	7	17	17	75	15
J. Lefeune, Fort Erie .....	Russian.....	13	18	7	17	18 $\frac{1}{2}$	73 $\frac{1}{2}$	10
Jas. E. Laur, Bridgeburg, R.R. ....	O. A. C. 72.....	13	17	8	16	18	72	14
A. Merryweather, do .....	do .....	12	17	8	17	17	71	14
FENWICK AGR. SOCIETY.								
<i>Judge—J. J. Virtue, Enniskillen.</i>								
J. W. Haist, Fonthill .....	O. A. C. 72.....	16 $\frac{1}{2}$	24	10	20	21	91 $\frac{1}{2}$	
L. Beckett, Ridgeville, R.R. 1 .....	Banner.....	18 $\frac{1}{2}$	21	9	19	23 $\frac{1}{2}$	91	14
F. Haist, do R.R. 1 .....	O. A. C. 72.....	16	24	9	20	21	90	15
H. Haist, Fenwick, R.R. 5 .....	do .....	16	23	8	19	23	89	15
Clemens Bros., do .....	Amer. Banner....	14 $\frac{1}{2}$	22	10	20	21 $\frac{1}{2}$	88	14, 10
Jos. Leppert, do .....	O. A. C. 72.....	14 $\frac{1}{2}$	23 $\frac{1}{2}$	8	20	21	87	15
W. L. Horton, do R.R. 3 .....	do .....	14 $\frac{1}{2}$	23	7	20	22	76 $\frac{1}{2}$	
Jno. L. Stirtzinger, do R.R. 5 .....	Reg. Banner.....	15	21	8	20	19 $\frac{1}{2}$	83 $\frac{1}{2}$	10, 14, 15
Jno. Reid, Ridgeville .....	O. A. C. 72.....	15 $\frac{1}{2}$	20	7	20	20 $\frac{1}{2}$	83	
H. Stirtzinger, Fenwick .....	Imp. Mam. Cluster.....	16	20	7	18	20	81	14, 10, 15
Geo. Weed, Fenwick, R.R. 5 .....	Mammoth Cluster.....	14	23	9	14	19	79	
WELLAND AGR. SOCIETY.								
<i>Judge—J. J. Virtue, Enniskillen.</i>								
A. E. Howell, Fenwick, R.R. 5..	O. A. C. 72.....	18 $\frac{1}{2}$	24	9	20	23 $\frac{1}{2}$	95	
F. G. Hutton, Welland .....	Banner.....	17	23	9	20	22 $\frac{1}{2}$	91 $\frac{1}{2}$	14, 15
C. V. Robins, Wellandport, R.R.1 ..	O. A. C. 72.....	17	23	10	20	20 $\frac{1}{2}$	90 $\frac{1}{2}$	14, 15
N. Shafley, do R.R. 1 .....	do .....	17	23 $\frac{1}{2}$	8	19	22	89 $\frac{1}{2}$	14, 15
P. L. Gram, Pt. Colborne, R.R. 1 ..	do .....	15	24	8	20	22	89	
W. H. Crowther, Welland ....	do .....	16	23	8	19	22	88	15
C. W. Hagar, Pt. Robinson, R.R.1 ..	Banner.....	15	22	10	19	21 $\frac{1}{2}$	87 $\frac{1}{2}$	14, 15
R. M. Barron, Fonthill .....	O. A. C. 72.....	17	21	9	20	20	87	15, 14
R. F. Booth, Niagara Falls, R.R.2 ..	do .....	14	23	10	20	19	86	15, 14
C. Rigg, Wellandport, R.R. 1..	do .....	13	23	8	19	18 $\frac{1}{2}$	81 $\frac{1}{2}$	10
Roy Page, Chantler .....	Silver Mine.....	14	20	8	18	19	79	14
WELLINGTON.								
ARTHUR AGR. SOCIETY.								
<i>Judge—E. I. McLoughry, Markdale, R.R. 4.</i>								
H. Cormack, Arthur .....	O. A. C. 72.....	16 $\frac{1}{2}$	17	6	19	21 $\frac{1}{2}$	80	2
J. J. Bodendistle, Kenilworth ..	Banner.....	17 $\frac{1}{2}$	18	7	15 $\frac{1}{2}$	21 $\frac{1}{2}$	79 $\frac{1}{2}$	2
Jas. Bodendistle, do .....	do .....	16 $\frac{1}{2}$	16	7	18	21 $\frac{1}{2}$	79	2

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OATS.

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WELLINGTON.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
ARTHUR AGR. SOCIETY.— <i>Con.</i>								
Wm. Hutchinson, Arthur	Newmarket	16½	15	7	18	21½	78	2
P. F. Birns, do	Banner	15½	16	5	15	22½	74	2, 15
Jno. Henry, do	do	15½	15	5½	15	22	73	2, 1
Alex. Cook, do	O. A. C. 72	15½	14	4½	14	23	71	1, 2
W. J. Goldring, do	do	16	12	9	12	21½	70½	10, 2
W. J. Berry, do	do	15½	13	9	11½	21	70	2, 10
CENTRE WELLINGTON SOCIETY.								
<i>Judge—Geo. E. Foster, Honeywood.</i>								
R. L. & R. Short, Elora, R.R. 1	Abundance	18½	24½	8	19½	24½	94½	
W. A. Atkinson, Fergus, R.R. 4	O. A. C. 72	17	24	9½	17	22½	90	
J. L. Benham, Rockwood, R.R. 3	Abundance	17	22	9	17	21½	86½	
W. Ransom, Fergus, R.R. 4	Imp. Mam. Cluster	14	24	9	16	22	85	
J. H. Anderson, do R.R. 4	O. A. C. 72	18½	12	7	18	23½	79½	1, 10
Wm. Hutcheon, Rockwood, R.R. 1	do	16	12	6	18	20½	72½	1
ERIN AGR. SOCIETY.								
<i>Judge—Wm. McCrae, Guelph, R.R. 7.</i>								
E. Barbour, Hillsburg, R.R. 2	O. A. C. 72	16	21	8	19	20	84	
R. D. Nodwell, do	Reg. Banner	15½	22	7	19	20	83½	
S. W. Bingham & Son, do R.R. 2	do	15	22	7	19	20	83	
M. Leitch, Guelph, R.R. 1	O. A. C. 72	16½	20	7	19	20	82½	10
J. W. Burt & Sons, Hillsburg R.R. 1	Ligowa	16	22	7	17	20	82	11
S. E. Griffin & Son, Acton, R.R. 2	O. A. C. 72	16	20	8	17½	20	81½	
H. L. Matheson, Hillsburg, R.R. 2	do	15	22	6	17	19	79	
J. L. Overland, Erin, R.R. 1	Reg. Banner	13	22	9	16	18	78	
R. Overland, Orton, R.R. 2	Northland	15	20	6	17	19	77	10
Jos. Coke, Erin, R.R. 2	Reg. Banner	13	21	7	18	18	77	
F. McMillan, Hillsburg	do	14	20	7	18	18	77	10
Jas. Milloy, Erin, R.R. 1	O. A. C. 72	14	18	7	19	18	76	10
PALMERSTON AGR. SOCIETY.								
<i>Judge—E. I. McLoughry, Markdale.</i>								
A. L. Patterson, Palmerston, R.R. 3	Granary Filler	15½	18	7	16	23½	80	4, 10
Geo. Quennell, do R.R. 3	O. A. C. 72	14½	18	7	16	23	78½	2
Alex. Murdoch, do R.R. 3	do	16½	15½	7	17	20½	76½	2, 10
Lyons Bros., do	do	15½	19	4	14	22	74½	1, 2, 15
J. K. Campbell, do	do	16	13	9	15	20½	73½	1, 2
Jno. Webber, do	Abundance	15	14	7	16	21	73	2, 15

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
WELLINGTON.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
PUSLINCH AGR. SOCIETY.								
<i>Judge—Geo. E. Foster, Honeywood.</i>								
J. A. Cockburn & Sons, Puslinch, R.R. 1	O. A. C. 72	18 $\frac{1}{4}$	24 $\frac{1}{2}$	9 $\frac{1}{2}$	20	23 $\frac{3}{4}$	96	
W. Winer & Sons, Guelph, R.R.3	do	17 $\frac{1}{2}$	24 $\frac{1}{2}$	9 $\frac{1}{2}$	20	23 $\frac{1}{2}$	95	
D. A. McNaughton, Puslinch, R.R. 2	Granary Filler	18 $\frac{3}{4}$	24 $\frac{1}{2}$	9	17 $\frac{1}{2}$	24 $\frac{1}{2}$	94	
P. J. McLean & Sons, do R.R. 1	O. A. C. 72	17 $\frac{3}{4}$	23 $\frac{1}{2}$	9	19 $\frac{3}{4}$	23 $\frac{3}{4}$	93 $\frac{1}{2}$	
A. McLean & Sons, do R.R. 1	do	18 $\frac{3}{4}$	24	7	19	24	92 $\frac{3}{4}$	
D. A. McLean, do R.R. 1	do	17	24	8	20	23	92	
H. McCaig, Sr., Hespeler, R.R. 2	do	16 $\frac{1}{2}$	24	9	19 $\frac{1}{2}$	20 $\frac{1}{2}$	89 $\frac{1}{2}$	
J. & G. W. Barclay, Guelph, R.R.3	do	15	23	6 $\frac{1}{2}$	20	21 $\frac{1}{2}$	86	
Jno. Penrice, do R.R. 3	do	17	18	9	19	22 $\frac{1}{2}$	85 $\frac{1}{2}$	
John W. Kerr, Puslinch, R.R. 1	do	16	22	8	18	21	85	
N. Stewart, Morriston	do	15 $\frac{3}{4}$	22	8 $\frac{1}{2}$	15 $\frac{1}{2}$	22 $\frac{1}{2}$	84	
Jno. McCormick, Hespeler, R.R.2	do	13 $\frac{1}{2}$	22	6	18	20 $\frac{1}{2}$	80	
ROCKWOOD AGR. SOCIETY.								
<i>Judge—Wm. McCrae, Guelph.</i>								
A. F. Auld, Guelph, R.R. 2	Golden Rain	15	22	7	18	21	83	15
Jos. Gahan, Rockwood, R.R. 5	O. A. C. 72	17	17 $\frac{1}{2}$	8	19	21	82 $\frac{1}{2}$	15, 2
C. H. Harris, do	do	16	19	8	19	20	82	10, 15
R. N. Brown, Acton, R.R. 2	Newmarket	16	22	8	16	19 $\frac{1}{2}$	81 $\frac{1}{2}$	15
B. Tolton, Guelph, R.R. 4	O. A. C. 72	16	19 $\frac{1}{4}$	8	18	20	81 $\frac{1}{4}$	
L. McDougall, Rockwood, R.R. 5	Empire	17	19	9	18	18	81	15, 2
Wm. McCutcheon & Sons, Guelph, R.R. 1	Sheffield Standard	16	19	8	17	20 $\frac{1}{2}$	80 $\frac{1}{2}$	
Jos. Stovel, Rockwood, R.R. 1	O. A. C. 72	16	19	7	18	20	80	13, 15, 2
W. G. Chapman, do R.R. 3	do	17 $\frac{1}{2}$	18	6	19	18	78 $\frac{1}{2}$	15, 2
Jno. I. Cummins, do R.R. 3	do	14 $\frac{1}{2}$	18	7	18	20	77 $\frac{1}{2}$	15, 2
N. McLean, do R.R. 4	do	15	18	8	16	20	77	10, 2
W. A. Dickieson, do R.R. 1	Amer. Beauty	15	21	6	16	19	77	15, 2
C. W. Geroux, Guelph, R.R. 2	O. A. C. 72	14	22	5	18	18	77	15
Thos. Cox, Rockwood, R.R. 4	Abundance	14	20	7	16	19	76	15, 2
T. A. Scanlon, do R.R. 1	Banner	14	20	7	16	18	75	2
WENTWORTH.								
WATERDOWN AGR. SOCIETY.								
<i>Judge—Arch. Greer, Mansfield.</i>								
H. A. Drummond, Hamilton, R.R. 2	Reg. Abundance	17	21	9	18	22	87	15
Wm. Thompson, Waterdown	O. A. C. 72	17 $\frac{1}{2}$	21	7	18	22	85 $\frac{1}{2}$	10
G. E. Horning & Son, do	Reg. Abundance	17	20	9	18	21	85	
E. Harris, Flamboro Centre	O. A. C. 72	15 $\frac{1}{4}$	21	8	18	21	83 $\frac{1}{4}$	15
Wm. Attridge, Waterdown	Lincoln	15 $\frac{1}{2}$	20	9	16	22	82 $\frac{1}{2}$	4
Wm. J. Ptolemy, Flamboro C'tre	O. A. C. 72	16	18	8	17	22	81	15, 10
B. Binkley, do	O. A. C. 72	16	20	6	18	20 $\frac{1}{2}$	80 $\frac{1}{2}$	10

NOTE.—The figures in parenthesis at the top are maximum possible scores.



RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	†Freedom from weeds.	‡Freedom from smut, blight and insects.	§Freedom from other varieties and other kinds of grain.	¶Yield and quality of grain.	Totals of scores.	††Weeds in competitors' fields.
WENTWORTH.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
WATERDOWN AGR. SOCIETY.— <i>Con.</i>								
Thos. Mills, Campbellville, R.R.3	O. A. C. 72.....	17	20	9	15	19	80	15
Jno. A. Bennett, do R.R.3	Granary Filler....	16	21	7	16	20	80	15
Jas. Attridge, Waterdown .....	Sterling.....	14	22	6	18	19	79	14
H. J. Bennett, Campbellville, R.R. 3 .....	Am. Banner.....	15½	19	4	16	20	74½	10, 15
WEST FLAMBORO AGR. SOCIETY.								
<i>Judge—Arch. Greer, Mansfield.</i>								
W. Lambier, Millgrove, R.R. 2.	Lincoln.....	18½	22	8	18	22	88½	14
Jas. A. Gray, Freelon .....	Abundance.....	16½	23	8	18	21	86½	14, 15
E. Gartley, Puslinch, R.R. 3 ...	Mammoth Cluster	16½	23	7	18	21	85½	15, 14
Thos. George, Millgrove, R.R. 1	Lincoln.....	15½	23	9	17	20½	85	
Wm. Beaton, Hamilton, R.R. 2.	do .....	16	20	8	18	21	83	15, 14
G. W. Cummins, Puslinch, R.R.3	do .....	16	20	9	16	21½	82½	2, 15
H. Hamilton, Harper's Corners	Jewel.....	17	22	6	16	20	81	15
S. Zimmerman, Carlisle .....	O. A. C. 72.....	15	19	7	18	21½	80½	10
Wm. H. Anderson, Freelon ...	Lincoln.....	15½	15	6	15	18½	70	1, 14
YORK.								
RICHMOND HILL AGR. SOCIETY.								
<i>Judge—R. J. Hall, Shelburne, R.R. 2.</i>								
F. A. Clarke, Gormley, R.R. 2.	\$1,000.....	20	25	9	20	21	95	
C. H. Jones, Maple, R.R. 2 ....	Waverley.....	18	24	7	18	20	87	
Jno. Young & Sons, Hagerman	Yel. Russian.....	17	25	9	15	19	85	
A. E. Jones, Maple .....	Waverley.....	16	24	8	17	19	84	
J. McLean, Richmond Hill, R.R.1	O. A. C. 72.....	15	20	10	18	19	82	2
F. A. Legge, Jefferson .....	do .....	16	23	6	15	18	78	
Mrs. P. E. Jones, Maple, R.R. 2	O. A. C.....	15	20	8	15	19	77	
F. Boyle, Hagerman .....	O. A. C. 72.....	15	15	7	18	21½	76½	2
R. W. E. Burnaby, Jefferson ..	do .....	13	22	8	13	20	76	
SCARBORO AGR. SOCIETY.								
<i>Judge—R. J. Hall, Shelburne, R.R. 2.</i>								
S. Baird, Scarboro, R.R. 1 ....	O. A. C. 72.....	19	24	7½	19½	22	92	
Lawrie Bros., Agincourt, R.R. 1	Yel. Russian.....	19	24	7	19	22½	91½	
Robt. McCowan, Scarboro ....	Granary Filler....	17	25	10	18	21	91	
Jas. Scott, Agincourt, R.R. 1..	Banner.....	18	24	9	18	20	89	
Wm. Loveless, Scarboro, R.R. 1	Reg. Banner.....	17	22	9	14½	23	85½	
Wm. G. Rennie, Agincourt ....	Lincoln.....	17	24	7	15	22	85	
Wm. B. Davidson, do .....	do .....	17	23	9	15½	20	84½	2
A. P. Wheler, do .....	Granary Filler....	17	24	9	14	20	84	
L. A. Kennedy, do .....	Lincoln.....	17	22	9	14	19	81	1, 10
H. Kennedy, do .....	do .....	17	23	7	16	17	80	
Wm. A. Patterson, do .....	Banner.....	17	17½	7	14	21	76½	1

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
YORK.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
WOODBRIDGE AGR. SOCIETY.								
<i>Judge—Geo. McKague, Woodville, R.R. 4.</i>								
Wm. Laurie Woodbridge, R.R. 3	Abundance.....	17	24	9	17	22	89	
A. T. Witherspoon, do	O. A. C. 72.....	18	16	9	19	22½	84½	1
I. Fletcher, do	Banner.....	16½	24	8	14	21½	84	
Robt. Wood, Weston, R.R. 10	O. A. C. 72.....	17½	17	8	19	22	83½	1
Jas. Bell, Woodbridge	Reg. Banner.....	18	16	8	19	22	83	2, 15
C. A. McNeil, Maple	O. A. C. ....	17½	14	10	15	20½	77	1, 10, 2
M. Miller, Woodbridge	S. Standard.....	18½	9	9½	17	22½	76½	1, 15, 2, 4
Jos. Julian, Malton	Siberian.....	18½	10	9½	15	23	76	1
S. McClure, Woodbridge	O. A. C. 72.....	16½	12	9	17	21	75½	1, 10, 15
A. L. McNeil, do	Abundance.....	17	8	9½	19	21½	75	1, 4, 2, 15
R. K. Johnston, Nashville	Early Waley.....	17½	8	10	17½	21½	74½	1, 10, 4, 2, 12

FALL WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
LAMBTON.		(20)	(25)	(10)	(20)	(25)	(100)	
FLORENCE AGR. SOCIETY.								
<i>Judge—E. J. Mullins, Woodstee.</i>								
G. Butler, Croton, R.R. 2	100 Mark.....	18½	25	9	18½	22½	94	
Jas. Coneybeare, Dresden, R.R. 2	do	17½	22	8½	18½	23	89½	4
J. A. Webster, Thamesville, R.R. 2	Golden Chaff.....	16	24½	8	19	21½	89	
B. W. Fansher, Florence, R.R. 2	Dawson's G. Chaff.	17	22	8	19	21½	87½	
Robt. Wood, Croton, R.R. 2	100 Mark.....	17	23½	8	17	20½	86	
Byron Walker, Bothwell, R.R. 1	Dawson's G. Chaff	15½	23	8½	18½	19½	85	
Robt. Currie, Florence, R.R. 3.	do	16½	23	8	18	19	84½	
C. F. Vance, Thamesville, R.R. 2	do	15½	22	9	19	19	84½	4, 14
I. Coleman, Bothwell, R.R. 1	do	15	22	7½	17	19	81½	
Geo. Yasburg, Inwood, R.R. 1	Niagara Red.....	14½	17	9	17	19	76½	5
Geo. L. Sinclair, Croton, R.R. 2	100 Mark.....	14	15	7	16	20½	72½	4

\*General appearance—Considering stand of crop, type of plant, vigor and uniformity of growth, method of seeding and absence of lodging.

†Yield and quality of grain—Considering proportion of well-filled heads of plump grain of good quality and uniformity of maturity.

‡See key page.

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	†Freedom from weeds.	‡Freedom from smut, blight and insects.	§Freedom from other varieties and other kinds of grain.	¶Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
BRANT.		(20)	(25)	(10)	(20)	(25)	(100)	
SIX NATIONS AGR. SOCIETY.								
<i>Judge—E. J. Mullins, Woodslee.</i>								
Ed. Miller, Ohswekin	Marquis	18	20	9	18	25	90	
Elias Styres, do	do	20	18	10	17	23	88	5
Austin Jamieson, do	do	17	16	9	17	19	78	
Wm. Smith, Jr., Burtch	do	14	14	8	16	19	75	4, 5
Sandy McNaughton, Ohswekin	Marquis	16	10	9	17	19	71	14, 15
Hy. Farmer, Burtch	do	12	20	8	17	13	70	
BRUCE.								
CARRICK AGR. SOCIETY.								
<i>Judge—J. Fischer, Mildmay.</i>								
T. H. Jasper, Carlsruhe, R.R.	Marquis	15	25	5	20	18	83	
And. McKague, Teeswater	do	18	20	8	15	21	82	1
And. Schmidt, Mildmay, R.R. 1	do	20	15	8	20	18	81	1
W. A. Rowand, Walkerton, R.R. 1	do	18	25	5	15	17	80	
W. A. Tolton, do R.R.	do	15	13	8	15	25	79	1
J. S. Armstrong, Formosa, R.R. 1	do	20	20	5	15	13	73	1
CHESLEY AGR. SOCIETY.								
<i>Judge—J. C. Duff, Markdale.</i>								
Jno. Oswald, Chesley	Marquis	18½	24	9	18	23½	93	
S. K. Ewart, do	do	17	24	9	18	22½	90½	
J. E. Cass, do	do	18½	15	9	19	23½	85	
David Ruthvan, Paisley	do	17½	17	8	18	21½	82	
Robt. Sloan, Chesley	do	16	20	7	18	20	81	
W. Thompson, do	do	16½	20	6	18	19½	80	
D. Connor, do	do	15½	20	7	17	19	78½	
Jno. Thompson, do	do	14	24	5	17	18	78	
Wm. Maxwell, do	do	15	18	7	17	19	76	
C. Calhoun, Jr., Dobbinton	do	14	17	6	17	18	72	
Peter McTavish, Chesley	do	14	15	6	17	18	70	
LUCKNOW AGR. SOCIETY.								
<i>Judge—J. W. Patton, Rocklyn.</i>								
S. Phillips, Lucknow, R.R. 2	Marquis	18	22	9½	17	21½	88	
W. G. McKenzie, do R.R. 6	do	18½	22	9½	15	22	87	
Jno. Webster, do R.R. 2	do	17½	25	9	15	20	86½	
R. J. Woods, do R.R. 2	do	18½	16	9½	18	23	85	1

\*General appearance—Considering stand of crop, type of plant, vigor and uniformity of growth, method of seeding and absence of lodging.

†Yield and quality of grain—Considering proportion of well-filled heads of plump grain of good quality and uniformity of maturity.

‡See key page.

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.		Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
			(20)	(25)					
<b>BRUCE.—Continued.</b>									
<b>LUCKNOW AGR. SOCIETY.—Con.</b>									
D. K. Alton, Lucknow, R.R. 7	Marquis.....	17	20	9	16	22½	84½		
F. Todd, do R.R. 2	do .....	18½	17	9	16	22½	83	1	
K. McDonald, do R.R. 6	do .....	16½	22	9½	15	19½	82½		
Jas. Ritchie, do R.R. 8	do .....	18	16	9½	16	22	81½	14	
Wm. Rutherford, do R.R. 2	Goose.....	17	17	8½	17	21½	81		
B. Naylor, do R.R. 1	Marquis.....	18	16	9	15	22½	80½	1, 2, 14	
<b>CARLETON.</b>									
<b>FITZROY AGR. SOCIETY.</b>									
<i>Judge—Robt. McKay, Marville.</i>									
J. E. Armstrong, Kinburn ....	Marquis.....	16	24½	8½	19	23	91		
E. O. Wilson, do ....	do .....	17½	22	8	19½	23½	90½	4, 10	
R. G. Gillan, Pakenham ....	do .....	16½	24½	8	19½	21½	90		
W. A. Millar, Arnprior ....	White Fife.....	15½	23	8½	19	22½	88½	4	
A. J. Halpenny, Galetta ....	Marquis.....	17	21	8½	18½	22	87	4, 10	
A. E. Riddell, Kinburn ....	do .....	16	23	8	18	21½	86½	15	
H. E. Miller, Arnprior ....	do .....	17	22	8½	15	23½	86	10	
Abram Miller, Galetta, R.R. 1	White Fife.....	14½	22	8	18	16	78½	4	
J. L. Hunt, do ....	Marquis.....	13	21	8½	17	16½	76	10	
Hartley Miller, do R.R. 1	do .....	14	18	8	16	19½	75½	4, 10	
F. R. Gourlay, Kinburn ....	White Fife.....	15½	10	8½	18	22½	74½	1, 2, 4, 10	
Lawson Stewart, Arnprior, R.R.1	Red Fife.....	15½	10	8	19	20½	73	1, 4, 10	
<b>DUFFERIN.</b>									
<b>DUFFERIN AGR. SOCIETY.</b>									
<i>Judge—R. E. Mortimer, Honeywood.</i>									
W. H. Gillespie, Orangeville. R.R. 3 .....	Marquis.....	18	20	8	16	22	84	3	
W. H. Hunter, Orangeville, R.R.2	do .....	16	18	9	17½	20	80½	10, 14	
J. A. Cornelius, Amaranth Sta.	do .....	16½	18	8	16	21	79½	1	
S. C. W. Hughson, Orangeville, R.R. 2 .....	do .....	16½	18	9	15	20½	79	11	
Jacob Hoare, Amaranth Station.	do .....	16½	18	8	16	19	77½	3	
D. N. Potter, Caledon East ....	Mammoth.....	16½	17½	9	15	19	77	3, 15	
B. C. Cook, Orangeville ....	Marquis.....	16½	16	9	16	19	76½	1, 15	
G. I. Nodwell, do R.R. 2	do .....	16½	17½	8	15	19	76	3, 9	
W. N. Baker, do ....	do .....	15½	17	9	16	17½	75	1	
Joshua Bradley, Amaranth Sta.	do .....	16½	12	8	16	21	73½	1, 3	
J. H. Jackson, Orangeville, R.R.1	do .....	16½	12½	9	16	19	73	1, 3	
Jas. White, do R.R. 3	do .....	17	8	8½	18	21	72½	1	
Dougal Reid, do R.R. 2	do .....	13½	18	8½	14	16	70	11, 15	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
		(20)	(25)	(10)	(20)	(25)	(100)	
<b>DUFFERIN.—Continued.</b>								
EAST LUTHER AGR. SOCIETY.								
<i>Judge—D. McClure, Norval, R.R. 2.</i>								
T. Halls, Colbeck, R.R. 1	Marquis	16	18	7	18	19 $\frac{1}{2}$	78 $\frac{1}{2}$	5
W. E. Turner, Gr'd. Valley, R.R.3	do	14	19	8	17	19 $\frac{1}{2}$	77 $\frac{1}{2}$	2
W. J. Crane, do	do	16	15	8	17	20 $\frac{1}{2}$	76 $\frac{1}{2}$	1, 2
Geo. Park, Arthur, R.R. 2	do	14 $\frac{1}{2}$	16	7	18	19 $\frac{1}{2}$	75	1, 2
W. Richardson, G'd Valley, R.R.3	do	14 $\frac{1}{2}$	15	7	18	19 $\frac{1}{2}$	74	1, 2
D. P. Macdonald, do	do	16	10	8	17	19 $\frac{1}{2}$	70 $\frac{1}{2}$	1, 2, 15
<b>DUNDAS.</b>								
MOUNTAIN AGR. SOCIETY.								
<i>Judge—G. W. Davidson, Kemptville, R.R. 4.</i>								
Thos. Carlyle, Osgoode, R.R. 4.	Marquis	17	20	9	18	21	85	
W. G. Timmins, Inkerman	do	17	18	7	18	22	82	5
S. D. Thorpe, S. Mountain	do	16	20 $\frac{1}{2}$	8	18	19	81 $\frac{1}{2}$	15
W. T. Beggs, do	do	17	18	6	18	22	81	
J. H. Higginson, Inkerman	White Fife & Marquis	14	20	7	18	21	80	2, 4, 17
R. Mulholland, S. Mountain	do	14	16	8	16	22	76	2, 3, 5, 15
Mellan Bros., do	do	12	18	8	16	21	75	4, 5, 10
H. A. McQuaig, do	Red Fife	13	16	7	17	20	73	2, 10
<b>DURHAM.</b>								
CLARKE TP. AGR. SOCIETY.								
<i>Judge—Geo. Sexsmith, Ridgeway.</i>								
A. A. Colwill, Newcastle, R.R. 2	Marquis	20	20	10	17	25	92	1, 4
W. F. Rickard, do	do	20	17	10	19	25	91	1, 2, 4, 15
C. A. Chapman, Orono	do	17	20	10	19	24 $\frac{1}{2}$	90 $\frac{1}{2}$	1
D. Moffatt, do	Prince Imperial	20	22	9	16	23	90	
I. T. Chapman, do	do	20	24	8 $\frac{1}{2}$	15	22	89 $\frac{1}{2}$	
C. L. Powers, do	do	16	24	8 $\frac{1}{2}$	18	22	88 $\frac{1}{2}$	
A. E. Morton, Kendal	do	17	20	9	18	23	87	
D. J. Gibson, Bowmanville, R.R.4	Marquis	20	13	10	18	25	86	1, 2, 4, 15
W. D. Bragg, Newcastle, R.R. 2	do	20	13	10	18	25	86	
A. J. Tamblin, Orono	do	16	20	9	16	24	85	1
W. J. Stutt, do	White Fife	16	22	7	16 $\frac{1}{2}$	22 $\frac{1}{2}$	84	3, 15
A. A. Somerville, do	Prince Imperial	19	23	....	18	20	80	1
W. A. Gibson & Son, Newcastle	Colorado	18	24	....	18	20	80	

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—(C)  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
		(20)	(25)	(10)	(20)	(25)	(100)	
<b>DURHAM.—Continued.</b>								
PORT HOPE AGR. SOCIETY.								
<i>Judge—F. W. Rilance, Beaverton.</i>								
H. Bickle, Port Hope	Marquis	20	24	9½	18	24	95½	4
M. Westington, Cobourg, R.R. 4	Marquis	18½	24	9	18	24	93½	4
H. A. Holdsworth, do R.R. 4	do	19½	21	10	18	23	91½	10
E. H. Martin, Port Hope, R.R. 1	Colorado	18	23	8	19	22½	90½	
G. Holdsworth, Cobourg, R.R. 4	Marquis	18½	23	8	18	22½	90	4, 15
W. Lingard, Port Hope, R.R. 3	do	17½	23	9	17	23	89½	3, 4
R. L. Holdsworth & Son, Port Hope	Marquis	17	22	10	18	21	88	4
H. Taylor, Port Hope, R.R. 4	Colorado	16½	22	9	19	21	87½	3, 15
W. J. Crowhurst, do	Marquis	19	20	9	17	22	87	2
Norman Wilson, Perrytown	do	14	22	10	18	20½	84½	4
J. H. Bosnell, Port Hope, R.R. 3	do	16	22	7	19	20	84	4, 10
Jas. Austin, do R.R. 4	Marquis	17	17½	8	17	21½	81	1
H. A. Walker, do R.R. 1	do	14	17	9	18	21	79	2, 4, 10
Thos. Coyte, do	Colorado	19	10	8	19	23	79	1
Job Dickinson, do R.R. 3	do	16	16	6	17	22	77	
H. N. Haskill, do R.R. 3	Marquis	16	10	8	16	20	70	
W. DURHAM AGR. SOCIETY.								
<i>Judge—F. W. Rilance, Beaverton.</i>								
R. E. Osborne, Bowmanville, R.R. 2	Marquis	19	24	9	18½	24½	95	
A. W. Annis, Tyrone	do	18½	24	9½	19½	22½	94	
A. L. Pascoe, Hampton, R.R. 1	do	18½	24	9	19	23	93½	
F. Osborne, Bowmanville	do	18½	23	9	18½	23	92	4
J. Baker, Hampton, R.R. 1	Colorado	18	21½	8	19	22	88½	2
J. Leask & Son, Taunton	Marquis	17	20	10	19	22	88	1, 15
W. E. Jewell, Bowmanville, R.R. 4	do	18	15	9	19	23	84	1, 2
F. L. Squair, do	do	16½	15	10	19	21½	82	1
R. K. Bragg, do R.R. 4	do	18	12	10	19½	22	81½	1
T. Baker & Son, Hampton, R.R. 2	do	18	16	7	18	22½	81½	1
W. L. Bragg, Bowmanville, R.R. 4	do	17½	15	8	18	22	80½	
W. J. S. Rickard, do R.R. 4	do	18	10	9	18	22	77	1, 2, 10
T. C. Jackson, do R.R. 4	do	17	10	9	18	22	76	
Irwin Allen, do	do	16½	10	8	18	22	74½	
W. S. Bragg, do R.R. 4	Marquis	15	10	9	18	21½	73½	1, 2, 10
W. L. Snowden, do R.R. 3	do	13	12	8	18	21	72	1, 2
<b>FRONTENAC.</b>								
WOLFE ISLAND AGR. SOCIETY.								
<i>Judge—H. R. Blakely, Eldorado, R.R. 1.</i>								
F. M. Baker, Wolfe Island	Marquis	16	22	9	19	23	89	4
J. S. Armstrong, do R.R. 3	Goose	16	21½	8	17½	23	86	4
Oliver Hawkins, do	Blue Stem	16	21	9	18½	21	85½	4, 10

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	‡Totals of scores.	§Weeds in competitors' fields.
		(20)	(25)	(10)	(20)	(25)	(100)	
<b>FRONTENAC.—Continued.</b>								
<b>WOLFE ISLAND AGR. SOCIETY.—Continued.</b>								
Jas. Hutton, Wolfe Island.....	Blue Stem.....	15½	22	8	17½	21½	84½	4
C. Loughlin, do .....	White Fife.....	16	22	8	17½	20½	84	4, 15
Jno. Hall, do .....	Marquis.....	15½	20	9	18	20½	83	4
M. Wiggins, do R.R. 2	Red Fife.....	16	20	8	16	20½	81	4
J. W. Niles, do R.R. 1	White Fife.....	13	18	9	17	20	77	4, 10, 15
Craig Russell, do R.R. 4	Globe.....	14½	17	7	17	20	75½	4, 15
J. Laughlin, do .....	Blue Stem.....	13½	16	7	16	18½	71	3, 4, 5
<b>GRENVILLE.</b>								
<b>KEMPTVILLE AGR. SOCIETY.</b>								
<i>Judge—Jas. McLean, Richmond Hill.</i>								
J. H. Sloan, Kemptville, R.R. 5	Marquis.....	17	19½	9	15	19½	80	3, 14, 15
M. A. Powell, do R.R. 4	do .....	17	15	8½	17	21	78½	4, 5
J. C. Connerty, do R.R. 5	do .....	14½	15½	8½	15	19½	73	1, 15
Frank Percival, do R.R. 4	do .....	14½	10	8	17	21	70½	3, 4, 10, 15
C. Bishop, Oxford Mills .....	Red Fife.....	14½	16	5	16½	18	70	2, 10, 15
<b>GREY.</b>								
<b>WALTER'S FALLS AGR. SOCIETY.</b>								
<i>Judge—R. H. Crosby, Markham.</i>								
Geo. T. Reed, Markdale, R.R. 3	Marquis.....	18	20	9	18	22½	87½	1, 15
E. W. Quinton, Walter's Falls ..	Goose.....	18	18	9	18½	23	87	1, 15
Herb. Mower, do .....	Marquis.....	17	15	9	18	22½	81½	1, 15
S. Marshall, do .....	do .....	18	10	9	18	23	78	1, 14, 15
J. Shepherdson, Markdale, R.R. 2	do .....	17	10	9	19	21½	76½	1, 15
W. T. Seabrook, Walter's Falls	do .....	18	8	9	18	23	76	1
W. G. Dixon, do .....	do .....	17	10	8½	17	21½	74	1, 15
W. L. McKenzie, Meaford, R.R. 1	do .....	17½	5	9	17	23	71½	1, 15
<b>HURON.</b>								
<b>HOWICK AGR. SOCIETY.</b>								
<i>Judge—R. Medd, Jr., Auburn.</i>								
R. J. Sanderson, Fordwich .....	Marquis.....	17	25	10	10	20	82	1
T. & E. McKercher, Wroxeter..	do .....	13	15	10	15	20	73	1
A. W. Kell, Gorrie, R.R. 2 .....	Huron.....	13	15	10	15	19	72	1
W. Brown, Sr., do R.R. 1.....	Marquis.....	20	10	10	15	15	70	1

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	†Weeds in competitors' fields.
HURON.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
TURNBERRY AGR. SOCIETY.								
<i>Judge—J. W. Patton, Rocklyn.</i>								
W. Webster, Lucknow, R.R. 2.	Marquis	18½	25	9½	18	22	92½	
J. J. Wright, Wingham, R.R. 1	do	19	23	9½	17	22½	91½	14
H. Purdue, do R.R. 5	do	17	22	9½	18½	21½	88½	1, 14
Chas. Carter, do R.R. 5	do	18	20	9½	18	22½	88	1
J. J. Fryfogle, do R.R. 1	Goose	17	23	9	16	22½	87½	
Oliver Campbell, do R.R. 4	Marquis	17½	23	9½	15	22	87	1
Frank Henry, Lucknow, R.R. 5	Goose	17	22	9	16	22½	86½	
H. Deacon, Wingham, R.R. 5	Marquis	17½	19½	9½	17	22	85½	11
W. J. Currie, do R.R. 5	do	19½	15	9½	17	23	84½	1, 4
H. McGee, do R.R. 3	do	16	17	9½	17½	21½	81½	
R. E. Heatherington, do R.R. 4	do	16	15	9½	16	22	78½	1, 3
LEEDS.								
BROCKVILLE AGR. SOCIETY.								
<i>Judge—G. W. Davidson, Kemptville, R.R. ¼.</i>								
E. H. Easton, Lyn	Marquis	16½	22	9	18	23	88½	5
W. H. McNish, do	do	16	20	8	18	22½	84½	5, 10
G. Jackson, do	do	16	16	9	17	21½	79½	
J. S. Moore, Bellamy, R.R. 1.	do	15	18	8	18	20	79	
T. A. Walker, do R.R. 1.	Goose	13½	20	7	17½	20	78	10
Jas. Marshall, Mallorytown	Marquis	14½	15	8	18	20½	76	5, 10
LANSDOWNE AGR. SOCIETY.								
<i>Judge—H. R. Blakely, Eldorado, R.R. 1.</i>								
G. Ruttle, Lansdowne	White Fife	17	21	8	17	23	86	3, 10
O. W. Landon, do	Marquis	16½	21	8	17	22½	85	4, 10
W. H. Bradley, do R.R. 4	Goose	16	22	8	16	22	84	15
Robt. Steacy, do	Marquis	16	20½	8	18	21	83½	4, 15
W. Landon, do R.R. 2	do	15	21	8	18	21	83	10, 15
Robt. Shields, do R.R. 3	do	16	20	8	17	21	82	4, 15
A. V. Turner, do R.R. 1	do	14	20	8	18	20½	80½	4
R. E. Steacy, do	Red Fife	15	19	9	15	22	80	4
W. C. Webster, Malloryt'n. R.R. 1	Fife	15	20	8	16	20	79	15
Ben. Cook, Lansdowne, R.R. 1	Red Fife	14½	17	8	17	21½	78	4, 14
Geo. Loney, do	Fife	15½	18	7½	16	20	77	4, 10
Thos. Steacy, do R.R. 2	Marquis	11½	20	8	17	20	76½	4, 10
MANITOULIN.								
GORE BAY AGR. SOCIETY.								
<i>Judge—J. D. McKenna, Loretto.</i>								
S. Emery, Foxey	Marquis	16	20	8	17	21	82	15
Hy. Witty, do	do	17	18	8	17	20	80	13, 15
Jno. Jennings, Barrie Island	Red Fife	15	15	9	17	23	79	4

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 SPRING WHEAT.

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<b>MANITOULIN.—Continued.</b>		(20)	(25)	(10)	(20)	(25)	(100)	
<b>GORE BAY AGR. SOCIETY.—Con.</b>								
N. Campbell, Foxey .....	Marquis.....	14	15	8	17	21	75	4,15
E. A. Letts, Barrie Island .....	Red Fife.....	17	10	9	17	21	74	1,15
Geo. Strain, Gore Bay .....	Man. Hard.....	15	13	9	17	19	73	4,13,15
J. G. Vanmeer, Long Bay .....	Marquis.....	16	16	7	17	16	72	4,13,15
W. Mulligan, Gore Bay .....	do .....	16	14	7	16	18	71	4,13,15
Alex. Fraser, do .....	do .....	17	15	7	14	17	70	13,15
<b>MIDDLESEX.</b>								
<b>LONDON TP. AGR. SOCIETY.</b>								
<i>Judge—Jas. Boyd, Markham.</i>								
Bert. Kennedy, Ilderton, R.R. 4 ..	Marquis.....	16	20	10	19	22	87	15
Jas. Smibert, Ettrick, R.R. 1 ..	do .....	16	19	9	19	23	86	1,14,15
Jno. Armitt, London, R.R. 3 ..	do .....	16	20	9	18	22	85	1,15
R. Cunningham, Denfield .....	do .....	17	15	10	19	22	83	1,15
R. Dale, Ilderton, R.R. 2 .....	do .....	14	18	9	19	22	82	1,15
Robb Bros., do R.R. 2.....	do .....	15	16	10	15	22	78	1,10,14
J. Walls & Sons, Denfield, R.R. 4 ..	do .....	14	14	10	18	21	77	1,15
Warren Decker, London, R.R. 2 ..	do .....	17	9	9	19	22	76	1,2
W. W. Kerr, Denfield, R.R. 4 ..	do .....	11	14	10	17	20	72	1,15
<b>MUSKOKA.</b>								
<b>GRAVENHURST AND MUSKOKA AGR. SOCIETY.</b>								
<i>Judge—W. F. B. Switzer, Streetsville.</i>								
Jonathan Groh, W. Gravenhurst ..	Marquis.....	17	24	9	18	23	91	
W. W. Morrison, Reay .....	Goose.....	16	23	8	17	20	84	15
S. Polmateer, Gravenhurst .....	do .....	14	22	8	17	22	83	
Geo. York, do .....	do .....	13	22	8	18	21	82	15
W. H. Tincombe, do .....	do .....	14	21	8	18	20	81	10
Jno. White, do .....	do .....	14½	20	8	17	21	80½	2,15
Wallace Ruttan, do .....	White Fife.....	14½	20	8	17	20½	80	15
Byron Laycock, do .....	Goose.....	14	20	9	17	20	79	15
O. E. Taylor, Reay .....	do .....	14½	15	8	16	18½	72	2,15
<b>NIPISSING.</b>								
<b>VERNER AGR. SOCIETY.</b>								
<i>Judge—J. D. McKenna, Loretto.</i>								
S. Lawrence, Verner .....	Marquis.....	17	22	9	15	22	85	15
D. Lacosse, do .....	do .....	16	23	7	17	21	84	15
Jos. Aubin, do .....	do .....	15	23	8	17	19	82	15
T. Filiatrault, do .....	do .....	17	17	8	17	22	81	10,15

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
<b>NIPISSING.—Continued.</b>		(20)	(25)	(10)	(20)	(25)	(100)	
<b>VERNER AGR. SOCIETY.—Con.</b>								
Alf. Sylvestre, Verner	Marquis	16	22	8	15	49	80	14,15
Geo. Demers, do	do	16	22	8	14	19	79	15
F. Beaudry, do	do	13	23	8	14	19	77	15
J. L. Sylvestre, Lavigne	do	17	15	8	14	22	76	1
M. Paquette, Verner	do	16	15	8	14	22	75	2,15
J. B. Leach, do	do	14	18	8	15	19	74	5
C. Jalbert, do	do	12	16	8	17	17	70	10,15
<b>NORTHUMBERLAND.</b>								
<b>BRIGHTON AGR. SOCIETY.</b>								
<i>Judge—Wm. Hickson, Bobcaygeon.</i>								
W. Montgomery, Brighton	Carleton	17	22	10	19	23	91	10,15
M. C. Drinkwater, Colborne	do	17	23	9	19	21½	89½	10
W. Gartshore, Brighton, R.R. 1	Marquis	16½	23	10	17½	22½	89½	14,15
Morden & Wiley, do	Carleton	16	23	10	18	22	89	
Jas. McAuley, do	do	17	23	8	18	22½	88½	3,15
H. F. Cafferty, Trenton	do	19	18	10	18	23	88	4,10,15
S. E. Flindall, Brighton, R.R. 1	Colorado	16	22	10	17½	22	87½	4
R. O. Morrow, do	Carleton	17	20	10	18	22	87	4,5
W. J. Garbutt, Hilton, R.R. 1	do	17	23	7	17	22½	86½	3
L. E. Waite, Belleville, R.R. 2	do	17	17	10	18	24	86	5,10
D. R. Hennessey, Codrington	do	16	23½	9	15	22	85½	10
E. S. Waite, Belleville, R.R. 2	Carleton	18	14	10	18	23	83	2,5,10
S. J. Phillips, Orland	do	15	15	10	18	22	80	4,15
<b>SEYMOUR AGR. SOCIETY.</b>								
<i>Judge—W. Hickson, Bobcaygeon.</i>								
A. H. McKelvie, Campbellford R.R. 4	Marquis	16	22	10	18	23	89	15
B. Hoppes, Campbellford, R.R. 5	do	15½	20	10	18	23½	87	10,15
C. Bedford, do	Colorado	17½	19	10	18	22	86½	12
T. Dunham, do	Marquis	16	21	10	16	22	85	15
C. A. Loucks, do	do	15½	20	10	17	21½	83½	10
W. J. Ross, Meyersburg	do	16	16	10	18	23	83	4
E. C. West, Campbellford	do	13½	19	10	18	20½	81	4,10,15
A. Hume, do R.R. 3	do	15	15	10	18	22½	80½	2,10
W. M. Stephens, do R.R. 3	do	14½	15	10	18	20	77½	10,15
M. M. Dunham, do R.R. 4	do	15	17	10	16	18	76	10,15
W. J. Hooper, do	do	18	....	10	18	24	70	1,2,4,15
<b>ONTARIO.</b>								
<b>BEAVERTON AGR. SOCIETY.</b>								
<i>Judge—R. McCowan, Scarborough.</i>								
M. Calder, Beaverton	Marquis	18	19	10	16	23	86	4,14
Jno. Westlake, do R.R. 3	do	20	12	8½	20	25	85½	1,4
J. Harrison, do R.R. 2	do	18	12	10	20	25	85	1,4

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	Yield and quality of grain.	Totals of scores.	Wreeds in competitors' fields.
		(20)	(25)	(10)	(20)	(25)	(100)	
<b>ONTARIO.—Continued.</b>								
<b>BEAVERTON AGR. SOCIETY.—Con.</b>								
Eli McCuaig, Gamebridge	White Fife	20	15	10	16	23	84	1,4
A. J. Burton, Beaverton, R.R. 2	Marquis	20	15	10	15	23½	83½	1,4
S. Furniss, Brechin, R.R. 1	do	17	13	8	20	25	83	1
Dunrobin Farms, Beaverton, R.R. 3	do	19	12	8	20	23½	82½	1,4
J. G. Ross, Beaverton, R.R. 1	do	19	10	10	18	25	82	1
W. T. McRae, do	do	19	10	10	18	24	81	1
Hodgkinson & Tisdale, do	do	17	10	8	20	24½	79½	1,2
Alex. Hamilton, do	do	18	10	10	18	23	79	1,4
Donald Gilchrist, Brechin, R.R. 1	do	17	10	10	18	23½	78½	1
F. A. Veale, Beaverton, R.R. 1	do	16	10	10	18	24	78	1,2
W. McKay, do R.R. 2	do	19	5	10	18	25	77	1,4
J. J. Morrison, do R.R. 3	do	16	8	10	20	23	77	1,4,10
F. Rilance, do R.R. 2	do	17	8	10	18	23½	76½	1,4,10,11
D. McKay, do	do	14	12	8	18	22	74	1,10
<b>PARRY SOUND.</b>								
<b>STRONG AGR. SOCIETY.</b>								
<i>Judge—W. F. B. Switzer, Streetsville.</i>								
F. W. Hannaford, Sundridge	Marquis	15	22	7	16	17	77	15
S. McGirr, do	do	17	15	8	16	19	75	1
Jas. Cook, do	do	15	20	7	16	16½	74½	1,15
Jas. Prior, do	do	16	22	5	17	13	73	4
<b>PERTH.</b>								
<b>STRATFORD AGR. SOCIETY.</b>								
<i>Judge—Jas. Boyd, Markham.</i>								
Jacob Litt, Sebringville, R.R. 3	Marquis	16	20	10	17	23	86	2
Nels. Monteith, Stratford, R.R. 2	do	14	22	9	18	22	85	1,15
Jas. Rutherford, do R.R. 1	do	16	21	9	16	21	83	10,15
Jno. Rutherford, do R.R. 1	do	15	20	9	17	21	82	10,15
Geo. Gibb, do R.R. 3	do	13	19	10	18	21	81	1,15
Ed. Durst, do R.R. 1	Goose	16	16	9	15	24	80	2,14,15
D. M. Ballantyne, do R.R. 3	Marquis	16	14	10	18	21	79	2,12
Jas. Hislop, do R.R. 2	do	16	12	10	18	22	78	1,2,15
M. Ballantyne, do	do	19	8	9	18	23	77	1,2,10,12
Hyde Parker, Sebringville, R.R. 1	Goose	15	20	9	10½	22	76½	2,15
Jno. Fraser, Stratford, R.R. 5	Marquis	15	11	10	19	21	76	1,2,4,10,15
Hy. Dunsmore, do R.R. 2	do	15	10	9	18	23	75	1,2,14,15
Jno. O'Grady, do R.R. 1	do	16	8	9	15	23	71	1,2,12
Elmore Letson, do R.R. 4	do	13	10	10	17	20	70	1,2,10,14,15

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	†Weeds in competitors' fields.
PETERBOROUGH.		(20)	(25)	(10)	(20)	(25)	(100)	
OTONABEE AGR. SOCIETY.								
<i>Judge—S. H. Treverton, Belleville.</i>								
S. McIntyre, Keene, R.R. 2	Marquis	18	24	9	18	22	91	
W. A. Anderson, Peterborough	Colorado	17½	23	9	18	22	89½	
G. E. Kent, do	Marquis	17	22	9	18	22	88	
Ralph Humphries, Lang	French Imperial	16½	22	9	18	21½	87	2
R. E. Drummond, Peterborough	Marquis	15	22	9	18	21½	85½	
D. E. Edwards, Keene, R.R. 2	do	17½	20	9	17	21	84½	4
H. McFarlane, Peterboro', R.R. 8	do	15	20	9	18	21	83	2
W. A. Drummond, do R.R. 8	French Imperial	16	18	9	18	21	82	2
F. A. Eason, Keene	Marquis	15	18	9	16	22	80	
Jas. Manley, Peterboro', R.R. 8	do	14	16	8	16	18	72	1
PETERBOROUGH II IND. AGR. SOCIETY.								
<i>Judge—S. H. Treverton, Belleville.</i>								
Jas. Fowler, Peterborough	Poor Man's Friend	19	24	9	17	24	93	
A. B. Mann, do	Marquis	15½	22	8	16	22	83½	
S. F. Milne, do	do	16	20	9	16	22	83	
W. Stinkraus, do	do	16½	20	8	18	19½	82	4
G. Hanbridge, do	do	17	16½	9	17	22	81½	
S. Blewitt, do	do	14	23	9	15	20	81	2
F. Buckham, S. Monaghan	do	15	20	9	16	20	80	2
S. J. Dixon, Peterborough	Goose	15	18	9	17	20½	79½	
W. W. Dawson, do	Marquis	15½	17	8	18	20½	79	15
Jas. Seymour, Ida	do	16	16	9	16	21	78	2
C. J. Hancock, Peterboro', R.R. 2	do	15	15	9	17	20	76	1, 2
J. O. Ball, do	do	13	18	9	14	19	73	1, 4
D. Speers, do	do	14	16	7	15	20½	72½	4
J. Gillespie, do	do	14	17	8	15	17	71	2
PRESCOTT.								
ALFRED AGR. SOCIETY.								
<i>Judge—Robt. McKay, Marville.</i>								
S. Parisien, Alfred	White Fife	17½	22	8½	19	22¾	89½	4
O. Parisien, do	do	18	22	9	18½	21½	89	
A. Charbonneau, do	Red Fife	16½	24	9	12	23½	85	
A. Daoust, do	Marquis	17	20	8½	16	21	82½	2, 4
M. Leroux, do	Black	15½	22	9	15½	20	82	4
Eugene St. Denis, do	do	16	18	8½	16	23	81½	4
D. Parisien, do	White Fife	16½	19	7½	17	20	80	4
F. Daoust, do	Red Fife	15½	21	8½	15	19½	79½	2, 4
A. Langevin, do	Marquis	16	20	7½	15	20½	79	2, 4
F. X. Cadieux, do R.R.	do	15½	22	8½	15	21½	77½	
F. Blondin, do	Black	15	14½	7	18	20	74½	2, 10
J. Bte. Rouleau, do	White Fife	16	10	8½	18½	21	74	2, 4
G. Barbarie, Plantagenet	do	15½	12	8½	15	20	71	
A. Blondin, do	Black	13½	16	8	15	18	70½	4, 10

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
PRINCE EDWARD.		(20)	(25)	(10)	(20)	(25)	(100)
AMELIASBURG AGR. SOCIETY.							
<i>Judge—D. English, Burketon.</i>							
E. E. Wallbridge, Rossmore ...	Marquis.....	20	18	10	17	24	89 4,10,15
J. A. Weese, do ....	do .....	19	18	10	18	23	88 10
W. H. C. Roblin, Ameliaburg..	do .....	18	20	10	15	22	85 10
Jas. Robinson, Rossmore .....	do .....	17	17	10	18	20	82 1,4,10,15
Jno. Cairns, do .....	do .....	17½	17	10	16	21	81½ 1,10,14
C. Loveless, Rednersville, R.R. 1	Colorado.....	16	20	9	15	20	80 3,4
N. Weese, Ameliaburg .....	Marquis.....	14	16	8	16	19	73 10
M. B. Weese, Rednersville .....	do .....	14	14	8	17	19½	72½ 10,14,15
J. S. Wallbridge, Rossmore ....	do .....	13	16	8	16	19	72
PRINCE EDWARD AGR. SOCIETY.							
<i>Judge—Adam Hood, Hagerman.</i>							
E. D. Miller, Picton .....	Marquis.....	18	23	9	19	24½	93½ 15
Milton Young, Woodrous .....	do .....	18½	22	9	17	23½	90 15
Jno. Stanton, do .....	do .....	18½	18	9	19	23½	88 2,5,10
M. L. Werder, Picton .....	do .....	16½	22	9	18	21½	87 4,10
C. Beaumont, do .....	do .....	15½	22	8	17	21½	84 1,15
M. A. Foster, Bloomfield .....	do .....	16½	14	9	18	22	79½ 1,4
RAINY RIVER.							
RAINY RIVER VALLEY AGR. SOCIETY.							
<i>Judge—L. M. Davis, Port Arthur.</i>							
C. J. Linguist, Aylsworth .....	Marquis.....	19½	21	9½	19½	21	90½ 2,15
A. J. Leveridge, Devlin .....	do .....	17½	24½	7	19	22½	90½ 15
W. H. Cameron, Emo .....	do .....	17	23	8	19	22½	89½ 15
Chas. Fisher, do .....	do .....	17½	23½	8	19	21	89 2,15
Jas. Brigham, do .....	do .....	17½	23	8	18	20	86½ 2
Wm. Jewel, Big Fork .....	do .....	17½	20	8½	17½	21½	85 15
Wm. Tummey, Emo .....	do .....	16	24	9	16½	18½	84 2
H. Langtree, do .....	do .....	17	19	8	17	21½	82½ 15
T. A. Boucher, do .....	do .....	16½	21	6	18½	19½	81½ 2
C. H. McCool, Devlin .....	do .....	16½	20	8	17	19	81½ 2
Wm. Hamilton, Big Fork .....	do .....	15½	22	9	17½	17	81 15
S. J. Bedford, Emo .....	do .....	16½	18	8½	18	20½	81 2,15
Isaac Fearon, Barwick .....	do .....	16½	20	8	18	17½	80 15
C. McBride, Emo .....	do .....	16	20	6	18	19½	79½ 15
Elmer Bone, Isherwood .....	do .....	17½	15	7	18	21	78½ 15
Robt. Ewen, Emo .....	do .....	15	17	9	18	19½	78½ 15
C. H. Gadd, Lake Warsaw .....	do .....	16½	16	8	18	19	77½ 15
R. T. Carrigan, Emo .....	do .....	13	19	8	18	17	75 2,15
Mrs. T. R. Shortreed, do .....	do .....	13	18	8	17	17	73 2,15
Wm. Luttrell, do .....	do .....	13	17	8	15	18½	71½ 15

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
		(20)	(25)	(10)	(20)	(25)	(100)	
<b>RENFREW.</b>								
<b>ARNPRIOR AGR. SOCIETY.</b>								
<i>Judge—J. N. Sorley, Ottawa, R.R. 1.</i>								
Mackie McLaren, Castleford ...	Marquis.....	17½	22	8	18½	21½	87½	3, 4
Arthur Cavers, Arnprior .....	do .....	16	24	8½	16½	20½	85½	
A. Russell, do .....	do .....	15½	23½	8½	16½	20½	84½	
Jas. McGregor, Castleford ...	Fife.....	17½	20	6	17½	21	82	3, 4
C. Wallace, Arnprior, R.R. 3	Marquis.....	15	22½	8	16	20	81½	10, 15
W. A. Young, do R.R. 3	do .....	13½	22	8½	19	18	81	4, 15
J. O'C. Havey, do .....	White Fife.....	16½	23	6½	15	19½	80½	15
Jas. Wallace, do .....	Marquis.....	15½	22	8	15	19½	80	10, 15
D. K. Cunningham, do .....	White Fife.....	16½	21	7½	15	19½	79½	3, 10
Jno. Rafter, do .....	Marquis.....	16	15	8	19	21	79	1, 15
Guli Lodge, do .....	do .....	16½	14	9	16½	21½	77½	1
Thos. Havey, do .....	White Fife.....	15	19	8	15	20	77	1, 10
Walter Shaw, do .....	Marquis.....	15	16	8	18	18½	75½	1, 15
Thos. Corron, Sand Point .....	do .....	15½	22	8	12	17½	75	15
J. S. Havey, Arnprior .....	do .....	12½	15	8	18½	18½	72½	1, 10
Wm. Stone, Sand Point .....	Red Fife.....	17½	10	8½	15	21	72	1
L. Arnott, Arnprior .....	do .....	16	16	8	12	19½	71½	3, 4, 15
A. L. Jones, do .....	Marquis.....	15½	10	8	18½	18½	70½	1, 15
<b>COBDEN AGR. SOCIETY.</b>								
<i>Judge—Wm. Higginson, Inkerman.</i>								
Sam'l. McLaren, Cobden, R.R. 3	Marquis.....	19	22	9	19	23½	92½	
J. G. McDiarmid, do R.R. 3	do .....	17	20	9	18	21½	85½	4
Mrs. R. Purcell, do .....	do .....	16	20	9	18	21½	84½	15
A. Johnston, do R.R. 3	do .....	18	20	8	17	21	84	15, 4
Alex. McBride, do .....	do .....	15½	20	9	17	21	82½	15
T. F. Burgess, do R.R. 3	White Fife.....	16½	20	8	17	20	81½	4, 2
W. H. Eady, do R.R. 3	do .....	15	20	8	17	20½	80½	4
Peter Wilson, do R.R. 3	Marquis.....	15	17	9	18	21	80	4, 10, 1, 2
M. McLaren, do .....	do .....	16	18	8	16	20	78	2, 4, 12, 13
Geo. McDiarmid, do .....	White Fife.....	15½	16	7½	16	20	75	1, 15
J. C. Bulmer, do .....	do .....	13½	17	7	16	20	73½	4, 13, 12
Jos. T. Edwards, do .....	do .....	14½	16	7	16	19½	73	2, 13
Wm. McMillan, do .....	Marquis.....	14½	16	7	16	19	72½	13, 4, 2, 12
A. Collins, do .....	White Fife.....	14	15	7	15	20	71	4, 13
<b>NORTH RENFREW AGR. SOCIETY.</b>								
<i>Judge—J. N. Sorley, Ottawa, R.R. 1.</i>								
Alex. Burr, Beachburg .....	Marquis.....	18	23	9	19½	22	91½	
G. McClelland, do .....	do .....	15	22	9	18	20	84	15
W. McClelland, Cobden .....	do .....	14½	22	8½	19	19½	83½	4

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
<b>RENFREW.—Continued.</b>		(20)	(25)	(10)	(20)	(25)	(100)	
<b>NORTH RENFREW AGR. SOCIETY.—Continued.</b>								
J. A. Brown, Beachburg .....	Marquis .....	13	23	8	18½	20	82½	
J. Stevenson, do .....	do .....	12½	23	8	19	19	81½	10
R. A. Fraser, Forester's Falls ..	White Fife .....	15½	20	8½	17	20	81	3, 15
Harris Brown, Beachburg .....	Marquis .....	15	20	6	19	20½	80½	2, 15
S. McCarthy, Westmeath .....	do .....	13	21	8	19	17½	78½	4
W. Headrick, Beachburg .....	White Fife .....	11½	20½	8	19	18½	77½	4, 5
A. R. Bulmer, Westmeath .....	Marquis .....	14	16	8	19	20	77	4, 15
Jos. Keyes, do R.R. 2 .....	White Fife .....	15	22	2	18	19½	76½	4, 15
Robt. Bennie, Beachburg .....	Marquis .....	11	23	8	19	15	76	
A. Munroe, do .....	White Fife .....	14½	15	8	18	20½	76	2, 3, 15
W. H. Metcalfe, do .....	Marquis .....	12	22	8½	18½	15	76	4, 15
T. A. Buchanan, do .....	do .....	12	17	8	19	18½	74½	2
L. B. Christman, do .....	White Fife .....	13	17	8	19	17	74	3, 17
S. McClelland, do .....	Marquis .....	14½	10	8	19	21	72½	3
<b>RENFREW AGR. SOCIETY.</b>								
<i>Judge—Wm. Higginson, Inkerman.</i>								
Jas. Humphries, Renfrew, R.R. 5	Marquis .....	18	23	9	18	21	89	
E. Humphries, Castleford .....	do .....	17	23	8	17	21½	86½	2
Gregor McIntyre, Renfrew, R.R. 1	do .....	16½	22	8	18	20½	85	15
D. B. Stewart, do R.R. 5	do .....	16	20	8	17	20½	81½	4, 12, 10, 13
R. B. Leitch, do R.R. 3	do .....	16	20	8	17	20	81	2, 1
J. B. McLaren, do R.R. 1	do .....	14	15	8	17	19	73	1, 10, 4
W. Galbraith, do R.R. 3	do .....	13½	15	7	17	18	70½	2, 1, 15
<b>SIMCOE.</b>								
<b>BARRIE AGR. SOCIETY.</b>								
<i>Judge—T. W. McCracken, Meadowvale.</i>								
Roy Hickling, Barrie .....	Marquis .....	16½	23	9	17	21	86½	
E. W. Carr, Midhurst .....	do .....	16	22	9	16	22	85	
R. A. Sutherland, Stroud .....	do .....	16	20	9	15	22	82	
F. J. Frankcom, Midhurst .....	do .....	15	21	8	16	21	81	
Geo. Pratt, Barrie, R.R. 2 .....	do .....	14	15	8	16	17	70	
<b>COLDWATER AGR. SOCIETY.</b>								
<i>Judge—T. W. McCracken, Meadowvale.</i>								
C. A. Spence, Coldwater, R.R. 1	Marquis .....	17	23	8	16	22	86	
W. Hutchison, Moonstone .....	do .....	16	23	8	16	22	85	
Jos. Taylor, Coldwater, R.R. 1	do .....	17	19	9	16	21	82	1
W. J. Walker, do .....	do .....	16	20	6	14	21	77	4
Wm. Gladall, do .....	Red Fife .....	17	14	8	16	21	76	1, 4
B. D. Durnford, do .....	do .....	17	12	8	16	21	74	1, 4

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
SIMCOE.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
NOTTAWASAGA AND G. NORTHERN AGR. SOCIETY.								
<i>Judge—R. H. Crosby, Markham.</i>								
A. C. Morrison, Creemore, R.R.2	Goose.....	18 $\frac{1}{2}$	20	9	17	22 $\frac{1}{2}$	87	15
D. Smith & Sons, Smithdale ..	Marquis.....	17 $\frac{1}{2}$	15	9	18	22 $\frac{1}{2}$	82	1, 15
Jas. Jardine, Collingwood .....	do .....	17 $\frac{1}{2}$	15	9	17	22	80 $\frac{1}{2}$	1, 15
D. L. Currie, do R.R. 1	do .....	17 $\frac{1}{2}$	12	9	16	23	77 $\frac{1}{2}$	1, 15
Jno. Fisher, Batteau, R.D. ....	do .....	17	10	9	18	22	76	1, 15
J. C. McKee, Duntroon .....	do .....	16	10	9 $\frac{1}{2}$	18 $\frac{1}{2}$	21	75	1, 15
Jno. Seiggel, Collingwood, R.R.1	do .....	15 $\frac{1}{2}$	12	8	18	20 $\frac{1}{2}$	74	1, 15
W. J. Fisher, Duntroon, R.R. ..	do .....	16	10	9	18	20 $\frac{1}{2}$	73 $\frac{1}{2}$	1, 15
And. Jardine, Collingwood, R.R.1	do .....	16 $\frac{1}{2}$	10	9	17	20 $\frac{1}{2}$	73	1, 15
Isaac Aikens, Creemore, R.R. 2	do .....	17	5	9	18	23	72	1, 2, 15
W. J. Brethet, Batteau, R.F.D....	Goose.....	16	15	9	10	21	71	2, 15
TEMISKAMING.								
NEW LISKEARD AGR. SOCIETY.								
<i>Judge—J. D. McKenna, Loretto.</i>								
Robt. Kelly, New Liskeard ....	Marquis.....	16	24	7	19	19	85	15
Jno. Sharp, Haileybury .....	do .....	16	19	9	18	22	84	4, 15
D. McKay, New Liskeard .....	do .....	16	24	8	15	20	83	17
Jno. McFarlane, do .....	do .....	15	22	9	17	19	82	13
Bruce Kerr, do .....	do .....	15	22	8	16	20	81	15
Jno. Burnett, do .....	do .....	16	21 $\frac{1}{2}$	7	16	20	80 $\frac{1}{2}$	15
Geo. Walsh, do .....	do .....	16	23	6	15	20	80	13, 15
W. R. Peters, do .....	do .....	15	24	4	18	17	78	
R. D. Chester, do .....	do .....	14	15	9	17	22	77	1, 15
S. Jewell, do .....	do .....	15	13	8	18	22	76	4, 15
Jas. Carter, do .....	do .....	16	14	8	15	21	74	1
Frank Petit, do .....	do .....	16	15	5	15	21	72	1
H. C. Bush, do .....	do .....	14	14	7	17	19	71	4, 11
THUNDER BAY.								
OLIVER AGR. SOCIETY.								
<i>Judge—J. McKay, Emo.</i>								
J. R. Hutchison, Slate River ..	Marquis.....	18 $\frac{3}{4}$	23	7	18	22 $\frac{1}{4}$	89	
R. Bingham, Murillo .....	do .....	18 $\frac{1}{2}$	23	6	17	21 $\frac{1}{2}$	86	
R. McKenzie, do .....	Red Fife.....	18	21	6	18	22 $\frac{1}{4}$	85 $\frac{1}{4}$	1
A. Felker, do .....	do .....	16	23	6	16	22	83	
A. Gorton, do .....	Marquis.....	17	20	6	17	22	82	
A. Todd, do .....	Northern No. 1..	17 $\frac{1}{2}$	17	6	18	22	80 $\frac{1}{2}$	7
Jos. Hughes, do .....	Marquis.....	12	23	7	17	21 $\frac{1}{4}$	80 $\frac{1}{4}$	
J. Oster, do .....	do .....	16	18	8	17	21	80	9, 15
G. L. Morrow, do .....	Huron.....	16 $\frac{1}{4}$	21	3	18	21 $\frac{1}{4}$	79 $\frac{1}{4}$	9
F. Cook, do .....	Red Fife.....	17	21	5	19	17 $\frac{1}{4}$	79 $\frac{1}{4}$	7

NOTE.—The figures in parenthesis at the top are maximum possible scores.



RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
<b>THUNDER BAY.—Continued.</b>		(20)	(25)	(10)	(20)	(25)	(100)	
<b>OLIVER AGR. SOCIETY.—Con.</b>								
R. B. Martin, Murillo	Huron	19	13	4	19	23 $\frac{1}{2}$	78 $\frac{1}{2}$	1
A. Reid, do	Marquis	18 $\frac{1}{2}$	15	6	17	21 $\frac{1}{2}$	78	3
Geo. Munroe, do	do	19	13	7	15	23	77	1,5
T. Elchuck, do	Huron	14	17	6	17 $\frac{1}{2}$	20	74 $\frac{1}{2}$	7,9
J. McDonald, do	Marquis	15	14	7 $\frac{1}{2}$	17	21	74 $\frac{1}{2}$	1
W. Williamson, do	Northern No. 1	15	17	6	17	19	74	1,7
H. T. Gray, Rosslyn Village	Marquis	14 $\frac{1}{2}$	13 $\frac{1}{2}$	7	17	20 $\frac{1}{2}$	72 $\frac{1}{2}$	1,4,17
D. E. Caldwell, Murillo	do	13	17	8	16	17	71	1,7,9,15
R. R. Everett, do	do	16	14	4	17	20	71	3,7,9
<b>VICTORIA.</b>								
<b>VERULAM AGR. SOCIETY.</b>								
<i>Judge—Robt. McCowan, Scarborough.</i>								
Thos. Cosh, Bobcaygeon	Marquis	18	20	10	20	23	91	1,15
Ross Kimball, do	do	20	15	10	20	25	90	1,4
M. M. Boyd & Co., do	do	17	20	10	20	21	88	
Thos. Robertson, Dunsford	Colorado	19	15 $\frac{1}{2}$	10	19	24	87 $\frac{1}{2}$	1
Jno. Taylor, Bobcaygeon	Marquis	14	20	10	20	23	87	
J. J. Devitt, do	Colorado	20	15	10	18	23	86	2,4,11
Jas. Robertson, do	do	18	15	10	19	23	85	1,10
Milton Ingram, do	California	15 $\frac{1}{2}$	15	10	20	24	84 $\frac{1}{2}$	1
G. F. Purdy, do	do	16	15	10	18	25	84	1
Archie Campbell, do	Marquis	18	10	10	20	23	81	1
<b>WELLINGTON.</b>								
<b>C. WELLINGTON AGR. SOCIETY.</b>								
<i>Judge—G. E. Foster, Honeywood.</i>								
Lou Sargent, Fergus	Marquis	20	20 $\frac{1}{2}$	9	15	24 $\frac{1}{2}$	89	2
Lewis Armstrong, do R.R. 4	do	18	21	9	18	22 $\frac{1}{2}$	88 $\frac{1}{2}$	3
J. L. Benham, Rockwood, R.R. 3	do	17 $\frac{1}{2}$	20	9 $\frac{1}{4}$	18 $\frac{1}{2}$	22 $\frac{3}{4}$	88	
W. A. Atkinson, Fergus, R.R. 4	do	16	21	9	17	20 $\frac{1}{2}$	83 $\frac{1}{2}$	1
W. Ransom, do R.R. 4	do	16 $\frac{1}{2}$	20	8	17	21	82 $\frac{1}{2}$	1
W. Hutcheon, Rockwood, R.R. 1	do	17	15	9	18	21	80	1
J. H. Anderson, Fergus, R.R. 4	do	18 $\frac{1}{2}$	12	7	18	23 $\frac{3}{4}$	79 $\frac{1}{4}$	1
Noah Strome, do R.R. 1	do	15	22	7	14	18 $\frac{1}{2}$	76 $\frac{1}{2}$	
Jno. Lowe, Elora	do	15 $\frac{1}{2}$	18	6	17	20	76 $\frac{1}{2}$	
A. E. Cromar, do R.R. 1	do	15	20	7	12	20	74	10
L. Roberts, do R.R. 1	do	17	10	7	17	20 $\frac{3}{4}$	71 $\frac{3}{4}$	1
J. S. Green, do R.R. 2	do	14 $\frac{3}{4}$	12	6	17	20 $\frac{3}{4}$	70 $\frac{1}{4}$	1,2,3
Hugh Skoch, Fergus, R.R. 3	do	16	10	7	16	21	70	3,5

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
WELLINGTON.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
ROCKWOOD AGR. SOCIETY.								
<i>Judge—E. J. Mullins, Woodslee.</i>								
A. F. Auld, Guelph	Marquis	20	24	10	18	25	97	
Hy. Benham, Rockwood	do	19	22	9	18	24	92	15
Thos. Cox, do	do	19	24	8	19	21	91	
A. H. Shultis, do	do	19	23	8 $\frac{1}{2}$	17	21	88 $\frac{1}{2}$	
B. Tolton, Guelph, R.R. 4	do	20	23	7 $\frac{1}{2}$	14	17 $\frac{1}{2}$	82	
A. & D. Gray, Rockwood	do	16	22	8	16	19	81	
C. Gerow, Guelph, R.R. 2	do	18	14	9	17	22	80	15
A. McCann, Acton	do	16 $\frac{1}{2}$	22	6	16	19	79 $\frac{1}{2}$	15
D. McKennon, Rockwood	do	18	16	7	15	23	79	12, 15
C. Benham, do	do	18	16 $\frac{3}{4}$	9	15	20	78 $\frac{3}{4}$	15
L. McDougall, do R.R. 5	do	14	22	7	16 $\frac{1}{2}$	19	78 $\frac{1}{2}$	
Jno. McNabb, do R.R. 4	do	19	18	7	14	20	78	
Neil McLean, do R.R. 4	do	19	10	8	17	23 $\frac{1}{2}$	77 $\frac{1}{2}$	1, 15
Bilton Bros., Acton	do	19	10	9	17	21	76	1, 11, 15
R. N. Brown, do R.R. 2	do	17	15	7	15	18	72	12
Jas. E. Gray, Rockwood	do	12	20	3	19	16	70	
W. WELLINGTON AGR. SOCIETY.								
<i>Judge—R. Medd, Jr., Auburn.</i>								
Rich. Wilkin, Palmerston	Marquis	20	20	10	20	25	95	2
B. Farr, Harriston, R.R. 2	do	20	20	10	15	25	90	1, 2
A. H. Copeland, do R.R. 1	do	20	15	10	15	25	85	1
H. Armstrong, do R.R. 3	do	18	15	10	15	25	83	1, 2
J. M. Young, do R.R. 3	do	20	15	7	16	23	81	1, 2
R. J. Barton, do R.R. 3	do	20	14	10	15	20	79	
Jas. Tuck, Palmerston, R.R. 1	Goose	15	20	10	10	20	75	2
YORK.								
MARKHAM AGR. SOCIETY.								
<i>Judge—Geo. Sexsmith, Ridgeway.</i>								
J. Boyington, Gormley, R.R. 7	Goose	18	25	8	17	22	90	
R. S. Frisby & Son, Unionville, R.R. 1	do	20	16	9	19	25	89	1, 14
Jas. Rennie, Milliken	Marquis	15	25	9	18	21 $\frac{1}{2}$	88 $\frac{1}{2}$	
W. J. Johnson, Unionville, R.R. 1	Goose	20	15	10	18	25	88	2, 4
J. Young & Son, Hagerman	Marquis	17	22	8	17	23	87	1
Lawrie Bros., Agincourt, R.R. 1	do	18 $\frac{1}{2}$	15	9	19	25	86 $\frac{1}{2}$	1
J. B. Gould, Markham	Goose	17	16	9	19	25	86	1, 2, 15
R. A. W. Wilson, do R.R. 1	Marquis	20	5	10	20	25	80	1, 15
Jas. Torrance, do	do	20	5	10	19	25	79	1, 2, 4, 10, 13, 15
Jno. Gowland, do R.R. 2	do	20	3	10	20	25	78	1, 2, 4
Hy. Hammond, Richmond Hill	do	20	....	10	20	25	75	1, 2, 4, 15

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields
YORK.— <i>Continued.</i>		(20)	(25)	(10)	(20)	(25)	(100)	
WOODBRIDGE AGR. SOCIETY.								
<i>Judge—Geo. McKague, Woodville.</i>								
Isaac Fletcher, Woodbridge ...	Marquis.....	18	21	9	19	23	90	1
A. T. Witherspoon, do ....	do .....	18	15	9	17	24	83	1
Geo. Troyer, do ....	do .....	18	15	9	17	23	82	1
J. A. McNeil, do ....	do .....	18	12	9	17	23	79	1, 2, 10
Wallace Bros., do ....	do .....	16	14	9	18	21 $\frac{1}{2}$	78 $\frac{1}{2}$	1, 10
Bagg Bros., Edgeley .....	do .....	18	12	9 $\frac{1}{2}$	15	23 $\frac{3}{4}$	78	1
Jas. Bell, Woodbridge .....	do .....	17	12	9	16 $\frac{1}{2}$	23	77 $\frac{1}{2}$	1, 10
C. A. McNeil, do .....	do .....	16 $\frac{1}{2}$	10	9	19	21	75 $\frac{1}{2}$	1, 2, 4
R. K. Johnston, Nashville, R.R.1	do .....	16 $\frac{1}{2}$	10	9	18	21	74 $\frac{1}{2}$	1, 4, 10
S. McClure, Woodbridge .....	do .....	16 $\frac{1}{2}$	8	9 $\frac{1}{2}$	17	21	72	1, 4

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## BARLEY.

Competitors in Order of Merit.				*Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
					(20)	(25)	(10)	(20)	(25)	(100)	
BRANT.											
ONONDAGA AGR. SOCIETY.											
<i>Judge—M. W. Sexsmith, Ridgeway.</i>											
Hy. Preiss, Middleport, R.R. 1	O. A. C. 21	19	23	9	19	23	93				
A. W. Vansickle, Onondaga	do	18½	21	9	19	23½	91	6			
Jas. Pate, Paris, R.R. 4	do	19	24	8	17	22	90	5, 15			
R. J. Robertson, Cainsville, R.R. 1	do	16	23	8	19	23½	89½				
F. Thomson, do	do	18	22½	7	18	22½	87½	15			
G. E. Wood, do	do	18	22½	7	18	22	87½	15			
G. Thomson, do R.R. 1	do	18½	21½	7	17½	21½	86	14, 15			
T. Thomson, do	do	17	20	8	18	21	84	15			
A. Mitchell, Caledonia, R.R. 2	do	16½	20	9	15	22	82½	10, 15			
A. A. Barton, Cainsville	do	17	20	8	14	21	80	10, 14			
C. W. Burrill, do	do	19	10	9	18	22½	78½	10			
W. A. Douglas, Caledonia, R.R. 2	do	17	10	9	18	24	78	10, 14, 15			
BRUCE.											
EASTNOR AGR. SOCIETY.											
<i>Judge—J. M. Fischer, Mildmay.</i>											
Finlay Cameron, Lion's Head	O. A. C. 21	19	25	8	15	20	87				
W. J. Bray, do R.R. 1	do	20	15	10	15	25	85				
Albert Bray, do	do	20	20	8	15	20	83				
Jos. Bray, do R.R. 1	do	20	20	8	10	17	75				
A. Mielhausen, do	do	18	20	5	12	18	73				
HURON TP. AGR. SOCIETY.											
<i>Judge—R. H. Abraham, Chatham, R.R. 1.</i>											
Jno. Reid, Ripley, R.R. 1	O. A. C. 21	17	20	9	19	23	88				
R. W. Mills, Kincardine, R.R. 4	do	17	20	9	19	22	87				
Duncan Campbell, Ripley	do	17	21	9	17	22	86				
Jos. Collins, do R.R. 1	do	17	14	9	19	23	82	1			
W. D. Bradley, do R.R. 1	do	17	15	9	18	22	81	2			
J. L. Bowers, do R.R. 1	do	16	18	9	15	22	80				
Johnston Roulston, do R.R. 1	do	14	15	8	18	18	73				
Jno. Watson, do R.R. 4	do	16	15	8	10	22	71				

\*General appearance—Considering stand of crop, type of plant, vigor and uniformity of growth, method of seeding and absence of lodging.

†Yield and quality of grain—Considering proportion of well-filled heads of plump grain of good quality and uniformity of maturity.

‡See key page.

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
**BARLEY.**

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from smut, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
<b>HALTON.</b>		(20)	(25)	(10)	(20)	(25)	(100)	
<b>HALTON AGR. SOCIETY.</b>								
<i>Judge—M. W. Sexsmith, Ridgeway.</i>								
H. W. Richardson, Milton, R.R. 2	O. A. C. 21.....	18½	20	9½	18	23	89	10, 15
E. M. Readhead, do R.R. 2	do .....	18	22	9	10	21	80	15
J. F. Ford, do .....	do .....	20	....	10	19	24	73	
Edwin Harrop, do R.R. 2	do .....	19½	....	9	19	25	72½	1, 2, 15
E. McCann, do R.R. 4	do .....	20	15	9	4	23	71	4
D. F. Ford, do R.R. 4	do .....	19	....	10	18½	23	70½	
W. R. Hume, do R.R. 4	do .....	18	....	9	18½	24½	70	2, 15
<b>HASTINGS.</b>								
<b>FRANKFORD AGR. SOCIETY.</b>								
<i>Judge—D. English, Burketon.</i>								
C. H. Ketcheson, Belleville, R.R. 2	O. A. C. 21.....	17	21	10	18	24	90	10
M. Vanderwater, do R.R. 45	do .....	19	18	10	17	25	89	2, 10, 15
C. H. Vanderwater, Foxboro ....	do .....	17	16	9	20	23	85	10
D. E. Coon, Frankford .....	do .....	19	16	7	15	23	80	1, 2
Lorne Badgeley, do .....	do .....	14	16	8	18	20	76	2, 10
D. I. Rose, do .....	do .....	13½	17	8	18	18	74½	10
Geo. Pollard, do R.R. 2	Mandscheuri.....	16	18	8	12	18½	72½	10, 15
Jas. Gay, do R.R. 2	O. A. C. 21.....	14	16	7	16	19	72	
<b>PERTH.</b>								
<b>KIRKTON AGR. SOCIETY.</b>								
<i>Judge—R. H. Abraham, Chatham, R.R. 1.</i>								
Wm. Harding, St. Mary's, R.R. 1	O. A. C. 21.....	16	22	8	18	22	86	1, 15
Jno. Urquhart, do .....	do .....	17½	12	9	18	23½	80	2, 12
Michael Brethour, do R.R. 6	do .....	16½	12	8	19	23½	79	1
Jos. White, do .....	do .....	16	11	9	18	22	76	1, 2
Albert Bickle, do .....	do .....	17	9	8	18	22	74	1, 15
J. E. Berry, do RR 1	do .....	16	10	8	14	22	70	1

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
BEANS.

Competitors in Order of Merit.	Name of variety	*General appearance.	Freedom from disease and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield and quality of grain.	Totals of scores.
		(20)	(10)	(20)	(15)	(35)	(100)
GRENVILLE.							
KEMPTVILLE AGR. SOCIETY.							
<i>Judge—S. G. Gourlay, Kinburn.</i>							
G. Davidson, Kemptville, R.R. 4	Small White.....	18	7	19	10	29½	83½
C. Bishop, Oxford Mills .....	Medium White....	17½	8	19	10	28½	83
J. H. Christie, do .....	do .....	15	7	18	13	29	82
J. H. Sloan, Kemptville .....	Small White.....	15	7	16	12	26	76
C. D. Beckitts, do R.R. 4	Medium.....	16	6	16	12	25	75
W. Wilson, do R.R. 4	Small White.....	12½	7	15	12	27	73½
J. C. Connerty, do R.R. 5	do .....	11	8	15	13	25	72
H. L. Cowell, Oxford Mills ....	Medium White....	11	7	13	13	27	71
SPENCERVILLE AGR. SOCIETY.							
<i>Judge—J. W. Hess, Trenton, R.R. 2.</i>							
E. Lawrence, Spencerville .....	.....	18	9	18	13	32	90
R. Goodin, do .....	.....	17	9	18½	13	32	89½
P. Froats, do .....	.....	16	9	19	13	28	85
Wm. F. Weir, do .....	.....	15	8	17	14	29	83
R. Hutton, do .....	.....	15	9	15	12½	30	81½
Jno. Dobbie, Ventnor .....	.....	14	7	15	13	27	76
C. Lawrence, Spencerville .....	.....	14	6	16	12	27	75
A. A. Goodin, do .....	.....	12	7	12	13	28	72

\*General appearance—Considering method of planting, uniformity of stand, vigor of growth and evenness of crop.

†Apparent yield and quality of grain—Considering number and size of pods per plant, number of beans per pod, uniformity of maturity, marketable quality, including size, smoothness and color.

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
PEAS.

Competitors in Order of Merit.	Name of variety	*General appearance.	Freedom from weeds.	Freedom from disease and insects as mildew, blight, weevil, worms, etc.	Purity of variety.	†Yield and quality of grain.	Totals of scores.	‡Weeds in competitors' fields.
		(20)	(15)	(20)	(15)	(30)	(100)	
RENFREW.								
CORDEN AGR. SOCIETY.								
<i>Judge—Wm. Higginson, Inkerman.</i>								
C. R. Purcell, Cobden, R.R. 3	.....	17	14	18	14	26	89	10
Jos. T. Edwards, do	..... Golden Vine.....	16½	14½	16	14	26	87	
Alex. McBride, do	..... Arthur.....	17	14	17	14	24½	86½	
Samuel McLaren, do Box 94	..... Golden Vine.....	15	14	18	13	26	86	
J. C. Bulmer, do R.R. 3	..... Arthur.....	16	12	16	13	26	83	4
A. Johnston, do	..... Golden Vine.....	14½	14	16	14	23½	82	4
A. T. Graham, do R.R. 3	..... do .....	14½	14	16	14	23	81½	15
Geo. McDiarmid, do R.R. 5	..... do .....	16	11	18	12	24	81	2,10
A. Collins, do	..... do .....	16½	14	14	12	24	80½	10
Peter Wilson, do R.R. 3	..... Reg. Concordia...	15	10	16	14	24½	79½	10, 7
Wm. McMillan, do	..... Golden Vine.....	14	10	15	14	24	77	10, 13, 15
Samuel McMillan, do	..... do .....	14	10	14	13	24	75	1, 15, 13, 2
RENFREW AGR. SOCIETY.								
<i>Judge—Wm. Higginson, Inkerman.</i>								
Jas. Humphrey, Renfrew, R.R. 5	..... Arthur.....	14½	13	17	13	25½	83	15
Norman Jameson, do	..... Golden Vine.....	14	12	15	13	25	79	10, 12
Jno. B. McLaren, do	..... Arthur.....	15	12	16	12	23	78	10
P. H. Bulger, do	..... Golden Vine.....	14	11	17	12	22	76	2, 15
T. F. Bennett, do	..... do .....	12	11	15	12	22	72	1, 10
D. B. Stewart, do	..... do .....	14	10	15	12	20	71	1, 2
Gregor McIntyre, do	..... do .....	12	13	13	11	21	70	15

\*General appearance—Considering stand of crop, type of plant, vigor and uniformity of growth, and method of seeding.

†Yield and quality of grain—Considering number and size of pods per plant, uniformity of maturity and proportion of grain to straw.

‡See key page.

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
CARLETON.		(20)	(5)	(20)	(15)	(40)	(100)
CARP AGR. SOCIETY.							
<i>Judge—M. J. Casselman, Morrisburg.</i>							
Geo. H. Caldwell, Carp	Leaming	19½	5	18	15	22	79½
W. J. Johnston, do	Wisconsin No. 7..	20	5	18	15	19	77
F. S. Caldwell, do	Pride of Nashua..	19	5	18	15	17	74
Geo. Rivington, do	Leaming	18½	5	17	15	15	70½
W. G. Rivington, do	do	19	5	17	15	14	70
DUNDAS.							
WINCHESTER AGR. SOCIETY.							
<i>Judge—M. J. Casselman, Morrisburg.</i>							
S. R. Fulton, Chesterville	Longfellow	15½	5	16	13	34	83½
A. Christie, Winchester, R.R. 2	Gold Mine	20	5	18	15	20½	78½
F. Helmer, do	Red Cob	24½	5	17	15	16½	78
J. V. Summers, do R.R. 4	Gold Mine	18½	5	17	15	22	77½
B. Bell, do	Wisconsin No. 7..	24	5	18	15	15	77
Jno. Jamieson, do	Early Bailey	19	5	18	15	18	75
Jno. Summers, do	Wisconsin No. 7..	22	5	16	15	16½	74½
Wm. Hamilton, Chesterville	do	20	5	19	15	15	74
Thos. Edgerton, Winchester	do	19½	5	19	15	14	72½
Jno. Moffatt, do	Pride of Nashua..	18½	5	17	15	15	70½
DURHAM.							
CLARKE TP. AGR. SOCIETY.							
<i>Judge—Jas. McNeil, Maple.</i>							
W. F. Rickard, Newcastle	Leaming	18	5	18	15	26	82
W. D. Bragg, do	do	18	5	18	15	21½	77½
C. L. Powers, Orono	do	16½	5	17	15	23	76½
C. A. Chapman, do	Leaming	16½	5	18	15	21	75½
A. J. Tamblyn, do	do	17	5	17	15	20	74
Geo. Cain, do	do	16	5	19	15	18	73
ELGIN.							
ALDBOROUGH AGR. SOCIETY.							
<i>Judge—A. B. Rose, Echo Place.</i>							
J. A. King, Wardsville	White Cap	17	4	19½	13	35½	89
A. Winger, do	do	17	4	18	13½	34	86½
C. Campbell, do	do	16½	4	19	13½	32½	85½

\*General appearance—Considering uniformity and stand of crop, type of plant, and vigor of growth, and method of planting.

†Yield of fodder and grain—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, size and depth of kernels, variety considered.

NOTE.—The figures in parenthesis at the top are maximum possible scores.



RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety	Yield of fodder and grain.	Totals of scores.
ELGIN.— <i>Continued.</i>		(20)	(5)	(20)	(15)	(40)	(100)
ALDBOROUGH AGR. SOCIETY.— <i>Con.</i>							
W. Turk, Wardsville	White Cap.....	17½	4	19	13½	31	85
J. G. Gillies, Rodney, R.R. 2	Leaming.....	17	4	18	13	32	84
R. A. Kerr, do	Wisconsin No. 7...	17	4	16	13½	31½	82
W. W. Havens, do R.R. 2.	Golden Glow.....	17½	4	19	13	28	81½
Alfred Green, do	8-rowed Yel. Dent.	16	4	17	13	31	81
M. Purcell, Wardsville	Dent.....	16	4	18	14	28	80
Arch. McColl, Rodney	Wisconsin No. 7...	16½	4	14	13	32	79½
A. Leitch, Wardsville	White Cap.....	16½	4	15	14	29½	79
J. J. Johnston, do	do	16½	4	16	14	28	78½
W. B. Lancaster, Rodney, R.R. 1	8-rowed.....	15	4	16	12½	29	76½
W. J. Kelly, do	Wisconsin No. 7...	17	4	15	14	26	76
A. Purcell, Wardsville	Dent.....	14½	4	14	14	29	75½
G. McMaster, do	do	16½	4	10	14	27	71½
A. Wehlann, Rodney, R.R. 2...	.....	15½	4	13	9	29	70½
W. A. Kelly, do	St. Charles.....	16	4	15	12	23	70
ESSEX.							
AMHERSTBURG, ANDERDON AND MALDEN AGR. SOCIETY.							
<i>Judge—P. L. Fancher, Chatham.</i>							
E. A. Deneau, N. Malden, R.R. 1	Wisconsin No. 7..	19	4½	19	14½	37	94
Thos. Deslippe, Amherstburg ..	White Cap Yellow Dent.....	19½	4½	18	14	36	92
Jas. Martin, do	Leaming.....	19½	4	19	13½	34½	90½
D. E. Bondy, N. Malden, R.R. 1	Wisconsin No. 7..	18½	4½	18	14	34½	89½
F. Pettipiece, Auld, R.R. 1	Bailey.....	18½	4½	19	13½	32	87½
Alex. Sinasac, Jr., do	Wisconsin No. 7..	18½	4½	18	12	32½	85½
Wm. Bailey, Amherstburg, R.R.2	Bailey.....	17½	4½	17½	12½	32½	84½
W. C. Anderson, do	do	17½	4½	18	14	30	84
R. Langlois, do R.R. 1	Wisconsin No. 7..	18½	4½	18	12½	30	83½
F. Pigeon, N. Malden	Bailey.....	17½	4½	18	12½	30½	83½
W. Sellars, Amherstburg, R.R. 2	E. Rochester.....	17½	4½	18	13	30	83
F. McGee, N. Malden	Gorde Seed.....	17	4½	16	12½	32½	82½
M. Enderby, Amherstburg, R.R.2	Bailey.....	18½	4½	19	10	27½	79½
COMBER AGR. SOCIETY.							
<i>Judge—L. D. Hankinson, Aylmer, R.R. 2.</i>							
Wm. Taylor, Comber	Leaming.....	18½	4½	19	14½	26½	93½
E. J. Hiser, do	do	18	4½	19	14	37	92½
Thos. Brien, do	Gold Medal.....	18	4½	19	15	35½	92
Wm. White, do	Leaming.....	18½	4	19	13½	35½	90½
Geo. Frankfurth, do	Delaware.....	18	4½	18	14	34½	89
R. B. Keith, do	do	17½	4½	18	14	34	88
L. Dietrich, do	do	19	.....	19	14	35½	87½
Jno. Tilson, do	do	17	4½	18	13	34½	87

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
		(20)	(5)	(20)	(15)	(40)	(100)
<b>ESSEX.—Continued.</b>							
<b>COMBER AGR. SOCIETY.—Con.</b>							
T. W. Taylor, Comber	Delaware	15 $\frac{3}{4}$	4	18	14	33	84 $\frac{3}{4}$
A. Caya, do	do	17	4	19	12	31	83
Jno. Keith, do	South. Yel. Dent.	16	4	18	13	31	82
J. H. Dietrich, do	Yel. Dent.	16	4	18	12	31 $\frac{1}{2}$	81 $\frac{1}{2}$
M. Keith, do	South. Yel. Dent.	13 $\frac{1}{2}$	4	17	13	33	80 $\frac{1}{2}$
W. D. Elliot, do	W. Cap. Yel. Dent.	14	4 $\frac{1}{2}$	18	12	31 $\frac{1}{2}$	80
W. J. Roadhouse, do	Delaware	14 $\frac{3}{4}$	4	16	13	32	79 $\frac{3}{4}$
A. E. Dodson, do	White Dent.	15 $\frac{1}{2}$	4	16	12	32	79 $\frac{1}{2}$
<b>WINDSOR AND NORTH ESSEX AGR. SOCIETY.</b>							
<i>Judge—P. L. Funcher, Chatham.</i>							
P. M. McKinley, Tecumseh, R.R. 2	Wisconsin No. 7.	18 $\frac{3}{4}$	4 $\frac{3}{4}$	19	13	35 $\frac{1}{2}$	91
A. Ouellette, Windsor, R.R. 1.	W. Cap. Yel. Dent.	17 $\frac{1}{2}$	4 $\frac{3}{4}$	18 $\frac{1}{2}$	13 $\frac{1}{2}$	34 $\frac{3}{4}$	89
P. J. Clapp, Tecumseh, R.R. 2.	Golden Glow	18	4 $\frac{3}{4}$	16 $\frac{1}{2}$	13 $\frac{3}{4}$	36	88 $\frac{3}{4}$
P. M. Major, Belle River, R.R. 2	do	18 $\frac{3}{4}$	4 $\frac{3}{4}$	16	13	36	88 $\frac{1}{4}$
N. Lassaline, Jackson's Corner.	W. Cap. Yel. Dent.	18	4 $\frac{1}{2}$	17	13	35 $\frac{1}{2}$	88
E. Banwell, Paquette	do	17 $\frac{1}{2}$	4 $\frac{3}{4}$	18	14	32 $\frac{1}{4}$	86 $\frac{3}{4}$
W. C. Ferguson, Windsor, R.R. 1	do	18 $\frac{3}{4}$	4 $\frac{3}{4}$	17 $\frac{1}{2}$	12	33	86
A. T. Leboeuf, Tecumseh	White Cap.	17 $\frac{1}{2}$	4 $\frac{1}{2}$	17	12 $\frac{1}{2}$	32 $\frac{3}{4}$	84 $\frac{1}{4}$
M. Morand, Jackson's Corner.	do	17 $\frac{3}{4}$	4 $\frac{3}{4}$	17	13	31 $\frac{3}{4}$	83 $\frac{3}{4}$
Thos. Jobin, Maidstone, R.R. 3	W. Cap. Yel. Dent.	17 $\frac{1}{2}$	4 $\frac{3}{4}$	18	13	30 $\frac{1}{2}$	83 $\frac{1}{2}$
H. O'Neil, Paquette	do	18 $\frac{1}{2}$	4 $\frac{3}{4}$	16	11 $\frac{1}{4}$	32 $\frac{3}{4}$	83 $\frac{1}{4}$
A. Ouellette, Windsor, R.R. 1	Delaware	19	4 $\frac{3}{4}$	18 $\frac{1}{2}$	11	29 $\frac{3}{4}$	83
N. Doumache, do R.R. 1	do	18 $\frac{1}{2}$	4 $\frac{3}{4}$	18	11	30 $\frac{1}{2}$	82 $\frac{3}{4}$
D. M. Clapp, Tecumseh, R.R. 2	do	18	4 $\frac{3}{4}$	17	11	28 $\frac{1}{2}$	79 $\frac{1}{4}$
E. Durocher, Windsor, R.R. 1.	Southern Yel.	18 $\frac{1}{2}$	4 $\frac{1}{2}$	19	13	24	79
D. Campeau, Tecumseh, R.R. 2	Gorde Seed.	15 $\frac{1}{2}$	4 $\frac{1}{2}$	13	12 $\frac{1}{2}$	30 $\frac{1}{2}$	76
A. Soullier, Windsor, R.R. 1	Southern White.	17 $\frac{1}{4}$	4 $\frac{3}{4}$	16	13	24	75
<b>GREY.</b>							
<b>HOLLAND AGR. SOCIETY.</b>							
<i>Judge—A. A. Barton, Cainsville, R.R. 2.</i>							
Geo. Milson, Chatsworth, R.R. 3	White Cap.	18	5	18	14	33	88
Thos. McComb, do R.R. 4	do	17 $\frac{1}{2}$	5	18	14	33	87 $\frac{1}{2}$
C. McGee, Desboro	do	16 $\frac{1}{2}$	5	17 $\frac{1}{2}$	14	33	86
H. Farrow, do	do	17	5	17	14	29	82
Jas. McDonald, Chatsworth	Leaming.	17	4 $\frac{1}{2}$	17	14	28	80 $\frac{1}{2}$
W. Proud, Desboro	do	17	5	16	13	26	77
W. J. Hamilton, Owen Sound, R.R. 4	do	16	4	15	14	27	76
F. Walker, Chatsworth, R.R. 3.	Red Cob.	14	4	17	14	26	75
G. Hamilton, Owen Sound, R.R. 4	do	14	4	14	13	25	70

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
<b>GREY.—Continued.</b>		(20)	(5)	(20)	(15)	(40)	(100)
<b>KILSYTH AGR. SOCIETY.</b>							
<i>Judge—A. A. Barton, Cainsville, R.R. 2.</i>							
A. Fleming, Tara, R.R. 5.....	Wisconsin No. 7..	18	4½	19	15	33½	90
M. Lynn, Owen Sound, R.R. 3.	Bailey.....	18½	5	18	15	33	89½
A. S. Donald, Tara, R.R. 5	White Cap.....	18	5	18	14	34	89
Geo. P. Kennedy, do R.R. 5	Wisconsin No. 7..	18	4	19	13	32	86
Wm. H. Marshall, Owen Sound, R.R. 5 .....	Leaming.....	16	5	17	14	30	82
A. Herron, Tara, R.R. 5	Wisconsin No. 7..	17½	5	17	14	28	81½
W. E. Fleming, do R.R. 5	Leaming.....	16½	5	18	13½	28	80
Wm. Breen, do R.R. 5	Wisconsin.....	17	4½	18	12	27	78½
J. J. Fleming, Owen Sound .....	Leaming.....	16	3½	16	14	27	76½
Geo. Wylie, Kilsyth .....	do .....	18	4	14½	14	27	77½
W. Garvie, Tara, R.R. 4 .....	Wisconsin No. 7..	14½	5	17	12½	26	75
V. Barber, Owen Sound .....	Leaming.....	15	4	15	14	26	74
<b>HALDIMAND.</b>							
<b>CALEDONIA AGR. SOCIETY.</b>							
<i>Judge—L. D. Hankinson, Aylmer, R.R. 2.</i>							
R. F. Young, Caledonia .....	Leaming.....	18½	4½	18½	13	35½	90
W. H. Nelles, do .....	do .....	18	4½	18	13½	35	89
I. Weylie, do .....	Ensilage.....	17	4½	18	13	33½	86
W. T. Gringer, do .....	Yellow Dent.....	16	4½	17½	12½	32½	83
Wm. J. Todd, do R.R. 3	do .....	16½	4½	16	13	32½	82½
Jas. Yule, do .....	Leaming.....	16	4½	15	13	26	74½
Wm. Berry, do .....	Wisconsin No. 7..	15½	4	16	10	26½	72
Jas. Douglas, do .....	Leaming.....	15	4½	14	12	26	71½
<b>HASTINGS.</b>							
<b>STIRLING AGR. SOCIETY.</b>							
<i>Judge—S. H. Treverton, Belleville.</i>							
M. Shea, Stirling ....	Leaming.....	18	4	14	13	38	87
Thos. Montgomery, Sr., do ..	.....	17½	4	18	13	34	86½
T. J. Thompson, Springbrook ..	Leaming.....	16½	4½	15	13	30	79
C. M. Sine, Stirling .....	do .....	15½	4	18	12	29	78½
A. Wilson, W. Huntingdon .....	.....	14½	4	15	11	31	75½
Jas. A. Bailey, Harold .....	White Cap.....	16	4	14	12	28	74
A. Forgey, W. Huntingdon ....	Wisconsin No. 7..	14½	3	12	12	31	72½
Geo. A. Bailey, Harold .....	Leaming.....	15	3	14	12	28	72
Chas. W. Thompson, Stirling ..	Wisconsin No. 7..	13	4	14	12	28	71
Roy Heath, Harold .....	Leaming.....	13	3½	12	13	29	70½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	†Freedom from smut and insects.	‡Thoroughness of cultivation.	§Purity of variety.	¶Yield of fodder and grain.	Totals of scores.
<b>KENT.</b>							
<b>HARWICH AGR. SOCIETY.</b>							
<i>Judge—L. D. Hankinson, Aylmer, R.R. 2.</i>							
R. J. Johnston, Chatham, R.R. 3	Longfellow.....	18	5	19	14½	36½	93
J. D. McPherson, Blenheim, R.R.1	Delaware.....	19	4½	19	14	36	92½
R. J. Wilson, Charing Cross ..	Wisconsin No. 7..	18	4½	19	15	34	90½
Thos. Pegg, Blenheim .....	Reid's Yel. Dent..	18	4½	18	13	36½	90
A. S. Maynard, Chatham, R.R. 3	Salzer's N.Dakota	17	4½	19	14½	34	89
E. Crummer, Blenheim, R.R. 2	Delaware.....	18	4½	17	13½	35	88
M. R. Pardo, do R.R. 1	Wisconsin No. 7..	17½	4½	18	13½	34	87½
G. Clark, do .....	Salzer's N.Dakota	16½	4½	18	14	33½	86½
W. R. McGuigan, Cedar Springs.	Yel. Dent.....	17	4½	18	12½	33	85
A. Toole, Blenheim .....	W. Cap. Yel. Dent.	16	4½	17	13½	33½	84½
Jas. McPherson, Cedar Springs.	do .....	16	4½	18	13	32½	84
J. H. Watt, Elenheim, R.R. 5..	do .....	16	4½	16½	12	33	82
E. Warwick, do .....	Salzer's N.Dakota	14	4½	16	14	31½	80
<b>ORFORD AGR. SOCIETY.</b>							
<i>Judge—A. B. Rose, Echo Place.</i>							
R. A. Newman, Highgate .....	White Cap.....	17½	3½	19	14	32½	86½
N. Littlejohn, do .....	Dent.....	17	4	18	14	33	86
E. Gosnell, do .....	White Cap.....	17	3½	17	14	34	85½
Jno. Wade, do R.R. 1	White Cap Dent..	17	3½	18½	12	34	85
A. Roberts, Muirkirk, R.R. 3..	Dent.....	17	4	19	14	30½	84½
F. J. McLaren, Highgate .....	White Dent.....	17½	3½	19	14	30	84
A. Thomson, Muirkirk, R.R. 3.	Dent.....	16	4	18½	13	32	83½
W. W. Scott & Sons, Highgate..	Golden Glow....	16	4	16	14	33	83
Peter Clark & Sons, do R.R. 2	8-rowed Yellow...	15½	4	18	13½	31½	82½
Wm. Blue, Muirkirk, R.R. 1 ...	Dent.....	16½	3½	18	13	31	82
Wm. Gladstone, Highgate, R.R.2	do .....	16	4	15	13	33	81
A. McAlpine, Thamesville, R.R.3	W. Cap Yel. Dent.	16	3	12	13½	33	77½
W. M. Attridge, Highgate, R.R. 1	Dent.....	16	3½	18½	13	26	77
G. B. Newman, Muirkirk, R.R.2	W. Cap Dent.....	16½	3½	10	13	34	77
R. E. Turner, do R.R. 2	W. Cap Yel. Dent..	14	3½	16	12	31	76½
Jno. Schweitzer, Highgate, R.R.1	8-rowed.....	15	3	18	13	25	74
<b>RALEIGH AND TILBURY AGR. SOCIETY.</b>							
<i>Judge—Lee Cascadden, Aylmer West.</i>							
F. H. Middleton, Merlin .....	Bailey.....	20	4	20	12	37	93
Jno. C. McGregor, Tilbury, R.R.2	Delaware.....	19	3	19	12	38	91
G. Esterbrook, Merlin .....	Wisconsin No. 7..	18	3	19	15	35	90
Jno. C. Jenner, do .....	White Cap.....	18	3	20	13	35½	89½
Chas. Slade, N. Buxton .....	Early Butler.....	18	3	20	13	35	89
C. Marriott, Merlin .....	Early Leaming...	18½	2½	20	13	34	88
David Fletcher, do .....	White Cap.....	20	2½	18	14	33	87½

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## CORN,

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	Yield of fodder and grain.	Totals of scores.
		(20)	(5)	(20)	(15)	(40)	(100)
<b>KENT.—Continued.</b>							
RALEIGH AND TILBURY AGR. SOCIETY.—Continued.							
E. Johnson, Merlin	White Cap	16	4	20	13	34	87
Donald Fletcher, do	do	15	3	19	14	35	86
J. W. Smith, do R.R. 1	Wisconsin No. 7	16½	3	16	14	35	84½
O. Powell, do	White Dent	17	3	16	14	34	84
Robt. Fletcher, do	Golden Glow	15	2½	20	13	32	82½
E. C. Jones, do	White Cap	15½	3	18	13	32	81½
Jno. Hickey, do	do	14	3	18	12	33½	80½
Jas. Fletcher, do	Early Leaming	16	5	17	12	30	80
<b>WALLACEBURG AGR. SOCIETY.</b>							
<i>Judge—E. J. Mullins, Woodstee.</i>							
G. L. Mickle, Wallaceburg, R.R. 2	Wisconsin No. 7	18½	5	18	14	35½	91
Jno. Coveny, do	Bailey	20	3	18	12	37	90
Jas. M. Langstaff, Tupperville, R.R. 3	Early Huron	20	3	20	13	33½	89½
F. McCreary, Wallaceburg, R.R. 2	White Cap	18½	4½	18	13	33	87
D. Coveny, Electric	American Seed	20	2	20	12	32	86
D. L. McCreary, Wallaceburg, R.R. 2	White Cap	15	4½	19	13	31	82½
C. H. Crowe, Wallaceburg, R.R. 5	Leaming	16	2	15	13	36	82
D. Crawford, Electric, R.R. 1	Yel. Dent	18	2½	17	12	31	80½
H. Handson, do	do	17	3	16	8	34	78
W. C. Gordon, do	Golden Glow	15	4	16	11	31	77
O. Crowe, Wallaceburg, R.R. 5	Leaming	17½	4	10	13	32	76½
J. E. Richardson, do R.R. 5	American Seed	16½	3	10	13	31	73½
<b>WEST KENT AGR SOCIETY.</b>							
<i>Judge—L. D. Hankinson, Aylmer, R.R. 2.</i>							
F. Weaver, Turnerville, R.R. 1	Wisconsin No. 7	18¾	4½	18	14½	37	92¾
R. R. Huff, Chatham, R.R. 5	Southern Dent	18	4½	19	13½	35	90
W. G. Stark, do	Wisconsin No. 7	18	4½	18	14½	34	89
B. Bedford, do R.R. 4	Little Bedford	17	4½	18	14	33½	87
Geo. Duff, do	Delaware Dent	17½	4½	17	13	34½	86½
H. English, do	Red Cob	16	4½	18	13	34	85½
H. Cummings, Turnerville, R.R. 2	W. Cap Yel. Dent	16½	4	17	13	34	84½
W. J. Fleming, Chatham, R.R. 1	Delaware	17	4	17½	13	32½	85
W. H. Irwin, do R.R. 5	White Cap	16¼	4	16	13	33½	82¾
Chas. Slade, N. Buxton	Butler	15	4½	17	12	32	80¾
P. Ferguson, Fletcher, R.R. 2	Southern Dent	15	4	16	13	32	80
<b>LAMBTON.</b>							
BROOKE AND ALVINSTON AGR. SOCIETY.							
<i>Judge—W. M. Abraham, Chatham.</i>							
Jas. Hand, Alvinston, R.R. 4	Golden Glow	17	4½	19	13½	32½	86½
Jas. McCallum, do R.R. 4	E. Prince Charles	17½	4½	19½	13	31½	86
T. H. Lovell, do R.R. 4	Wisconsin No. 7	18	4½	19¾	7	36	85¼

NOTE.—The figures in parenthesis at the top are maximum possible scores.

6 A.S.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	Yield of fodder and grain.	Totals of scores.
		(20)	(5)	(20)	(15)	(40)	(100)
<b>LAMBTON.—Continued.</b>							
<b>BROOKE AND ALVINSTON AGR. SOCIETY.—Continued.</b>							
D. Hayter, Alvinston, R.R. 4	Red Cob.....	17½	4½	18	13	31½	84½
F. W. Oke, do R.R. 2	Golden Glow.....	15	4½	19¾	12½	31	82¾
Ed. Reader, do R.R. 4	do .....	16	4½	19	14	29	82½
H. A. Gilroy, do R.R. 6	do .....	16½	4½	12	14½	32½	80
D. Cann, do R.R. 4	do .....	15½	4½	18½	13½	27½	79½
H. Darvill, do R.R. 7	White Cap.....	16½	4½	18	11½	28	78½
Geo. Lightfoot, do R.R. 7	Golden Glow.....	14½	4½	18	13	28	78
W. J. Weed, do R.R. 7	do .....	14	4½	17	12	29½	77
M. C. Zavitz, do R.R. 7	Early Leaming... 17½	4½	12	13	30	77	
L. W. Oke, do R.R. 2	Golden Glow.....	17	4½	12	13½	27½	74½
<b>FLORENCE AGR. SOCIETY.</b>							
<i>Judge—W. M. Abraham, Chatham.</i>							
B. W. Fancher, Florence, R.R. 2	Bailey.....	18½	4½	19	14	37½	93¼
Wm. J. Sinclair, Croton, R.R. 2	Reid's Yel. Dent..	18	4½	19	14½	35½	91½
Robt. Currie, Florence, R.R. 3	Wisconsin No. 7... 17	4½	14	14	37	86½	
Jno. Gould, Proton, R.R. 2 ....	E. St. Charles.....	16½	4½	19	14	31	85
H. Buchanan & Son, Thamesville, R.R. 2 .....	Wisconsin No. 7... 17	4½	12	14	37	84½	
Bert Harris, Thamesville, R.R.1	Leaming.....	16½	4½	18	12	32½	83½
B. Walker, Bothwell, R.R. 1 ..	White Cap.....	16½	4½	18	10	32	81
Gilbert Smith, Cairo .....	Early Rose.....	16	4½	15	12	32	79½
D. Buchanan, Thamesville, R.R.2	Wisconsin No. 7... 16	4½	15	12	31	78½	
<b>SOMBRA AGR. SOCIETY.</b>							
<i>Judge—E. J. Mullins, Woodslee.</i>							
J. Johnrston, Pt. Lambton, R.R. 1	White Cap.....	20	4	18	14½	38½	95
H. Sheller, do .....	Wisconsin No. 7... 18	4½	18	15	38	93½	
Jno. McRae, do R.R. 2	do .....	19	4	18½	14	37½	93
S. MacDonald, do .....	Bailey.....	18½	4½	19	15	33	90
Bert Payne, do .....	American.....	20	2	19	13	32	86
S. S. Deyo, Wallaceburg, R.R. 4	Leaming.....	19	3	18	13	30	83
J. C. McMillan, Pt. Lambton ...	Bailey.....	15	3	12	14	33	77
J. C. Reid, Wallaceburg, R.R. 5	Reid's Yel. Dent.. 13½	4	18	14	24	73½	
<b>LINCOLN.</b>							
<b>CLINTON AGR. SOCIETY.</b>							
<i>Judge—E. I. McLoughry, Markdale, R.R. 4.</i>							
Jno. A. Book, Beamsville, R.R. 2	Leaming.....	19½	5	18½	15	39	97
J. A. Lind, do R.R. 1	Golden Glow.....	19½	4½	20	15	34	93
S. H. Culp, Vineland, R.R. 1	E. Prince Charles. 18	4½	18½	14	32½	87½	

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.			Name of variety.	*General appearance.	†Freedom from smut and insects.	‡Thoroughness of cultivation.	§Purity of variety.	¶Yield of fodder and grain.	Totals of scores.
				(20)	(5)	(20)	(15)	(40)	(100)
LINCOLN.— <i>Continued.</i>									
CLINTON AGR. SOCIETY.— <i>Con.</i>									
D. H. Moyer, Vineland	R.R. 1	Angel of Mid-		19	5	16	13½	33½	87
H. Culp, Beamsville,	R.R. 1	E. Prince Charles.		19	5	17	13	32½	86½
J. H. Sann, do	.....	N. Dakota.....		16½	5	16	14½	34	86
A. W. Culp, do	R.R. 1	Longfellow.....		15¼	5	15	14½	35½	85½
Wm. Boughner, do	R.R. 2	Leaming.....		18	4½	17½	14	31	85
H. H. Tufford, do	R.R. 1	Wisconsin No. 7..		18½	5	16	14½	30	84
L. Gilmore, do	R.R. 1	Longfellow and Wisconsin No. 7.		17	5	10	14½	32	78½
NORFOLK.									
COURTLAND AGR. SOCIETY.									
<i>Judge—R. J. Wilson, Charing Cross.</i>									
A. Cowan, Courtland	.....	.....		18¾	4¾	19¼	14	35½	92¼
Robt. Dick, Tillsonburg,	R.R. 1	E. Leaming.....		18½	4¾	18½	14	32¾	88¼
H. M. Fisher, Courtland	.....	Leaming.....		18	4¾	18	13	34¼	88
J. F. Robinson, do	.....	.....		18¾	4¾	18½	14	31¾	87¼
J. Nunn, do	.....	.....		16½	4¾	18	14	32¾	85¾
P. Maybee, Tillsonburg,	R.R. 4	.....		16¾	4¾	19	14	31	85¼
W. A. Buchner, Delhi, R.R. 3	..	Leaming.....		17¾	4¾	19	14	29¾	84¾
T. B. Ronson, Courtland,	R.R. 2	.....		16¾	4¾	17	14	30¾	83
J. Birdsall, do	R.R. 1	.....		17¼	4¾	17¼	14	29½	82¾
W. N. Burnett, do	.....	.....		16¾	4¾	17	14	29¾	82
J. C. Byerlay, do	R.R. 2	.....		16¾	4¾	17	14	29¾	81½
Chas. Graydon, Delhi, R.R. 3	..	Wisconsin No. 7..		14¾	4¾	18	14	28	79¼
V. McDonald, Tillsonburg,	R.R. 2	do		15	4¾	18¾	13	26	77¼
J. T. Simmons, Courtland	.....	.....		14½	4¾	15	14	25	73¼
N. WALSLINGHAM AGR. SOCIETY.									
<i>Judge—S. M. Pearce, Fingal.</i>									
Thos. Bain, Langton	.....	Leaming.....		18	4	17	13	28	80
W. H. Hunter, do	.....	Wisconsin No. 7..		18	4	17	13	27½	79½
F. E. Doan, Wyecombe	.....	do		18½	4½	19	12	25	79
G. B. Robinson, Langton, R.R. 1	W. Cap Yel. Dent.			17½	4½	16	13	27½	78½
R. Hunter, Lynedoch	.....	Red Cob.....		18	4½	18	11	26¾	77
A. Cowan & Son, Courtland, R.R. 1	.....	Leaming.....		18	4½	14	13	28	77½
H. Alexander, Langton, R.R. 1	..	Wisconsin No. 7..		17½	4	17	13	24½	76
M. Watt, do	.....	do		16½	4½	17	14	23	75
Wm. Thorn, Lynedoch	.....	Leaming.....		17	4½	16	12	25	74½
C. Hetherington, Glenmeyer	...	do		18	4½	16	12	24	74½
Jas. Brayley, Langton, R.R. 2	..	Wisconsin No. 7..		16	4½	16	10	27	73½
Thos. Simmons, Courtland, R.R. 1	.....	Leaming.....		17½	4½	15	11	24	72
Geo. McKim, Lynedoch	.....	Red Cob.....		17	4½	16	11	22	70½

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## CORN.

Competitors in Order of Merit.		Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
NORTHUMBERLAND.			(20)	(5)	(20)	(15)	(40)	(100)
SEYMOUR AGR. SOCIETY.								
<i>Judge—S. H. Treverton, Belleville.</i>								
T. Dunham, Campbellford, R.R. 4	White Dent.....	17½	4½	18	13	36	89	
W. J. Ross, Meyersburg .....	Bountiful.....	17	4	18	13	36	88	
E. C. West, Campbellford .....	Leaming.....	16	4	16	13	32	81	
Alex. Hume, do .....	.....	16½	3½	16	11	31	78	
R. McKelvie, do R.R. 1 .....	.....	15½	4	13	12	30	74½	
Wm. Rannie, do .....	Yellow Dent.....	14	4	14	13	29	74	
Wm. W. Whitton, do R.R. 3 .....	.....	15½	4	16	12	26	73½	
B. Hopps, do .....	Red Cob.....	14	3½	14	9	32	72½	
Wm. M. Little, do R.R. 3 .....	.....	14	4	12	13	29	72	
C. Bonnycastle, do .....	W. Dent.....	13	4	12	11	30	70	
ONTARIO.								
BEAVERTON AGR. SOCIETY.								
<i>Judge—W. H. Hickson, Bobcaygeon.</i>								
Jno. Ross, Beaverton ....	Leaming.....	18	5	15	15	38	91	
Hodgkinson & Tisdale, do .....	do .....	19½	5	18	15	33	90½	
Robt. Ross, do R.R. 1 .....	do .....	19	5	18	15	32	89	
F. W. Rilance, do .....	do .....	17	5	18	15	33	88	
P. Veale, do R.R. 3 .....	Mixed Leaming & Pr. Charles.....	18	4	18	13	31	84	
D. Gilchrist, Brechin, R.R. 1....	Prince Charles.....	17½	4	17	14	28	80½	
Dunrobin Farm, Beaverton .....	do .....	17	5	18	15	25	80	
Jno. Westlake, do R.R. 3 .....	do .....	18½	5	20	15	20	78½	
R. F. McKay, do .....	Mixed.....	16	5	18	13	25	77	
W. R. McKay, do .....	Prince Charles.....	18½	5	18	15	20	76½	
D. McKay, Brechin, R.R. 1 .....	do .....	17½	4	16	15	24	76½	
Jno. Alsop, Beaverton .....	do .....	17½	3½	17	15	23	76	
A. Grant, do .....	Leaming.....	16	5	15	15	24	75	
L. D. Callaghan, do .....	Prince Charles.....	16½	5	14	15	24	74½	
F. A. Veale, do .....	do .....	18	5	15	15	20	73	
Jno. Harrison, do .....	do .....	17	5	18	15	17	72	
Geo. Will, do R.R. 2 .....	do .....	17½	5	19	15	15	71½	
OXFORD.								
EAST MISSOURI AGR. SOCIETY.								
<i>Judge—R. H. Abraham, Chatham.</i>								
W. I. Hogg, Thamesford, R.R. 2	Golden Glow.....	18½	4	16	14½	38	91	
Bert Thornton, do .....	Flint.....	17	4	18	12	38	89	
Thos. McKenzie, Lakeside .....	do .....	18	4½	15	14	37	88½	
J. F. Day, Thamesford .....	Yellow Dent.....	16½	4½	15	14½	37½	88	
J. A. Calder, Lakeside .....	Ensilage.....	17	4	15	14	37	87	

NOTE.—The figures in parenthesis at the top are maximum possible scores.



RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.		Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
OXFORD.— <i>Continued.</i>			(20)	(5)	(20)	(15)	(40)	(100)
EAST MISSOURI AGR. SOCIETY.— <i>Continued.</i>								
Geo. R. Mathison, Lakeside . . . .	Ensilage . . . . .	17½	4	19	12	31	83½	
A. Hogg, Thamesford . . . . .	Mixed . . . . .	16	4	18	12	30½	80½	
Wm. A. Henderson, do . . . . .	Ensilage . . . . .	17	4	17	14	28	80	
A. Whetstone, Lakeside, R.R. 2 . . . . .	do . . . . .	16½	4	17	12	30	79½	
J. C. Henderson, do . . . . .	Ensilage . . . . .	17	4	17	12	29	79	
Alex. McDonald, do . . . . .	do . . . . .	16½	4	18	10	28	76½	
D. Thompson, do . . . . .	do . . . . .	16	4	15	10	29	74	
SOUTH NORWICH AGR. SOCIETY.								
<i>Judge—R. J. Wilson, Charing Cross.</i>								
Wm. Innis, Otterville, R.R. 1	Ensilage . . . . .	17½	4½	18	14	37	91	
G. W. Hansel, do R.R. 1	Wisconsin No. 7..	18½	5	18	14	34	89½	
H. Treffrey, do R.R. 2	do . . . . .	18½	4½	17	14	33½	87½	
Jno. M. Rider, do R.R. 1	do . . . . .	16½	5	19	13	33½	87	
Jas. Johnson, Springford	do . . . . .	17½	4½	17	14	33½	86½	
Jas. Blow, do . . . . .	do . . . . .	16¼	4½	17¾	13	33½	85	
A. Hanson, Otterville, R.R. 2..	do . . . . .	17¼	4½	16	14	33	84¾	
Geo. Singer, Tillsonburg, R.R. 2	Wisconsin No. 7..	17¼	4½	17	14	30½	83¾	
C. Longstreet, Otterville, R.R. 2	do . . . . .	16¾	4½	18	14	30	83¼	
Ira Fox, Springford . . . . .	do . . . . .	16	4½	17¾	14	30¾	83	
P. Broad, do . . . . .	do . . . . .	16	4½	17½	14	30½	82¾	
G. W. Parsons, Otterville, R.R. 2	do . . . . .	16¼	4½	18½	14½	28½	82¼	
C. Jackson, Norwich, R.R. 2 . .	Wisconsin No. 7..	17¼	4½	14½	14	31½	82	
F. Broad, Springford . . . . .	do . . . . .	17¼	4½	15	14	31	81¾	
A. Pearce, Otterville, R.R. 2	Wisconsin No. 7..	16	4½	16½	14	30½	81¼	
Jos. Parker, do R.R. 2	do . . . . .	15½	4½	17½	14	29	80¾	
C. Cooper, Tillsonburg, R.R. 2..	do . . . . .	15½	4½	18	14	28½	80½	
M. H. Haley, Springford . . . . .	do . . . . .	15¾	5	17¾	14	27¾	80¼	
Roy Moore, Otterville, R.R. 2 . .	do . . . . .	15¾	4½	16¾	14	29	80	
Chas. Almost, Tillsonburg, R.R.2	do . . . . .	16¾	4½	18	14	27	79¾	
C. Pennington, Otterville, R.R.2	do . . . . .	16¼	4	16¾	14	28½	79½	
B. D. Smith, Springford . . . . .	do . . . . .	15¾	5	15	14	29½	79¼	
PERTH.								
FULLARTON, LOGAN AND HIBBERT AGR. SOCIETY.								
<i>Judge—R. H. Abraham, Chatham.</i>								
Jas. Scott, Jr., Cromarty . . . . .	Wisconsin No. 7..	17	4	19	13	34	87	
A. K. Cole, Russeldale . . . . .	Ensilage . . . . .	17	4	19	13	30	83	
Robt. Hodgson, Dublin, R.R. 1..	do . . . . .	14	4	17¼	13	33½	81¾	
D. Campbell, Mitchell, R.R. 1	do . . . . .	16	4	18	13	30½	81½	

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
PERTH.— <i>Continued.</i>		(20)	(5)	(20)	(15)	(40)	(100)
FULLARTON, LOGAN AND HIBBERT AGR. SOCIETY.— <i>Continued.</i>							
J. Elliott, Mitchell R.R. 1	.....	16	4	18	13	29	80
Wm. Forester, do	.....	16	4	17½	13	29	79½
H. McPhail, do R.R. 1	Ensilage.....	15	4	17	13	30½	79½
N. Malcolm, do R.R. 3	do .....	14	4	18	13	30	79
Geo. Krauskopf, do R.R. 3	do .....	14	4	16	13	31¾	78¾
T. Winteringham, do R.R. 3	do .....	15	4	16	13	30½	78½
Robt. Hoggarth, Cromarty	do .....	16	4	16	13	29	78
H. Greenwood, Mitchell, R.R. 1	do .....	15	4	17	13	29	78
Beer Bros., do	do .....	16	4	18	10	29½	77½
Russell Scott, Cromarty	do .....	14	4	19	12	28	77
Wm. Hamilton, do	do .....	14	4	16	12	29	75
VICTORIA.							
ELDON AGR. SOCIETY.							
<i>Judge—W. Hickson, Bobcaygeon.</i>							
P. Kivell, Woodville	..... Red Tops.....	17½	5	18	15	30	85½
J. P. Wilson, do	..... Leaming.....	15	5	19	15	31	85
Geo. McKague, do	..... Wisconsin No. 7..	17	5	19½	15	27	83½
H. Dixon, do	..... Mixed.....	18	4	18	13	29	82
R. P. Hill & Son, do	..... do .....	16½	4	18	13	27	78½
G. Veale, do	..... St. Charles.....	17½	5	17	15	22	76½
Jas. Thomas, do	..... Mixed.....	14	4	19½	10	28½	76
Jno. Ward, do	..... St. Charles.....	19	5	17	15	17½	73½
Wm. Newman, Lorneville	..... Leaming.....	15½	4½	14	15	24	73
W. Hill, Woodville	..... Ensilage.....	15	5	18	15	18	71
WATERLOO.							
SOUTH WATERLOO AGR. SOCIETY.							
<i>Judge—L. D. Hankinson, Aylmer, R.R. 2.</i>							
R. & D. Arthur, Branchton	..... Wisconsin No. 7..	17½	4½	18½	14	34½	89
Geo. R. Barrie, Galt, R.R. 7	..... Leaming.....	17½	4½	18	14	32	86
A. G. Taylor, do R.R. 7	..... Wisconsin No. 7..	17½	4½	18	13	32½	85½
S. Gingrich, Blair, R.R. 1	..... Big Crop.....	17	4½	18	13	32½	85
Wm. F. Edgar, Ayr, R.R. 3	..... Dent.....	16½	4½	18½	14	31	84½
Alex. Harvey, Branchton	..... Wisconsin No. 7..	16½	4½	17	13	32½	83½
E. Z. Kenes, do	do .....	16½	4½	17	12½	32½	83
J. A. Slater, Galt, R.R. 4	do .....	16½	4½	17	13	31	82
Jas. R. Wood, Preston, R.R. 2..	do .....	16	4½	17	13	31	81½
Robt. E. Cowan, Galt, R.R. 3	do .....	16	4½	17	14	29½	81
A. B. McPhail, do R.R. 4..	do .....	15½	4½	17	14	28	79

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
<b>WELLAND.</b>		(20)	(5)	(20)	(15)	(40)	(100)
<b>BERTIE AGR. SOCIETY.</b>							
<i>Judge—Lee Cascadden, Aylmer West.</i>							
J. W. Athoe, Ridgeway, R.R. 2..	Leaming.....	19	5	19	14	38	95
Jas. E. Laur, Bridgeburg, R.R. 1	E. Butler.....	18½	4	20	14	35	91½
J. W. Jewson, Fort Erie, R.R. 1	Coatsworth.....	19	4	18	14	36	91
M. W. Sexsmith & Son, Ridgeway, R.R. 2 .....	Reg. Leaming....	17½	4	18	14	37	90½
W. W. Bowen, Ridgeway .....	Golden Glow.....	16½	4	18	12	35	85½
J. McGaw, Fort Erie, R.R. 1	Leaming.....	17	4	18	14	31	84
J. R. Phillips, do R.R. 1	Eureka.....	16	4	16	13	34	83
G. W. Miller & Sons, Stevensville	Leaming.....	16	5	18	11	32	82
Geo. Sexsmith & Son, Fort Erie	Dent.....	15	5	16	13	32	81
Jno. F. Miller, Stevensville ....	Ensilage.....	15	4	15	12½	34	80½
F. Fritz, Fort Erie .....	Leaming.....	15	3	16	14	32	80
Wm. Woehl, Bridgeburg .....	do .....	13½	4	16	13	31	77½
<b>WELLAND.</b>							
<b>WELLAND AGR. SOCIETY.</b>							
<i>Judge—Lee Cascadden, Aylmer West.</i>							
F. G. Hutton, Welland .....	Bailey.....	20	4	19	15	39	97
J. M. Haist, Fonthill .....	Imp. Leaming....	17	4½	18	11	32	82½
Jas. C. Bald, Welland .....	Leaming.....	17	4	16	10	30	77
D. E. Stauth, do R.R. 4	Eureka.....	18	2½	19	10	27	76½
Robt. Cooper, do .....	Leaming.....	18	3	18	10	27	76
Gaiser Bros., do .....	Bailey.....	17	3	14	9	27	70

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	† Apparent yield.	‡ Totals of scores.
ALGOMA.		(15)	(17)	(20)	(10)	(38)	(100)
BRUCE MINES AGR. SOCIETY.							
<i>Judge—Alex. Morrison, Creemore.</i>							
Jno. Shaule, Bruce Mines	Carman	13	16	19	10	35 $\frac{3}{4}$	93 $\frac{3}{4}$
Norman Pace, do R.R. 1	Carman No. 1	13	16	18	10	34 $\frac{1}{2}$	91 $\frac{1}{2}$
Jno. Carter, Port Lock	Early Rose	13	16	19	10	33	91
F. Hopper, Bruce Mines, R.R. 1	Carman	13	16	18	10	32	89
T. Humphries, do		13	15	18	8	33	87
G. H. Jackson, do		13	15	18	8	30	84
Alex. Shaule, do	Carman No. 1	11	15	17	10	30	83
H. Skusky, do R.R. 3		12	15	16	8	31 $\frac{1}{2}$	82 $\frac{1}{2}$
S. Rowe, do		11	15	17	8	27	78
R. S. McEwan, do	Green Mountain	11	15	16	7	28	77
J. C. Wilson, do	Davies' Warrior	10	15	14	9	27	75
A. Nicholson, do		11	13	14	8	24	70
CENTRAL ALGOMA AGR. SOCIETY.							
<i>Judge—W. S. Scarf, Durham.</i>							
W. T. McAuley, Goulais Bay	Carman No. 2	14	16	19	10	34 $\frac{1}{2}$	93 $\frac{1}{2}$
T. Avery, Sault Ste. Marie	Carman No. 1	13 $\frac{1}{2}$	15	19	10	34	91 $\frac{1}{2}$
W. J. Conway, do	Green Mountain	13	15	18	10	33	89
G. P. Hamburg, do		13	14 $\frac{1}{2}$	18	10	32 $\frac{1}{2}$	88
W. C. Alderson, do		12 $\frac{1}{2}$	15	17	10	33	87 $\frac{1}{2}$
C. W. Ecclesfield, do	Green Mountain	12	12	18	10	30 $\frac{1}{2}$	82 $\frac{1}{2}$
H. Knight, Jr., do	do	13	11	19	10	28 $\frac{1}{2}$	81 $\frac{1}{2}$
E. L. Allen, do	Carman	12	12	18	10	27 $\frac{1}{2}$	79 $\frac{1}{2}$
Jas. Cooper, do	Carman No. 2	12	10	18	10	24	74
C. A. Somes, Goulais River	Green Mountain	14	12	16	10	22	74
Chas. Scott, do	Money Maker	11	11	17	10	24	73
C. C. Willoughby, Sault S. Marie		11	12	11	9	29	72
NORTH SHORE AGR. SOCIETY.							
<i>Judge—Alex. Morrison, Creemore.</i>							
T. Larocque, Laird	Early Pride	14 $\frac{1}{2}$	16	19	10	36	95 $\frac{1}{2}$
C. Moore, MacLennan	Gold Coin	13	16	19	10	34 $\frac{1}{2}$	92 $\frac{1}{2}$
C. Stewart, Bar River	Irish Cobbler	13	16	18	10	35	92
Edwin Pollard, Echo Bay	Carman	13	15	18	10	35	91
W. R. Majury, do	Russet	13	16	18	10	33	90

\*General appearance—Considering method of planting, stand of crop, and vigor of growth.

† Apparent Yield—Considering weight of marketable potatoes, per square yard, quality, smoothness and uniformity of shape, state and uniformity of maturity, and freedom from sunburn.

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 POTATOES.

Competitors in Order of Merit.		Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	† Apparent yield.	Totals of scores.
			(15)	(17)	(20)	(10)	(38)	(100)
<b>ALGOMA.—Continued.</b>								
<b>NORTH SHORE AGR. SOCIETY.—Continued.</b>								
L. H. Hounslow, Echo Bay.....	Irish Cobbler.....	12	15	17	10	34	88	
D. Hedrick, do .....	Early Pride.....	13	16	16	10	32½	87½	
C. A. Hurley, do .....	Carman.....	12	15	16	10	34	87	
F. A. Newman, Bar River .....	Empire State.....	13	15	17	10	30	85	
Jno. Hedrick, Echo Bay .....	Early Pride.....	11	15	15	10	33½	84½	
Wm. Barkley, Bar River .....	Carman.....	11	14	17	8	31½	81½	
A. L. Tuckett, Echo Bay .....	Imp. Ligowa.....	13	15	17	8	28	81	
Jno. Booth, Bar River .....	Green Mountain..	11½	15	16	7	27	76½	
D. Fremlin, do .....	Early Rose.....	10	14	13	9	24½	70½	
<b>ST. JOSEPH ISLAND AGR. SOCIETY.</b>								
<i>Judge—W. S. Scarf, Durham.</i>								
H. Underhill, Richard's Landing	Green Mountain..	14	16	18	10	33	91	
Geo. Smedley, do .....	do .....	13	15½	18½	10	33½	90½	
Bert. Raines, do .....	do .....	13½	15	17½	10	34	90	
W. H. Caulfield, do .....	Empire State.....	13	15	18	10	29	85	
Thos. White, do .....	Green Mountain..	12½	15½	19	8	29	84	
R. R. Raines, do .....	Early King.....	12	16	16	10	29	83	
Walter Fyfe, do .....	Green Mountain..	12	15	14½	10	26	77½	
C. Young, do .....	Irish Cobbler.....	11	14	15½	10	26	76½	
Mrs. A. W. Ross, do .....	do .....	12	15	11	10	28	76	
Jno. Cheer, do .....	do .....	12	14	15	10	25	76	
Jno. Fyfe, do .....	do .....	13	13	14	10	25½	75½	
A. W. Stableforth, do .....	do .....	11	13	16	10	23½	73½	
H. Matheson, do .....	do .....	11	14	13	8	27	73	
<b>THESSALON AGR. SOCIETY.</b>								
<i>Judge—Alex. Morrison, Creemore.</i>								
A. J. Bell, Sowerby .....	Green Mountain..	14	16	20	10	36	96	
W. Mitchell, Bruce Mines, R.R. 1	Carman No. 1.....	13	16	19	10	35	93	
Isaac Leach, Thessalon .....	Davies' Warrior..	13	17	18	19	35	92	
J. D. McLennan, do R.R. 2	Green Mountain..	13	16	18	10	34½	91½	
D. McLennan, do .....	Empire State.....	13	16	18	10	33	90	
J. McDougall, Sowerby .....	Beauty of Hebron.	12	16	18	10	33½	89½	
Wm. Weir, Thessalon, R.R. 2 ..	Green Mountain..	13	16	18	10	31	88	
A. Cavanagh, Sowerby .....	do .....	13	16	18	10	30	87	
T. McDougall, Thessalon .....	Beauty of Hebron.	13	16	18	10	29½	86½	
Thos. Bailey, do R.R. 2	Green Mountain..	11	15	16	10	34	86	
Alex. Duff, Bruce Mines, R.R. 1	Carman No. 1.....	11	16	18	10	30½	85½	
Harvey Hagen, Thessalon .....	Beauty of Hebron.	13	16	18	10	28	85	
Jas. Mills, Bruce Mines, R.R. 1.	Green Mountain..	11	15	17	10	31	84	
A. I. Hopkins, Thessalon, R.R. 2	do .....	10½	14	19	10	30	83½	
T. Cordukes, do R.R. 2	do .....	11	15	17	8	25	76	

NOTE.—The figures in parenthesis at the top are maximum possible scores.  
 7 A.S.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	† Apparent yield.	Totals of scores.
BRUCE.		(15)	(17)	(20)	(10)	(38)	(100)
NORTH BRUCE AND SAUGEEN AGR. SOCIETY.							
<i>Judge—Archie Greer, Mansfield, R.R. 1.</i>							
Jno. Baker, Port Elgin . . . . .	Red Elephant . . . . .	14	15	19	10	28	86
L. Hamilton, do . . . . .	Davies Warrior . . . . .	13	16	15½	10	23	77½
C. McEvers, do . . . . .	Rose of the North . . . . .	11	14	15	10	27	77
S. Sparks, do . . . . .	Red Elephant . . . . .	12	14	18½	8	24	76½
N. E. Leeder, Jr., do R.R. 4	Empire State . . . . .	13	15	15	10	23	76
W. J. Pearson, do . . . . .	do . . . . .	12½	14	18	6	24½	75
D. E. Campbell, do . . . . .	do . . . . .	12	16	15	9	21	73
Wm. Greathead, Southampton.	White Elephant . . . . .	13	14	18	.....	26	71
W. H. McClinton, Pt. Elgin, R.R. 3	Noxall . . . . .	14	15	19	.....	22	70
WIARTON AGR. SOCIETY.							
<i>Judge—Archie Greer, Mansfield, R.R. 1.</i>							
F. Buckland, Wiarion, R.R. 2	Amer. Wonder . . . . .	13	15	19	10	25	82
Bert Peacock, do R.R. 2	White Lakeside . . . . .	13	16	18	9	25	81
H. F. Loney, do R.R. 2	Amer. Wonder . . . . .	12½	14	19	9	26	80½
R. C. Stacey, do R.R. 2	do . . . . .	13	15	18	10	23	79
E. J. Loney, Oxenden . . . . .	Lincoln . . . . .	13	15	19	9	21	77
Theo. Dance, Wiarion, R.R. 2 . . .	Little Wonder . . . . .	13½	15	16	9	22½	76
G. H. Stacey, Wiarion . . . . .	Amer. Wonder . . . . .	12	15	16	9	22	74
C. W. Loney, do R.R. 2 . . . . .	do . . . . .	11	15	17	9	18	70
CARLETON.							
METCALFE AGR. SOCIETY.							
<i>Judge—S. G. Gourlay, Kinburn.</i>							
J. T. Woods, Metcalfe . . . . .	Freeman . . . . .	13	16	19	10	34	92
R. J. Woods, do . . . . .	Empire State . . . . .	13	16	16½	8	33	86½
J. D. Wallace, do . . . . .	Green Mountain . . . . .	13	16	16	8	31½	84½
W. Ralph, Edwards . . . . .	do . . . . .	14	15	18	8	29	84
T. J. Sullivan, do . . . . .	Pioneer Pride . . . . .	15	15	17	10	26½	83½
G. H. McGirr, Metcalfe . . . . .	Carman . . . . .	13	15	17	7	29	81
D. J. Carson, Edwards . . . . .	Freeman . . . . .	11	16	18	7	26	80
H. S. Latimer, Metcalfe . . . . .	do . . . . .	12	16	16	7	28	79
P. J. Rowan, do . . . . .	Carman . . . . .	10	15	16	8	27	76
R. McKeown, Kenmore . . . . .	Freeman . . . . .	10	15	16	9	24	74
GREY.							
ROCKLYN AGR. SOCIETY.							
<i>Judge—J. Coke, Erin.</i>							
J. A. Perry, Meaford, R.R. 4 . . . .	Amer. Wonder . . . . .	13	16	18	10	22	79
Jno. Yeadell, Rocklyn, R.R. 2	do . . . . .	13	14	17	10	21½	75½
W. J. Lash, do R.R. 2	do . . . . .	12	14	18	10	21	75

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	Totals of scores.
GREY.— <i>Continued.</i>		(15)	(17)	(20)	(10)	(38)	(100)
ROCKLYN AGR. SOCIETY.— <i>Con.</i>							
T. Hodgkinson, Blantyre .....	Amer. Wonder...	13	14	15	10	22	74
J. W. Boyd, Markdale, R.R. 2 ..	.....	13	14	17	9½	20	73½
M. Abercrombie, Meaford, R.R. 4	Amer. Wonder...	12½	14	14	10	20	70½
T. Langtree, do R.R. 4	do .....	12	13	16	10	19	70
HALTON.							
NELSON AND BURLINGTON AGR. SOCIETY.							
<i>Judge—D. J. Gibson, Bowmanville, R.R. 4.</i>							
E. V. Dynes, Burlington .....	Prince Henry....	13	15	17	9	31	85
F. Wilkinson, Freeman, R.R. 2 ..	Dooley.....	13½	15	18	9	25	80½
F. E. Spence, do R.R. 1	Noxall.....	13	15	15	10	27	80
J. Hetherington, Campbellville, R.R. 3 ..	Carman.....	12	15	16	9	25	77
J. T. Tuck, Burlington .....	Delaware.....	12	15	15	8	25	75
J. Wilkinson, do .....	Cobbler.....	11	14	17	9	23	74
Jno. Hislop, Freeman, R.R. 2 ..	Dooley.....	11	14	14	7	25	71
J. Clarke, Burlington .....	Green Mountain..	11	14	15	9	21	70
HASTINGS.							
MADOC AGR. SOCIETY.							
<i>Judge—W. H. Davis, Ivy.</i>							
Jas. Moore, Queensboro .....	Cold Coin.....	13	16	18	8	26	81
Jos. Chambers, Eldorado .....	Comet.....	13	15	17	8	27	80
Jno. W. Moore, Queensboro ....	Cold Coin.....	12	14	16	8	24	74
WOLLASTON AGR. SOCIETY.							
<i>Judge—W. H. Davis, Ivy.</i>							
Her. Moore, The Ridge .....	Cold Coin.....	13	16	18	9	29	85
Dan. Maitland, do .....	Green Mountain..	13	14	19	9	27	82
H. Hennessy, Coe Hill .....	Beauty of Hebron	12	16	12	9	25	74
Colin McGregor, The Ridge ...	Empire State ...	12	16	12	9	24	73
KENORA.							
DRYDEN AGR. SOCIETY.							
<i>Judge—Robt. McKenzie, Murillo.</i>							
T. H. Lewis, Oxdrift .....	Early Eureka....	13	17	18	10	32	90
Alex. Skene, Dryden .....	E. St. George....	13	16	18	10	32	89
E. W. Wice, do .....	Green Mountain..	13	15	18	9	30	85
D. F. McKenzie, Eagle River ..	do .....	13	15	18	9	29	84
Jas. Reid, Oxdrift .....	Irish Cobbler....	11	15	18	9	30½	83½
W. H. Martin, Dryden .....	.....	12	16	18	9	28	83
A. Hutchison, do .....	Eureka.....	11	15	16	9	29	80

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	Totals of scores.
		(15)	(17)	(20)	(10)	(38)	(100)
KENORA.— <i>Continued.</i>							
KENORA AGR. SOCIETY.							
<i>Judge—Robt. McKenzie, Murillo.</i>							
S. Sandine, Pellatt .....		12	17	15	10	35	89
Wm. Tew, Kenora .....		11	13	16	8	30	78
Wm. McKeith, do .....		11	15	18	8	25 $\frac{1}{2}$	77 $\frac{1}{2}$
Jas. Smith, Pellatt .....		9	17	10	9	31	76
R. Brawley, Kenora .....		11	13	15	8	28 $\frac{1}{2}$	75 $\frac{1}{2}$
H. Webster, do .....		11	14	15	10	25	75
C. Orten, do .....		12	15	10	9	27	73
G. Allcock, do .....		11	10	15	8	27	71
Gould Bros., do .....		12	13	15	8	22	70
MIDDLESEX.							
CARADOC AGR. SOCIETY.							
<i>Judge—Jas. Boyd, Markham.</i>							
D. Campbell, Mt. Brydges, R.R. 2	Dooley .....	13	15	19	10	33	90
D. A. McNeill, Strathroy, R.R. 1	do .....	13	16	19	10	28	86
F. Farrow, Mt. Brydges .....	do .....	13	16	16	9 $\frac{1}{2}$	31	85 $\frac{1}{2}$
A. Lamont, do R.R. 2	do .....	13	16	17	10	29	85
J. R. Veale, do R.R. 3	do .....	13	16	18	10	27	84
Arch. Graham, Strathroy, R.R. 1	do .....	12	14	18	10	29	83
Jno. Walker, Mt. Brydges, R.R. 2	do .....	12	15	15	10	30	82
Ed. Trott, do R.R. 1	do .....	11	15	15	10	29	80
J. T. Crawford, Strathroy, R.R. 1	do .....	11	15	16	10	29	79
Jas. Peters, Mt. Brydges, R.R. 3	do .....	12	15	15	10	26	78
M. S. Leitch, Strathroy, R.R. 1	do .....	11	15	10	10	31	77
C. Trott, Mt. Brydges, R.R. 1 ..	do .....	11	15	12	10	27	75
STRATHROY AGR. SOCIETY.							
<i>Judge—Jas. Boyd, Markham.</i>							
Jas. Ogg, Strathroy, R.R. 2	Dooley .....	13	16	18	10	34	91
Jas. Sabine, do R.R. 2	do .....	13	16	18	9	30	86
D. M. McNeill, do R.R. 1	do .....	13	15 $\frac{1}{2}$	18	9	30	85 $\frac{1}{2}$
H. & A. McLean, do R.R. 2	do .....	11	16	17	10	31	85
D. Leitch, Mt. Brydges .....	do .....	12	14	16 $\frac{1}{2}$	10	32	84 $\frac{1}{2}$
W. Gripton, Strathroy, R.R. 2	do .....	12	14	17	10	31	84
D. Limon & Son, do R.R. 2	do .....	12	15	18	9	29 $\frac{1}{2}$	83 $\frac{1}{2}$
N. P. McGugan, do R.R. 1	do .....	13	15	19	8	28	83
W. B. Ferguson, do R.R. 2	do .....	12	14	17	9	30 $\frac{1}{2}$	82 $\frac{1}{2}$
A. Limon, do R.R. 2	do .....	12	13	18	10	29	82
W. Oakes, do R.R. 1	do .....	11	13	18	10	27	79

NOTE.—The figures in parenthesis at the top are maximum possible scores.



RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.--*Con.*  
POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	† Apparent yield.	‡ Totals of scores.
MUSKOKA.		(15)	(17)	(20)	(10)	(38)	(100)
GRAVENHURST AND MUSKOKA AGR. SOCIETY.							
<i>Judge—D. English, Burketon.</i>							
J. T. Galbraith, Reay .....	Can. Beauty.....	12	17	15	10	36	90
R. McKay, Gravenhurst .....	Empire State ...	13	14	20	10	30	87
Jno. White, do .....	Empire State....	13	15	16	10	32	86
J. Short, do .....	do .....	15	16	18	10	26 $\frac{1}{2}$	85 $\frac{1}{2}$
S. Polmateer, do .....	do .....	12	15	18	10	30	85
Jonathan Groh, W. do .....	Can. Standard...	13	15	17	10	26	81
W. H. Tincombe, do .....	Empire State ...	11	16	15	10	28	80
G. W. Miller, do .....	Can. Standard...	12	15	15	10	27	79
B. Laycock, do .....	Sunlight.....	11	15	18	10	24	78
Robt. Young, do .....	Empire State ...	10	16	15	10	26	77
O. E. Taylor, Reay .....	do .....	13	15	18	6	23	75
Geo. Jones, Gravenhurst .....	do .....	10	15 $\frac{1}{2}$	12	10	27	74 $\frac{1}{2}$
Geo. York, do .....	do .....	11	15	12	9	26	73
E. Hammond, do .....	Irish Cobbler....	9	14	14	8	25	70
MEDORA AND WOOD AGR. SOCIETY.							
<i>Judge—J. A. McDermid, Collingwood.</i>							
Thos. Aikins, Pt. Carling .....	Pride of Aristook	13	15	19	9	30	86
F. W. Knight, Brackenrig .....	Up-to-Date.....	14	15	19	9	28	85
Wm. Mason, Bardsville .....	Amer. Wonder...	13	15	18	9	28	83
W. P. Green, do .....	Gold Coin.....	13	15	18	9	27	82
R. D. Riley, Milford Bay .....	Empire State ...	11	15	16	9	26	77
W. T. Noble, Rossclair .....	do .....	12	13	17	8	26	76
Geo. Kerr, Pt. Carling .....	Comet.....	11	13	16	9	25	74
H. L. Riley, Milford Bay .....	Empire State...	12	14	13	9	25	73
Alex. Ennis, Pt. Carling .....	Queen of Hebron	11	12	19	8	22	72
H. J. Foulks, Brackenrig .....	Rochester Rose..	10	13	17	9	22	71
R. C. Harris, Pt. Carling .....	B. Columbia						
	White.....	11	13	15	9	22	70
Chas. Donald, do .....	Gold Coin.....	10	12	18	8	22	70
NORTH MUSKOKA AGR. SOCIETY.							
<i>Judge—Jas. Boyd, Markham.</i>							
Jno. Pleace, Huntsville .....		13	15	18	8	35	89
Jos. Bradley, Martin's Siding ..	Late Puritan....	11	16	17	10	34	88
G. Hill, Hillside .....	Delaware.....	13	16	18	9	31	87
Jos. May, Ravenscliffe .....		12	16	19	10	29	86
S. Martin, do .....	Irish Cobbler...	12	16	19	10	28 $\frac{1}{2}$	85 $\frac{1}{2}$
H. Sims, Martin's Siding .....	Green Mountain..	12	15	19	10	29	85
S. J. Ware, Utterson .....	Empire State...	13	14	19	10	28	84
C. A. Brown, Jr., Huntsville ..	Early Surprise..	11	15	18	10	29	83
S. Bloss, Martin's Siding .....	Purity.....	11	15	18	10	22	76

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	Totals of scores.
<b>MUSKOKA.—Continued.</b>		(15)	(17)	(20)	(10)	(38)	(100)
<b>SOUTH MUSKOKA AGR. SOCIETY.</b>							
<i>Judge—W. S. Scarf, Durham.</i>							
Dan. Nicholls, Bracebridge ....	Amer. Wonder...	14½	16½	18	10	33½	92½
Wm. Naismith, Falkenburg ....	Green Mountain.	12	15	19	10	30½	86½
Mrs. G. Yearly, do ....	Beauty of Hebron.	13½	15	14	10	32	84½
J. B. Kaye, Bracebridge ....	Green Mountain.	12	15½	15	10	31½	84
H. L. Goltz, Bardsville .....	Davies Warrior..	12½	14½	16½	10	29	82½
Alex. Barron, Bracebridge ....	Early Prize.....	11½	13	19½	10	27½	81½
Ed. Nicholls, do ....	Early Rose.....	11	13	17	10	29½	80½
H. B. Buckerfield, do ....	Delaware.....	12	16	17	10	24½	79½
P. C. Kaye, do ....	Puritan.....	12½	12	19½	10	25	79
R. Goltz, Bardsville .....	Empire State....	11	14	16	9½	26	76½
<b>STEPIENSON AND WATT AGR. SOCIETY.</b>							
<i>Judge—Jas. Boyd, Markham.</i>							
Jos. Weir, Utterson .....	Green Mountain.	12	15	19	10	31½	87½
Alf. Kay, Port Sydney .....	Delaware.....	14	16	16	9	32	87
Leslie Baum, Ullswater .....	Can. Beauty.....	13	16	19	8	30½	86½
A. J. Hughes, Port Sydney .....	World's Wonder.	14	15	15	9	33	86
W. J. Patterson, Utterson .....	Empire State....	11	15	19	10	30½	85½
Hugh Patterson, do .....	Delaware.....	10	15	19	9	31	84
W. J. Brown, do .....	World's Wonder.	12	16	19	9	27	83
Nelson Hammell, Raymond ....	Bruce.....	12	16	15	8	31½	82½
Hy. Creasor, Ullswater .....	Davies Warrior..	11	15	18	10	28	82
G. Wingfield, Utterson .....	Green Mountain.	11	13	18	10	29	81
Clem. Burn, Ullswater .....	Can. Beauty.....	11	16	18	10	25½	80½
Jno. Forsyth, Utterson .....	Delaware.....	9	14	18	9	28	80
J. W. Simpson, do .....	Green Mountain.	10	15	19	9	26	79
Jno. Elliott, Pt. Sydney .....	Amer. Wonder...	10	15	19	9	25	78
Adam Watson, do .....	Green Mountain.	10	14	17	9	27	77
A. A. Ball, Utterson .....	Empire State....	11	15	16	6	28	76
Jno. Mack, do .....	Green Mountain..	12	14	17	9	23	75
R. D. Brown, do .....	do .....	10	15	18	5	26	74
A. W. Clark, Pt. Sydney .....	do .....	9	12	18	9	25	73
F. Bray, Utterson .....	Davies Warrior..	9	15	14	9	25	72
<b>NIPISSING.</b>							
<b>VERNER AGR. SOCIETY.</b>							
<i>Judge—W. S. Scarf, Durham.</i>							
S. Lawrence, Verner .....	Green Mountain..	13½	16	19	10	34½	93
T. Filltraut, do .....	do .....	12½	15	17	10	34½	89
Geo. Demers, do .....	do .....	12	15	16	10	32½	85½
Jos. Remillard, do .....	do .....	12	15	15	10	32	84
A. Gagnon, do .....	do .....	13	14	14½	10	31	82½
Alf. Sylvestre, do .....	do .....	12	14	14	10	31	81

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	‡Totals of scores.
NIPISSING.— <i>Continued.</i>		(15)	(17)	(20)	(10)	(38)	(100)
VERNER AGR. SOCIETY.— <i>Con.</i>							
F. Beaudry, Verner	Green Mountain..	12	*15	10	10	33	80
Dan. Lecasse, do	do ..	11	10	19	10	29	79
Jos. Aubin, do	do ..	13	11	15	8	30½	77½
O. Jalbert, do	do ..	11	12	15	10	29	77
J. K. Leach, do	Carman No. 1...	13	8	15	10	24	70
NORTHUMBERLAND.							
WOOLER AGR. SOCIETY.							
<i>Judge—W. H. Davis, Ivy.</i>							
R. E. McMaster, Hilton	Irish Cobbler...	13	14	14	5	26	72
L. C. McColl, Wooler	Carman.....	11	14	10	9	26	70
PARRY SOUND.							
CHRISTIE AGR. SOCIETY.							
<i>Judge—R. H. Crosby, Markham.</i>							
Ed. White, Orrville	Green Mountain..	14	16	19	9½	24	82½
Jas. White, do	Farmer.....	12½	16	18½	9½	25½	82
Jos. Hannon, do	Beauty of Hebron.	13½	15½	18½	9	25½	81
Jas. Lawson, Maple Lake Station	White Elephant..	14	16	18	9	23	80
A. E. Bolton, Orrville	Parry Sounders..	13½	16	18	8	24	79½
Wells Thompson, do	Beauty of Hebron.	12	16	18	9	20	75
C. A. Klose, Maple Lake Station	Green Mountain..	13	16	16	8	21	74
J. A. Morrison, do	do ..	12½	16	17½	7	18½	71½
MACHAR AGR. SOCIETY.							
<i>Judge—Alex. Morrison, Creemore.</i>							
And. McKee, South River, R.R. 1	Green Mountain..	13½	16	18	10	33½	91
Jas. Hawthorne, Midford	Northern Spy....	13	16	18	9	33	89
J. S. Cole, South River	Rural New Yorker.....	14	15	18	10	31	88
J. H. Tough, do R.R. 1	Elephant.....	13	16	18	8	30	85
F. J. Hearn, do	Green Mountain..	12½	15	17	9	28	81½
Mrs. Scarlett, do	Ensign.....	11	14	15	7	23	70
MAGNETAWAN AGR. SOCIETY.							
<i>Judge—J. A. McDermid, Collingwood.</i>							
T. L. King, Magnetawan	Green Mountain..	13	15	17	7	27	79
Wm. Keppy, do	Beauty of Hebron.	13	14	17	8	26	78
Robt. Veitch, Spence	do	12	15	16	6	25	74

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	‡Totals of scores.
PARRY SOUND.— <i>Continued.</i>		(15)	(17)	(20)	(10)	(38)	(100)
McKELLAR AGR. SOCIETY.							
<i>Judge—R. H. Crosby, Markham.</i>							
Jos. H. Ball, McKellar	Early Northern..	14	16	19	9	31½	89½
W. F. Tait, do	Rural New Yorker.....	14	16	18½	9½	31	89
Robt. Moffatt, do	do .....	13	14	18	9½	28½	83
Wm. Watkins, do	Early Northern..	13½	15½	19	9½	25	82½
Jas. E. Taylor, do	Gold Coin.....	13½	15	18½	9	26	82
Wilson Quinn, do	Early Dexter....	13	16	17	8½	26½	81
Thos. Moffatt, do	Irish Cobbler....	13½	14	18½	9	25	80
Hy. Moffatt, do	National.....	13	13	17	9	21½	73½
A. J. Moffatt, do	Davies Warrior..	12½	14	17	7½	22	73
Wm. E. Taylor, do	Eureka.....	11½	15½	18	7	21	73
C. J. McKeown, do	Hustler.....	12½	14	17	9	20	72½
W. H. Moore, do	Early Rose.....	11	14	16	9	20½	70½
McMURRICH AGR. SOCIETY.							
<i>Judge—A. Forster, Markham.</i>							
Fletcher Walker, Royston	Empire State....	14	16½	19½	10	26	86
Marshall & Son, Sprucedale	Wonderful.....	14	16	19	10	25	84
S. R. Blair, do	do .....	13	16½	18	10	24½	82
P. J. Farrell, do	Beauty of Hebron.	12½	16	18	10	25	81½
Jas. Downes, do	Rochester Rose..	13	16½	17½	10	22	79
J. F. Nelles, Doe Lake	Delaware.....	12½	16	16	10	24	78½
H. G. Farrell, Sprucedale	Beauty of Hebron.	13½	16	16½	9	22½	77½
G. F. R. Richardson, do	Cottle's Beauty..	13	16½	15	10	21½	76
H. Watson, do	White Elephant..	10½	15½	18	8½	21	73½
PERRY AGR. SOCIETY.							
<i>Judge—A. Forster, Markham.</i>							
Hy. Tebby, Fern Glen	Cottle's Beauty..	14	16	19	10	30	89
W. G. Leigh, Scotia Jct.	do .....	14	16½	19	10	27	86½
Fred. Wilkins, Kearney	Rose of North....	13½	16½	19	10	27	86
J. A. McDonald, Emsdale	Empire State....	14	16	18½	10	27	85½
Wm. Jenkins, do	Can. Standard...	13½	15½	19	10	27	85
Wm. Murdy, do	Empire State....	13½	16½	17½	10	26½	84
Ed. Rowley, do	Cottle's Beauty..	14	15	18	10	24	81
Wm. George, do	Empire State....	13	14½	17	10	23½	78
Chas. Hayward, do	Cottle's Beauty..	10½	14½	15	10	23½	73½
Geo. Bennett, do	Amer. Wonder...	12½	15	15	10	20	72½
Geo. Gilpin, do	Beauty of Hebron.	10½	15	14½	9	23½	72½
POWASSAN AGR. SOCIETY.							
<i>Judge—Alex. Morrison, Creemore.</i>							
Jos. Alston, Powassan	.....	13	16	18	10	34½	91½
Jno. Poull, do	Carman No. 1....	13	16	18	10	33	90
J. H. Jardine, do	Roxborough.....	13	16	18	10	31½	88½

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	† Apparent yield.	Totals of scores.
PARRY SOUND.— <i>Continued.</i>		(15)	(17)	(20)	(10)	(38)	(100)
POWASSAN AGR. SOCIETY.— <i>Con.</i>							
P. R. Owens, Powassan R.R. 4	Green Mountain..	12	15	19	10	32	88
W. G. Oldfield, do .....	do .....	13	15	17	10	32	87
A. R. Gongeon, do R.R. 2	do .....	13	16	18	10	29½	86½
Owen Gough, do R.R. 3	do .....	13	16	17	9	31	86
J. Oldfield, do .....	Carman No. 1....	13	16	16	10	30	85
Duncan McIntyre, do .....	Delaware.....	12	15	18	10	28	83
Jas. M. Healey, do .....	Green Mountain..	11	15	15	10	24	75
J. D. Healey, do .....	do .....	11	15	16	9	23	74
Jno. Hogan, do .....	Delaware.....	11	15	14	9	22	71
ROSSEAU AGR. SOCIETY.							
<i>Judge—J. A. McDermid, Collingwood.</i>							
R. Stoneman, Turtle Lake ....	Empire State....	13	14	17	9	25	78
S. Kettle, Jr., Maple Lake Sta..	Delaware.....	13	15	15	9	24	76
Jno. R. Cronin, Humphrey ....	Beauty of Hebron	12	15	16	8	24	75
Alex. Crawford, Rosseau .....	Early Middlesex..	11	13	16	9	23	72
STRONG AGR. SOCIETY.							
<i>Judge—W. S. Scarf, Durham.</i>							
S. McGirr, Sundridge .....	Green Mountain.	13	16½	18½	10	33	91
J. E. Wilson, do .....	do ..	12½	15	17	10	33	87½
Jas. Prior, do .....	do ..	12	14	16	10	33	85
Geo. Butson, do .....	do ..	10½	16	14	10	28	78½
Jno. Minorgan, do .....	do ..	10	14	14	8	31½	77½
F. W. Hannaford, do .....	do ..	11	12	19	10	25	77
T. Willoughby, do .....	do ..	10	14	12	10	26	72
UNITED TPS. AGR. SOCIETY.							
<i>Judge—J. A. McDermid, Collingwood.</i>							
Wm. Todd, Maple Island .....	Dakota Red.....	13	16	17	7	30	83
F. Macfie, Dunchurch .....	Beauty of Hebron	11	15	17	9	28	80
Jas. Le Brash, Maple Island .....	Irish Cobbler....	12	15	16	10	26	79
Jno. Le Brash, do .....	do ..	12	15	15	8	25	75
W. T. Lundy, Dunchurch .....	Beauty of Hebron	12	14	14	7½	25	72½
R. J. Farley, do .....	do ..	11	15	16	7	23	72
W. Brear, Maple Island .....	Irish Cobbler....	11	15	12	8	25	71

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	‡Totals of scores.
<b>RAINY RIVER.</b>		(15)	(17)	(20)	(10)	(38)	(100)
<b>ATWOOD AGR. SOCIETY.</b>							
<i>Judge—Robt. McKenzie, Murillo.</i>							
A. Armstrong, Sleeman	Hustler	13	16	15	9	34	87
W. McKenzie, Rainy River	do	13	14	18	5	35	85
D. J. Ewald, do	do	12	12	15	8	35	82
A. J. Hunter, Sleeman	Irish Cobbler	11	13	12	10	30	76
Hugh Hunter, do	do	11	13	12	9	27½	72½
L. J. Armstrong do	do	12	12	15	5	27½	71½
Albert Russell, Rainy River	Irish Cobbler	12	15	10	5	29	71
Peter McLeod, do	do	11	15	16	5	23	70
<b>RAINY RIVER VALLEY AGR. SOCIETY.</b>							
<i>Judge—Robt. McKenzie, Murillo.</i>							
A. J. Leveridge, Emo	Delaware	12	15	18	9	33	87
J. Brigham, do	Hustler	14	15	16	8	33	86
Chas. McBride, do	Irish Cobbler	14	15	17	9	29	84
C. H. McCool, Devlin	Early Eureka	12	15	17	8	29½	81½
O. Cameron, Emo	Green Mountain	13	13	18	9	28	81
D. J. Allen, do	Delaware	13	16	18	8	24½	79½
Chas. Linquist, do	Early Comet	12	16	15	9	26½	78½
F. W. Tummey, do	Green Mountain	11	15	16	8	28	78
Chas. Fisher, do	Delaware	10	15	16	8	28½	77½
Robt. Ewen, do	Hustler	11	14	15	9	28	77
Wm. McMillan, do	Delaware	13	13	14	8	25½	73½
<b>SIMCOE.</b>							
<b>BARRIE AGR. SOCIETY.</b>							
<i>Judge—D. English, Burketon.</i>							
R. Carscadden, Edgar	Carman No. 1	15	17	18	10	34	94
R. Hickling, Barrie, R.R. 2	Carman No. 3	14	17	20	10	32	93
F. J. Frankcom, Midhurst	Carman No. 1	15	16	19	10	32	92
W. L. Russell, do	Carman No. 3	13	16	18	10	34	91
R. D. Coutts, do	Beauty of Hebron	14	16	16½	10	34	90½
G. M. Coutts, do	Carman No. 1	14	17	20	10	29	90
A. A. Garvin, do	do	14	16	18	10	31	89
Lloyd Livingstone, Minesing	Davies Warrior	13	16	18	10	30	87
Jas. Orok, Midhurst	Carman No. 3	11	16	16	10	30	83
G. Pratt, Barrie, R.R. 2	Carman No. 1	12	13	17	10	26	78
R. A. Sutherland, Stroud	Carman No. 2	13	15	16	10	23	77
<b>NOTTAWASAGA AND GREAT NORTHERN AGR. SOCIETY.</b>							
<i>Judge—J. Coke, Erin.</i>							
Mac. Gadway, Creemore, R.R. 2	Delhi	13	15	16	10	24	78
A. C. Morrison, do R.R. 2	do	12	12½	17	10	26	77½
R. Howie, Smithdale	do	11	14	16	10	21½	72½
J. A. McDermid, Collingwood, R.R. 2	Green Mountain	11	14	18	10	19	72

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	† Apparent yield.	Totals of scores.
<b>TEMISKAMING.</b>		(15)	(17)	(20)	(10)	(38)	(100)
<b>CHARLTON AGR. SOCIETY.</b>							
<i>Judge—J. Byron Kaye, Bracebridge.</i>							
Fred. Pummell, Charlton .....	Beauty of Hebron.	13	16	19	10	31	89
Jno. McAuley, do .....	do	15	16	19	9	29	88
Oswald Attwater, do .....	Irish Cobbler....	13	17	19	6	26	81
M. Whelan, Costello .....	Beauty of Hebron.	11	16	17	9	25	78
F. H. Kenney, Charlton .....	Early Ohio.....	8	15	18	10	23	74
<b>ENGLEHART AGR. SOCIETY.</b>							
<i>Judge—J. Byron Kaye, Bracebridge.</i>							
Geo. Stephenson, Englehart ...	Gold Chain.....	13	16	18	9 $\frac{1}{2}$	33	89 $\frac{1}{2}$
R. H. Emrick, Heaslip .....	Early King.....	11	16	18	10	32	87
W. S. Edwards, Englehart .....	Delaware.....	12 $\frac{1}{2}$	15	18	9	29	83
Amos Heaslip, Heaslip .....	Snow Flake.....	13	16	18	9	26	82
W. Schell, Englehart .....	Delaware.....	14	16	19	9	20	78
Jas. Harman, Heaslip .....	Empire State....	13	15	17	9	23	77
Geo. Harman, do .....	Sunshine King..	13	15	18	8	22	76
Ernest Winlaw, do .....	Green Mountain.	13	16	18	8	20	75
Jno. Scott, do .....	Irish Cobbler....	12	13	15	9	24	73
Levi Soper, Englehart .....	Gold Chain.....	11	15 $\frac{1}{2}$	18 $\frac{1}{2}$	9 $\frac{1}{2}$	18	72 $\frac{1}{2}$
Frank Kiehna, Brentha .....	do .....	8	16	15	8	25	72
T. S. Woolings, Englehart .....	do .....	12	16	18	9	15	70
<b>THUNDER BAY.</b>							
<b>OLIVER AGR. SOCIETY.</b>							
<i>Judge—G. H. Farmer, Sault Ste. Marie, R.R. 2.</i>							
Wm. Reid, Murillo .....	White Elephant..	14	16	18	9	28 $\frac{1}{2}$	85 $\frac{1}{2}$
A. Nordland, do .....	do .....	14	15	18	9	28 $\frac{1}{2}$	84 $\frac{1}{2}$
R. R. Everett, do .....	Delaware.....	13	16	18	10	26 $\frac{1}{2}$	83 $\frac{1}{2}$
R. B. Martyn, do .....	Irish Cobbler....	13	14 $\frac{1}{2}$	17	8 $\frac{1}{2}$	29 $\frac{1}{2}$	82 $\frac{1}{2}$
Jas. Stevenson, do .....	do .....	13	14 $\frac{1}{2}$	17	9	28	81 $\frac{1}{2}$
H. T. Gray, do .....	do .....	12	14 $\frac{1}{2}$	18	9	27 $\frac{1}{2}$	81
Roy Bingham, do .....	do .....	13	16	18	9	24 $\frac{1}{2}$	80 $\frac{1}{2}$
Arthur Todd, do .....	Carman No. 1...	12 $\frac{1}{2}$	15	17	9	26 $\frac{1}{2}$	80
I. Hughes, do .....	Green Mountain.	14	13	18	8	27	80
Harvey Gorton, do .....	Six Weeks.....	13	14 $\frac{1}{2}$	18	9	25 $\frac{1}{2}$	80
Allen Williamson, do .....	Rapid Transit...	11 $\frac{1}{2}$	15	18	9	26 $\frac{1}{2}$	80
Jno. Oster, do .....	Carman No. 1...	11 $\frac{1}{2}$	16	18	8	26	79 $\frac{1}{2}$
Alex. Trotter, Baird .....	Early Michigan..	13	14	19 $\frac{1}{2}$	8	24 $\frac{1}{2}$	79
Geo. Munroe, Murillo .....	Wee McGregor...	12 $\frac{1}{2}$	13 $\frac{1}{2}$	16	9	27	78
Esaiah Olson, do .....	Carman No. 1...	13	15	17	9	24	78
E. E. Thomas, Intola .....	Hustler.....	13 $\frac{1}{2}$	14 $\frac{1}{2}$	18	9	23	78
Jno. McDonald, Murillo .....	Irish Cobbler....	13	13	16	8	28	78

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	† Apparent yield.	Totals of scores.
		(15)	(17)	(20)	(10)	(38)	(100)
<b>THUNDER BAY.—Continued.</b>							
<b>OLIVER AGR. SOCIETY.—Con.</b>							
J. H. Veley, Murillo .....	Carman No. 1...	13	15	17	9	23½	77½
Wm. Sim, do .....	White Elephant..	13	13	17	8	26	77
D. E. Caldwell, do .....	Carman No. 1...	13	15	17	9	23	77
Ross McKenzie, do .....	Delaware.....	12	15	17	8	24½	76½
Wm. Williamson, do .....	Six Weeks.....	13	13	18	8	23	75
Leon Morrow, do .....	Carman No. 1...	12	14	19	8	22	75
D. McGillivray, do .....	Davies Warrior..	13	16	18½	9	17	73½
Robt. McKenzie, do .....	Carman No. 1...	12	14	16	8	22	72
Albert Gorton, do .....	Rapid Transit...	9½	16	17	6	23	71½
Sam. McNally, do .....	Delaware.....	12	14	15	8	22½	71½
Wm. McNally, do .....	Burbank.....	11	14	15	9	21	70
<b>WHITEFISH VALLEY AGR. SOCIETY.</b>							
<i>Judge—G. H. Farmer, Sault Ste. Marie, R.R. 2.</i>							
Jos. Withenshaw, Hymers .....	Early Eureka....	12½	16	20	10	24	82½
Arthur Sitch, do .....	do .....	12	14	17	8	23½	74½
Ernest Sitch, Flint .....	Carman No. 1...	12	14	16	8	24	74
F. E. Hawkes, S. Gillies .....	do .....	12	15	16	7	23½	73½
G. E. Hymers, Hymers .....	Early Eureka....	11	15	16	8½	22	72½
H. P. Sisson, do .....	Irish Cobbler....	11	15	15	9	22	72
Ben. Sutherland, do .....	Cold Coin.....	11	14	16	8	22½	71½
Fred. Sharp, do .....	.....	12	15	17	5	22	71
W. C. Grant, do .....	Carman No. 3...	10½	14	15	7	23½	70
<b>WELLAND.</b>							
<b>FENWICK AGR. SOCIETY.</b>							
<i>Judge—Jas. McLean, Richmond Hill.</i>							
Robt. Bishop, Ridgeville .....	Green Mountain..	13½	15½	18	9½	31	87½
Jos. Lippert, Fenwick .....	White Flyer....	13½	15½	19	9½	29½	87
J. H. Stirtzinger, do R.R. 5 .....	Hustler.....	13½	16	18½	9½	25½	83
H. Stirtzinger, do .....	Vermont Gold Coin.....	13½	16	17½	9½	25½	82
C. F. Haist, Ridgeville .....	Hustler.....	13	15½	18	9	26	81½
Harman Haist, Fenwick .....	Dakota Red.....	14	16	19	9½	21½	80
Asa E. Haist, do R.R. 5 .....	Davies Warrior..	13	15	18	9	24½	79½
M. Stirtzinger, do R.R. 5 .....	Dooley.....	11	14½	17½	10	25½	78½
Dan. Haist, Ridgeville, R.R. 1 .....	Delaware.....	12	15	18	9½	23½	78
Geo. Kappler, Fenwick .....	Green Mountain..	12½	14½	16½	8	26	77½
Clemens Bros., do R.R. 5 .....	Dooley.....	11	15	17	9½	24	76½
C. L. Beckett, Ridgeville, R.R. 1 .....	Beckett's Cross...	12	14½	16½	9	24	76
B. A. Pattison, do .....	Amer. Wonder....	12	15	17	9	23	76
Ross Sauer, Fenwick .....	Delaware.....	10	15	16½	8½	20	70

NOTE.—The figures in parenthesis at the top are maximum possible scores.



RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*  
 POTATOES.

Competitors in Order of Merit.		Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	‡Totals of scores.
<b>WELLINGTON.</b>			(15)	(17)	(20)	(10)	(38)	(100)
ERIN AGR. SOCIETY.								
<i>Judge—M. M. Hunter, Onondaga.</i>								
Jas. Milloy, Erin, R.R. 1	.....	Green Mountain..	15	16	20	10	32	93
Rich. Overland, Orton	.....	do ..	14½	17	19	10	29½	90½
Dan. Gray, Hillsburg	.....	do ..	15	16	19	10	30	90
S. Bingham & Sons, do	R.R.2	World's Fair....	13¾	17	20	10	28½	89½
Mac Leitch, Guelph, R.R. 1	....	Green Mountain..	14½	16	20	9	28	87½
S. E. Griffin & Son, Acton, R.R.2	.....	do ..	13	16	19½	9½	28	86
H. L. Matheson, Hillsburg, R.R.2	.....	Dooley.....	14½	16	19	10	26	85½
Fred. McMillan, do	.....	Green Mountain..	15	16	19	9¼	26	85¼
E. Barbour, do	.....	do ..	13	16	18½	10	27	84½
Chester Burt, do	R.R. 2	do ..	14½	16	18¾	10	26	84
Jno. Smith, Waldemar	.....	Dooley.....	14	16	16	10	28	84
J. L. Overland, Erin, R.R. 1	....	Green Mountain..	13	16	19	10	24	82
Jas. McKitrick, Orton	.....	do ..	13½	16	17	10	24	80½
R. D. Nodwell, Hillsburg	.....	Irish Cobbler....	11	15	18	10	22	76
Jos. Coke, Erin	.....	Delaware.....	11	16	15	10	23	75
<b>PUSLINCH AGR. SOCIETY.</b>								
<i>Judge—W. M. Hunter, Onondaga.</i>								
J. W. Kerr, Puslinch, R.R. 1	.....	Noxall.....	15	16½	20	10	32	93½
A. McLean & Son, do	R.R. 1	Green Mountain..	14½	16	20	10	31	91½
W. Winer & Son, Guelph, R.R. 3	.....	Carman.....	13	15	19½	10	32¼	89¾
D. McNaughton, Puslinch, R.R. 2	.....	Davies Warrior..	14½	16	18	10	31	89½
D. G. Hanning, do	R.R. 1	Green Mountain..	13½	16	19	10	30	88½
J. A. Cockburn & Son, do	R.R. 1	Rural New Yorker.....	14	16	18	10	28	86
P. J. McLean & Sons, do	R.R. 1	Davies' Warrior..	13	16	16	10	29½	84½
J. McCormick, Hespeler, R.R. 2	.....	Early Harvester.	11	15	19	9	28	82
J. Penrice, Guelph, R.R. 3	....	Scottish Champion.....	13	16	19	6	26	80
Arthur Byrne, do	R.R. 3....	Carman.....	11	16	17	9	21	74
Geo. Ruber, Arkell	.....	Early Ohio.....	10	13	15	10	22	70
<b>WENTWORTH.</b>								
<b>WATERDOWN AGR. SOCIETY.</b>								
<i>Judge—Jas. McLean, Richmond Hill.</i>								
D. Thompson, Waterdown, R.R. 1	.....	Comet.....	12½	15½	18½	9½	32½	88½
Wm. Attridge, do	....	do ..	12½	15	17½	9½	30	84½
J. E. Horning & Son, do	.....	British Queen...	13	14½	18½	9½	28	83½
W. J. Ptolemy, Flamboro Centre	.....	Noxall.....	13½	14½	16½	9½	29	83
Thos. Allen, Waterdown	.....	Comet.....	11½	15	17	9½	29½	82½
Geo. Hood, do	.....	Carman.....	12	14½	18½	9	27	81

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	‡Totals of scores.
WENTWORTH.— <i>Continued.</i>		(15)	(17)	(20)	(10)	(38)	(100)
WATERDOWN AGR. SOCIETY.— <i>Con.</i>							
Lorenzo Bennett, Carlisle .....	Dooley.....	13	14½	17	9½	26½	80½
W. A. Drummond, Millgrove ...	do .....	12½	14	16½	9	26½	78½
J. A. Bennett, Campbellville, R.R. 3 .....	do .....	11	14½	18½	9½	24½	78
Rich. Forth, Waterdown .....	Comet.....	11	14	17½	9½	24½	76½
Ed. Harris, Flamboro Centre ..	Cobbler.....	12	13½	14	9½	26½	75½
H. Bennett, Campbellville, R.R. 3	Comet.....	11*	14	14	9½	25	73½
W. H. Drummond, Waterdown ..	Noxall.....	10	14	15½	9	22½	71
YORK.							
RICHMOND HILL AGR. SOCIETY.							
<i>Judge—D. J. Gibson, Bowmanville, R.R. 4.</i>							
Albert Jones, Maple, R.R. 2....	Dooley.....	13	16	18	9	36	92
C. H. Jones, do R.R. 2....	Carman No. 2...	13	15	18	9	32	87
S. Barraclough, Gormley, R.R. 2	Late Clinton....	13	15	13	9	34	84
W. W. Hudgin, Jefferson .....	White Rose.....	11	16	17	9	30	83
Peter Jones, Maple, R.R. 2 ....	20th Century....	11	15	17	9	30	82
Archie Savage, Elgin Mills ....	Roxbury.....	12	15	16	9	28	80
F. A. Legg, Jefferson .....	New Century....	11	15	14	9	30	79
J. S. McNair, Elgin Mills .....	20th Century....	12	15	12	8	31	78
Milton D. Savage, do .....	Roxbury.....	10	14	15	9	28½	76½
Jno. Robinson, Jefferson .....	Green Mountain..	12	14	15	6	26	73

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## TURNIPS.

Competitors in Order of Merit.	Straightness of rows.	Method of seeding.	Proper thinning and cleaning.	Thoroughness of cultivation.	Freedom from insects and diseases.	Purity and uniformity of roots.	Shape and quality of roots.	Yield of roots per acre.	Totals of scores.
<b>BRANT.</b>									
PARIS AGR. SOCIETY.									
<i>Judge—Jas. McLean, Richmond Hill.</i>									
D. A. Holmes, Paris, R.R. 2	4 $\frac{1}{2}$	4 $\frac{1}{2}$	9	9	9 $\frac{1}{2}$	9	14	34	93 $\frac{1}{2}$
A. Deans, do R.R. 2	4 $\frac{1}{2}$	4 $\frac{1}{2}$	9	9 $\frac{1}{2}$	9	8 $\frac{1}{2}$	13	31 $\frac{1}{2}$	89 $\frac{1}{2}$
Allan Edgar, do .....	4 $\frac{1}{2}$	4 $\frac{3}{4}$	9	9 $\frac{1}{4}$	9 $\frac{1}{2}$	8	14	30	89
Alex. Hall, Ayr, R.R. 3 .....	4 $\frac{1}{2}$	4 $\frac{1}{2}$	8 $\frac{1}{2}$	9	8 $\frac{1}{2}$	8	14	30 $\frac{1}{2}$	87 $\frac{1}{2}$
D. Patton, Paris Station .....	4	4 $\frac{1}{2}$	9	9	8 $\frac{1}{2}$	8	13	30 $\frac{1}{2}$	86 $\frac{1}{2}$
G. A. Parkhill, Paris, R.R. 3	4 $\frac{1}{2}$	4	8	8 $\frac{1}{2}$	8	8 $\frac{1}{2}$	12	32 $\frac{1}{2}$	86
M. McAllister, do R.R. 3	4 $\frac{1}{2}$	4 $\frac{1}{2}$	8 $\frac{1}{2}$	9	9	8 $\frac{1}{2}$	13 $\frac{1}{2}$	28	85 $\frac{1}{2}$
J. R. Moyle, do .....	4 $\frac{1}{2}$	4 $\frac{1}{2}$	9	9 $\frac{1}{2}$	6 $\frac{1}{2}$	8 $\frac{1}{2}$	12	30 $\frac{1}{2}$	85
Robt. Geddie, do R.R. 3	4 $\frac{1}{2}$	4 $\frac{1}{2}$	8	7	9	8 $\frac{1}{2}$	13	30	84 $\frac{1}{2}$
J. J. McCormick, do .....	4	4 $\frac{1}{2}$	8 $\frac{1}{2}$	9 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	12 $\frac{1}{2}$	28	84
R. J. McCormick, do .....	4 $\frac{3}{4}$	4	8 $\frac{1}{2}$	9	7	8	13	29 $\frac{1}{2}$	83 $\frac{3}{4}$
T. Sayles, do R.R. 2	4	4	8	8 $\frac{1}{2}$	9	8	12 $\frac{1}{2}$	29 $\frac{1}{2}$	83 $\frac{1}{2}$
Jos. Martin, do .....	4 $\frac{1}{2}$	4 $\frac{1}{4}$	8	8 $\frac{1}{2}$	8 $\frac{1}{2}$	7 $\frac{3}{4}$	12 $\frac{1}{2}$	29 $\frac{1}{4}$	83 $\frac{1}{4}$
J. McGill, Princeton, R.R. 3 ...	4 $\frac{1}{2}$	3 $\frac{3}{4}$	8 $\frac{1}{2}$	9	9	7 $\frac{1}{2}$	12 $\frac{1}{2}$	28 $\frac{1}{2}$	83
Wm. Webber, Paris, R.R. 2 ...	4	4	8	7	9	8	13	29 $\frac{1}{2}$	82 $\frac{1}{2}$
A. Caine, Princeton .....	4 $\frac{3}{4}$	4	7 $\frac{1}{2}$	6 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{4}$	12 $\frac{1}{2}$	29 $\frac{1}{2}$	81 $\frac{1}{2}$
A. Marstin, Paris, R.R. 2	4	4 $\frac{1}{2}$	8	7	9	7 $\frac{1}{2}$	13	28	81
Jas. Scroggie, do R.R. 3	4	4	8	8 $\frac{1}{2}$	9	7	12 $\frac{1}{2}$	27 $\frac{1}{2}$	80 $\frac{1}{2}$
Wm. Dawson, do .....	4 $\frac{1}{2}$	3 $\frac{3}{4}$	7 $\frac{1}{4}$	7	8 $\frac{1}{2}$	8	12	28	79
L. Hyndman, do R.R. 2	3 $\frac{1}{2}$	3 $\frac{1}{2}$	6 $\frac{1}{2}$	7	9	8	13	28	78 $\frac{1}{2}$
Geo. Bone, do .....	4 $\frac{3}{4}$	4 $\frac{1}{4}$	7	6 $\frac{1}{2}$	9	7	11 $\frac{1}{2}$	28	78
D. O'Riley, do R.R. 3	4 $\frac{1}{2}$	3 $\frac{1}{2}$	7 $\frac{1}{2}$	8	9	6 $\frac{1}{2}$	12	26 $\frac{1}{2}$	77 $\frac{1}{2}$
Ed. Wade, do .....	3 $\frac{1}{2}$	4	6	5	8 $\frac{1}{2}$	7	12	26	72
<b>BRUCE.</b>									
TEESWATER AGR. SOCIETY.									
<i>Judge—Andrew Schmidt, Mildmay.</i>									
Thos. B. Aiken, Teeswater ....	4 $\frac{1}{2}$	4 $\frac{1}{2}$	9	9	9	9 $\frac{1}{2}$	14	28 $\frac{1}{2}$	88
C. J. Thompson, do ....	4 $\frac{1}{2}$	4 $\frac{1}{2}$	8 $\frac{1}{2}$	9	9	9	13 $\frac{1}{2}$	29	87
Jas. D. Little, do ....	3 $\frac{1}{2}$	4	9	9	9 $\frac{1}{2}$	7 $\frac{1}{2}$	12 $\frac{1}{4}$	32	86 $\frac{3}{4}$
G. B. Armstrong, do ....	4 $\frac{1}{2}$	4 $\frac{1}{2}$	9	9	9 $\frac{1}{2}$	8	14	28	86 $\frac{1}{2}$
Andrew McKague, do ....	3 $\frac{1}{2}$	4	9	9	9 $\frac{1}{2}$	9	12	30 $\frac{1}{4}$	86 $\frac{1}{4}$
J. S. Armstrong, Formosa, R.R.1	4 $\frac{1}{2}$	4 $\frac{1}{2}$	9	9	9 $\frac{1}{2}$	8 $\frac{1}{2}$	13	28	86
Alex. McKague, Teeswater ....	4 $\frac{1}{2}$	4 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	8 $\frac{1}{2}$	8	11	29 $\frac{1}{4}$	84 $\frac{3}{4}$
Thos. Goodfellow, do ....	4 $\frac{1}{2}$	4 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	9	8 $\frac{1}{2}$	10	29	84 $\frac{1}{2}$
Jos. McKague, do ....	4	4	8 $\frac{1}{2}$	9	8	7	12	27	79 $\frac{1}{2}$
F. A. Ballagh, do ....	4	4 $\frac{1}{2}$	9	9	7	7	10	28 $\frac{1}{4}$	78 $\frac{3}{4}$
Thos. A. Roane, do ....	4	4	3	4	8	7	12	29	71
<b>GREY.</b>									
PROTON AGR. SOCIETY.									
<i>Judge—J. Coke, Erin.</i>									
Thos. Walton, Dundalk, R.R. 3	4 $\frac{1}{2}$	5	9	8 $\frac{1}{2}$	9	10	14	28	88
J. G. Montgomery, Corbetton, R.R. 4 .....	4 $\frac{1}{2}$	4	8	7	8 $\frac{1}{2}$	7	12	30	81

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## TURNIPS.

Competitors in Order of Merit.	Straightness of rows.	Method of seeding.	Proper thinning and cleaning.	Thoroughness of cultivation.	Freedom from insects and diseases.	Purity and uniformity of roots.	Shape and quality of roots.	Yield of roots per acre.	Totals of scores.
GREY.— <i>Continued.</i>	(5)	(5)	(10)	(10)	(10)	(10)	(15)	(35)	(100)
PROTON AGR. SOCIETY.— <i>Con.</i>									
R. N. Fowler, Dundalk, R.R. 2	4 $\frac{1}{2}$	4	8	8 $\frac{1}{2}$	9	8	12	25	79
J. McPherson & Sons, do R.R. 2	4	4 $\frac{1}{2}$	8	8	9	8	12	23	76 $\frac{1}{2}$
J. W. Hanna, do R.R. 2	4 $\frac{1}{2}$	5	8	8	8	9	12	20	74 $\frac{1}{2}$
Geo. Bell, Corbetton, R.R. 3 ..	4 $\frac{1}{2}$	5	8 $\frac{1}{2}$	8	8	8	12	16	70
YORK.									
MARKHAM AGR. SOCIETY.									
<i>Judge—Jas. McLean, Richmond Hill.</i>									
Jas. Torrance, Markham .....	4 $\frac{1}{2}$	4 $\frac{1}{2}$	10	10	9	9 $\frac{1}{2}$	14 $\frac{1}{2}$	34 $\frac{1}{2}$	96 $\frac{1}{2}$
A. Lewis, do R.R. 2	4 $\frac{1}{2}$	4 $\frac{1}{2}$	9	9	8 $\frac{1}{2}$	9	14	33 $\frac{3}{4}$	92 $\frac{1}{2}$
Lawrie Bros., Agincourt .....	5	4 $\frac{1}{2}$	9	10	9	9	13 $\frac{1}{2}$	31 $\frac{1}{2}$	91 $\frac{1}{2}$
Jno. Couperthwaite, Milliken ..	5	4 $\frac{3}{4}$	9	9 $\frac{1}{2}$	9 $\frac{1}{2}$	8 $\frac{1}{2}$	14	31	91
P. Boynton & Sons, Dollar ....	4 $\frac{3}{4}$	4 $\frac{1}{2}$	9	9	8 $\frac{3}{4}$	8 $\frac{1}{2}$	14	30 $\frac{3}{4}$	88 $\frac{1}{2}$
J. I. Baldson, Markham, R.R. 2	4 $\frac{1}{2}$	4 $\frac{1}{2}$	8	7 $\frac{1}{2}$	8	8 $\frac{1}{2}$	13 $\frac{1}{2}$	31 $\frac{1}{2}$	85 $\frac{1}{2}$
J. B. Gould, do .....	4 $\frac{1}{2}$	4 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8	8 $\frac{1}{2}$	13	29	84 $\frac{1}{2}$
Jas. Maxwell, do .....	4 $\frac{1}{2}$	4 $\frac{1}{2}$	9	9	7 $\frac{1}{2}$	7	12 $\frac{1}{2}$	28 $\frac{1}{2}$	82 $\frac{1}{2}$
Robt. Stiven, Unionville .....	4 $\frac{3}{4}$	4	7 $\frac{1}{2}$	7	9	8	13 $\frac{1}{2}$	28	81 $\frac{1}{2}$
H. Hammond, Richmond Hill ..	4 $\frac{1}{2}$	4	7 $\frac{1}{2}$	7 $\frac{1}{2}$	9	8	13	27 $\frac{1}{2}$	81

NOTE.—The figures in parenthesis at the top are maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

## MANGELS.

Competitors in Order of Merit.	Straightness of rows.	Method of seeding.	Proper-thinning and cleaning.	Thoroughness of cultivation.	Freedom from insects and diseases.	Purity and uniformity of roots.	Shape and quality of roots.	Yield of roots per acre.	Totals of scores.
GREY.	(5)	(5)	(10)	(10)	(10)	(10)	(15)	(35)	(100)
KEPPEL AGR. SOCIETY.									
<i>Judge—Andrew Schmidt, Mildmay.</i>									
Robt. Shaw, Kemble, R.R. 2	4	4	9	9	9½	9	14	33½	92
P. Hurlburt, do R.R. 2	3½	4	9½	9	9	8½	14	31	88½
M. Bedell, do .....	4½	4½	9	8½	9	8½	13	30	87
Thos. Johnston, do .....	4	4½	9½	10	9	8½	13	27½	86
S. Perkins, do .....	4	4½	7	8½	9	8½	14	30	85½
A. Taylor, do .....	3	4½	8	9½	9	8	13½	29	84½
L. B. Danard, do R.R. 1	4½	4½	8	8½	9	7½	13	29	84
H. Hurlburt, do R.R. 2	3½	4	9	8	8½	9½	13	28	83½
Jno. Taylor, do .....	4½	4½	9½	9	9	5	13	26	80½
L. Hurlburt, do .....	4½	4	9	8½	9	8	11	25	79
D. Davidson, do R.R. 1	3	3	7	9	9	8½	11	25	75½
SOUTH GREY AGR. SOCIETY.									
<i>Judge—Andrew Schmidt, Mildmay.</i>									
Geo. Ritchie, Durham, R.R. 1 ..	3½	4	9	9	9	8	14	31	87½
A. Grierson, Hanover, R.R. 1	4	4½	9	9½	9	8	14	28	86
Jas. B. Park, Jr., do R.R. 1	4½	4½	9	9	9	8	13	28	85
D. Edge, Durham, R.R. 1 .....	4½	4½	9½	9	8½	7½	14	27	84½
Thos. H. Binnie, Priceville, R.R. 2	4½	4½	9	8½	9	9½	13½	25	83½
Alex. Herd, Hanover, R.R. 1 ..	4½	4½	9	9	9	9	13	25½	83½
C. & A. Smith, Durham, R.R. 4	4	4½	8½	9	9	9	14	25	83
W. A. Livingston, Hanover, R. R. 1 .....	4½	4½	9	9	9	8	13	24	81½
YORK.									
SCARBORO AGR. SOCIETY.									
<i>Judge—Jas. McLean, Richmond Hill.</i>									
Wm. G. Rennie, Agincourt .....	5	4½	9½	10	9½	9	14½	35	97
C. Lamoreaux, Milliken .....	4½	4½	8½	9½	9	9	14	32	91
D. Gillham, Agincourt .....	4½	4½	8½	8½	9½	9½	13½	32	90½
G. Patterson, do .....	4	4½	9	8½	9	9	14	32	90
Jas. A. Rennie, do .....	5	4	9	9½	9	8½	13½	31	89½
H. K. Clark, do R.R. ...	4½	4½	8½	7½	9	8½	13½	32	88
Robt. McCowan, Scarboro .....	4½	4	8½	9½	8½	8½	14	30	87½
Jas. M. T. Weir, Brown's Cors ..	4½	4	8	9	8½	8½	13½	31	87
H. Brumwell, Highland Creek ..	4½	4	8½	8½	8½	8½	13	31	86½
Jno. Harris, Agincourt .....	4	3½	8½	9	8½	8	13½	31	86
F. Yeomans, do .....	5	5½	8½	8½	8½	8	13	30	85
A. E. Kennedy, do .....	4½	3½	8	8	8½	8	13	31	84½
Samuel Rattle, Milliken .....	4	4	7½	8	8	8	13	30½	84
Leslie Mason, Agincourt .....	4	3½	8	7½	9	7	13	31	83
Wm. Loveless, Scarboro Jct. ...	4½	3½	7½	8	8½	8½	13	29	82½
Wm. Gough, Agincourt .....	4½	3	8	7½	9	7½	12	28	79½

NOTE.—The figures in parenthesis at the top are maximum possible scores.

## GRAIN FROM STANDING FIELD CROP COMPETITIONS.

PRIZE WINNERS AT THE CANADIAN NATIONAL EXHIBITION, 1918.

Prize Won.	Competitor and Address.	Variety.
<i>OATS.</i>		
<i>Sheaf Exhibit.</i>		
<i>Division 1—</i>		
1st .....	H. L. Goltz, Bardsville .....	O.A.C. No. 72.
<i>Division 2—</i>		
1st .....	Thompson Bros., Indian River, R.R. 3 ..	O.A.C. No. 72.
2nd .....	M. Boyd & Co., Bobcaygeon .....	Banner.
3rd .....	Thos. Cosh, Bobcaygeon .....	Yellow Russian.
4th .....	Colin McGregor, Coe Hill .....	O.A.C. No. 72.
<i>Division 3—</i>		
1st .....	Robt. McCowan, Scarboro .....	Granary Filler.
2nd .....	E. Barbour, Hillsburg, R.R. 2 .....	O.A.C. No. 72.
3rd .....	Alex. McKague, Teeswater .....	O.A.C. No. 72.
4th .....	Robt. Thompson, St. Paul's, R.R. 2 .....	Yellow Russian.
<i>WHEAT.</i>		
<i>Division 1—</i>		
1st .....	S. Polmateer, Gravenhurst .....	Goose.
2nd .....	J. Groh, West Gravenhurst .....	Marquis.
<i>Division 2—</i>		
1st .....	Ross Klmbell, Bobcaygeon .....	Marquis.
2nd .....	A. A. Colwill, Newcastle, R.R. 2 .....	Marquis.
3rd .....	M. M. Boyd & Co., Bobcaygeon .....	Marquis.
4th .....	Thos. Cosh, Bobcaygeon .....	Marquis.
<i>Division 3—</i>		
1st .....	Andrew Schmidt, Mildmay, R.R. 1 .....	Marquis.
2nd .....	R. S. Frisby, Unionville, R.R. 1 .....	Goose.
3rd .....	S. Phillips, Lucknow, R.R. 2 .....	Marquis.
4th .....	Andrew McKague, Teeswater, R.R. 1 ..	Marquis.
<i>BARLEY.</i>		
<i>Division 2—</i>		
1st .....	C. H. Ketcheson, Belleville, R.R. 2 .....	O.A.C. No. 21.
<i>Division 3—</i>		
1st .....	A. W. Vansickle, Onondaga .....	O.A.C. No. 21.

GRAIN FROM STANDING FIELD CROP COMPETITIONS.—*Continued.*

## PRIZE WINNERS AT THE CANADIAN NATIONAL EXHIBITION, 1918.

Prize Won.	Competitor and Address.	Variety.
<b>OATS.</b>	<i>Grain.</i>	
<i>Division 1—</i>		
1st .....	H. L. Goltz, Bardsville .....	O.A.C. No. 72.
<i>Division 2—</i>		
1st .....	Thos. Sellers, Zephyr .....	Abundance.
2nd .....	C. H. Ketcheson, Belleville, R.R. 2. ....	Banner.
3rd .....	M. M. Boyd & Co., Bobcaygeon .....	Banner.
4th .....	Homer White, Picton, R.R. 1. ....	O.A.C. No. 72.
<i>Division 3—</i>		
1st .....	Robt. McCowan, Scarboro .....	Granary Filler.
2nd .....	F. G. Hutton, Welland .....	Banner.
3rd .....	Jno. McDiarmid, Lucknow, R.R. 6. ....	O.A.C. No. 72.
4th .....	Robt. Thompson, St. Mary's. ....	Yellow Russian.
<b>WHEAT.</b>		
<i>Division 1—</i>		
1st .....	J. Groh, W. Gravenhurst .....	Marquis.
<i>Division 2—</i>		
1st .....	R. E. Osborne, Bowmanville .....	Marquis.
2nd .....	H. Bickle, Port Hope, R.R. 2. ....	Marquis.
3rd .....	Jas. S. Moore, Bellamy, R.R. 1. ....	Marquis.
4th .....	J. C. Connerty, Kemptville, R.R. 5. ....	Marquis.
<i>Division 3—</i>		
1st .....	Geo. R. Barrie, Galt, R.R. 7. ....	Marquis.
2nd .....	R. S. Frisby & Son, Unionville, R.R. 1. ....	Goose.
3rd .....	Andrew Schmidt, Mildmay, R.R. 1. ....	Marquis.
4th .....	R. A. Sutherland, Stroud .....	Marquis.
<b>BARLEY.</b>		
<i>Division 2—</i>		
1st .....	C. H. Ketcheson, Belleville, R.R. 2. ....	O.A.C. No. 21.
<i>Division 3—</i>		
1st .....	A. W. Vansickle, Onondaga .....	O.A.C. No. 21.

GRAIN FROM STANDING FIELD CROP COMPETITIONS.—*Continued.*

PRIZE WINNERS AT THE CENTRAL CANADA EXHIBITION, 1918.

Prize Won.	Competitor and Address.	Variety.
<i>OATS.</i>		
<i>Sheaf Exhibit.</i>		
1st .....	Andrew Schmidt, Mildmay .....	O.A.C. No. 72.
2nd .....	H. L. Goltz, Bardsville .....	O.A.C. No. 72.
3rd .....	Levi S. Taylor, Victoria Harbour .....	Thousand Dollar.
4th .....	Thompson Bros., Indian River .....	O.A.C. No. 72.
<i>WHEAT.</i>		
1st .....	R. S. Frisby & Son, Unionville, R.R. 1...	Goose.
2nd .....	Andrew Schmidt, Mildmay .....	Marquis.
3rd .....	J. C. Connerty, Kemptville .....	Marquis.
4th .....	Francis M. Baker, Wolfe Island .....	Marquis.
<i>BARLEY.</i>		
1st .....	C. H. Ketcheson, Belleville, R.R. 2.....	O.A.C. No. 21.
<i>OATS.</i>		
<i>Grain in Sacks.</i>		
1st .....	Thos. Sellers, Zephyr .....	Abundance.
2nd .....	Fred. A. Clark, Gormley .....	Thousand Dollar.
3rd .....	H. L. Goltz, Bardsville .....	O.A.C. No. 72.
4th .....	Levi S. Taylor, Victoria Harbour .....	Thousand Dollar.
<i>SPRING WHEAT.</i>		
1st .....	R. S. Frisby & Son, Unionville .....	Goose.
2nd .....	Geo. R. Barrie, Galt, R.R. 7 .....	Marquis.
3rd .....	R. E. Osborne, Bowmanville .....	Marquis.
4th .....	O. E. Wilson, Kinburn, R.R. 4 .....	Marquis.
<i>BARLEY.</i>		
1st .....	C. H. Ketcheson, Belleville, R.R. 2.....	O.A.C. No. 21.
<i>POTATOES.</i>		
1st .....	J. G. Plunkett, City View, R.R. 1.....	



GRAIN FROM STANDING FIELD CROP COMPETITIONS.—*Continued.*

## PRIZE WINNERS AT THE GUELPH WINTER FAIR, 1918.

Prize Won.	Competitor and Address.	Variety.
<i>OATS.</i>		
<i>Grain in Sacks.</i>		
1st .....	H. L. Goltz, Bardsville .....	O.A.C. No. 72.
2nd .....	Jno. McDiarmid, Lucknow, R.R. 6.....	O.A.C. No. 72.
3rd .....	Wm. Winer & Sons, Guelph, R.R. 3.....	O.A.C. No. 72.
4th .....	J. A. Cockburn, Puslinch, R.R. 1.....	O.A.C. No. 72.
5th .....	Andrew Schmidt, Mildmay, R.R. 1.....	O.A.C. No. 72.
6th .....	Robt. Norris, Staffa .....	O.A.C. No. 3.
7th .....	S. W. Bingham & Sons, Hillsburg, R.R. 2.	Reg. Banner.
8th .....	R. L. Taylor, Brussels, R.R. 2.....	O.A.C. No. 72.
9th .....	R. Wilton, Wingham, R.R. 1.....	O.A.C. No. 72.
10th .....	Wm. A. McCutcheon, Glencoe, Box 33....	O.A.C. No. 72.
Championship.		
	H. L. Goltz, Bardsville .....	
<i>SPRING WHEAT.</i>		
1st .....	R. S. Frisby & Son, Unionville, R.R. 1...	Goose.
2nd .....	Wm. Webster, Lucknow, R.R. 2 .....	Marquis.
3rd .....	R. Wilkin, Palmerston, R.R. 3.....	Marquis.
4th .....	Andrew Schmidt, Mildmay, R.R. 1.....	Marquis.
5th .....	Thos. Cox, Rockwood, R.R. 4.....	Marquis.
Championship.		
	R. S. Frisby & Son, Unionville, R.R. 1...	
<i>BARLEY.</i>		
1st .....	A. W. Vansickle, Onondaga .....	O.A.C. No. 21.
2nd .....	Wm. W. Harding, St. Mary's, R.R. 1....	O.A.C. No. 21.
<i>CORN (Dent).</i>		
1st .....	P. McKinley, Tecumseh, R.R. 2.....	Wisconsin No. 7.
2nd .....	J. A. King, Wardsville .....	White Cap Yel. Dent.
3rd .....	E. A. Deneau, North Malden, R.R. 1.....	Wisconsin No. 7.
4th .....	Thos. Deslippe, Amherstburg .....	White Cap Yel. Dent.
5th .....	R. J. Wilson, Charing Cross .....	Wisconsin No. 7.
<i>CORN (Flint).</i>		
1st .....	A. S. Maynard, Chatham .....	Salzer's N. Dakota.
2nd .....	R. J. Johnston, Chatham, R.R. 3.....	Longfellow.
<i>POTATOES.</i>		
1st .....	H. L. Goltz, Bardsville .....	Davies Warrior.
2nd .....	Wm. Naismith, Falkenburg .....	Green Mountain.
3rd .....	D. Campbell, Mount Brydges, R.R. 2.....	Dooley.
4th .....	D. M. McNeil, Strathroy, R.R. 1.....	Dooley.
5th .....	D. A. McNaughton, Puslinch, R.R. 2....	Davies Warrior.
<i>MANGOLDS.</i>		
1st .....	W. G. Rennie, Agincourt.	
2nd .....	Robt. Shaw, Kemble.	
<i>TURNIPS.</i>		
1st .....	Andrew McKague, Teeswater .....	Swede.
2nd .....	Alex. Hall, Ayr.	

GRAIN FROM STANDING FIELD CROP COMPETITIONS.—*Continued.*

## PRIZE WINNERS AT THE OTTAWA WINTER FAIR, 1919.

Prize Won.	Competitor and Address.	Variety.
<i>OATS.</i>		
<i>Grain in Sacks.</i>		
1st .....	T. H. Lewis, Oxdrift .....	Gold Rain.
2nd .....	C. H. Ketcheson, Belleville, R.R. 2.....	Victory.
3rd .....	Chas. E. Bonnycastle, Campbellford.....	O.A.C. No. 72.
4th .....	Thompson Bros., Indian River, R.R. 3....	O.A.C. No. 72.
5th .....	Jas. Higginson, Inkerman .....	White Wave.
6th .....	Fletcher Walker, Royston .....	Reg. Banner.
7th .....	D. E. Coon, Frankford, R.R. 2 .....	Banner.
8th .....	Henry Moffatt, McKellar .....	Sterling.
9th .....	D. H. Dick, Omemeé .....	O.A.C. No. 72.
10th .....	C. J. McKeown, McKellar .....	O.A.C. No. 72.
<i>SPRING WHEAT.</i>		
1st .....	J. H. Sloan, Kemptville, R.R. 5.....	Marquis.
2nd .....	John Stevenson, Beachburg .....	Marquis.
3rd .....	J. C. Connerty, Kemptville, R.R. 5.....	Marquis.
4th .....	Jno. A. Stanton, Woodrous, R.R. 1.....	Marquis.
5th .....	A. Johnston, Cobden, R.R. 4 .....	Marquis.
<i>BARLEY.</i>		
1st .....	D. E. Coon, Frankford .....	O.A.C. No. 21.
2nd .....	C. H. Ketcheson, Belleville, R.R. 2.....	O.A.C. No. 21.
<i>BEANS.</i>		
1st .....	Ralph Goodin, Spencerville .....	
2nd .....	Richard M. Hutton, Spencerville .....	
<i>CORN (DENT).</i>		
1st .....	Edward A. Deneau, North Malden, R.R. 1.	Wisconsin No. 7.
2nd .....	G. P. Estabrook, Merlin, R.R. 4.....	Wisconsin No. 7.
3rd .....	P. McKinley, Tecumseh .....	Wisconsin No. 7.
4th .....	R. J. Wilson, Charing Cross .....	Wisconsin No. 7.
5th .....	J. A. King, Wardsville .....	White Cap.
<i>CORN (FLINT.)</i>		
1st .....	R. J. Johnston, Chatham, R.R. 3.....	Longfellow.
2nd .....	A. S. Maynard, Chatham, R.R. 3.....	Salzer's N. Dakota.
<i>POTATOES.</i>		
1st .....	T. H. Lewis, Oxdrift .....	
2nd .....	Wm. Geo. Leigh, Scotia .....	Cattles Beauty.
3rd .....	Fred. Pummell, Charlton .....	Beauty of Hebron.
4th .....	John Shaule, Bruce Mines .....	Carman No. 1.
5th .....	J. C. Marshall & Son, Sprucedale.....	Wonderful.

## STANDARD VARIETIES OF GRAIN AND POTATOES.

At the Annual Convention of the Ontario Association of Fairs and Exhibitions a committee of prominent agriculturists was appointed to draw up a list of what they considered standard varieties of grain and potatoes to be used by farmers entering the Standing Field Crop Competitions in Ontario. The following are their recommendations which have been approved of by the Department:

## FALL WHEAT—

Dawson's Golden Chaff (White).  
Imperial Amber (Red).

## OATS—

O.A.C. No. 72.  
Banner.

## PEAS—

Golden Vine.  
Canadian Beauty (White Marrowfat).  
Arthur.

## CORN (DENT)—

Wisconsin No. 7.  
White Cap Yellow Dent.  
Bailey.  
Golden Glow.

## CORN (FLINT)—

North Dakota.  
Longfellow.  
Quebec Yellow.

## SPRING WHEAT—

Marquis.  
Red Fife.  
Goose.

## BARLEY—

O.A.C. No. 21.  
Mandscheuri.

## BEANS—

Pea.

## POTATOES—

Green Mountain (Delaware).  
Carman No. 1.  
Gold Coin.  
Davies Warrior.  
Dooley.  
Irish Cobbler (Extra Early Eureka).  
Early Ohio.

## STANDING FIELD CROP COMPETITIONS.

## INSTRUCTIONS TO JUDGES.

## 1. SCORING FOR YIELD.

The following are the standards of yields per acre adopted at Guelph and Ottawa for the different field crops to be judged in Ontario:

Crops.	Bushels per acre.	Number of bushels below standard for each point dropped.
Oats . . . . .	80	10
Barley . . . . .	60	10
Corn . . . . .	80	10
Winter Wheat . . . . .	40	5
Spring Wheat . . . . .	35	5
Field Peas . . . . .	30	5
Beans . . . . .	40	5
Potatoes . . . . .	500	25
Mangels . . . . .	1,200	75
Turnips . . . . .	1,200	75

2. WEEDS IN CEREALS.

N.B.—The number or numbers in the column to the right of the total score of each competitor show the weeds found in his crop, the numbers following being the key to same:

- CLASS 1.—
- |                           |                        |
|---------------------------|------------------------|
| 1. Wild Oats.             | 6. Hare's Ear Mustard. |
| 2. Perennial Sow Thistle. | 7. Ball Mustard.       |
| 3. Purple Cockle.         | 8. Penny Cress.        |
| 4. Wild Tares.            | 9. False Flax.         |
| 5. Wild Mustard.          | 10. Twitch Grass.      |
11. Bladder Campion.

All weeds in Class 1 are to be scored quite heavily, and Wild Oats and Perennial Sow Thistle the heaviest of all.

If Wild Oats or Perennial Sow Thistle are found going to seed in the crop the following points should be deducted from the total score: One plant, 3 points; two plants, 5½ points; three plants, 7½ points; four plants, 9 points; and one point for each of the next six plants, making 15 points cut if as many as ten plants can be found.

- CLASS 2.—
- |                     |                     |
|---------------------|---------------------|
| 12. Field Bindweed. | 15. Canada Thistle. |
| 13. White Cockle.   | 16. Chess.          |
| 14. Curled Dock.    | 17. Hemp Nettle.    |

The weeds in Class 2 are to be scored somewhat lighter than those in Class 1.

CLASS 3.—All other weeds scored somewhat less than those of Class 2.

NOTE.—Great care should be taken to name on the Score Cards all the weeds of Class 1 and Class 2 which are found in each field. This is very important.

3. POTATOES, MANGELS, TURNIPS AND SUGAR BEETS.

*Method of Determining Yield.*

Each judge is to take with him an outfit for making the determination, including scales or steelyards. If necessary, a set should be purchased for about \$1.00, a receipt obtained for the same and the amount included with the travelling expenses.

Each judge is to dig and weigh the potatoes in each of two places in every field examined. The following schedule will assist in making each of the determinations:

Inches wide.	Feet long.
26 . . . . .	18
27 . . . . .	16½
30 . . . . .	15
33 . . . . .	13½
36 . . . . .	12
39 . . . . .	11¼
42 . . . . .	10½
45 . . . . .	9¾
48 . . . . .	9

Each lot weighed represents yield of 4 square yards. This divided by 4 is the yield of 1 square yard, which multiplied by 4,840 gives the yield in pounds per acre, and when divided by 60 gives the estimated number of bushels per acre. The two lots worked out in this way, when added and divided by 2, give the estimated yield per acre from which the score can be determined.

# Ontario Department of Agriculture

THIRTEENTH ANNUAL REPORT

OF THE

# Horticultural Societies

FOR THE YEAR

1918

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



TORONTO:

Printed by A. T. WILGRESS, Printer to the King's Most Excellent Majesty

1919

Printed by  
WILLIAM BRIGGS,  
Corner Queen and John Streets,  
TORONTO.

To His Honour SIR JOHN STRATHEARN HENDRIE, C.V.O., a Lieutenant-Colonel  
in the Militia of Canada, etc., etc., etc.

*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to present herewith for your consideration the Report of  
the Horticultural Societies of Ontario for the year 1918.

Respectfully yours,

GEO. S. HENRY,

*Minister of Agriculture.*

TORONTO, 1919.

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ANNUAL REPORT  
OF  
The Horticultural Societies of Ontario  
1918

*To the Honourable Geo. S. Henry, Minister of Agriculture:*

SIR,—The rapid increase in the number of Societies and the enthusiasm of our 18,500 paid members is shown in the appended Report of the Horticultural Societies of Ontario, which I have the honour of herewith transmitting. If the splendid efforts made by horticulturists during the war years are continued in peace time, Ontario will become known the world over as a Province of beautiful homes and productive gardens. The officers and directors of our Association are anxious that the great gardening propaganda, which has done so much along educational as well as healthful lines, should prove one of the many blessings amid the gloom resulting from the world's war. Amateur gardeners have learned a valuable lesson which will not soon be forgotten. The incentive given by our Societies will, I am confident, become more and more of a permanency in the business of city, town and village farming. This gardening work must not be allowed to die.

The Report contains the proceedings at the annual Convention and a detailed review of the financial transactions of the hundred Societies in the Province.

Faithfully yours,

J. LOCKIE WILSON,

*Superintendent.*

## OFFICERS, 1919

*President* ..... WM. HARTRY, Seaforth.  
*First Vice-President* ..... G. H. M. BAKER, Lindsay.  
*Second Vice-President* ..... MISS MARY YATES, Port Credit.  
*Secretary and Editor* ..... J. LOCKIE WILSON, Toronto.  
*Treasurer* ..... C. A. HESSON, St. Catharines.  
*Hon. Director* ..... T. D. DOCKRAY, Toronto.

*Directors:* District No. 1, J. H. ROSS, Winchester; District No. 2, H. A. MIDDLETON, Lindsay; District No. 3, GEO. J. OVEREND, Orillia; District No. 4, REV. W. M. MCKAY, Weston; District No. 5, W. B. BURGOYNE, St. Catharines; District No. 6, J. A. MAGEE, Hanover; District No. 7, GEO. H. RYERSON, Brautford; District No. 8, S. F. WOOD, London; District No. 9, JOHN GLASSEY, Chatham.

*Auditors:* W. J. EVANS and W. T. GRAHAM.

*Representatives to American Civic Association:* J. LOCKIE WILSON, DR. F. E. BENNETT, and T. D. DOCKRAY.

*Representative to Canadian National Exhibition:* P. H. MITCHELL, Toronto.

*Representative to School Gardens Association of America:* J. A. TAYLOR, St. Thomas, and C. B. HAMILTON, Toronto.

*Nomenclature Committee:* H. J. MOORE, Niagara Falls; F. E. BUCK, Ottawa; P. H. MITCHELL, Toronto; PROF. W. T. MACOUN, Ottawa; WM. HUNT, O.A.C., Guelph; O. J. ROBB, Vineland Station; WM. HERRICK, Galt; L. C. CROMBIE, St. Thomas.

## TREASURER'S REPORT

FOR THE YEAR 1917-1918.

### *Receipts.*

Balance on hand as per statement of November 21st, 1917 .....	\$254 85
Affiliation fees account, year 1917-18 .....	76 00
Affiliation fees account, year 1918-19 .....	137 00
Affiliation fees account, arrears .....	65 00
Allowances for exchange on cheques .....	0 92
Bank interest to November 30th, 1918 .....	9 90
	\$543 67

### *Expenditures.*

W. L. Lamb, card sign for Convention Hall door .....	\$0 75
Honorarium to Secretary .....	50 00
Assistants at Convention .....	13 00
The Bryant Press, letter heads and envelopes .....	27 50
American Civic Association, affiliation fee .....	5 00
H. G. Dilleuth, loan of plants for hall .....	3 00
Treasurer's account for postage and war tax stamps .....	3 22
Book of receipt forms .....	0 15
Exchange on affiliation fee cheques .....	4 52
	\$107 14
Total expenditure .....	\$107 14
Balance on hand .....	436 53
	\$543 67

C. A. HESSON, *Treasurer.*

St. Catharines, February 4th, 1919.

Audited and found to be correct.	}	<i>Auditors.</i>
W. J. EVANS,		
W. S. GRAHAM,		

# ONTARIO HORTICULTURAL ASSOCIATION

The Thirteenth Annual Convention of the Ontario Horticultural Association was held in the Canadian Foresters' Hall, Toronto, on Wednesday, Thursday and Friday, February 5th, 6th and 7th, 1919. The hall was well filled when the meeting was called to order at 2 p.m. on the first day.

---

## PRESIDENT'S ADDRESS.

THOMAS D. DOCKRAY, TORONTO.

On behalf of the Ontario Horticultural Association I have much pleasure in welcoming the delegates and visitors from the Horticultural Societies to this our Thirteenth Annual Convention. We trust that our deliberations together will be of use to your Horticultural Societies, and that you will realize that the officers and directors of this Association have worked faithfully during the past year to forward the interests of your Societies. We have no hesitation in promising you the same co-operation on the part of the officers and directors to be elected at this Convention for the year 1919, if you will make your wants known to them.

Greater production of food through the growing of vegetables was the greatest work undertaken by the Horticultural Societies last year. Details of this and of other important matters will be given in the Report of the Superintendent of Horticultural Societies and by the contributors to our programme and in the discussions that will take place. The need of this greater production was so urgent that the Organization of Resources Committee was created under an Act of the Legislature for the purpose of bringing about greater production in many ways. The Horticultural Societies welcomed the organizers sent out by this Committee, and co-operated with the local Committees in such work as the members of the Horticultural Societies could do, such as vegetable growing in back gardens and on vacant lots and roadsides, children's gardens in communities and at or near schools, the establishment of wayside markets, obtaining labor of the smaller boys and girls in fruit picking and easy work near home, and of older boys and girls and of adults in casual work on the farms, and in the holding of competitions and exhibitions to stimulate interest. These Committees all over the Province have recognized from the beginning the large amount of this detailed and individual work the Horticultural Societies could do and have done, thus leaving the Committees free to deal with the many larger problems in greater production, such as the financing of farmers, or of groups of town people who took up farms, the obtaining of farm seeds in large quantities for farmers, the organization of volunteer help schemes for farmers at seeding, haying and harvest-times, and many other large undertakings in the interest of greater production.

The Committee found that, in communities where there was a Horticultural Society, a large amount of success for greater production was assured. On the other hand, the Committee found it most difficult to obtain results, and sometimes almost abandoned the field, in communities where good organization could not be effected, there being no Horticultural Society. We have even a few

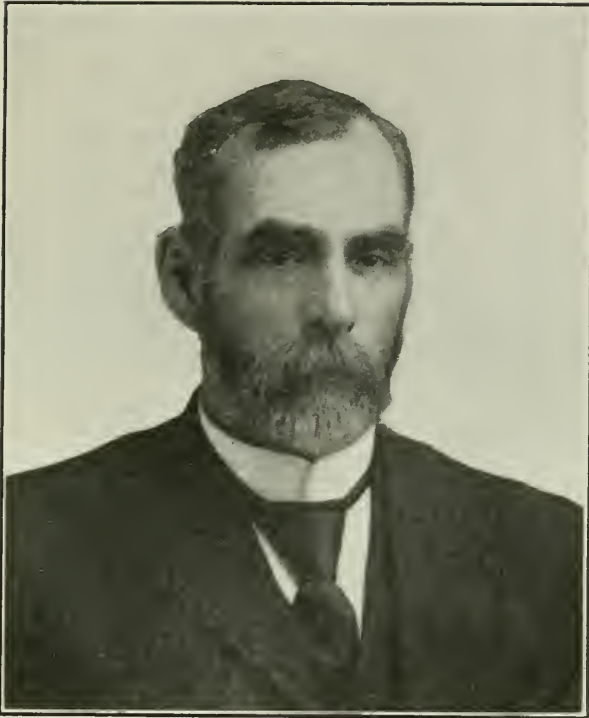
examples where, after the Committee had almost despaired of doing anything and might have let things slide, the citizens got up a Horticultural Society, held meetings addressed by the lecturers from the Department of Agriculture and, notwithstanding a start made a bit late in spring, obtained such results that these new Horticultural Societies, now properly organized under the Act, are full of enthusiasm for this work and promise to prosecute it with full energy during 1919.

But do we, all of us, see the necessity for this work of greater production in horticulture for 1919? With the proper cessation of some branches of voluntary war work in our midst, may not an improper slackening of our duty of greater production manifest itself? Against the slackening we must guard ourselves and our Horticultural Societies. On the one hand, we are assured by all authorities that greater production of food is as necessary this year as last. On the other hand, we know that Canada has suffered less by disorganization, suffered less in resources, suffered less in every way, than any of the other great food producing countries in the world. And, as we have suffered less, so shall we recuperate more quickly than those who have suffered more, and so we should begin almost at once to produce food for the countries that are sorely stricken. If our Horticultural Societies slacked now in this work, it will be our material loss, a loss that we can reckon in dollars and cents. Worse than that, if we slacken now, we shall be deliberately throwing away our chances of a return to that thrift and contentment that beautified the lives of our parents, and upsetting those habits of foresight and legitimate economy that we preached before, and practised, during the war. This will be our spiritual loss. We must take up greater production where the Committee and where the Horticultural Societies left it last year and, with the help of those returned from war, and of those released from war work, and of those whose men will never return, let us all put forth our energies so that material gain and spiritual upbuilding in the fullest measure will radiate from our Horticultural Societies for the benefit of all our people.

It would give me great pleasure to tell you in detail of the earnest assistance of officers and Board of Directors of this Association during my tenure of office as President, of the hearty co-operation of the officials of the Department of Agriculture, and of many pleasant incidents amongst the boys and girls, and men and women, at lectures, exhibitions and competitions. I have chosen instead to address you on the one topic of Greater Production, as I consider it should have our first attention. If any effort I have made during my presidency will help to prevent the thrifty war garden from becoming the weedy victory garden, I am amply rewarded.

The Chairman informed the Convention of the appointment of a Committee to deal with certain contemplated changes in the districts as at present constituted. Committee consists of Dr. Bennett, St. Thomas, Convener; Rev. Dr. A. H. Scott, Perth; G. H. M. Baker, Lindsay, and the President.

Another Committee was formed this morning at the Executive Meeting. In Toronto at our last meeting we had an address on Hybridizing and Experimentation and Dr. Thompson, of the University of Toronto, placed at our disposal the greenhouses at the University for producing new varieties. So a Committee was formed, consisting of Miss Mary Yates, Miss Blacklock, Mr. S. Frank Wood, London, and Mr. J. C. Crombie, of St. Thomas, to bring in next year a report on the production of new varieties.



Wm. Hartry, President, 1919.

## REPORT OF THE SUPERINTENDENT.

J. LOCKIE WILSON, TORONTO.

For the first time since the organization of this Association the Annual Convention was not held in November, as usual. Public meetings during that month were under the ban by the health officials owing to the prevalence of influenza and pneumonia, and, in consequence, arrangements were made to hold the Convention in February. Many of the Societies, also, found it impossible to hold their annual meetings during the time prescribed for this purpose by the Horticultural Societies Act, and in all such cases they received permission from the Department to advertise their meetings for a later date.

According to the reports received by me increased output of vegetables and garden products was one of the principal lines of effort of the Societies, but Civic Improvement was by no means neglected, and the beautifying of unsightly spots, the laying out and planting of small parks, and the surroundings of public buildings all received careful attention and did much to increase the interest of the citizens generally in the work of local Societies. These duties were considered by the members as obligations laid upon them to maintain and improve the cities, towns, and villages, so that the boys from the front, on their return, would find that we had kept the faith and the home flowers growing. Disappointment was caused in some instances owing to the non-arrival of bulbs ordered for fall planting, but this difficulty will be overcome in the future now that regular steamship sailings are being restored.

A number of Societies held exhibitions of tulips, other flowers, and vegetables and report that they were most successful. Vegetable seeds as usual were given to school children, sometimes free, in other cases a nominal charge being made, and the vegetables grown from these were exhibited in the fall. Much interest was shown by the youthful gardeners in their work.

The Hamilton Society did splendid work both among the children and adults living in the poorer sections of the city. Prizes were given children for collecting the eggs of the tussock moth, an idea which proved a success when put in operation.

The Morrisburg Society devoted its activities to greater production, utilizing eight acres divided into 52 plots, the total value of vegetables raised thereon being \$1,500.

Chatham did good work in many ways and an American authority states that their war and domestic gardens were the best he had seen on this continent. This Society took entire charge of the city parks and kept them in first class shape.

Lindsay is another Society which has greatly improved the home town. More flower-beds were laid out, and the Town Council, noting the good work, is heartily co-operating with the Society. Vacant garden lot produce totalled in value \$2,000 more than in the previous year.

London has secured a large increase in membership and will do even better in 1919. Three flower shows were held. The members of the Seaforth Society have been experimenting with the growing of peaches, planting them on the north side of buildings so as to delay sap running until danger of early frosts is past. Greater food production was heartily taken up and excellent returns secured from vacant lots and unused streets.

Each member of the Toronto Society received a copy of Wright's Encyclopaedia of Gardening. Two exhibitions were held. In Windsor 35,000 packets of seeds were distributed to the school children. Prizes were offered in the fall for canned and fresh vegetables shown by children, and there was a good entry in both.

The Guelph Society organized several committees to take up the various lines of work and the gardens committee interested themselves particularly among the foreigners. A number of persons were prosecuted for destroying song birds, and also a lineman for butchering shade trees. This Society is determined to stop such work. Mr. McSkimming donated 50,000 fine pansy plants to school children, a gift which was greatly appreciated.

Winchester planted shade trees around the large grounds of the new High School and perennials and shrubs on the front of same. For a small place of only 1,300 population Elora has a record of nearly 100 members.

Carleton Place prepared a border 130 feet long at the Central School and planted pæonies the entire length, also perennials and tulips. Much of the work was done gratuitously.

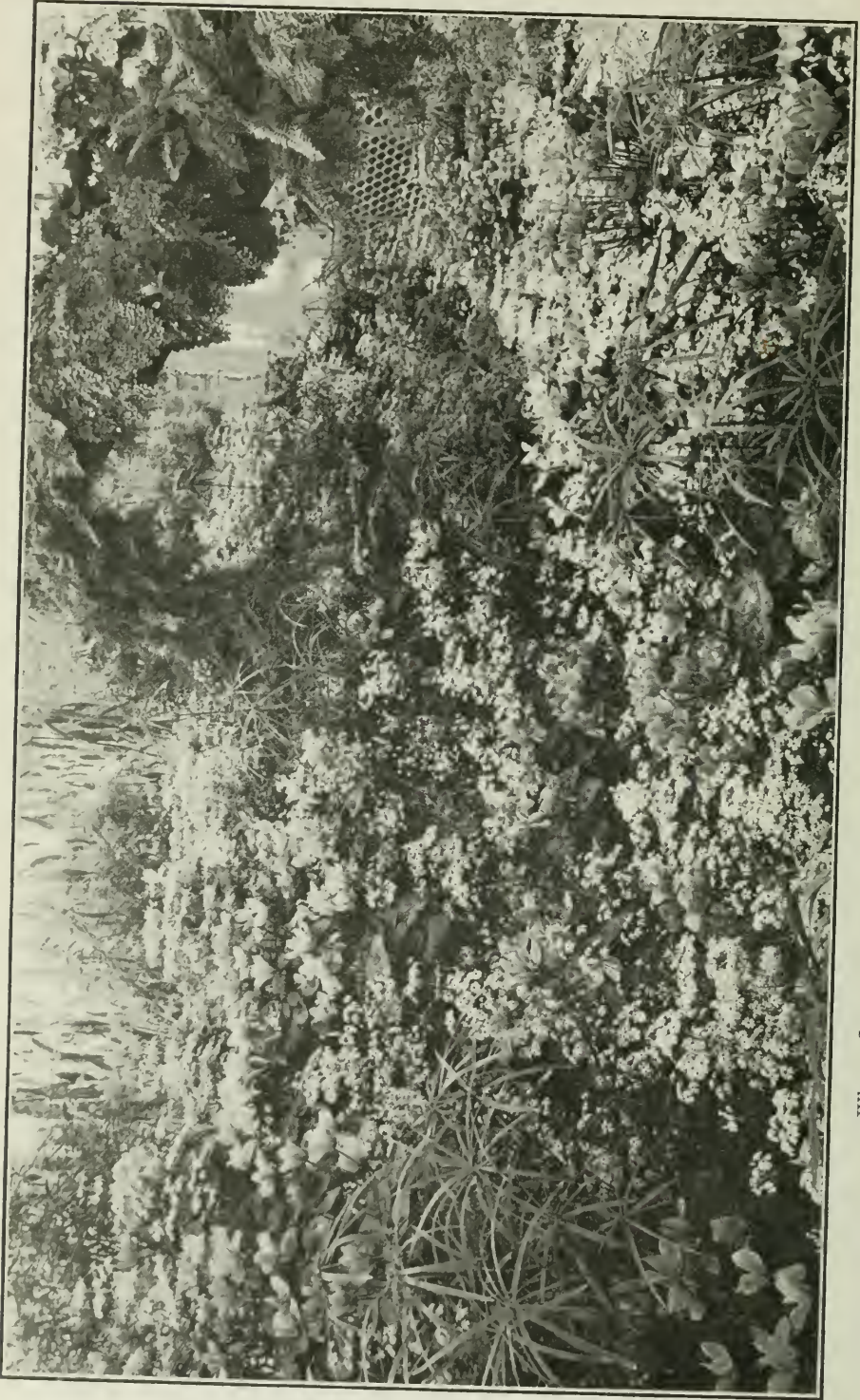
About 10,000 people attended the exhibition and lectures held by the Ottawa Society in 1918.

The membership of the St. Catharines Society has grown appreciably. The city was divided into four districts, in order to carry on the campaign for greater production more effectively, and our Treasurer, Mr. Hesson, organized a Home Garden Brigade in connection with all the schools, which was highly successful.

St. Thomas membership shows a large increase. This Society purchased for distribution at cost, and also for park and other purposes 100,000 tulips, 35,000 gladioli, 12,000 roses and thousands of other plants and shrubs. It is proposed to establish a memorial grove of English oaks in Pinafore Park, each tree to bear the name of a St. Thomas soldier who died for his country. Every available piece of vacant land in and around the city was put into crop. Agriculture is being taught in the Collegiate Institute and all public schools, and each school has a garden. Street sweepings and leaves are collected from which over 200 loads of good manure and leaf mold are available each year.

Interest in Civic Improvement continues all over the Province, there being added to the list of Horticultural membership in the past year eight enthusiastic Societies with energetic officials, viz., Acton, Agincourt, Dutton and Dunwich, Morrisburg, Niagara Falls, South Norwich Tp., Welland and Wheatley. One of these, the South Norwich, became organized under the amendment of the Horticultural Societies' Act permitting the formation of Township Societies with a minimum of twenty-five members. This is the first Society to take advantage of this new departure. Last month nine more new Societies became organized, thus increasing the total in the Province to 99. Aurora, Bothwell, Fenelon Falls, New Hamburg, New Toronto, Iroquois, Russell, Warton and Wolverton are the latest additions, and of these, one at least, Aurora, did splendid work during 1918 among school children and members prior to being officially organized.

Under the Horticultural Societies' Act, cities of over 100,000 population are allowed two Societies. The City of Toronto has a population of nearly 500,000 and one Society is located in the centre of the city and the other in the west. Riverdale Society in the east is unable under the Act to become organized although excellent work is being done by them, notwithstanding the fact that they receive no grant. I would suggest that this Convention recommend to the Government that the Act be amended as follows: "In cities of 100,000 population and under,



Where flowers bloom in profusion—Ardwold, the residence of Sir John Eaton.



one Society may be organized, and one additional Society for each additional 100,000 population up to 400,000." This would allow the City of Toronto to have two in addition to those already organized.

I know that every member of the Ontario Horticultural Societies will join with me in the expression of sincere sympathy and regret at the passing of that grand old veteran in Horticulture, the late R. B. Whyte. Since the inception of our Association Mr. Whyte has attended all our Conventions, and took an active part in them, and no man was listened to with more respect and esteem than our late lamented brother. His crossing the "Great Divide" has indeed been an irreparable loss to us all, and our hearts go out to his bereaved family when thinking of the vacant chair at their fireside, which will never be filled by the one we so dearly loved. The little children, too, in the Ottawa Valley will miss him. He was their friend and they were his. The work done by him in encouraging the children in gardening and the financial assistance given by him in this connection has much to do with the progress made by the boys and girls of that countryside.

Home and school gardens have been of inestimable value in training youthful horticulturists, but, owing to the fact that educational institutions are closed for two months in the most important part of the growing season, I am of opinion that the home garden has proved of greater value than those conducted by schools, but, if arrangements can be made for a caretaker to look after an experimental plot on school grounds, the best results can thereby be obtained. One can readily understand the evil effect on a child gardener when he sees his model school plot, from which he intended to copy, dried up and weedy through lack of proper care. I would strongly recommend when a school plot has been established that the teachers and Board of Trustees should not fail to have it kept in the best possible condition. Better to have no school garden at all than a neglected one.

With our united efforts in the past we have accomplished much, but much remains to be done. I know you will go out from this Convention filled with enthusiasm and inspiration for

"Out of our effort achievement,  
Out of our thought the act,  
Out of our failure success,  
Out of our errors fact."

W. J. EVANS: I am vitally interested in that part of the Superintendent's report, *re* the formation of more than one Society in a large city, and would suggest that a committee be appointed to draw up a resolution, and in the event of its adoption by this Convention, it be sent to the Minister, stating our views. The Toronto Horticultural Society has been penalized because the High Park Society was formed in the west. The Toronto Horticultural Society enjoyed a membership of 1,000 odd and we would have had \$800 if it had not been for the "baby" in the west end. Now, if the Act is not changed we will still continue to enjoy the \$700 while other Horticultural Societies in St. Thomas, St. Catharines, Ottawa, and others (who are doing good work) are enjoying a greater grant.

DR. BENNETT: Might I point out another injustice—why should Horticultural Societies with a membership of 1,000, 2,000 or 3,000 be penalized and only receive a grant of \$800, while smaller Societies receive approximately the same amount? We quite agree that Toronto should receive greater representation and should not be penalized to the extent it has been.

J. LOCKIE WILSON: When that Act was changed the Hon. Mr. Duff was Minister. I went over it very carefully with him. His views were that Toronto should have two Societies, giving \$500 to each. Later on, the amount was increased to \$700. The point in regard to this question is this: you are all penalized—every extra Society you form in this Province reduces your grant. If you had the opportunity of having four good Societies in Toronto, each getting \$700, you would be getting \$2,800, and you would not be so badly off. It is not much incentive to this Association to have four Societies if the one that is already added to is just struggling along. The object in forming these Societies is to get them to work and get to the top of the ladder. It would be better to have two large Societies instead of four very small ones.

Mr. Sinclair. Mr. Evans and the Superintendent were appointed as a Committee to look into this question and draw up a resolution to be submitted to the Convention.

THE CHAIRMAN: Regarding the mutilation of shade trees on the highways, the Guelph Horticultural Society took that up and under the Ontario Tree Planting Act prosecuted a lineman of one of the wiring companies who cut some limbs off a tree on the highway to let the wires of his company go through the tree. After they had proved they were right they let him go because it was not the man but the corporation who was doing it. The prosecution was based on the Ontario Tree Planting Act, Chapter 213, where there is a clause stating "if any person injures a tree on a highway without the consent of the municipality he can be prosecuted and fined and in default of paying the fine, imprisoned." These wiring companies, however, usually get the consent of the municipality first.

MR. SINCLAIR: The G. N. W. have a stipulation that they may trim as long as they do it reasonably. Also the Bell Telephone Company have a similar agreement. The Hydro-Electric have had the Act changed so that they can trim 10 feet. I have in mind a whole row of trees along a farm front which they are threatening to butcher. I know it is a difficult matter to get any intermediary legislation.

DR. BENNETT: The feeling is so intense throughout the municipalities that if we organized as we should, we could beat the Hydro-Electric. They ruin trees in every municipality. If we get our Legislative bodies busy we are strong enough to carry this through.

W. J. EVANS: My idea is to enlarge that committee which you appointed in connection with the matter of grants and ask the Convention to bring to that Committee any resolutions members have, with a view of bringing them before the Convention and, if approved, before the Minister. Some of the organizations may have suggestions in mind for additional legislation to take care of certain matters *re* Children's Gardens and Playgrounds, etc., and this could all be considered by this Committee and recommendations brought in the last day of the Convention.

The matter was left to the Committee named.

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THE LATE R. B. WHYTE.

PROF. W. T. MACOUN, OTTAWA.

One of the most active and enthusiastic members of the Ontario Horticultural Association is absent from this annual meeting. Our friend and fellow horticulturist, Mr. R. B. Whyte, working too industriously in the garden he loved

so well, over exerted himself on April 15th last, and passed away at his home in Ottawa after an illness of barely ten minutes.

We miss his familiar face, his earnestness, and his keenness in discussion, and we shall miss in the future the ready and practical information on flowers and fruits which he was ever ready to impart to the members of this Association from his great store of knowledge.

Rarely do we find in this age an amateur horticulturist with as broad a knowledge of horticulture as had Mr. Whyte. He was interested in everything that grew, and he was a born experimenter. His garden acre at Ottawa contained one of the finest collections of herbaceous plants in America, and it was particularly strong in pæonies, irises, lilacs, day lilies and phlox. He had a choice lot of gladioli, and grew many seedlings. A scarlet variety originated by him, which he called *Bresaya*, was one of his best. His collections of narcissi and darwin tulips, the bulbs in which he was most interested, contained the choicest varieties. It was his practice to test a large number of each kind of flower, and then keep the best.

One of his specialties was English gooseberries, of which he made a great success. He originated several good varieties, one or more of which may be introduced. His greatest gift to horticulture was the Herbert raspberry, which is of large size and fine quality, and owing to its hardiness is enjoyed in many a home from the Atlantic to the Pacific and as far north as the Peace River and, perhaps, to the Yukon.

Mr. Whyte's garden was not planned to obtain special effects, although with the abundance of fine flowers there the effect could not be anything but pleasing.

He loved the individual plant, but judged it by comparison with other varieties rather than as a plant for decorative purposes in combination with other plants. Thus, his garden was a great testing ground, and the information obtained there and the material that was in it was ever available to those interested.

Mr. Whyte was a very active member of the Ottawa Horticultural Society, and was one of its organizers in 1893. He was President for the years 1900-1902, and one of the Directors almost continuously until his death. He was mainly instrumental in founding the Ottawa Flower Guild in 1908, a children's organization which received its chief financial support from him. In 1912 he organized a Potato Growing Contest for farmers' boys between the ages of twelve and eighteen in Carleton County, which was extended to Russell County in 1913. In 1915 he began to encourage the development of home vegetable gardens on the farms in Carleton County by offering prizes to the girls for the best kept gardens. By his will, \$500 is to be devoted each year to such work in these counties.

When the Ontario Horticultural Association was formed in 1906, Mr. Whyte at once became one of its most active members. He was, in fact, one of a Committee which waited on the Government two years before to urge the importance of it. He was President in 1910 and 1911, and also a Director for some years. Mr. Whyte was 67 years of age when he died. While we shall not see him any more, he will not be forgotten by this generation of horticulturists, and the results of his work will live on after we also have passed away.

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## ALLOTMENTS AND HOME GARDENS.

G. H. M. BAKER, LINDSAY.

I wish to speak about vacant lots in my home town, allotments thereof for gardening purposes, and also make some suggestions.

To commence with, I would like to say that you are not listening to an expert farmer or gardener, or florist, but a lumberman who loves horticultural work because of its aims and benefits to the individual and the country in which we live.

Early last spring we advertised for and secured as many vacant lots of land as we could, then we appointed a Superintendent who divided the plots up into reasonably sized lots, which were numbered as Civic Lot No. 1; 2, 3, etc. These lots were then given to any party who wanted them, and would pay the small fee for plowing.

After securing the lots and knowing their location, we secured the necessary teams with plows and harrows, and our Superintendent looked after the team work, pointing out the lots that had to be plowed, so that there would be no delay on the part of the teams.

In this way we were able to get the lots plowed and harrowed very cheaply. We charged \$1.25 to \$1.75 for plowing the lots, according to their size. We also plowed lots for soldiers' wives, free of cost to them, having found that the small charge of \$1.25 to \$1.75 per lot enabled us to do so.

We secured a list of instructions from Prof. Neilson showing the dates, suitable to this district, that different kinds of vegetables should be planted, or sown, how far apart the rows or hills should be, and the depth the seed should be sown. It also showed the earliest and latest dates the different kinds of vegetables could safely be planted. Some of our gardeners secured practically two crops off the lots by using this information. This was a great help to the amateur gardeners, and these instructions should be secured by all Societies. Some old farmers asked for copies of them. This information was secured from Mr. Neilson when he was giving our Horticultural Society a lantern lecture on backyard gardening. We got some other very valuable information from him which we were careful to impart to our different gardeners throughout the season.

The year before nearly all the beans that our Vacant Lot gardeners tried to grow were badly injured by rust. This, Mr. Neilson told us, was on account of our hoeing them early in the morning when there was a heavy dew on them. This was good news to those who were early risers only because they were trying to garden, but the information proved valuable, and very little trouble from rust (although we have had a very wet season) was reported this year.

The valuation of our crop this year, from a close estimate, shows about \$4,200 as against \$2,000 for the previous year.

What I would like to have given the Association this year regarding vacant lot gardening was a comparative statement showing what Vacant Lot Gardeners produced during the year 1918 as compared with 1917.

Nothing succeeds like success, and the certain knowledge that we are making progress from year to year, which a comparative statement would give us. We have a statement in the Annual Report of Horticultural Societies of receipts and expenditures, throughout the Province, also showing the number of members in each Society. We see from that Report how each Society is increasing its expenditure over the year before, and if its membership is increasing or decreasing. In looking over this statement we see the wonderful progress made by St.

Thomas, Chatham, Brantford, Guelph, and other places, and we ask ourselves, "How do they do it?" and in some way we find out, and make an effort to get close to their figures. We notice in the Report that in 1917 only one Society reached the \$800 maximum grant from the Government, while in 1918, four Societies received it, and several other Societies came close to earning the maximum grant. If we had a column showing value of "Production" of vacant lots, and in our Annual Statement had we to show what was produced from vacant lots, we would see what other Societies were doing and if they were doing very much better than our own. We would also find out how and in what way they were able to accomplish so much, and in a short time we would learn how, and no doubt many Societies would put forth greater efforts in vacant lot garden-



Gordon Galbraith, Newtonbrook, first prize, Thornhill vegetable garden competition.

ing, both by the grown-ups and by the children. I believe it should be the aim of the Horticultural Association of the Province to try and secure figures from the different Societies, each year, so that the desired comparative statement might be forthcoming in the near future.

To encourage Vacant Lot gardening among the children, we offered several cash prizes for each school, for certain named kinds of vegetables which seemed better than not to name the kinds, and we had a splendid display, with very keen competition, and the children are looking forward with great interest, and already planning, their next year's work.

A little girl said, "The war is over and Charlie (her brother) will be home before spring, and I am sure he will help me to have a good garden next year." When I heard this remark, I felt more than repaid for any work that I had done to secure the competition for the children of the different schools in our town.

The greatest and most terrible war that the world has ever seen, is over, and

many of the gallant fathers and brothers of the children will be home and not know what to do with themselves, in fact, be lost and dazed on account of the strenuous and terrible strain they have been through at the battle front. What would soothe, and help them to forget the distracting memories of what they had been through more than that their young sons or daughters, or little brothers or sisters should come to them and say, "Won't you come out and help me with my garden? I want to win the prizes offered by the Horticultural Society."

Gardening among the children of the different schools is an important part of our work that should not be neglected, and our efforts in this direction should be greatly increased.

I intend offering prizes to the children of returned soldiers who may have the best gardens next year, and do all I can to get them interested in garden work.

We found this year that by using the vacant lots as gardens we obliterated many unsightly spots, and turned them into valuable and pretty places and it prevented the growing of weeds that scattered their seeds into well kept gardens where work was hindered and increased by the production of these flying seeds. Lots that were dumping grounds for tin cans and all sorts of rubbish were cleaned up and made to produce. In a short time we could make these producing lots pretty as well as valuable with flower beds among the garden plots; we can do very much more in this line and greatly improve the vacant lots.

The work that can be done to clean up and beautify vacant lots through the efforts of the Horticultural Societies should impress upon us the importance of having a column in our annual statement which would make this work necessary to Horticultural Societies in securing their Government grant, and the value of this work could be considered by the powers that be from time to time.

Vacant lots not tilled and any lots which the owners refuse to till or hand over to the Horticultural Society, should be looked after by the Municipal Councils, the weeds cut, and the cost of doing the cleaning charged against the lot. Pastures that are unsightly should not be allowed within certain limits of any city, town or village.

If Horticultural Societies would endeavor to work with the Municipal Councils and get them interested in their work, especially in respect to vacant lots, parks and boulevards, they would be able to accomplish a great amount of work that could not be done without securing the hearty co-operation of the Municipal Councils.

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## WHAT OTTAWA DID IN WAR GARDENS.

S. SIMPSON, OTTAWA.

**EXTENT OF THE WORK.** Intensive war garden effort was taken up by the Ottawa Horticultural Society in 1917. In that year figures compiled by the President of the Society and the Secretary of the Vacant Lot Association show that over 200 acres of land were put to war garden uses, and a total crop yield, above previous years, of over 75,000 bushels of garden produce was the result. In 1918 the crop total reached over 100,000 bushels of garden produce, the backyard gardens producing about one-half of this and the vacant lot areas the remainder.

**ORIGIN OF THE WORK.** The Horticultural Society was extremely active for several years in war garden effort and distributed free seeds in special cases, considerable prize money for war gardens, and undertook extensive propaganda

which consisted in lecture courses and special illustrated lectures in various parts of the city, as well as practical demonstrations during the summer.

To enlarge the sphere of its vacant lot work the Horticultural Society, in 1917, decided to organize a separate vacant lot association, which, to quote from the first Report of the Association, had its birth as follows: "From the initiative of the Ottawa Horticultural Society, whose interest in the general improvement and welfare of Ottawa is unflinching, a meeting of interested citizens was held on March 16th, 1917, when the formation of the Association was determined."

**SOURCE OF LAND AND SIZE OF LOTS.** The Society advertised its needs for idle land through the local press and met with generous offers. It accepted only large areas and such small city lots as could be easily plowed. The land was scattered all over the city and consisted of about sixty or seventy parcels of land, averaging from one-half to seventeen acres in extent. The standard size of the lot was twenty-five by one hundred feet. Although several made application for more than one lot, only in a few cases could the additional assignation be made, owing to the fact that more applications were received for lots than the Association was able to fill.

**MANURE.** The manure was, in some cases purchased, but in most cases granted free by the city. Only such areas as were badly in need of manure received it the first year. The manure was found to be a costly business, owing to the expense of haulage more than to the actual cost of the manure.

**PREPARATION OF THE LAND.** The land was plowed and harrowed. In all cases it was disk-harrowed and in some cases the spike-tooth harrow was used in addition. The plowing was done in the spring the first year, from necessity, and by teams hired by the day. In 1918, the Association fall-plowed about one-half of its land. The cost of preparing the land averaged about \$10 per acre. The lots were free the first year, but in 1918 a charge of \$1 was made for each lot to help defray expenses of manure, etc. In some cases also an additional charge was made for the manure.

**MANAGEMENT.** The management of the Association was under the direct charge of a Board of Management, which assigned the work to committees, as follows: Finance Committee, Printing and Publicity Committee, Allotment Committee, Farms and Gardens Committee. The Finance Committee collected the funds, the Printing and Publicity Committee had charge of the work of publicity, the Allotment Committee took charge of the laying out of the areas and assigning the lots, and the Farms and Gardens Committee took charge of the practical work of handling the lots. The Association engaged the services of one Superintendent, who was the only paid official.

**RESULTS.** The result in the improvement of the appearance of the idle land of the city was remarkable. The lot holders, in all cases, appeared to be extremely satisfied with their efforts, while the financial results, as stated on the covers of the Annual Report of the Association, are as follows:

1917		1918	
Expenditure .....	\$2,400 00	Expenditure .....	\$3,500 00
Return .....	26,000 00	Return .....	55,000 00

Number of plot holders in 1917, 1,200: number of plot holders in 1918, 2,130.

## ALLOTMENTS AND HOME GARDENS.

MRS. R. B. POTTS, HAMILTON.

The conclusion arrived at, when considering this theme which has been assigned to me, is that the "Home Garden" part refers more to this work when organized into what is known as "Community Gardening," than separate, individual "home gardens" with their admittedly important interests, and, as I understand the matter, to best cover the ground, a sketch of some community club, if drawn, would be the most effective method to adopt, and since there are several with which I am familiar, one of these will be taken as the basis of this part of my assignment, because there are many sections of our country in which problems similar to those the leaders of this particular community club had to meet, are still to be found, and the results attained by the leaders referred to will help, it is hoped, to inspire any one seeking to undertake a like activity.

Several years ago a young lady—who because she shuns publicity will remain unnamed, though deserving recognition because of the work she has accomplished—removed from one section of a city to a part just outside that city's limits, and here found conditions which were to her deplorable. At first she attempted only to interest some of the residents in "a clean-up" but after a season's work so little *appeared* accomplished, and the problems confronting loomed so overwhelmingly large, a nearby Horticultural Society was appealed to, in the hope that while it was not so well known as an active force, which might have been expected of it after many years of existence it might nevertheless be a force of greater power than it was thought to be. The appeal did not fall on deaf ears, and a tour of inspection was made, which resulted in three impressions being left on the visitor's mind. 1st, how near to a Shackville state a section fringing a piece of the best residential parts can be; 2nd, how long does it take for Shackville to change to Slumville; and 3rd, how brave was the young lady who had attempted to tackle unassisted the numerous problems which were confronting one in an attempt to remedy evils then but too apparent. That it had to be a work of slow and tedious growth was but too evident to any experienced eye. That it would have to be treated indeed much as a hypochondriac would require to be scemed but too probable, and the choice of "ways and means" to effect a cure was limited in the extreme. With this diagnosis of the case the first thing necessary was to arrive at a plan—a definite one—as to the cure, and then set about administering the treatment. Here let me say that probably the homeopathic system had better be selected, at least at first, with the majority of cases; though there are times when it is well to be an "eclectic"—the "ease" must be the guide in this matter. In the one referred to the treatment has been largely "homeopathic" throughout, and has been most successful since a healthy condition is to be found now, which was hardly hoped for in the time which has passed since the diagnosis was made, considering the chronic state of the case. From the small beginnings at the "clean-up" there came an attempt to encourage the growth of flowers. Here, let me add, is a most excellent opening for the surplus from generously-minded horticulturists' gardens, for all can be used to great advantage. The best method is to start with the children in the section chosen, giving them presents of baskets of these surplus plants, often otherwise thrown on the rubbish pile and instructing the recipient in making the beds, and planting the plants, and generally gathering the children to look on one as their confidential advisor. If possible, gain an entry to help supervise the making of the beds



and borders, for information is very badly needed as a rule. After that, continued interest must be shown in the progress of the gift-plants, and soon after this visits to "see" will be in order, for by this time the adults of the family will have been won. Then be sure to follow up with more gift plants to cause more space to be cleared for growing things. Following this the next stage is a very modest competition, *with rules*, certainly, but these so elastic at first that one scarcely feels the drawing of the cords, as they are more "cords of love" than anything else, because, in such undertakings as this I am picturing for you, the "humanity" spirit must predominate. From visiting and awarding more material the street competition follows in natural sequence, and from this to the organization of the community club for a limited section comes as naturally as to breathe. If it is possible to organize or encourage the organization of a sister community club not very distant much is gained, because the one can be pitted against the other, and become "an inspiration each to the other." Personally, after years of thus working with community centres, I favor small sections thus set apart, as the work at best—until all is running like well ordered machinery—is very hard on the leaders, who probably have to learn as they go, and so like the garden space should not be of greater extent than can be reasonably covered. The financial side is always a matter of deep concern to workers, since it is not possible in 95 per cent. of the cases to derive from the people themselves a revenue sufficient to pay expenses, to say nothing of allowing for awards, etc., but if there is a wide awake Horticultural Society nearby, there should be no difficulty in securing co-operation, and having the financial matter carried by their aid until the community becomes self-reliant, and this is something which should be striven for from the beginning—never out of mind—because it is essential to the ultimate success of the work in hand. Much depends on those who compose the sections undertaken, as to how quickly other phases of the work can be introduced, and different competitions wedged in, in order to awaken new interests, as well as spell progress for the old. In the community I have in mind, while the beginnings were admittedly not promising, many new lines have been undertaken in an incredibly short time, including street competition, weed campaign, birdhouse competition, and a tussock moth campaign, which ended in a bonfire of the cocoons to the delight of the young workers, and, by the way, these children were rewarded by having seeds given them for their prizes, thus helping their war-garden work, and besides this helping to prepare them for the annual exhibition which is now an established fact in that section. Other ends were accomplished, for the winners had an increased interest in those seeds and their results when gardening time came.

One thing which this little band of leaders does might be copied by others (for this leader has succeeded in gathering a nice little support of interested helpers) for the workers to meet and consider the small details connected with all parts of their activities. Someone asks a question about something not understood, and this is noted, and, if an answer cannot be given at the time, it is sought for and later handed on to the questioner. This gives a clue to the working staff which they heed, and if it is possible to hold a meeting and have a speaker these questions will be forthcoming for the benefit of others. This custom prevails in connection with the annual show, and those representatives from the horticultural or other organizations assisting, are asked to explain certain garden difficulties which have been noted, or state why the judges made the awards they did in certain cases, when to the ordinary untrained observer other exhibits appeared better. Instruction is thus "sugar-coated" for the patients, and if a



Instructing young gardeners in sowing the seed.

bit of "surgical work" must be done the opportunity is thus afforded, and a healthier state results in consequence.

How does this affect Horticultural Societies apart from the privilege of being co-operators? From personal experience I can say that each year finds recruits for the membership of the Society of persons, who, had it not been for this community home garden organization, would probably never have dreamed of entering the ranks of the larger organization. It is quite true that this is brought about sometimes by making some of the prize money won by progressive community workers the equivalent of paid memberships in the Horticultural Society, but once there, if the Horticultural Society is really interested in the community welfare, it should not be hard to retain the community workers in the Horticultural membership. Sometimes, if the section is a very poor one, after a member's year has expired the membership drops, because even the \$1 membership fee in the Horticultural Society is a burden in some cases, and this must not be ignored or scoffed at, for it is too real, unfortunately, unpleasant as this sound in this bounteous land of ours. We must also admit that every town and village have sections which are not a credit to it, and here is one way of accomplishing results if *willing* is substituted for *wishing*.

That it means work, and much work, and often more work is true, but of such value are the results that the very difficulties only bring more joy of achievement. So much for the "home gardens" in this community centre since it can be stated that from "no gardens" a short time ago over 100 producing ones have evolved, and these are visited for inspection and judged by members of the Horticultural Society who are assigned to this duty, and the reports that they give, together with the display at the annual exhibition, would lead the most sceptical to take heart and confess that the seemingly impossible was only so after all, and that what was accomplished—often with difficulty, it is granted—in this section can be done in many others, and let us hope will be undertaken there for there are so many places needing just this "helping hand" treatment to make our towns and cities—yes, and villages—the credit they should be to us with all our privileges in this fair Canada of ours.

The old saying is that "a penny saved is a penny earned," and not a few to-day can testify that the land used by them for vegetable growing while allowing for a better meal than otherwise would have been possible meant an addition to the income when the crops were estimated in dollars and cents. Think in view of last season's market prices what it would mean in some sections if 200 children brought in from their plots even 10 or 15 cents worth of vegetables per day for the home table.

It must not be forgotten, however, that not "all backyards" or land connected with residences could wisely be used as vegetable gardens, and more, not all residences have ground to utilize. Take this illustration—one not hard to duplicate unfortunately. A man had a lot, not in the centre of city either, with 60 ft. frontage and depth of 200 ft. He first ran a lane of 30 feet to the back of the lot, and after adding some ground from his own yard, on the 30 feet left proceeded to build, and the result was 7 houses on 91 feet. On the remaining 30 by 109 feet an apartment place was built, so the only unbuilt part was that lane. There was not much chance for home garden for the occupants of these buildings, as can be readily seen, and it is in such instances as this that the value of allotments will be evidenced.

What is an allotment? Sections of land, in small pieces, suitable for culture, and of special benefit in either rural or urban districts where the gardens attached

to the dwellings are small or unsuitable for cropping, is about the nearest definition possible.

To understand the movement properly, it is well to consider the history of the allotments in the Motherland, and this can be gleaned from garden literature, and other works. Having gleaned bits of the history for some years, it may be well to record the findings in order to aid those who have not the time for this research work.

In an article written in 1909 a writer states "There is no more remarkable phenomén of our time than the outburst of popular demand for a bit of land. It is impossible to follow the course of the public discussion in the press, in Parliament, and at public gatherings without seeing that this is the one popular cry which is generally insistent, intense, and favored by all parties. "Allotments for the people" have rival societies to promote them. Garden Cities, Garden Suburbs, Garden Homes are being talked about on all hands, and efforts to promote them are seen everywhere; the popularity of the cry distinguishes the movement. The cry will not pass away. It will become more urgent and general. It is a mistake to preach up country life as offering equal opportunities for earning wealth and incomes. The nearer men come together for business purposes the easier it is to make money. The economic advantages of crowded centres of population are very great indeed."

Men seek material advantages too readily, and without balancing the most important of other considerations, and so we crowd together to secure gains which proximity of intercourse brings, and never think of the curtailment of opportunities for health, and exercise; the lost chances of joyous open air recreation, but find out by slow and painful experience how health, strength, vigor, and the joy of life are being sacrificed on the shrine of wealth-winning. We awake at length to the fact that it is possible to sacrifice life for a living. The awakening has come, and means must be found to satisfy the longing of townspeople for relief from the evils of overcrowding we have brought upon ourselves in our too inconsiderate pursuit of wealth. Goldsmith wrote:

"A time there was, ere England's grief began,  
When every rood of ground maintained a man."

About the 15th century these words were not so descriptive of conditions as previously, and from this time on there might have been said to be a continuous separating of the mass of the people from the land. Each cottager, before the rise of modern industrial life, and the numerous Inclosure Acts of 17th, 18th and 19th centuries, cultivated his own small parcel of land, and with this he also had the right to turn out his cattle, swine or geese to graze on common land. However, one Inclosure Act followed another until as much as seven million acres of common land were inclosed and this between 1760 and 1867.

As grazing rights were thus taken from them, the cottagers had to be compensated in some way, and hence many of the Acts provided that a gardening space should be reserved. Whatever the Act may have reserved for the benefit of the cottagers it is a fact that between 1845 and 1867 at least half a million acres were inclosed and only 2,119 acres set aside for cottagers' gardens.

Carefully consider this fact, and then recall that this was followed by a drift to the cities and towns, where greater wage earning opportunities, higher wages, and less monotonous existence were offered, and it is easy to see why it was stated that "this lure of the towns with their greater opportunities, began to show a marked effect on the rural sections, and there was a rapid decline in

the agricultural population." so much so that in the 19th century the policy was to endeavor to find ways to check the ever increasing tide of humanity flowing steadily toward urban centres, and Acts providing for small holdings became about as numerous as the preceding Inclosure Acts, for it was thus hoped to induce the agricultural laborer to remain on the land. Landlords at the same time discovered that small holdings were very profitable things, and that "the fork and spade husbandry" as it was termed, was more effective than the plow.

The first Acts were passed in 1819 and 1831, then the series which followed these were consolidated in the Small Holdings and Allotments Act, 1908.

In 1894 there was what was known as "The Parish Councils Act" and this gave a great stimulus to conditions, for during the first four years of its working, it was found that about 15,000 acres has been allotted to 32,000 tenants.

In the matter of allotments one thing must be kept constantly in mind, viz., that the size should not exceed the ability of the gardener to cultivate in his spare time; and the size favored seems to be one-quarter acre. The plots are held on a yearly tenancy, and hence it is not deemed wise for holders to expend much for sheds, etc., for any building on the lot if it interfered with the sun's light is deemed a great disadvantage and objection is made to it. An eighth of an acre was deemed a good average size for an allotment, and there are circumstances which led to a demand for smaller plots, though larger ones are not as a rule deemed advisable, upon the ground that a man following his regular occupation all day could hardly be in a physical condition "to keep more than 20 rods clean and well cropped." The term "small holding" is applied when the allotment is an agricultural one of from 1 to 50 acres.

So much for the story of Allotments. Here in Canada land was so plentiful, it was not considered of great value until the acute food problem presented itself, and people hastened to assist in the solution. Then land problems cropped up in profusion, and those undertaking to operate the "vacant lot gardening" had experiences of this.

Passing over those which must be familiar to most horticultural officers, there is one feature clear to a careful student of "best ways and means" and that is that where it is necessary to awaken and nurture interest, the sections which had organized community centres, and established that desirable *esprit de corps* attained a higher degree of success than the others who ignored this essential feature. By creating a Community Club it is possible to open "a centre" where those needing instruction, and co-operative aid in various lines can come, for people will come together in their own neighborhoods who will not attempt to go beyond a certain radius no matter how advantageous it might be for them to do so, and the friendly rivalry which can be cultivated in this way is of inestimable value. A community exchange is also possible so that the deficiency in one garden can be supplied from the surplus of another, the leader being the agent of exchange, and thus waste, now too frequent, is avoided.

To Horticultural Societies there are endless open doors of usefulness, and hundreds of hands stretched out asking help before the "slough of despond" is reached, if only the scales could be taken off from our eyes that we might see these.

Co-operation is the real secret of success in both of these lines of work, whether in the individual's home-grounds, or in lots prepared and set apart, and organization of some sort there must be, if the best is to be attained. George Eliot asked "What are we here for if it is not to make life less difficult to each other?" And in the community or allotment work it is well to recall another of her sayings, viz., "You must learn to deal with the odd and even in life as well

as in figures," for much of the "odd" has to be dealt with, and it is worth giving careful consideration to.

To anyone who would attempt this important line of activity it is most heartily commended, and with this remember George Eliot's words "The blessed work of helping the world forward happily does not wait to be done by perfect men," and Burton's statement "Experience shows that success is less due to ability than to zeal. The winner is he who gives himself to his work, body and soul."

MR. T. L. MOFFAT, president of the Weston Vacant Lot Gardening Club, gave some valuable ideas based on the Club's first year's experience in 1918. Manure was brought in by the carload and sold to the gardeners and plowing and harrowing done at cost and seed potatoes were also sold to them at what they actually cost to be laid down in Weston.

PROF. MACOUN: I have been closely associated with a scheme in Ottawa for the past four seasons where a piece of church property had been cultivated for the purpose of war gardening. In asking for a decision from the various workers of the past years of these plots for the coming season, 130 had replied they wished to go on, and only three stated they were unwilling to prosecute the work.

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## THE JUVENILE COMMUNITY GARDEN.

REV. W. M. MCKAY, WESTON.

Of the army of a hundred and fifty Weston children who had juvenile gardens for the year 1918, twenty-four belonged to the community garden. Of this number, eleven were girls and thirteen were boys, aged from ten to fifteen years—all volunteers from the public and separate schools of the town.

A half acre centrally located was selected by the committee in charge and carefully planned so as to allow a plot twenty feet by thirty feet for each member besides necessary roadways and dividing paths. These plots were staked and allotted by the committee, following which a court of revision was held so that all might be satisfied with the allotments. The committee also had the garden manured, plowed and harrowed and also insisted in ridding the ground of twitch grass. The Town Council placed hydrants through the grounds free of charge and loaned a large locker for garden tools and equipment. The Weston Horticultural Society, of which this is a department, financed the undertaking, paying for seeds and other necessities.

The work fell naturally under two heads, class work and field work. The former was carried on either in a class room or on the grounds when instruction would be given. Drawing plans of the whole garden and of each one's own plot, studying how to produce an effective and attractive uniformity and still allow some latitude for individual work, when and how to prepare the soil, when and how to plant, how and where to place each row. How and when to cultivate and water and weed and thin and prune and spray and later to harvest and market—these were some of the curricula for class work which in turn preceded the field work. Each member was required to keep a diary for the season's work, a premium being set on this phase of the work. Classes in the school room lasted twenty minutes, classes on the grounds ten minutes preceding field work. Field classes were held, as a rule, Tuesday evening and Saturday morning.

Usually the members of the garden came early and had their Union Jacks floating from the initial green and white stake at the north-east corner of their plots. The general garden flags with the individual garden flags were always at full mast during field work. Promptly at the hour appointed for the class the whistle would blow and the class come to attention, after which work would begin and last for one hour. A bulletin board assisted in keeping dilatory ones up with their work. To keep in the running, unfinished work had to be caught up with between classes and promptness figured largely in class standing.

A record was kept of the class and field work from week to week throughout the season and a well understood proficiency standard was kept before the community from the beginning of the season's activities to the end, in accordance



Healthful employment.

with which the prizes were eventually awarded. This standard was arranged as follows:

- Attendance
- Promptness
- General discipline
- Honor
- Industry
- Various tests
- Diary
- Monthly judging of gardens by different pairs of judges
- Final judging by members of the Ontario Horticultural Association
- Amount of produce marketed
- Bonuses

The results of the season's activities were on the whole satisfactory for a beginning. For the greater part of the time the children kept the garden looking attractive and succeeded in converting many critically inclined people to their side. The children themselves were proud of their achievements, and requested that they be allowed to resume activities next year, which to the committee was the best proof of its success. The Ontario Horticultural Association's President who was a frequent visitor, also pronounced it a success. A careful estimate

placed the net returns at \$156, or \$6.50 per garden plot. This means when figured out \$435. Fifteen collections out of twenty-four plots were placed on exhibition and twenty-five dollars in prize money given to the successful exhibitors. Some fourteen out of twenty-four succeeded in attaining the general efficiency standard. The Town Council opened up a town market and the children's produce was the first to open the market for business.

Among the many problems which the year has brought to notice in juvenile community garden work, a few may be mentioned. Necessary grading—every town should have at least a beginners' community garden, one for intermediates and a senior garden. In the second place, I should mention proper supervision; during field work there should be a supervisor over every four beginners, one over six intermediates, and one over every eight seniors, all acting under the general supervisor. In the third place I should mention the problem of marketing. Early in the season this should be well planned and settled upon. In the fourth place, there is the problem of banking. Every child should be taught to use the bank. Lastly, play hours should not be forgotten. Arrangements should be made whereby the children could be taken on excursions to other gardens, greenhouses, model farms, etc.

The Committee strongly recommends that the Ontario Horticultural Association establish a general efficiency standard for the Province and that Provincial diplomas be forthcoming for all pupils achieving such standard.

I believe that the signs of the times point to a greater activity in productive industries and especially those relating to the soil. We see to-day the very foundations of our communities shaken, and in many parts of the world even these foundations are in ruins. We all feel the need of some remedy which will secure for us and for all a condition of peace and good will among men. I submit that all problems such as those of capital and labor, production, distribution and consumption, forms of government, the discovery, interpretation and enforcement of law, taxation, health and sanitation, etc.—problems which are the disturbing and destroying forces of to-day, because wrongly conceived, which if properly understood and sanely administered would result in a condition of peace and goodwill, not merely spiritually but also industrially, domestically and socially. I further submit that the juvenile community offers the best—nay, the only opportunity in which the seeds of his higher and happier order of living and thinking can be made to germinate, to grow and to blossom and to bear fruit, for how can a man be born again socially, industrially or domestically when he is old. I look confidently to the time when the equipment of our public schools shall not merely be a well heated, well lighted and well ventiated building with comfortable seats, and blackboard and pictures, etc., all of which are essential, but will also include according to conditions, a juvenile community garden, a juvenile community factory, a juvenile community laboratory, etc., not merely as ends in themselves, but as means to educate the children of to-day sanely and intelligently in the fundamental problems which make for higher citizenship so that they may become the men and women of a to-morrow whose prevailing spirit is that of peace and goodwill. Until this goal is reached we shall not exhaust the possibilities of educational statesmanship.

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## SCHOOL GARDENS.

J. A. TAYLOR, ST. THOMAS.

I anticipated that the preceding lectures would be along the line you have listened to this afternoon, and at the expense of avoiding repetition, I thought that perhaps I would not be committing an unpardonable sin if I were to urge the advisability upon the representatives from the different communities to see to it that school gardens and community gardens are established in connection with their schools, and if you will bear with me I will be very brief in my reasons for advocating same.

The question of food determines the destiny of any people. The struggle for existence is largely a question of food. The very question of civilization itself hinges on the necessities of life. The war was brought to a successful termination through the absence of food and it is very difficult for anyone to stand before you and tell you what might have been the fate of civilization and humanity had this not been the case. We know that Germany was forced to capitulate through the efforts of the British fleet in stopping the trade routes to Germany.

The soil of St. Thomas is fairly fertile. It lends itself admirably to the multiplication of school gardens. The people of St. Thomas are a fairly well-to-do class that live not in apartments or flats but nearly every person owns his own home. There is an abundance of land for vegetable growing. We recognized this year the great economic value that attached to the cultivation of vacant lots and backyard gardens. The industrial opportunities in the City of St. Thomas for school children are very few. We have observed that in this city, idleness is the cause of the greatest number of Juvenile Court cases, and probably in speaking for St. Thomas I am speaking for all cities equal in population. It is also noticeable that most cases of juvenile crime attach to children of twelve years. We know that this is the age of the child when its activities lend itself most favorably to the cultivation of gardens. Children leave school at fourteen years of age, either through financial distress or economic conditions. We are satisfied that many of them could continue at school were gardens more generally cultivated. Many a child who is walking the streets of St. Thomas to-day, and other cities as well, would be able to continue his school life if sufficient provision could be grown on his lot.

Living in St. Thomas is perhaps no more expensive than at other centres. Vegetables are relatively dear, and that is one reason why there has been such an untiring effort to induce the people to cultivate their own gardens.

For the boys of St. Thomas, like the boys of other community centres, there is no such thing as home work. That is one of the perils of the rising generation. What is going to be the future of the products of the schools, when the boys are allowed, as they are, to grow up without the slightest opportunity of any kind to work. In the days when you and I went to school we had our chores to do. The average city boy now has no chores. We had to saw the wood, split and pile it, carry it in and carry out the ashes: to-day we have the furnace in the basement and the ashes are left for the ash man in the spring. In our day we had to go to the post office, at least, for the mail: now we have the street delivery. We had to go to the grocery stores to get the groceries: we now have the telephone and the grocery delivery. In our youth time we at least had to go out to the well to carry in a pail of water; to-day we go to the pantry and turn on the tap. So the problem of bringing up children in a city is a serious one.

In St. Thomas we have a very live Horticultural Society. It is a Society that I believe is known from the waters of the Atlantic to the waves of the Pacific, and from the icebergs of the north to the warm waters of the Gulf of Mexico. The centre, the radius and circumference of that Horticultural Society hinges and rotates around the President, Dr. Bennett. He is an asset of St. Thomas and one the city could not replace. Having thrown his entire energy, his great skill, his enthusiasm into the building up of the Horticultural Society of which we are so proud, he directed his energies to the cultivation of school gardens and from them to the cultivation of the vacant lot and backyard garden.

The idea that we in St. Thomas have is one you entertain. It is the same idea voiced by the Superintendent to-day that environment plays a tremendous factor in human history. I had the pleasure last year of inviting your attention to the reading of Gerard's book, "My Four Years in Germany." They are trying to-day around the peace table to locate the personal responsibility for the past titanic struggle. Gerard tells us that the great cause of the war is that the children of Prussia are not provided with enough sunshine. As you know Prussia borders on the Baltic Sea. The prevailing wind there is cold, there is so much aqueous vapor that there is very little sunlight, and, as a result, the children of Prussia are reared in so much darkness that the very milk of human kindness is curdled, the refining influence of flowers is absent, and that accounts for the unspeakable tragedies and brutal atrocities of the Germans during the struggle which has just been ended. Whether this is so I know not. Be it as it may, we all know that environment does play a great part in human history.

In St. Thomas we have made great efforts to beautify and make useful the waste places in the city.

School gardens give training to children in soil cultivation, teach the economic value of such cultivation, and make gardening profitable and pleasurable.

St. Thomas, I might remind you with pardonable pride, is, I believe, the only city in the Province of Ontario, or for that matter, in the Dominion of Canada, that has schools in everyone of which scientific advanced instruction is given in gardening by teachers specially prepared at Guelph Agricultural College. We have no fewer than seven schools in the City of St. Thomas, including the Collegiate Institute. In each one of these we have a teacher who looks after the teaching of Gardening and Agriculture, and has been trained at the Guelph Agricultural College. No fewer than 1,200 pupils in the City of St. Thomas during this past term got advanced scientific instruction in agriculture. It was so eminently successful that I have no apologies to offer in appearing before you to-day and asking those of you who have not yet established in your communities school gardens, to be untiring in your endeavors and to be ungrudging in your activities, to see that these gardens are established in connection with your public schools. I can thoroughly and heartily recommend them to you.

Last year the weather was very unfavorable as you know. We had alternately dry and wet weather. We restricted ourselves to the growing of potatoes, cabbages, lettuce and tomatoes. The crop was but partially successful, but as the previous speaker has said we embarked on the undertaking so late in the season that we had no time to have the land properly plowed. The St. Thomas Horticultural Society would recommend as strongly as I can put it into words, that all those present who have not yet established gardens, do so for the following reasons:

(1) Because they promote community improvement.

(2) They embellish repugnant looking backyards and cultivate unsightly waste land.

(3) They awaken and stimulate the aesthetic side of human character and improve the general appearance of the city.

We would also direct your attention to the fact that these gardens are only a partial compensation for the dreadful carnage and appalling devastation of the war. We know that the soldiers who are returning have a right to see something different from what they had in the war zone. There they saw nothing but devastation and ruin. They heard nothing but the shrieks of the wounded, and the groans of the dying. They saw death in its most repulsive and most repugnant form and it is our duty to see that these soldiers when they return will behold something different to what they did on the battlefields of Europe. We cannot expect that any person who has been in the battlefield for three or four years will come back and take his place in civil life and civilized society instantaneously. Civilian absorption takes time. I know of nothing that will



Children's Exhibit, Waterloo Horticultural Society.

bring these men back to organized civilized society so quickly as the sight of beautiful flowers and the multiplication of gardens. I know nothing that will repatriate men so quickly as these two things.

School gardens also contribute to national prosperity. We know that the cost of vegetables is exceedingly high. It is nothing but right that the children should be taught to play their part in national prosperity.

Moreover, their examples are contagious. They spread to the cultivation of backyard gardens. The public school is the first line of defence, and the battles of to-morrow are being won in the schools of to-day. The children who are instructed are the trustees of posterity, and will be the defenders of future civilization. If we closed up the public schools of the country for but eight years, there would be safety for neither life nor property. Bolshevism would reign in this country as anarchy reigns in Russia to-day, and the only safety we have for the maintenance of law and the sovereignty of our Constitution is the development of the intellect of our rising generation.

We know that boys are bundles of activity, and this activity should be

intelligently directed. The garden furnishes the opportunity. There is no country to-day—unless it be, perhaps, the United States—where the people are so extravagant as we are. The Government is now circularizing the communities to teach the problem of thrift to our children in the public schools, because they will be the future financiers of this country.

These gardens dignify labor; they teach industry; they teach that the child should contribute some service to his community and fatherland and above all they teach him to be patriotic to the highest interests of the land of his birth.

We have already learned that *there is* an increase in juvenile crime in other parts. I do not think we have this in St. Thomas. If the school gardens were made an integral part of every school we would be reasonably justified in looking in a very few years for a reduction of juvenile crime. Prisons emptied, police staffs reduced, pauperism abolished and fewer community parasites.

*Re its educational value:* It furnishes opportunity for observation and experimentation. It is a sad commentary on our schools that very little opportunity has been given to the children to develop the spirit of experimentation or cultivate the faculty of observation. We have very few Marconis and still fewer Edisons and Bells; may we not look for the reason in the very fact that our children have graduated from the public schools without having had any opportunity at all for experimenting and observation. In school gardens, opportunity is furnished to every child to develop a spirit of investigation.

Then, too, they furnish opportunity, as nothing else can, for the accuracy of observation. They constitute the outdoor laboratory for the study of physics, chemistry, botany, zoology and nature study. Excellent opportunities for training in practical arithmetic are furnished.

Occupations cease to be educative when they turn out to be profitable. A man working in a shop, as soon as he has learned the mastery of his occupation, makes no further progress. But for the child in the school garden, there is continual progress. Climatic conditions change, there may be too much or too little rain. We have more heat to contend with, or we have less heat. New problems arise continually. They give opportunities, as nothing can, for the formation of good habits. God pity the child who leaves the school to-day without having good habits impressed upon his mind. Someone has said, "Sow a thought and you reap an act; sow an act, and you reap a habit; sow a habit and you reap a character; sow a character and you reap a destiny; sow a destiny and you reap an eternity." And it also gives opportunity, as nothing else can, to teach a boy that as he sows, so shall he reap.

It establishes the intimate connection between cause and effect, and shows in practical circumstances the meaning of discipline of consequences. He is taught that he cannot gather figs off thorns nor grapes off thistles, and what a man sows that shall he also reap. The spirit of co-operation and team play so necessary in civic life are developed.

A chain is no stronger than its weakest link. By sacrifice and earnestness alone can efficiency be realized. The allied front, from the North Sea to Switzerland, was no stronger than its weakest trench.

In addition to establishing the necessity of working with nature and knowing her laws and phenomena it develops the spirit of ownership, the keenness of competition, and awakens and arouses ambition. To-day Russia and other countries are ripe with anarchy. That country alone is safe where the people own their property. A country is in constant peril where the spirit of ownerships is absent. We want to develop as much as we can in the minds of the rising generation the

spirit of ownership. We do not fear to-day Bolshevism or anarchy in this country, because eighty per cent. of the people own their own homes. Were we like Russia or Ireland, we would rise in the morning trembling, not knowing what the day was to bring forth. But on account of personal ownership in this country there is no fear of Bolshevism.

Let me also call to your attention the fact that it teaches one of the fundamental principles of civilization—that each child should contribute towards his own support. When this is thoroughly impressed on his mind there will be fewer human parasites in civilized society.

Reverence and modesty are taught, as no one, particularly a child in the formative years of his existence, can go into the garden and look at a beautiful flower, no matter of what kind, without having his whole character changed and destiny shaped. He sees what shadows we are and what shadows we pursue. He learns to look up through nature to nature's God. He sees in the seed he sows the promise of the resurrection and the emblem of immortality.

This Horticultural Association cannot be better employed than in calling the attention of the communities at home to the necessity and duty of looking after those children whose fathers now repose in France, and it seems to me that we have an obligation—not transferable of seeing that they are taught the fundamentals of education and the rudiments of making their own living. If, on returning, our Canadian soldiers find that you and I are just as selfish and indifferent and pleasure seeking as we were in the days when they left in 1914 to fight our battles, they can only have one conclusion, and that is that the boys who drenched the trenches with their blood did so in vain; or if on returning, they see that you and I take no more interest in their children than we did in the days before they left, if they find us sighing for the flesh pots of Egypt, their one conclusion can only be, that their sacrifices have been made for no purpose. No sacrifice on our part however great can discharge the debt we owe to the little child whose hero father sleeps beneath one of the crosses in France of the poppies in Flanders:

For how can man die better  
Than facing fearful odds,  
For the ashes of his fathers  
And the temples of his Gods.

## HOW TO FINANCE A HORTICULTURAL SOCIETY.

DR. F. E. BENNETT, ST. THOMAS.

The subject selected for me to deal with is as noted above, but may I be permitted to change the wording to "Things We do Which Bring Finances to Our Society." The secret of the whole situation could be summed up in two words, *make good*. Our experience in St. Thomas is that when tangible results are shown it is comparatively easy to get money for necessary expenditures. This may seem like the American maxim, "look prosperous if you want to be prosperous," and in a way it does apply to horticultural work. Well do I remember the first boulevard beds our Society planted on a prominent street paralleling an international railroad. This was some ten years ago. They were crude diamond shaped beds surrounded by wire netting for protection and labelled, "*Planted by the St. Thomas Horticultural Society. Kindly protect.*" But crude as they were,

they immediately won recognition in a most practical way—a large increase in membership. From that time on the boulevard beds have increased, until to-day nearly every street with a suitable boulevard for beds has its share of beauty spots. But let me assure you that protection for flower beds is not necessary; once the people of a community realize that the beds are planted there for their benefit they assume the position of protectors. As membership increased and finances increased proportionately, bigger problems were tackled and the more work done, the easier it was to get money.

In commencing this line of improvement I would start somewhere where it is easy to get quick results with minimum expenditure, a place where people will readily see the improvement on old conditions. Very few Societies are favored as the St. Thomas Society which receives several thousand plants yearly from the city's own greenhouses, but where plants have to be purchased it might be better to plant perennials or annuals which can be grown from seed at very small cost.

Gradually our work widened in its scope, and we began to make educational collections of rare shrubs, planting trees of perennials and roses and bulbs in our public works, at times making the planting a public affair or an historical event, such as planting a royal oak by His Excellency the Duke of Connaught some five years ago, and during the past season by His Excellency the Duke of Devonshire.

The educational collections consisted in part of 150 varieties of Irish roses, 125 varieties of tulips, 60 varieties of lilacs, 150 varieties of pæonies, and many other collections of note, part of these collections being donated by private citizens. Thousands of people visited these collections during the blooming season, and from the names which are attached select their favorites. This encourages them to grow only the best varieties in their own garden. Competition naturally springs up among local growers and through the generosity of a local merchant his beautiful store windows are at all times available to our members for display purposes. Every variety of flower shown is properly named and classified. This gradually leads to a great demand for the rarer, newer and better things whether in roses or gladioli or bulbs until to-day our purchasing power is as good and in some cases better than that of the large dealers. You will wonder why I say better. Take the case of a gladiolus grower for instance, one who hybridizes. He puts on the market a magnificent new variety say General Pershing or Giant White. He sends to the wholesale and retail dealers his offerings for the season. The buyer selects mixed Mrs. France's King, Glory of Holland, or a few other well known varieties and the same old list is offered year after year. He says he has not time to educate the customer up to a higher standard and here is where our society excels. Citing this year's offerings for example, over 70 varieties of the finest and newest creations of America's foremost hybridists of gladioli were purchased. The same thing can be said of roses, of pæonies, of tulips and other flowers and with these plants and bulbs bought in immense quantities at advantageous prices and given as options and sold to our members one does not wonder that with these splendid advantages a large membership is attained. In the sales a small profit is always made which increases our working capital. A well spent portion of this capital is devoted to daily advertising, daily change of advertisement, is made, one day appealing for members, another day describing an option, another advertising a lecture and so on. Experience has shown that publicity is the secret of success.

Believing as we do in the gospel of flowers we have tried to spread the message by out-of-town exhibits such as at Toronto Exhibition and London Fair in co-operating with nearby societies at their flower show, by assisting in organizing

other societies either personally, or by correspondence, until to-day practically every town or village in South-western Ontario boasts of a prosperous Society and naturally St. Thomas is referred to as the centre of things floral, and instead of being known as the railway city which might lead one to think of noise and smoke it is now better known as *the flower city* wherein it is good to live. We have the unanimous support of our City Council, Board of Trade, Trades and Labor Council, in fact, of every organization within our limits who believe in a prettier, healthier and better St. Thomas—support, too, of the practical kind, financial. Last year one improvement alone cost us \$2,000, that is the reclaiming of the waste area known as the M. C. R. Park. To-day it is a real park as you will see from these views. The M. C. R. donates \$500 per year towards its maintenance. To meet this and other heavy expenditures a subscription list was circulated and over \$1,000 was raised principally from private subscriptions of from five to twenty-five dollars. The City Council have gradually raised their annual donation from \$150 to \$1,000. Another important feature of our work that has made a host of friends is the distribution of bouquets to the hospitals, to churches and to prominent visitors, the bloom in winter being secured from the municipal greenhouse and in summer from planting of our own stock.

Street improvements in several instances have been aided considerably by our Society and property values in the immediate proximity have been very much enhanced. Conservation of street sweepings, leaves and stable manure is practiced by our Society and large piles are stored up each season to rot and be used either by our Society on public beds or sold to our members to aid in greater production with all the advantages offered to our members, and these advantages are ever increasing. Our membership has grown during the past ten years from 125 to as high as 1,425, but with the big drive planned for Jan. 27-31, a minimum membership of 3,000 is expected, and there is no reason why every Horticultural Society in Ontario could not do likewise. A few figures showing the chief items of receipts during 1918 might not be amiss: Legislative grants, \$800; City of St. Thomas grants in cash and flowers, \$1,000; M. C. R. grant, \$500; Board of Trade grant, \$100; sundry donations, \$730; membership fees, nearly \$1,000; sales of roses, bulbs, etc., \$3,364; and sundry other items, totalling \$8,200.

The principal disbursements were wages paid on upkeep of boulevard beds and park work \$3,065, for nursery stock, bulbs, duty and shipping thereon \$4,300, and with shows, periodicals, etc., totalling \$8,200.

I have tried to tell some of the things we have done that pleased the public who have shown their pleasure by giving unstintingly and as I said in the beginning the secret of it all is *making good*.

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## HORTICULTURAL SOCIETIES IN RURAL DISTRICTS.

V. A. SINCLAIR, M.L.A., TILLSONBURG.

It may appear rather a paradox that a lawyer should appear to represent the rural communities in a horticultural sense. But I have practised among farmers for over twenty years, and sometimes, perhaps, the man from outside has a truer vision of the requirements of a particular class than the class themselves. For instance, you send for a doctor to find out what is the matter with you instead of taking your own feelings as a guide.

It is a great pleasure for us horticulturists that we can once more think of flowers without having any reflections cast upon us that we are not paying any attention to the more important things, such as have engrossed us in the last four years. We have been just a little afraid to express ourselves along floricultural lines. We have devoted our energies more along greater production lines, and they have done their part in a good way. But I must confess myself that I am glad to be able to go back again to the growing of flowers without feeling that I have to apologize for doing it.

We should not have been ashamed of our love of flowers. There is no better welcome home that we can give to the boys than to show them that we have a country that is beautiful. The boys that are coming back are coming back different



Woodland Scene, Enniscclare.

from the boys who went away. These boys probably have seen some of the finest gardens in England and France—and there are no finer in the world—and they will come back with a broader vision of what gardens ought to be. We as horticulturists must live up to these visions of our soldier boys.

They are not the only ones in the community who will feel dissatisfied with present conditions. The farming community is also dissatisfied. You see the outgrowth of that in Farmers' Associations and various movements which are attracting a great deal of attention in various parts of the country at the present time. Various means are taken to try and meet them. The farmer thinks his life is one of the hardest, most disagreeable and monotonous, his work the least paid of any class in the community—in fact, what you might call an unlovely life. Now, that may be true in some ways, but there is help for this along the lines of making his life more lovely in external affairs at any rate. The Horticultural Society should play a very important part.



You know the Rural Community Movement which has been going on throughout the country in the last year or two, which is intended to give a community life to the farmer and to make his life a better and a broader life. Now we can implement that movement very extensively and very fully if we put our minds to it as Horticultural Societies. I cannot see why there should be any difference between our country and England, for instance. You know in going through England that the most beautiful part of it is the country, that the most attractive parts are the lanes and roads of old England with their hedges and parks, their beautiful lawns and flower gardens, and country life is in the old land considered the most desirable of all lives. The country gentleman is the man looked up to and whose life is most desired. The city man tries to have his home in the country, to be surrounded by country things.

We have just as good a climate, in fact better, because in England they have to grow their grapes and fruit under glass, while we can grow ours outside in profusion. There was a time in this country's history in the pioneer days when a farmer had to cut his way through the woods, and when he got home at night he did not care whether he had a front garden or anything else but bed, and about the only gardens in those days were a few geraniums in cracked pots that a few beauty-loving farmers' wives grew. But those days are past. It is not a lack of money or advantages that is keeping back the farmer from having beautiful surroundings. You know there are none at the present time in the community who are spending more money upon their buildings, their barns, improved machinery, installing all kinds of modern implements, everything of the kind which goes to make up the money-making section of the farm. In the County of Oxford, which we think is the banner district of the Province, the farmers are right up-to-date. They have model electric light plants costing \$400 and \$500 where they can't get the Hydro. No class is buying more freely of furniture, pianos and musical instruments. You see just as fine homes erected throughout the country as in the cities. But when you come to the external decorations there is something lacking, and it seems it is our place to try and help fill that. You will see a magnificent house with grass growing in tufts around it—a big place that might be a lawn—but absolutely no decoration of any kind. The house is not a home, simply a cold, uninviting house. Possibly the next farm may have a small cottage, with some pæonies and tulips in the spring, some climbing roses, hydrangeas, and so on, which make a home of the cottage.

When you consider the advantages which the people in the country have as compared with those in the town you wonder why that state of affairs should be, because in the town or city, in order to indulge our gardening hobby, we probably pay from \$500 to \$50,000 an acre, as the case may be, according to location. On the farm the best farming land probably does not sell for more than \$100 or \$125 an acre. There is an abundance of land. Every house in the country has sufficient land around it to make a garden. A farmer could have an acre or half an acre of garden and still have sufficient land to work for farm crops.

Then think of the difference in the soil. We in the towns and cities probably start to make our garden on the sand that we threw out of our basements when we built our houses, whereas on the farm the humus is gathered from farming operations for fifty or sixty years. In the city and town we are starved for fertilizer, whereas on the farm it is right at hand, the best in the world.

When you think of our stunted yards and think of the way the farmer's house is set back from the road perhaps 100 yards, you can just figure in your mind's eye how that place can be fixed up. How you could have a drive up

through stately spruce or flowering shrubs, or a walk of perennials, and you can see what a difference it would make to have that farm decorated as a man in the town would have it done.

The most profitable investment a farmer could make would be to decorate his farm and put it in proper condition to attract the eye. Possibly his soil may not be as productive as that of his neighbor, but I guarantee the man who has the attractive yard would have the first chance to sell.

Those are things which ought in some way to be drawn to the attention of the agricultural community. As a class they are rather suspicious of your trying to do them good. I have been at some meetings with the rural community movement, and I have found a great scarcity of farmers there. I found the town or village people where the meeting was being held came out and were interested, but you seldom found that the farmer was there. He will not be patronized. He feels he is as good as anyone in the community. And rightly so. So it is a thing that has to be handled with kid gloves. We have to meet the farmer and let him understand that our interest in helping him is genuine and not at all actuated from any desire to patronize.

To me it seems that one of the reasons for the scarcity of farm labor is the fact that the homes have not been as attractive in many cases as they should be. I don't believe you could drive a boy away from the attractive home if there is room for him to stay. I believe one of the best ways to keep the boys on the farm is to have attractive surroundings to the home. There are very few advantages that we have in the town that they can't have in the country. Electric light, nearly everything we can think of except the closer relationship we have in the cities and towns are there.

About suggestions as to how we can help. Horticultural Societies have not done their duty in respect to the farming community. There are 225,000 farmers in Ontario. It is not necessary to ask how many farmer members our Societies have. I don't know, but I would hazard the opinion that there are not 500 members in the 19,000 or 20,000 that we have. In St. Thomas, 80 per cent. of the farmers around St. Thomas, when asked, signified their willingness to join. So that if there is a willingness there, the trouble must be on our side in not getting in touch with them and trying to interest them in the work of the Societies in town. I know they are interested, as I have talked with them, and I know the farmers come in and make creditable exhibits at our exhibition. I have in mind a farmer on the Ingersoll Road who comes in and competes for our prizes, and he gets 99 out of 100, and you would pick out his farm as the best and finest on that road. The flowers in front and the buildings present an up-to-date appearance and attract anybody's eye. I have had farmers come in, many of them, to get tulip and other bulbs from the Horticultural Societies. I have never charged them more than members. I feel any kind of work we can do to cultivate a love of flowers is well repaid. I have had them come and ask what kinds of shrubs to put in. It is easy for us to put them right in this and show them where they can improve their farms at little expense and make a wonderful difference in their appearance.

We have not done that to the fullest extent to which we can go, and useful work can be done by every Horticultural Society with the farmers adjoining the towns, and if you once get the good work started it will continue to develop.

We should encourage, as a general body here and in local bodies, the organization of Farmers' Horticultural Societies. I had that object in view when I brought the Bill into the House and they now have the right to form a Horti-

cultural Society in a township with 25 members, and I had the pleasure of being present at the preliminary meeting of the only society formed under the amendment—South Norwich—just outside of our corporation.

The war has been somewhat of a damper on this work, but there is now no reason why every township should not have a Horticultural Society.

We have the Minister with us to-night and I would like to take the opportunity to say a few things that I think the Department might do. Ontario has an Agricultural College in which there are a great many professors, but so far as I know, there is not much attention paid to instructing the young farmers how to beautify their buildings. Every student should have a knowledge of this.

In Oxford and every other county there is a District Representative, and they come in touch with the farmers all over the country. We have a man in our county who is fond of flowers and who is prepared to help out in every particular. I think other representatives will probably be the same.

A letter from the Department asking those District Representatives to devote some attention to this subject would also do good.

There is at Guelph a landscape gardener, Mr. Tomlinson, who is also here to-night. I understand his work consists largely in making plans for public schools. His services could be more widely used among the farmers by preparing plans of ordinary farm premises which would be helpful in the general lay out of a garden and lawn, and his services could in that way be much more made use of throughout the farming community than they are. Model farms in the way of external decorations could be established in every community so that farmers could get an idea how to put their farm yards in a proper landscape condition, adding very much to country beauty. It would be of inestimable service to the community to have some man's farm laid out in this way.

I think also that the Department of Education could use their public schools for the purpose of helping in this work. In the Rural Community Movement it is expected that the school house will form the centre or the nucleus for the rural community life. I know they have their garden parties there throughout the summer, their school and political meetings, and it is in most communities the centre of that community. It seems to me that nothing is easier than to have the schools encouraged to put in a lawn, beautify their grounds, plant flowers and shrubs, and especially bulbs that will bloom in the spring and fall when the school is going on. If you get the schools, you get the young men and the girls who are willing to learn, and you start your movement in the right place.

The District Representative could also do much through the School Fairs, where the children are taught to grow grain and vegetables. Very little attention is given there to the growing of flowers, or the giving of prizes for sketches of home decoration. An immense amount can be done with the girls and boys in the rural communities in that way.

There is one other way, that is advertising. The Department can afford to spend some money for advertising through the Agricultural papers. We should have articles running through the various agricultural papers which circulate among 20,000 and 30,000 subscribers each. An immense amount of good could be done by spending a little money in advertising showing the farmers how they can get bulbs and shrubs.

THE CHAIRMAN: I was struck by one thing the last speaker said, and that is of the number of farmers who came to him at Tillsonburg. We have one member in the Toronto Horticultural Society who has always lived on the farm.

He comes in thirty miles and takes away any prizes he feels like. He brings in not flowers but wagon loads of stuff, not for competition, but just to make the show look fine.

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### ADDRESS.

HON. GEO. S. HENRY, MINISTER OF AGRICULTURE.

I came into the building this evening with more or less timidity. I did not know very much of the organization, and I imagined that I was coming into a gathering where the faces would be practically all new to me, and consequently, that I would not feel so much at home as if I were talking to an audience where I



Pergola, Sir Edmund Osler's grounds.

had some acquaintances. But the first man who met me at the door was a prominent citizen in my own riding, and then I looked around and the more I looked the more friends I saw.

All that Mr. Sinclair has said is quite true, but I think you all appreciate that we live in a very sparsely settled province, that the average man on the farm has too much land, and when he feels that he can't get over his fields properly it is not to be expected that he will take very much interest in his home plot and the surroundings of the home itself. It is quite a natural consequence of the conditions under which we live. But it is our ambition to overcome this apathy on the part of the average man on the farm. Everything must be done to make the farmers' home life as nearly what you would find it in larger centres as possible. We are moving rapidly. We have the rural telephone which puts him practically on the same footing as far as telephone service is concerned, with those in the

centres. We have rural mail delivery throughout the more populous settled portions of the provinces. Now we are launching out on the improvement of highways. We are going to revolutionize conditions on the farm.

Not only that, we are working directly on the home. We are, through the school fair in connection with the Education Department, going to revolutionize the viewpoint of the rural population of this province. In a generation there will be an entire change—the boys and girls who go to school now are appreciating, as none of their fathers and mothers did, the beauties of nature and the advantages that come to the average one who is born in a rural community. Through our school fairs the boy and girl are having an insight into nature in all its phases, as has never been done until the present time.

It is our ambition to develop agricultural training in the schools. It has been the ambition of our educationists since the time of Dr. Ryerson, for agricultural text books to be used in the public schools. But they do not seem to have met the condition, and I am pleased to know that the idea of agricultural, special agricultural training, technical training you may say, for the rural schools is rapidly increasing. There were no less in this last year than 1,000 schools in the province in which classes were carried on in agriculture, and of those classes about 600 or 700 of the teachers received special training in the short courses at Guelph which have been carried on for the last few years. A very encouraging sign this last season, was that we had between 400 and 500 teachers attending this short summer course. These are all lines along which we are proceeding, and it is natural that Horticulture should be included in them. I quite appreciate what our Mr. Sinclair says, about extending the work and keeping before the average man or woman the desirability of spending a little of their leisure time in beautifying the home.

With regard to a movement which is under way for a memorial to those brave lads who will not come home and also for the beautifying of our province for those who do, I have had several communications this last few weeks with regard to bringing over seeds of the Flanders poppies to perpetuate the flower here. The Flanders poppy will last as long as the poem of the late Dr. John McCrae, which we must appreciate as a classic, and consequently the poppy of Flanders fields will always be remembered. It was a natural inspiration to the average person to think that they would like to introduce the poppy from Flanders field into Canada. As I desired to have the best information available I asked the Professor of Botany at the Ontario Agricultural College for a report on the matter, which is as follows:

“Varieties of the European poppy have been many times introduced into Canada and grown in gardens. So far as I am aware there are no records of poppies having escaped from cultivation and become troublesome as weeds in cultivated fields in Ontario. This fact, however, does not make it safe for us to assume that the poppy might not become a weed in Ontario if it were introduced wholesale by various patriotic committees throughout the Province.

“In England and Europe the poppy is one of the common weeds of grain fields. Prof. Percival, Professor of Botany of the South-eastern Agricultural College, Wye, England, writes as follows concerning the poppy: The seeds of the poppy are small and many of them lie dormant in the soil for several years, springing up whenever the season is favorable. On this account poppies are difficult to abolish completely when once allowed to seed.

“In view of the fact that the poppy is such a common weed in grain fields in Europe and that the seeds have considerable vitality and will remain dormant in

the ground for several years, it seems to me that there would be considerable risk that the poppy might become a troublesome weed in Ontario if it were introduced wholesale for patriotic purposes.”

You will see by this that the plant is not a very desirable one from the cultivation standpoint. It is inclined to spread and take possession of the soil.

In regard to that memorial, possibly you look on your Society as one dealing with flowers, but I know that you appreciate that the planting of trees is kin to your operations as an organization. It has been suggested in the States—I understand it is taken up quite enthusiastically in some sections—that one of the best forms of a memorial is the planting of trees. We want in every part of the province to commemorate in some way the boys who went from any particular centre, and it occurs to me that there is nothing we can do as a people that will fill the position as much as planting trees in squares in our church yards, in our school yards—memorial trees to the boys who will not come back. And then the idea can be extended in various ways—planting along highways. I understand one of the States of the Union has undertaken to plant along both sides of a highway for 400 miles as a memorial of the work that the boys in that state did. It will be an immense inspiration to the boys and girls who are growing up if they can have something that they can point to as a memorial and recognize that they in their community were represented in the war and are represented in the graves of Flanders. This is an idea I am throwing out to you for your consideration. The avenues along which you can work could scarcely be enumerated. And all I can say as a member of the Government is that we will enthusiastically support you in anything that you can do to beautify our fair Province. We have one of the most richly endowed tracts of country in the world and possibly we do not appreciate it. We are going to appreciate it from now on more than we have ever done. We as a people are lacking in appreciation of ourselves. We had not any idea of what our boys who went overseas would do for us, but they have written the name of Canada and Ontario large on the map. That is an indication of what we in Canada can do. We have the initiative. Our country adapts itself to individual action more, perhaps, than any of the old European countries do, and that is where we expressed ourselves through our boys. This afternoon I had an illustration. In crossing the Canal Du Noir which was necessary for the capture of Cambrai, our boys were on the left; on their right were the British Tommies, and it was left with the initiative of each Army corps to make their way across the canal. The British Tommies had the idea of making mats out of straw and piling them on wood, and making a kind of raft to carry them across. This was a tedious operation and took a long time, and many men were lost. The Canadian boys drove several of the British tanks—first one in and down, then another over top, and they had a bridge across the canal in a few hours. That is an illustration of what we can do with initiative. What the boys did we can do as a people, as communities. We have the initiative, and we ought to have the spirit to do more for our communities, to improve our home surroundings in the rural parts of the province particularly, so that we can keep our population on the farms and invite more back to them. We are going to try to perfect conditions on the farms, so that the people will tend that way, more than they have done in the past generation. It is a big task, but a worthy object.

REV. A. H. SCOTT: Before the Minister of Agriculture, who is paying us to-night his first visit, retires, from this place, I would like to express to him our gratitude for his presence here this evening. It has been my privilege and pleasure

for quite a number of years now to listen to the heads of the Department of Agriculture on our annual occasions. We have had occasion to go to these Ministers when outsiders thought that we were begging. We have brought intelligence with us in making these requests, and we have approached the Minister of Agriculture in days gone by in a large way, and there has been no Minister in my recollection who up to the present time has not met us in a cordial, and large way, and it is to me a great delight to-night to hear the Hon. Mr. Henry make reference to two things, particularly when he says to us that there is an absence of appreciation on the part of the inhabitants of the development and beauty of Ontario. That word from him should be spread broadcast, and we should try, in so far as our influence goes, to spread the gospel from the north to the south and from Port Arthur to my native Glengarry, that we have here in Ontario one of the most favored portions of the earth upon which the sun of the heavens shines.

I am glad in the next place, to hear him say that he comes as our friend. We want to be friends in this Association, of the Department of Agriculture, and we want the Minister of Agriculture to feel that we are his friends, and we hope for him in his new position a distinguished career, and, while it lasts, that there may be glory, agriculturally, horticulturally and glory in every other way, pertaining to his administration. I therefore have great pleasure in moving in this formal way, that this Association express appreciation of the visit and of the words of the Hon. The Minister of Agriculture to-night, and hope for good things to be the outcome of his first address to us.

WM. HARTRY: I take very much pleasure in seconding that motion. Carried.

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## SURROUNDINGS OF THE HOME.

THOMAS ADAMS, CONSERVATION COMMISSION, OTTAWA. (Illustrated.)

The unit of the city or town is the home. Town planning has to do with all the elements in the growth of a city of which the home is the most important. The home has to be linked up with the factory by means of facilities for transportation so as to provide means of livelihood for the family. There have also to be facilities for marketing products and for all the intricate ramifications of trade and industry. The three main things which combine to make the city are its industries, its means of transportation and its homes.

We can plan a city so as to secure the greatest efficiency, but we do not plan them. By letting them grow anyhow we may secure efficiency, but that is by accident and not by design. As there are vested interests in existence which thrive on inefficiency and which are very powerful, the difficulties of getting improvements are considerable. I have said that the home is one of the chief elements in the city or town. It is there that we have the nursery in which we develop the men and women who are the chief factors in industry. The successful country is not the most prolific in population, but the one which has the highest quality of population. To get a high quality in our citizenship we need to have good homes, and to get good homes, we should have beautiful surroundings. Why should the poorest citizen not have a beautiful home? Poverty should be no barrier to it and the only excuse in our democratic country for bad home conditions should be the defects of the individual over which we have no control. In the surroundings of the home the

chief defects are, however, not with the individual but with our social organization. The individual may be responsible for a dirty room, broken plaster or for neglect of sanitary fittings within the house. But the things that are most wanting in our poorest homes in Canadian cities and towns are the things which the public should provide and which they have neglected to provide. The individual is hampered



Garden path.

in securing a sufficient garden space by reason of the expense of acquiring land under the present system of development. He cannot get the quantity of land in Canada which he can put to profitable use but only the quantity which he can pay for at a high price. He is not responsible in cases where water is not laid out to his home and where, as in thousands of cases, the woman of the household has to get water from a tap in the open, under our difficult climatic conditions. He is



not responsible for slops and other foul drainage being permitted to go on the street for want of sewers; or for defective construction of his building, or for lack of adequate sanitary fittings as a preliminary condition of occupancy—these, and other things, are matters which can only be controlled by the public. The cases in which they have been provided and then abused are probably comparatively few and yet, one of the principal excuses for not providing them is that will be abused.

To get improved surroundings in our homes in Canada we must plan our cities. In planning our cities we must have regard to the provision of open spaces for public parks and playgrounds which in that town must be properly linked up with the factory and the home and not too remote from either. We must also provide garden space and educate the worker to make his home beautiful in its immediate environment. Our Canadian workers' homes are less defective on the whole, however simple and inexpensive they may be than is their surroundings. Personally, I would prefer the simplest wooden dwelling with plenty of light, air, garden space, good water supply in the dwelling and good sanitary arrangements, rather than the finest structure without these necessities.

Professor Marshall in his "Economics of Industry" says that there are necessities for efficiency as well as necessities for existence. A wholesome and pleasant home is a necessity for efficiency, if not for existence. We have long passed the day of regarding it as a mere place of shelter. As a matter of fact however perfect our educational system, the home is the chief centre of education, and the mother the chief educator. By this we surely do not mean the structure called 'a house'; surely it implies that the surroundings of the house are an important part of the home. It is in the virtue of the family life that the chief beauty of the home is to be found, but family virtue can only grow in an environment where natural beauty is permitted to enter. The statement that all these things depend on the innate qualities of the individual is as one-sided as the contrary statement that environment is everything. The one is essential to the other.

In the improvement of the surroundings of the home the horticultural societies are playing a great part and probably Ontario is doing more wonderful things in this connection than any other community of its size. I have neither seen nor heard of any communities in Europe, or America, that have obtained such wonderful results from voluntary organization as the horticultural societies of some of our Canadian towns. Incidentally, it is worth noticing that in this matter, as in so many others, it is the small town that is most successful. The future of Canada depends on the small towns, and our efforts should be directed towards increasing them rather than adding to already overgrown cities. In the small town, children can grow up without being divorced from nature, and the slum has no excuse to exist.

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#### THE CONSTITUENTS OF THE HOME.

The constituents of the home are three in number: (1) the site, comprising the land upon which the building is erected and the garden space surrounding it; (2) the local improvements, comprising the pavement, sidewalk and such public services as sewer, water main, etc.; (3) the dwelling or structure.

In considering the surroundings of the home we have to give special attention to the first two, and these are matters which are controlled by public policies rather than by questions over which the individual has any power. However small the

garden space provided, there is, of course, opportunity for improvement by means of the horticultural societies, but the real encouragement on any extensive scale can only follow from provision of having liberal spaces provided for gardens around the dwellings. Members of horticultural societies do not require to be informed that the excuse that is often given for withholding land from a workers' dwelling, namely, that he has not time to cultivate the land and is not inclined to do so if he had time is, as a whole, untrue. If the opportunity is given, the land will be cultivated subject only to proper leadership and stimulus through horticultural societies. We cannot expect gardens to be cultivated where houses are erected on marshes which are not drained of their surface water or which are only rendered dry by having three feet of garbage dumped upon them as the means of creating the foundation for the dwelling. We can not expect to see gardens cultivated and used in remote and isolated subdivisions where there is no means of co-operation, no stimulus to pride and where long hours have to be spent in travelling to and from the city. In regard to the details of planting and beautifying the surroundings of our homes, there is ample ability, intelligence and experience available in every city and town. What I am pleading for is that we want the underlying conditions to utilize these things. The portion of the home that is subject to town planning consists of everything to do with the land and local improvements, as well as the question of the space surrounding it. To get gardens a proper size, to get pleasant means of approach, to get proper and conveniently situated parks, to get less money wasted on unnecessary local improvements we must have town planning schemes prepared in connection with all new development in our cities.

Our avenues of trees are growing up without the care of experts. Our trees require more care to be given to them, whether in our streets or in our parks. We need to study our systems of planting more for the purpose of bringing out the beauty of the individual tree. We need also to impress upon the "man on the street" that trees are worth money and that beauty pays. The beauty of Paris, Edinburgh and other European cities has yielded enormous profits to generations of citizens in these places. In certain real estate developments large sums are spent to preserve trees as a matter of business. This is where real estate operators are dealing with large areas and are able to apply a proper system of planning. One thing that horticulturists should bear in mind is that the things in which they are most interested are not merely required to beautify our cities and towns but are essential to make a prosperous country and are necessary to secure economy in development. The room that is required surrounding the home to grow flowers is required to grow citizens in a healthy way, and healthy citizens are needed to build up our industrial welfare. The grass margins along the streets and along the side of the car tracks reduce the dust which in itself is a producer of disease as well as discomfort, and the trees which we grow in our gardens and streets are essential in our climate; and we need to provide space for them, not because they are pretty to walk under but because of their necessity as shade. The horticulturist is therefore one of our constructive statesmen. He is building better than he knows. He is a great co-operator; for the strongest co-operative organizations are the horticultural societies. They are the strongest because sentiment is combined in them with enlightened self-interest. The co-operative principles of these societies should be applied to the organization of our cities and towns, and we need to prepare great co-operative plans in which the surroundings of the home will receive proper attention. Surely there is enough land in Canada to give everyone a garden who wants it. In all our cities there is also enough waste land comprising ravines

and hills which is adaptable only for parks and should be reserved for that purpose. In the placing of public buildings more regard will have to be paid to their surroundings as well as to the surroundings of the home. In all these matters we do not want to spend less on the things in the home that are needed for cleanliness, health and morals, but much of the ostentatious ornament that is used in building might well be left out and the money spent on more beautiful natural surroundings. We could even do with a little less asphalt and concrete if the home itself would be made better as a result. Some people would prefer to live in a hen-house rather than do without a concrete sidewalk. There are extremes in these matters that want to be avoided.

I have not pictured to you the ideal home. The things I have talked about are things that are realizable under proper organization. The horticultural societies have already done one magnificent service to the citizens of Canada in that they have dispelled the notion that the people don't want gardens and don't love gardens when they get them. Their next service is to see that our cities and towns are so planned that in their future development no worker will be without a garden who wants it.

As Oliver Wendell Holmes has said, the education of a child begins 100 years before it is born. We educate the child of 100 years hence in the slums on the one hand, and the garden suburb on the other. Our weakness or strength will depend in the future on which kind of surroundings we have for the homes of to-day.

Many of you are considering war memorials. See that they are placed and designed to add to the beauty of your towns. One I have seen has been erected on a beautiful park and obstructed the best view. The surroundings of memorials are as important as the design of the memorial itself. Do not erect a glorified tombstone, but something of refined beauty with nature and art combined. Nature is simple in its beauty. It is never vulgar and ostentatious. Its charm largely lies in its simplicity. It is the same with art. The beauty of nature, too, lies largely in its lights and shadows and the niceness of proportion. So it is with art. Let your monuments be not only an expression of your patriotism but add beauty and refinement to the surroundings of your children.

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## JUDGING AMATEUR GARDENS AND VEGETABLES AT EXHIBITIONS.

A. H. McLENNAN, VEGETABLE SPECIALIST, TORONTO.

This subject is one that is not easy to deal with, as, up to the present time there has been no approved literature which would give all judges the same idea of the types of the various vegetables shown at an exhibition. This applies, of course, to the latter part of my subject more than to the former, although, in judging vegetable gardens, we should have similar ideas in mind.

In all judging work the idea that should be kept in mind by the judge is the final destination of all vegetables. This ultimate consumer is, in all cases, represented by the housewife who buys the material for the household meals and prepares them. With most women in such a situation the first consideration is the getting of as much value for her money as possible. This is especially the case among the working people, who, after all, form a large proportion of our population.

Starting with this idea in mind and taking the subject as it divides itself naturally, our first thought should be given to the gardens. For this judging I have made out a schedule of four points which appears to me to cover everything connected with the work:

1. Appearance of the garden .....	15 points
2. Condition of crops.....	5 points
3. Freedom from disease and insect injury .....	10 points
4. Use made of land.....	20 points

The first mentioned item would cover the cultivation of the crop; the amount of weeds and the general appearance of the crops as a whole. The garden should show freedom from weeds and have a mulch on top which would indicate that the cultivation had been thorough and well-timed throughout the season. The judging should not take place at one time but should be done in a series of three visits during the growing season; say the middle of the months of June, July and August so that you would have a thorough idea of just what interest the owner had taken in producing first-class vegetables. The second point in reality is partially covered by the first. I mean that the judge should make a more intimate inspection of each individual crop, noting how well each crop is growing and whether the plants had been properly spaced so that each individual will have every opportunity of becoming as perfect a specimen as possible. Freedom from disease and insect injury should be carefully noted, for if one is really interested in his garden work he must become fairly well acquainted with the various enemies that attack his growing crops. One cannot expect to grow fine specimens or get the most returns from his garden if disease and insects are allowed a free hand, and, as a sure remedy is available for most of our garden troubles, there is no reason why the amateur gardener should have many of these in his garden. The fact is that he should show a cleaner garden, in this respect, than would the commercial man because his area is limited and everything is under his own eye, while the commercial has to depend largely on hired men who cannot be as much interested as he is. The last point, and to my mind the one which requires more careful noting than any of the other three, is the use made of the land by the gardener. Too many people who have a small garden think that one crop a year is all that a piece of ground should produce. This one point brings out whether the man is really a gardener because a man who grows more than one crop on a piece of ground in the season, showing that he is really studying what his land will produce and how the crops grow, is doing the most good to his fellow men. It is not the number of crops which are grown in a garden that count because one could grow very small quantities of a large number of varieties but the fact that the man is producing at least two crops in a season where the ordinary individual would only produce one.

Turning to the second point in our subject the rule mentioned in the first part of my address should be applied most rigidly. I have attended many exhibitions throughout the Province in the last ten years; as well as in many parts of the United States, and it seems to be the general idea that size instead of quality should govern the awarding of the prizes. I was told a story this fall by one of the District Representatives concerning a boy exhibitor at one of the school fairs. This boy had been a consistent winner but this year fell down on one of his exhibits which was a class of beets. In speaking to the Representative after the prizes were awarded he said that it was his own fault that he had lost. When asked by what standard he chose his exhibit he said that he always noticed that his mother picked medium sized beets to cook and that the smaller sized ones were always the first

that were removed from the dish. This illustrates the point that all judges should keep in mind more fully than anything else. I would advise men in judging vegetables in competition to keep in view four main points.

1. Appearance .....	5 points
2. Size.....	10 points
3. Freedom from disease and injury .....	10 points
4. Eatability.....	25 points

Taking these in order: The appearance of the entry as it catches your eye when you first look over the exhibit; the general cleanliness, evenness and size; and the impression given you through the general appearance that the man really is taking an educational interest rather than considering simply the money value of



Vegetable Garden, Craiglea.

the prize. Size has probably been a more debatable point than any other in judging all vegetables. Too many judges consider size more than quality. They forget that these vegetables are not intended for animal consumption but for human beings and that the rule will not apply to the latter. But few of them consider the well-known fact that most vegetables, after they have attained a certain size, begin to lose their quality and become to a certain extent unfitted for human food. There are, of course, a few exceptions and among the root crops parsnips should be judged by size to a large extent because when properly grown a large-sized parsnip is of higher quality than a small one if both are equally smooth. No specimens should be awarded a prize which show disease or injury unless there is a good reason for allowing such to pass. This last refers more especially to injury, as sometimes vegetables shipped by express have been injured through no fault of the exhibitor. The last section, and to my mind the most important of all, is one which is con-

sidered the least in many cases. If everybody would remember that all is destined for human consumption there would be fewer mistakes made in exhibiting. The medium sized, smooth vegetable, free from injury and disease, fresh and dainty looking, one that attracts the eye of passers-by, one that we would desire for our own table is the one that in all cases should get the prize. Where more mistakes than usual are made is in judging of root crops and celery. All root crops should be smooth with no side roots showing, no sign of sunburn on top and with the exception of the parsnip should be medium in size. In regard to celery the valuable part of this plant is the heart. For that reason we should look there first of all to see that each specimen in the exhibit carries a large share of heart and that the stems are only medium in size, ribs close together and showing as much length of white as possible.

I have tried in this small way to give you a few of the points that we should consider in judging, but my personal preference would be to have the specimens in front of you to show you exactly what I mean in each case.

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## TEN YEARS' EXPERIENCE OF NEW ONTARIO.

R. WHORLEY, HAILEYBURY.

To attempt to illustrate ten years in a few minutes is an impossible thing. New Ontario is more interesting than the average; by the man or woman living in Southern Ontario it is spoken of as the frozen North.

Eleven years ago, making up my mind to try a new country, I decided to come to Canada. To my mind from Quebec to North Bay was to me, an English green-horn, a wilderness. On the 12th of May my friend and I left North Bay for Haileybury. At first it appeared to me to be a round about route. But it soon proved to be very interesting as the trees, rocks and lakes came in sight. As we neared Temagami they became more beautiful; this place is noted for fishing and visitors. On arriving at Cobalt the great silver camp came in sight, the appearance of which I have no time to dwell upon, but taking a bird's eye view of the place to my mind it should have been called "All Nations" for such it is.

Our next stop was Haileybury our destination. I was struck by the amount of mud at that time of the year. It was running in the bottom of the rig amongst our trunks. We had no friends and no home. Hotels and every place were full up. This was in the boom days. Hammers were clinking Sundays and weekdays in order to get covering and homes, or shacks, as they were called. I must admit that I thought some of them were for poultry houses. But that night I soon found the need of one, as we had to sleep on a verandah which would have been comfortable had it not been for the mosquitoes. Not having been prepared for such a reception I will leave you to judge our plight.

On Monday I took a bird's eye view of the place, the Lake (Lake Temiskaming) still frozen over, the sun hot in the day time, many new buildings going up and all kinds of work going on, but no gardening except the late Colonel A. M. Hay, Mr. Foster and Mr. P. A. Cobbold. Colonel Hay was employing a gardener, Mr. Cox, an Englishman. I made his acquaintance and discussed the possibilities of the place. He said that it was a rough country, but to a good all round man he thought that there was a good opening.

The next day I started work for my first master in Canada, who is a friend of mine to-day. He is a traveller, who lives when at home in Toronto. He often visits us on his travels up North, and has a walk round the ground and greenhouses, and is surprised to see the various kinds of flowers and vegetables, which he never expected could be grown so far North as Haileybury. The next man I worked for was Mr. E. Wright, who was the discoverer of the Kerr Lake Mine. And when I had completed his lawn and garden with seeds and plants the passers by began to be interested. I then had more work offered than I could possibly handle, labor being hard to obtain and big wages being paid for the same. I employed two laborers, my two sons came up, and during the season we completed a number of lawns and gardens. Neatly trimmed lawns, flowers blooming and trees planted soon began to make things look like home surroundings. Unlike many commodities this can only be done by a practical experienced landscape-gardener, who understands gardening in all its branches and there it a lot of hard work, worry, and patience involved to complete same. Our Horticultural work was all up hill when so few understood gardening.

I saw it was to our advantage to buy land and build, and having laid out Mr. A. Ferland's garden I approached him as to the purchase of seventeen town lots which were bush over-looking the Lake, and commanded a splendid view. This I thought would suit our purpose, so I purchased. We commenced to clear it up but bad weather began early in November which stopped our progress. For our winter's work five of us began a small wood business, cutting the wood by hand, but we soon found out that it did not pay. I am describing this to show you how we climbed the ladder to success. Next we got a gasoline engine, made a saw bench, bought a saw, and found we had an outfit to cut from fifty to sixty cords in the ten hours. We made expenses and gained experience which proved valuable in the future. I fancy I hear some one say "What has this to do with Horticultural Work," but let me show to such that these hard stones had to be broken to pave the way for future success. Spending other peoples' money is a different matter from making a garden, while having to earn the money to paddle your own canoe and live and pay expenses.

Spring time arrived and I had work for thirty men. My wife and family expected to arrive in July, and there was no home, only a small shack. In June my two sons took typhoid fever, and I worked in the daytime and took care of the boys at night, making a twenty-four hour day's work. You all know the value of a mother as a nurse, and on her arrival my wife nursed the boys, but soon contracted the fever herself and three of the other children too, making a total of six laid up with the fever. After their recovery they prepared to return to England again, but after meeting friends they decided they would stay and give it a trial anyway. We cleared our land and built a little addition, and by degrees arrived at our present position. Of course this could not have been done but for my wife and family who worked so hard.

I spoke to my friend Mr. Cox regarding a Horticultural Society, and we got busy with the help of Mr. Lorne McDougall, Mr. P. A. Cobbold and others. We soon secured enough members to obtain our grant, and were able to show to those who were hard to believe, the possibilities of the Frozen North. Our members are worthy of many thanks for their work in helping the Society along. Almost every home has its flowers and vegetables growing, many of them to be found growing amongst stumps. Although a bad season last year, our market was well supplied with vegetables and potatoes. Rather different to ten years ago when all had to

be shipped from outside points. I have no need to speak of flowers, as Mrs. McDougall has given you a good illustration in this line. I must however, mention that we have a shorter season than yours, and great care must be taken in raising and not planting out before the first week in June. This is the time we plant flowering annuals such as all kinds of Asters, Stocks, Antirrhinums, Alyssum, Ageratum, Balsams, Candytuft, Annual Carnation, Cosmos, Calliopsis, Salpiglossis, Larkspurs, Lupine, Celosia, Gypsophila Elegans, Petunia single and double, Godetia, Marigold all kinds, Mignonette, Nicotiana Affinis, Nasturtiums, Phlox Drummondii, Poppies, Sweet Peas, Salvia, Portulacca, Zinnias, Annual Delphiniums, Pansies, Dianthus, Canary Creeper, Everlastings and many other kinds do well. All herbaceous plants grow well,—Delphiniums, Phlox, Gypsophila, Paniculata, Gladiolus, Monthretias, Guillardia, Hollyhocks, Helianthus, Lupines, Lilies of all kinds, Dahlias, Show Cactus, Pom-Pom, and plants in this class could not be grown better in any place in Canada. Of greenhouse plants we grow what pays best, such as cut flowers for the store and for florist work. We also market all kinds of bedding plants and they do well, Climbers including Roses, Clematis, Jackmanii, Montani White, Virginia Creeper, Cobaea Scandens and others. Almost any kind of flowering shrubs will grow such as Lilacs, Hydrangea, Paniculata, Spiraea, Snowball, Honeysuckle and Bulbs the same.

There is no place better for such fruits as Strawberries, red, white and black Currants, Raspberries, Gooseberries of all kinds, Crab-apples and a few Apples. I have seen a few grapes but have not grown any myself. All kinds of vegetables from a turnip to a mushroom will grow with a little care. Potatoes of all varieties can be grown if care is taken from the time of planting to uplifting. Let me say that the time is near at hand when we will share in your markets for Northern grown seed. The best kinds only should be grown, and care should be taken in uplifting and grading, first for table use and then for seed. Keep all soil and stones out of bags and make the weight ninety pounds which should be the standard weight in all markets. Let me call your attention to my new Potato "Northern Star" a good mid-season and winter kind. Two bags of these potatoes, last season, produced forty-four bags. All seed potatoes should be greened before storing away if possible.

Our greater production scheme did good work, as people who never had attempted to plant a potato before made good gardeners. All vacant lots were planted, and I have seen women and children planting vegetables and potatoes amongst stumps, making an attempt to grow something.

Our Chairman, Mr. P. A. Cobbold, and his committee are worthy of many thanks for the good work they did in encouraging the Greater Production Scheme.

#### CHILDREN'S GARDENS.

Much has been said and written from time to time on this subject, and we hear much from various sources of the success attending this branch of our work in Southern parts of Ontario and those parts of the Province where the conditions, contrasted with those of the North, are almost tropical. In this section, Temiskaming, the work has been carried on for the past seven years under the auspices and guidance of the Haileybury Horticultural Society with splendid results. When one considers climatic conditions, together with the depredations of wandering cattle, the children have shown no small amount of perseverance. All classes of gardening have received attention viz:—vegetable, fruit and flowers. The prizes that have been given have not been of a large amount to attract for their value in dollars and cents, and the



children have directed their energies without exception with the object of showing what they could do. The results obtained have been altogether surprising, and the directors have knowledge that this has been entirely due to the labor and attention bestowed upon them by the youthful gardeners. One exhibit, viz., that of pressed flowers calls for considerable trouble in so far that the name of flower given, where plucked, and the nature of it are called for. This exhibit in common with the rest always fills and it is entirely due to the generosity of one of our oldest directors that the interest in this section has been maintained. Prizes have been given every year by this gentleman, Mr. P. A. Cobbold, and not only in this but in other sections the society is indebted to him for his untiring zeal and energy.

The youngsters certainly show a great amount of persistency in persevering in spite of bad seasons, prowling cattle and the usual amount of bugs, and they always manage to come out on top. This is a branch of the work that certainly needs encouraging and the parent society should keep in view the fact that the habit of gardening and resourcefulness in this direction, should be rendered all the assistance possible; and should be taken into account when the annual grants are made. No doubt some of our friends who live in more favored localities will not attach much importance to this, but when one remembers that our season for planting begins at the end of May and we encounter frosts sometimes the third week in August there must be a tremendous amount of enthusiasm shown to get any satisfactory results.

#### SEEDS.

Since our Society became affiliated with the Mother Society the Frozen North is the open door for seeds to the extent of \$12,000 to \$15,000; namely onion sets, vegetable and flower seeds. This is not including agricultural seeds or potato sets. This amount is spread amongst the different nursery-men and seedsmen. Also yearly a good sum is spent in trees, herbaceous plants, etc. through different firms sending up representatives.

I am sorry however to say that the war cleaned most of the British gardeners out. During these last two years we have been shipping out, instead of bringing in vegetables and potatoes, and there is no wholesale store in the place as there used to be.

Let us then look back upon the past as encouragement for the future, and thank God and take fresh courage in our work.

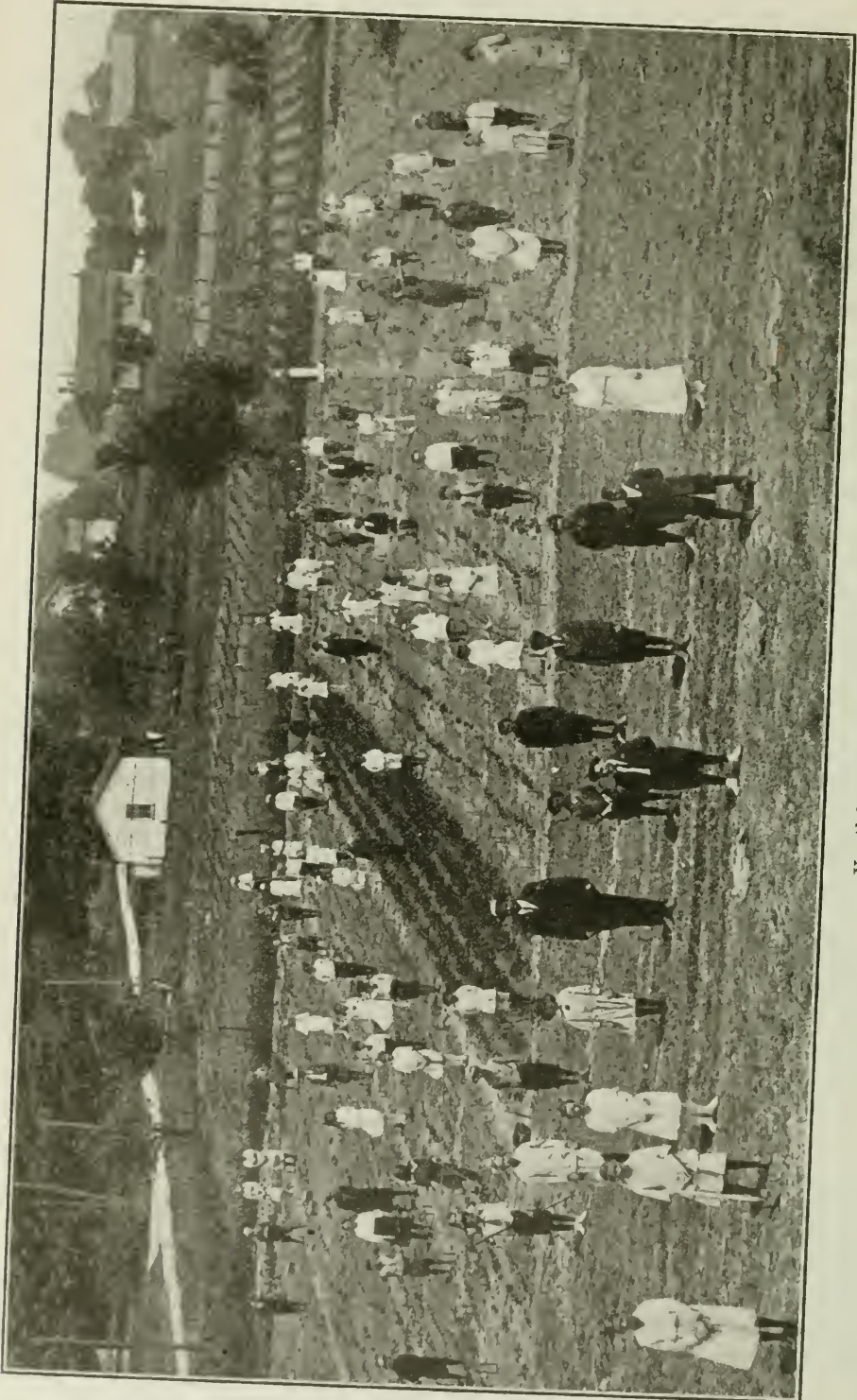
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#### GREETING FROM THE AMERICAN CIVIC ASSOCIATION.

The Superintendent read the following telegram received from Washington. from the President of the American Civic Association.

“The American Civic Association extends to the Ontario Horticultural Association in Convention assembled hearty greetings for successful and fruitful meeting. The cordial relations existing between our two organizations for over ten years have worked for the good of our sister countries, and in the stressful days ahead of us it is hoped that co-operation will be even closer. With best wishes.”

(Signed) J. HORACE MCFARLAND, *President*.  
E. E. MARSHALL, *Secretary*.



Youthful Gardeners at Elora.

## HORTICULTURE IN OUR SCHOOLS.

S. B. MCCREADY, TORONTO.

I desire to congratulate the Horticultural Societies in Ontario on the magnificent work they have done in the last year or two in promoting greater production. As an officer of the Organization of Resources I have come in touch in a great many places, with Horticultural Societies, and have learned of the fine service they have given in this cause. As a matter of fact, our organization had the responsibility to a certain extent of promoting production, and where there was a good Horticultural Society we found that we had no job at all, as it was already in hand. I congratulate this Association, too, on the great opportunity that lies ahead of you in the years to come. You are celebrating to-day your thirteenth birthday. I wonder what your record will be thirteen years from now. If it is not twice as great and many more times than that as great as it is now, we should be disappointed and should be inclined to say that you had failed in your opportunity. To my way of thinking there is no branch of the Civil Government, possibly apart from that of the Department of Education, which has before it such a vast field of fine service for healing the wounds of this old world, and our distresses here in Ontario particularly, as the Horticultural Society. I was just looking up in this connection some of the figures regarding our population, and I find that we have in Ontario at the present time, so far as the latest statistics show it, 43 places in the Province with a population of over 10,000 each, or 40 per cent. of all the people living in Ontario. There are 20 places with populations between 5,000 and 10,000; 67 places with populations of from 2,000 to 5,000; 74 between 1,000 and 2,000; 169 between 500 and 1,000, making in all 373 places urban communities, with a population of a good deal more than half of all the population of Ontario.

In addition to that, I notice there are 377 places with a population of between 200 and 500.

I am quite convinced from what I saw recently out in Agincourt, a village of about 300 population, that there is fine work to be done in Horticultural Societies in even such a small centre. They have a very thriving Society and have done magnificent work, not only for the village but all the country around.

There are over 700 places in Ontario with populations of over 200. If you add all the townships in Ontario and the little places below 200, which might very well be organized into some sort of horticultural scheme, with the 528 townships, we must have somewhere around 1,500 communities that would be, I am sure, benefited greatly by a Horticultural Society.

So I congratulate you on the magnificent chance that you have undeveloped before you. It should be an inspiration in these times when conferences are at work to settle things in this world and to make things better for us in Ontario to find this work lying ahead of us. I congratulate the Ontario Horticultural Association on giving this subject of Horticulture in the Schools a place on the programme of its Thirteenth Convention. I venture to affirm that as the years go by the Association will find its best response to service in the work carried on in co-operation with the schools. It is well and good that every effort should be continued to stimulate the horticultural activities of grown-ups.

There should be a Horticultural Society in every community in the Province. But it is wiser and better, in the opinion of an old schoolmaster, that steps be taken to see that the "growing-ups" be wisely led and instructed in their forma-

tive years. "As the twig is bent so will the tree incline." Would you have every Ontario home a garden-home in the years to come? Then look after the children now. Would you have every citizen of Ontario a lover of gardening? Then plant your seeds in children's hearts. A little child shall lead them."

Great is the opportunity of the Horticultural Society for the highest service in nation-building. Education must be recognized the world's greatest force for healing the hurts of the nations. And while Ontario may not be suffering from the social and economic distractions that torture our fellow mortals in other places we have a share of the world unrest that requires the ministrations of wise and beneficent teaching. The Ontario Horticultural Association can deal with no more important matter at this Convention than that of creating a Province-wide interest in the teaching of Horticulture in the schools.

Let us briefly compare the services of Education and of Horticulture to see whether or not they have any common aims. What are schools for? Why does Ontario maintain at great cost a system of elementary, secondary, industrial and normal schools as well as a Provincial university? It is to ensure a free, progressive, intelligent, democratic citizenship. The State recognizes that good government and a safe democracy are fundamentally based on character, loyalty, industry and intelligence. We want our boys and girls to grow into good, strong men and women, imbued with a high sense of service to their country and their fellow citizens; we want them to be industrious and thrifty without being carried away in gross materialism; we want them to be capable of getting the best out of life in their work, in their leisure, in literature, in music, in art, in their homes, in their churches, in their schools and in all the activities and companionships that a busy world may bring them. These are the services of Education.

And how does Horticulture function with these factors for good citizenship? Horticulture is the ancient and obedient hand-maiden of Education. In a peculiar sense it can help to produce the very fruits that the school aims to yield to society. A good gardener cannot be, nor have, a bad character, but a bad character may be transformed by gardening. Gardening brings health, better food and better living, love of home, intimate knowledge of Nature and Nature's God, revelations of new meanings in literature and music and art, relaxation from worries, and peace of mind, release from the world's fripperies. A garden furnishes an unexcelled laboratory to train children to work, to observe, to learn by practical experience, to share in the responsibility of making their own living. Happy is the teacher whose pupils are gardeners. Basing instruction on their interests and practical experiences her teaching becomes easy and effective. That teacher is to be pitied who has not yet learned how Horticulture may help her in her great work of training for good citizenship.

Horticultural Societies have at the present moment the greatest opportunity they have ever had for "educationalizing" Horticulture in Ontario. Such an opportunity may never occur again. Everyone has been a-gardening during the past few years. Governments, Town Councils, School Boards, Rotary Clubs, Churches, Boards of Trade, manufacturers, Citizens' Leagues and Women's Clubs have given their support to the movement. Boys and girls, men and women, farmerettes and soldiers of the soil, Girl Guides and Boy Scouts have all been busy. The Y.M.C.A. have co-operated. Schools, colleges and universities have made concessions to food producers. Public opinion is ripe for a forward movement. It will be a calamity if we cannot realize large returns for posterity from the widespread interest in Horticulture brought about by war necessities.

The war has exposed what too many failed to see before 1914, that food

production is the world's first great concern and that there may come a time when every individual has a personal responsibility in the matter. The war has disclosed, too, to many who never saw it before, the weakness of a State that has become top heavy with urban population. We may yet have to adopt the precautions, which Sir Thomas More's Utopians employed in their ideal State, of making the city dwellers move into the country every two years to take over the work of the farmers, so that no one should be allowed to forget how to produce his or her own living. Toronto and Hamilton and London and all other ambitious places may have to pay a very dear price for doubling their populations. I note that one of the conclusions reached by the recent conference of Provincial Premiers and their associates to the Dominion Government was that steps should be taken to induce people to go back to the land from our Canadian towns and cities. Here lies work for the schools and the Horticultural Societies.

#### SUGGESTIONS.

Permit me to suggest some things which members of Horticultural Societies may do in this behalf and some aims towards which they should attempt to educate public opinion.

1. **SURVEY THE LOCAL FIELD.** Make inquiries to learn to what extent the boys and girls of the town are practically interested in gardening. Pay particular attention to those who have lived over stores, those who live under unfavorable home conditions, those who are on the streets at night.

2. **CONFER WITH TEACHERS AND SCHOOL BOARDS.** If the teachers of the school and the members of the School Board have not considered the encouragement of children's gardening as part of the service of the school, arrange for a conference to discuss the whole matter and see if a start cannot be made. If the work has been started and dropped or it has been unsuccessful seek to find out the causes, and, getting the advice of places where there has been success, make a new start.

3. **INFORM YOURSELVES OF DEPARTMENTAL PLANS.** Make yourselves acquainted with that part of the Nature Study Course prescribed for the schools by the Department of Education. Send for the Course of Studies. It will be found that within that there is ample provision for all the gardening that the schools may be expected to look after as well as room for freedom and the exercise of initiative. The work does not need to be withheld from the children because there is no teacher on the staff specially certified.

Become acquainted also with the plans of the Department of Education for systematic instruction in Agriculture and Horticulture in graded schools. You may discover that there are teachers on your school staff who are equipped for this service but who need encouragement and assistance to make a commencement.

4. **ADOPT GARDEN-ORPHANS.** In seeking to have the school take a hand in the work, do not forget that an ounce of mother (or father) is worth a pound of school. Take a personal interest in your own and your neighbor's children. Give them a share in your garden. Help them. Encourage them. Adopt garden-orphans. There may be some poor wee forsaken mortals who if they cannot be taken into your homes, may at least be taken into your garden to be cherished. You can do what the school can never do. The school's effort has the weakness of the effort of all organization, it may not be able to express personal sympathy with the individual. The school needs every horticulturist's co-operation.

5. **BUILD FOR PERMANENCE AND CHARACTER.** Adopt a policy that will be self-containing. Let your plans develop initiative and independence of teachers

and pupils. Count your one-year-flash-in-the-pan a failure. Do not stress competitions; it is the co-operative spirit which the world needs for settling community problems. Be careful of prize-schemes; it is not desirable to develop a generation of pot-hunters. Take heed of indiscriminate distributions of seed, etc. Children who are trained to look for "hand-outs" will grow into citizens who will be "leaners." Horticultural Society activities with children should not be directed primarily to getting increased crops of vegetables or more flowers but rather to assist the schools to turn out better citizens—and better because they are interested in growing plants.

6. CARRY ON YEAR-ROUND PUBLICITY. The local press will probably welcome short and timely horticultural suggestions and articles, particularly if they have "local color." Aim to reach parents, teachers and school children in some of these. Encourage the children to report on their school gardening work through the growing season. Arrange for talks in the schools as well as for lectures for the public during the winter months. Have periodical exhibits of children's garden products in the public library or some of the store windows as well as the more elaborate school fair in the fall. Give the children's work a place in the local fall fair.

7. WORK FOR A MUNICIPAL AGRICULTURAL AND HORTICULTURAL SERVICE. In the larger cities of the Province there is a large scope of work for an urbanized Agricultural Representative, corresponding to the County Representative who works amongst the farmers. Such a man should be, of course, a graduate of the Agricultural College and specially trained for service amongst the gardeners, poultry keepers, beekeepers and fruit growers of the cities. In the smaller cities this office might be combined with that of instructor in the schools and director of children's gardening. Assisting this official there should be an Advisory Board made up of representatives from the City Council, Parks Commission, School Board, Horticultural Society, Poultry Association and other organizations working in the cause of civic betterment. His office would be naturally the headquarters in the city for all horticultural interests. There is a vast service to be developed in this matter for every city. Our accomplishments through the stress of war have shown what can be done, and they have indicated, too, how much more might be done through organization and co-operation. If there is ever to be any worth-while back-to-the-land movement from overcrowded cities—a consummation devoutly to be wished—it will have to be originated by some such specifically organized service. In such a scheme lies one of our best hopes for making progress away from slums and towards garden cities—another consummation devoutly to be wished.

8. SUPPORT A FORWARD MOVEMENT IN AGRICULTURAL EDUCATION. The Horticultural Societies of the Province, especially if they are assisted by the Agricultural Societies, may do a great deal to form public opinion concerning the introduction of Agriculture and Horticulture into the High Schools and Colleges of the Province. We shall have missed one of the best fruits of our war-time experiences if we do not see that the splendid work done by the farmerettes and the soldiers of the soil is perpetuated and "educationalized."

Do any of you know anything taught in a school that can educate a growing lad for the highest service in life better than a summer or two under a good farmer on an Ontario farm? Why might this experience not be counted a part of the requirement for matriculation or for a teacher's certificate? Why shouldn't the schools interest themselves, practically and theoretically in the common work of the farms? There is nothing done in a school laboratory so full of educating

value as farm work. We have been slow to see the culture value of work. Our bookishness has clouded our visions.

The girls who went out from our Colleges as "farmerettes" and gave what was called "National Service" on fruit and truck farms, acquired sympathies, skill and knowledge, to say nothing of healthful exercise, quite as valuable and quite as educative as any course that they might have had inflicted on them in higher mathematics. Why should not the Colleges recognize this new field of culture, and, if necessary, adopt and direct it? The Colleges might profitably enlarge their notions of what is included within the scope of a liberal education.



Section of Grounds and Roadway, Ennisclare.

There is a place for a Department of Agriculture and Horticulture in the University of Toronto.

Recognizing these things, the Ontario Horticultural Association might very well adopt amongst its resolutions, one covering this matter, while Horticultural Societies all over the Province might urge upon local school authorities the introduction of Horticulture and Agriculture into the High Schools, Continuation Schools and Collegiate Institutes of the Province. Can you imagine anything that our boys and girls may get from their high schooling that will enrich their own lives and make their lives richer for others than a fondness for and a practical knowledge of gardening.

Here is a rich field for Horticultural Societies to cultivate!

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 HORTICULTURE IN THE NATURE STUDY COURSE FOR ONTARIO SCHOOLS.
*Form I.*

Garden plots.

The study of plants from the garden and the fields.

Care of potted and garden plants.

*Form II.*

Shrubby and orchard trees.

Experiments in the germination of seeds.

Weeds and wild flowers.

Care of potted and garden plants.

*Form III.*

Garden work and studies in experimental plots in relation to the home and farm work.

The study of common plants, trees, and fruits continued.

The study of weeds and their eradication.

Soil studies and experiments.

*Form IV.*

Ornamental and experimental garden plots.

Study of economic plants.

Relation of soils and soil tillage to farm crops.

THE CHAIRMAN: I think Mr. McCready has proved that if we as citizens of Ontario want Horticulture taught in the schools we can have it taught by making our wishes known to the Boards of Education, and that the Board of Education can have it taught by duly qualified teachers.

REV. A. H. SCOTT: The Ontario Horticultural Association has been endeavoring to get in closer touch for a number of years with the Department of Education. What I would like to know, for the benefit of this Convention, is whether or not the Department of Education at the present time is opening the way for any additions to our text books or for preparation of any new text books for our schools in order that we may get into the books of our schools some such subject as he is bringing to our attention to-day.

S. B. MCCREADY: I am not intimately acquainted with their policy, but I know that this is part of it—not to have a text book on agricultural work for the schools. Instead of that to have a manual which directs teachers in the teaching of it, and it is hoped that through this practical work, the teachers will have something very much better than a text book. I agree that there is a place for little bulletins or circulars to schools to arouse interest, but I do not know whether they have any such plans.

E. E. C. KILMER: The Department of Education has under advisement a new set of readers and it is open for anyone to suggest any matter they saw fit, to be incorporated in those readers, up until the first of June, the Department using their discretion whether it was to be incorporated or not.



## RESOLUTIONS.

The Resolutions Committee then reported as follows:

Moved by MR. EVANS, seconded by MR. W. T. LAWRENCE, "That this Association recommend to the Hon. the Minister of Agriculture that legislation be enacted to provide for the removal and prohibition of signs or billboards in rural localities." Carried.

Moved by W. J. EVANS, seconded by V. A. SINCLAIR, "That this Association recommend to the Hon. the Minister of Agriculture, that the Ontario Horticultural Societies Act be amended where necessary to provide that the fiscal year of Horticultural Societies be the calendar year; and also that the Annual Meeting of said Societies be held not later than the 15th of January."

There was some little discussion on this last resolution, one member contending that it should be referred back to the Committee. Mr. Evans stated as his reason for supporting this measure that it was easier to impress upon members in this way up to what time their fees were paid, as if they joined in July and August, they seemed to find it difficult to identify the date to which they were paid up as being the end of the present year only.

Mr. Hartry, of Seaforth, contended that having the Convention in the fall when the Flower and Fruit Show was on, stimulated interest.

Dr. Bennett stated that while he agreed with Mr. Evans and supported the resolution in Committee, he did feel that perhaps it did not give the opportunity of procuring seeds and so on when the Annual Meeting was not held until January.

Mr. Evans said this might be done even if the fiscal year ended at the end of the calendar year.

Mr. Robinson, Hamilton, thought from a business standpoint it was a good move.

Mr. Lawrence, of London, expressed himself as being favorable to the change, stating in answer to Dr. Bennett's argument that the purchasing of premiums was in a circle at any rate, and you could not end a circle at any time. The resolution carried.

Moved by F. E. BENNETT, seconded by W. T. LAWRENCE, "That particularly in the interests of greater production and horticulture in general, this Convention representing nearly 20,000 horticulturists in the Province of Ontario wish to record its approval of the Daylight Saving Act as at present in force in Canada and that copies of this resolution be sent to the proper authorities at Ottawa." Carried.

Moved by W. T. LAWRENCE, seconded by F. E. BENNETT, "That this Association recommend to the Hon. the Minister of Agriculture that the Ontario Horticultural Societies Act be amended to provide for the election of ten Directors instead of nine, five to be elected for two years and five for one year, and thereafter five for two years annually.

W. T. LAWRENCE: The same condition, from what I can find out, pertains to almost every Horticultural Society in Ontario. We have four or five at the most on the directorate who are workers and there are a bunch of drones, who are elected because the Annual Meetings are not well attended and the last four or five are very often elected because there is no one else there. By electing five annually, the chance is that you will get five much better men than if you attempt to elect nine or ten at any one meeting. Then, too, there is continually someone who is acquainted with the work that has been carried on in previous years, and in that way much better results can be achieved, especially in the larger centres.

A TORONTO MEMBER: We in Toronto have overcome that difficulty by having a Nominating Committee. We take the Chairman of each of our Committees, and they select from the membership names that they think will be desirable members, and that is printed and submitted at our Annual Meeting, when members have the opportunity of adding any other names they may wish. Those ballots are passed around and marked, which enables our people to accept nominations. And we find that has been a very satisfactory method.

W. T. LAWRENCE: We have found that men who were not able to attend the Annual Meeting through sickness, even though some of the very finest horticulturists, were left off the Board because they were not there, and men were put on who were there, although not so useful. Resolution carried.

The Committee have carefully considered the clause in the Superintendent of Horticultural Societies' Report that the Minister of Agriculture be requested to consider the amendment of the Act to provide for grants to Horticultural Societies in cities of more than 400,000 in population.

Your Committee recommend that Clause 2 of Section 6 of the present Act be repealed and that the recommendation of the Superintendent be substituted therefor with the exception that where he recommends provision be made for four Societies the word three be substituted.

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#### REVISION OF THE CONSTITUTION.

C. A. HESSON: As your Treasurer for some years back I have had a little experience in connection with fees, and I have mentioned it at previous meetings. There is a difficulty in the minds of the local Societies in regard to this question of fee—not only as to when it is payable but what it is based upon. The Constitution was amended some years ago, I think in 1911 or 1912, and it called for a fee being based upon the Societies reporting. What constitutes reporting. A Society reports in 1917 a certain membership. That membership is printed in the Annual Report. The end of 1918 comes along and we are asking for the payment of these affiliation fees and the local Society says, "We have not got so many members this year, and they send along their fee, not in accord with the 1917, but the 1918 membership. That doubt should be done away with in revising this Constitution. So I would suggest that the word "reporting" be elaborated upon and definitely fixed as the "last reporting to the Department."

It was moved that the clause read "said membership fee to be determined by the official figures of the Department of Agriculture as shown in the last printed report."

The clause of the revised draft was then adopted, except that the phrase, "up to 500 members the maximum fee to be \$5.00" was struck out, and the addition made as above that the fee be determined by the last printed report of the Department. Carried.

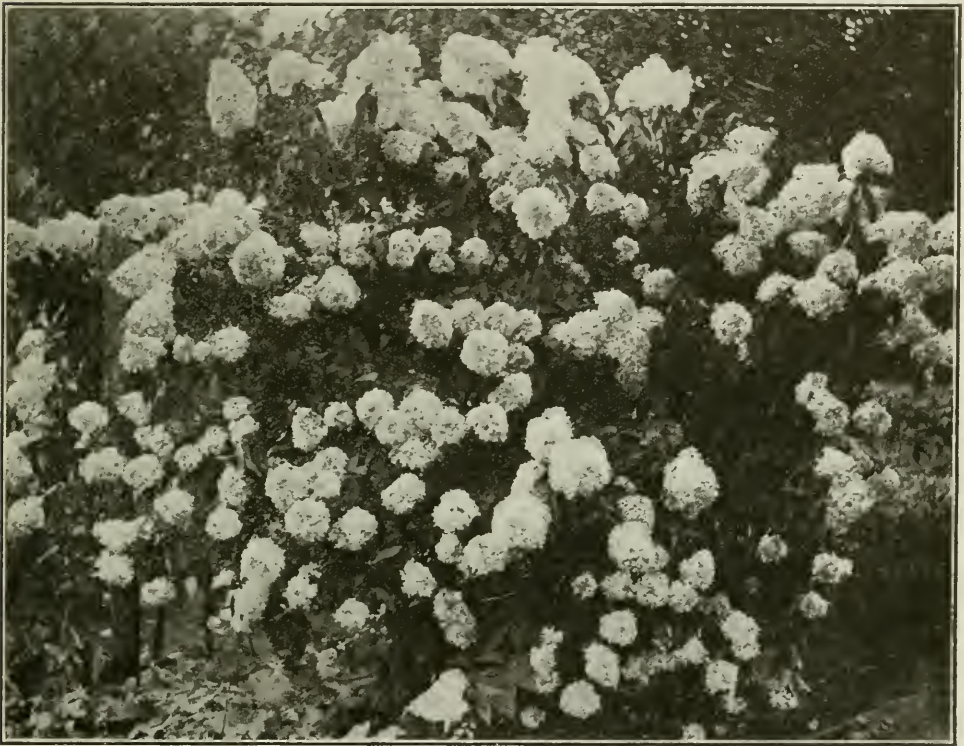
Under No. 2, Mr. Evans stated: I would like to see the clause as it originally stood, and that is that the Annual Meeting be held in Toronto. Toronto is a good railway centre. If we go to another place it is going to be somewhat difficult for the eastern delegates to go to a place west of Toronto, and just as difficult for delegates from the west to go to a place east. I move that Toronto be inserted.

DR. F. E. BENNETT: Toronto is the only place where the Convention can be held satisfactorily, and if it is left over there will be discussions and probably

a little hard feeling. But I do not believe you could embody that in the Constitution.

J. A. WEBBER: Hamilton sent you a special invitation this year, and the Board of Trade of Hamilton were ready to receive you with open arms, but we were convinced afterwards that Toronto was the place to hold the Convention, being in touch with the Government and its officials.

J. LOCKIE WILSON: If that is your wish, we will revise this to read, "The annual Convention shall be held at the City of Toronto at such time as may be decided upon by the Executive." Clause 2 was carried with these changes.



*Hydrangea Paniculata Grandiflora.*

Under No. 6 there was some considerable discussion, Mr. Evans contending that only delegates should be eligible for office and that stipulation should be so made.

Opinion on this question seemed divided. Mr. Wilson asked the meeting if a member of a local Horticultural Society could not be elected who was not a delegate to the Convention. Mr. Evans said "No, it would not be reasonable for the Association to elect, say, Mr. Thos. Church as Vice-President of the Association when he took absolutely no interest in Horticulture although he is a member of the Toronto Society.

A MEMBER: So long as a man was a good active worker in the Horticultural Association and also a member of the local Society, he should have the right to be elected.

J. LOCKIE WILSON: Suppose that some untoward event occurred, say a storm, and you had no representative from a certain district. Would you prevent them having representation? You had better trust this to the Convention.

Mr. Evans' motion was then seconded by another member, but was lost, and the original clause as incorporated under No. 6 was carried. The other clauses were adopted as read.

In lieu of Clause 6, another had been prepared by the Constitution Committee providing for a Nominating Committee to bring before the house the nominees for office for each ensuing year but this motion was lost.

Districts as arranged were then decided upon.

The Constitution as amended was then adopted in full as follows:

### CONSTITUTION OF THE ONTARIO HORTICULTURAL ASSOCIATION.

1. This Association shall be known as the Ontario Horticultural Association, and any Horticultural Society in Ontario shall be eligible for membership upon the payment of the following fees per annum: Societies with a membership of 200 or less. \$2; for each additional one hundred of membership, \$1 extra, up to 500 members, the maximum fee to be \$5; said membership fee to be determined by the official figures of the Department of Agriculture as shown in the last printed report.

2. The primary objects of this Association shall be to advance the interests, promote the welfare, increase the usefulness and supplement the efforts of all Horticultural Societies in the Province. An annual Convention shall be held at Toronto at such time as the Executive may decide, and to this meeting each Horticultural Society in the Province shall be invited, one month in advance of such meeting, to send delegates for the purpose of discussing matters of general interest, methods of management, special features of Society work, lectures and reports for educational circulation, and for making such recommendations to the Honourable the Minister of Agriculture for Ontario as may be deemed best in the interests of all Societies. Each Society shall be entitled to be represented by two delegates, and any Society having a membership exceeding 100 shall be entitled to additional representation in the proportion of one delegate to each 100, or fraction of 100 members over the first one hundred.

3. The officers of the Association shall consist of a President, First and Second Vice-Presidents, a Secretary and Treasurer, nine Directors and two Auditors. The Board of Directors shall appoint from among themselves an Executive Committee, to consist of the President, the Secretary, and not more than three Directors, and of this Committee three shall form a quorum.

4. The President, the two Vice-Presidents, the Secretary and Treasurer and the Directors shall constitute the Board.

5. The President, or, in his absence, one of the Vice-Presidents, shall preside at the meetings of the Association, and of the Board of Directors. In the absence of both the Vice-Presidents, the members may appoint their own Chairman.

6. The officers shall be elected by nomination and by ballot at the Annual Meeting, for one year, and shall hold office until their successors are elected.

7. Vacancies in office shall be filled by the Executive Committee.

8. The Board of Directors of the Association shall have power to call a special meeting of the Association, whenever they deem it advisable. Notice of all special

meetings, with a statement of the subjects to be discussed, shall be sent to all Societies, at least one month previous to the date of said meetings, and such subjects only shall be passed upon.

9. At the Annual Meeting or any special meeting of the Association, twelve members or delegates shall constitute a quorum for the transaction of business.

10. The Board of Directors, between the sessions of the Association, shall manage its affairs, and report its transactions to the Annual Meeting, and five members of such Board shall constitute a quorum for the transaction of business.

11. The constitution and by-laws may be amended, revised or repealed by a majority of the members present at any regular annual meeting, provided a notice of motion of such proposed amendment has been given at the previous Annual Meeting. All notices of motion not given at the Annual Meeting shall be forwarded to the Secretary not later than one month before the date of the Annual Meeting.

12. The Executive shall prepare a programme or order of business previous to calling the Annual Meeting, and a copy of such programme shall be sent to each Society at the time notice is given of such meeting.

13. The order of business of the Annual Meeting shall be as follows: Adopting report of the previous meeting, receiving reports of Committees, reading communications and appointing Committees, unfinished business, new business, Treasurer's statement, and the nomination and election of officers.

#### DISTRICTS.

1. Carleton, Dundas, Glengarry, Grenville, Lanark, Leeds, Prescott, Renfrew, Russell, Stormont.

2. Durham, Frontenac, Haliburton, Hastings, Lennox and Addington, Northumberland, Peterborough, Prince Edward, Victoria.

3. Algoma, Dufferin, Kenora, Manitoulin, Muskoka, Nipissing, Parry Sound, Rainy River, Simcoe, Sudbury, Temiskaming.

4. Ontario, Peel, York.

5. Haldimand, Halton, Lincoln, Norfolk, Welland, Wentworth.

6. Bruce, Grey, Huron.

7. Brant, Waterloo, Wellington.

8. Elgin, Middlesex, Oxford, Perth.

9. Essex, Kent, Lambton.

#### REPORTS OF DISTRICTS.

*District No. 1, Rev. Dr. Scott, Director.*

If these fair counties in the eastern portion of Ontario were cultivated horticulturally as they should be, and as I hope they will be, you will require two or three Directors instead of one. Immediately after the last Convention I set myself to personally visit every Society in District No. 1, and with the exception of one of the Societies I have been successful in carrying out my purpose, and the first thing I desire to say to the members of this Convention is this: that there is a field in that portion of Ontario that lies between the two great rivers of our country—the Ottawa on the north and the St. Lawrence on the south—that gives great promise for the future furtherance of the interests that we have

at heart as Canadian horticulturists. You have down there as intelligent and as purposeful a band of men and women in the horticultural line that I know anywhere on either side of the Atlantic.

Here is an old historic district of Canada, a rich and promising portion of the Province of Ontario, and if we can in a little while double the numbers of our Societies and double or treble the membership in each Society, you will have a district far more influential than it is to-day. I am looking forward to the time when under somebody's supervision there will be a Horticultural Society in Pembroke, Arnprior, Almonte, Cornwall, Alexandria and other places in District 1.

To speak a word about the Societies that exist at the present time, there is a Society in District No. 1 that is setting an example to Canada and to every person in this great work, and that is the city that is the political metropolis of our country, Ottawa, and when I speak of them I speak regretfully of the vacant place that has been created by the death of our friend, R. B. Whyte. But there are other men there who are doing a great thing for our country and who are setting an example to the whole district in these discussions in which we are interested this morning. The smaller Societies are doing very well, and they desire to do better. My own Society of Perth is one of the oldest in Canada, and it would not be becoming on my part just now to speak of their particular excellence, but all in all, Horticulture is looking up, and we are moving forward and we hope to do better things in the days to come than we are doing just now.

*District No. 2, G. H. M. Baker, Lindsay, Director.*

I have been Director of your Association but one year and I am glad to say that we have formed a new Horticultural Society at Fenelon Falls. If I am re-elected by the Convention my endeavour will be to assist in organizing two or three new Societies in our district next year. But we must not forget that the important part of our work is to get everybody interested in it. We want to do like St. Thomas—get the Town Council, the Board of Education, the Board of Trade, the Women's Institutes, and all organizations interested and backing up the Horticultural Societies throughout the district and then we will not have as much trouble in securing the number of Societies we should have.

*District No. 3, R. Whorley, Haileybury, Director.*

I am sorry that Rainy River and all of these districts are 100 miles away from me. The only thing I can do is to write to the Presidents of the different Societies.

*District No. 4, Miss Mary Yates, Port Cr dit, Director.*

There are 13 Societies to date in this district which includes the counties of Peel, York and Ontario. I visited many of the branches in the capacity, either of advisor, speaker on a definite subject or as judge of vegetables and decorative classes. Letters to each Secretary were written from time to time in order to obtain the general opinion of the district and to submit lines for action.

A questionnaire was submitted to all branches as to their views on certain lines in order to report to the Board of Directors for the Association. The results of this and of informal talks at Exhibition and elsewhere decided us to call a meeting in the near future to consider a competition amongst the 13 Societies with the object of unifying the work of the District to some extent. One direct result has been the

catering for the 1919 Convention by District No. 4 as a unit under the capable leadership of the Thornhill branch.

*Outstanding features* have been the monster Vegetable Show for which the Toronto Society was responsible, assisted by the Organization of Resources Committee. The President of the Toronto Horticultural Society, Mr. Frank Roden, was Chairman. The director for District No. 4 was appointed as one of Mr. George Baldwin's five judges. Ten thousand persons attended this show which was the largest vegetable show ever held in Canada.

The use of the handsome new school buildings for the Horticultural Show in Port Credit were secured under the auspices of Mr. Maybee who acted as both Chairman of the School Board and President of the Horticultural Society and did much to secure admirable co-operation between the two groups. A plan of the school grounds was made and the Horticultural Society looks forward to planting them. Weston may be said to have held the best organized small town show visited during the year. Features were developed during the two days that made it an Exhibition of very great interest.

*District No. 6, John Grieves, Seaforth, Director.*

Mr. Grieves was not present but another delegate reported that the work was progressing nicely, that the Seaforth Society had turned down the usual work of producing flowers for that of Greater Production. They were extremely active in their Society last year, there being scarcely a foot of ground within the corporation uncultivated.

*District No. 7, H. W. Brown, Kitchener, Director.*

District No. 7 includes the counties of Brant, Waterloo and Wellington. There are fourteen horticultural societies in this district. I have written to each society at least twice offering my services, especially during the summer months and urging intensive gardening during war time and advising application to the President or the Superintendent for speakers for meetings. Very few societies failed to respond.

I forwarded copies of the premium and the prize lists of the Kitchener society to all societies which responded, and invited a return of the compliment.

At the request of the Elora Society I assisted in the judging of the lawns and gardens, and school gardens in July, and in judging at their annual exhibition late in August. I visited the exhibitions, also, at Waterloo, Elmira and New Hamburg as well as our own at Kitchener and the one at Galt (by proxy) and all were splendid, each one indicating that the call for greater production had been heeded.

I am pleased to report the organization of a new and promising society, New Hamburg. I assisted the Society to accomplish this about one year ago, too late to share in the 1918 grant, but not too late to do a lot of effective work for last year and in preparation for this year. Mr. Enoch Eby, the principal of the public school was the first president, and Mr. W. H. Umbach, the first secretary.

There are several aggressive and enterprising societies in this district, some of which I have been unable to visit. Guelph has given evidence of a broad gauge policy and has been laying the foundation for big results and a large membership. Waterloo has revived her annual exhibition. Galt and Brantford have a good membership and fulfil their mission generally. Kitchener Society fosters especially home gardens, beautiful premises, children's home gardens, a liberal distribution of premiums, and an exhibition which has taken the place, since its inception, of



Chrysanthemums at Ardwood.



a fall fair. Paris has a comparatively large membership and Elora and Elmira are doing good work and have done it long before other societies were organized.

I have had every assistance from the Department and from President Dockray. The president was enthusiastic and resourceful, and must have been a great encouragement to his directors and the societies which could be touched. I have tried to do what I could. I would have been glad to assist other societies in my district had it been necessary for me to do so. It is very difficult for me to attend meetings during the year and unfortunately the most important meeting of the Executive of the Ontario Association was called for one of the days of the Kitchener annual exhibition.

*District No. 8, Dr. Bothwell, Stratford.*

Being anxious for greater production, I was during the past year in constant touch with the Societies in my district, especially the smaller ones, urging greater production. I was fortunate in having in my district Dr. Bennett of St. Thomas. I wrote asking him for some assistance in the work and he very kindly agreed to do what he could do to help out, as owing to conditions over which I had no control I could not take up the work as enthusiastically as I would have wished.

*District No. 9, C. D. Brown, Walkerville.*

Two outstanding features in connection with my work in reference to the Societies in our District were Greater Production and some effort on my part to establish new Societies in towns which had not already become affiliated. The first of my objects, of Greater Production, met with some very considerable success. Our efforts with the Societies in which I am in closer touch were more successful than with the farther outlying districts. We increased production through the efforts of the school children and found the work very successful. In addition to that one of our Societies offered very attractive cash prizes for a garden competition. There was a great deal of enthusiasm shown by the children who undertook to compete and we had some excellent prizes. I understand the judges who made the tour of inspection reported it very interesting and they told of the wonderful work and the interest of these different people in the efforts for greater production.

The other object of the office to which I have been elected was that I encouraged some of these other towns which had no Societies to organize. For this purpose I drew up a schedule or a list of the different objects of the Societies and the work they should undertake and sent out a copy of this to every town in the two counties with a population of over 200. This communication was addressed to the Postmaster. I asked him to hand this to some person in this town he thought was interested in Greater Production and Horticulture. One farmer had sold \$6,000 worth of tobacco which he had grown in one year, and also the boys in the schools were earning such large money at munition making that it was hard to get them at gardening. My own boy, 15 years of age in two weeks of his summer vacation brought in a pay envelope of over \$70.

The election of Officers resulted as on page 6.

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## POTATO GROWING IN A SMALL GARDEN.

DR. C. A. ZAVITZ, AGRICULTURAL COLLEGE, GUELPH.

Potatoes are probably the most generally grown of the crops in Ontario. They form an important part in the crops of the farmer, the market-gardener, or the

town or city man with his small home garden. Potatoes are grown with comparative ease, and yet their cultivation can be decidedly and economically improved.

We have conducted a large amount of experimental work with potatoes at the Ontario Agricultural College within the past twenty-five years. It is the intention, to present at this time in a very brief form some of the conclusions of the various experiments conducted at Guelph and throughout Ontario in the past years.

#### SOILS.

Potatoes can be grown satisfactorily on almost any fertile and friable soil which is either naturally or artificially well under-drained. Good soils, whether loams, sandy loams, or friable clay loams might be mentioned as particularly well suited for the potato crop. Sandy loams are especially favorable for the production of potatoes for early use. On light sands, heavy clays, and black muck soils the growing of potatoes is usually more difficult, although good results are sometimes obtained from even these soils. The most of the soils of Ontario are well adapted to potato production providing they are properly underdrained either naturally or artificially.

#### CULTIVATION.

The cultivation of the soil for potatoes should be deep and thorough. The land may be plowed either in the fall or in the spring. If it is a heavy clay, it is usually wise to have deep fall plowing. An excellent plan is to place the land in ridges in the autumn, leaving the ridges about thirty inches apart. This protects the available fertilizing material in the ridges and allows the winter frosts to act on the sub-soil in the bottom of the furrows. In the spring the land is then in excellent condition for early and thorough cultivation. In some of the small gardens, however, this method might prove impracticable. One of the important factors is to have the land thoroughly spaded or plowed in the spring, so as to have a deep, well pulverized seedbed.

#### FERTILIZATION.

When there is no danger of a large amount of scab, farmyard manure is one of the best sources of fertility as it not only supplies plant food but it keeps the land in an excellent condition mechanically. Farmyard manure at the rate of twenty or twenty-five tons per acre usually gives satisfactory results. It is best to apply the manure in the autumn when this can be accomplished. If applied in the spring it should be thoroughly well rotted.

Commercial fertilizers can often be used in small gardens to excellent advantage. A good home-made fertilizer is one in the proportion of seven pounds Nitrate of Soda, sixteen pounds Acid Phosphate and nine pounds of Sulphate of Potash. This fertilizer we have found has given economical results with the potato crop throughout Ontario whether applied at the rate of 320, 640 or 960 pounds per acre. There are special brands of fertilizers for potatoes which give very good and satisfactory results, as for instance the "Potato Fertilizer" manufactured in Hamilton. This fertilizer when applied at the rate of 320, 640 and 960 pounds per acre has also given satisfactory results throughout the Province in connection with the Co-operative Experiments.

#### VARIETIES.

For commercial purposes emphasis is placed at the present time on the concentration to one early and to one late variety of potatoes. The two varieties selected are the Irish Cobbler of the early and the Green Mountain of the late sorts.

For home use, it is not so important for the different growers to produce only one variety with the idea of securing uniformity in large lots. Extensive experiments have been conducted at Guelph in testing some four hundred varieties for both production and for table quality. As a late potato the Empire State has given excellent results. It is a large yielder, has comparatively few small tubers, and the potatoes are of excellent quality, when flavor, mealiness and general appearance of the cooked potatoes are taken into consideration.

For very early use the Early Ohio fills an important place. Therefore, for the small garden it is rather difficult at the present time to choose varieties which are much superior to the Irish Cobbler, the Early Ohio, the Green Mountain and the Empire State.

In 1918, 138 separate tests were successfully conducted throughout Ontario in comparing the Irish Cobbler and the Green Mountain varieties of potatoes. In order to make the experiment as reliable as possible seed of each of these varieties was obtained from Southern Ontario, Northern Ontario and New Brunswick. In the average results of the 138 successfully conducted experiments it is found that the Irish Cobbler gave 134 and the Green Mountain 129 bushels per acre. The results from the gardens of these two varieties would likely be somewhat higher than those obtained from potatoes grown in the fields.

#### SOURCES OF SEED.

It has been found that the best results from growing potatoes in any one locality is usually from seed potatoes brought from the North in comparison with potatoes grown locally. In experiments conducted at Guelph over a series of years it has been found that the average returns in bushels per acre from seed potatoes obtained in Southern Ontario was 167 bushels, from Muskoka 301 bushels and from two sections in New Brunswick 202 and 237 respectively. In the last two years potatoes have been obtained from Thunder Bay District and have given excellent results both at the Agricultural College, Guelph, and at the Central experimental Farm, Ottawa.

#### USE OF IMMATURE SEED.

When in Scotland a few years ago, I visited one of the greatest potato growers in Ayrshire and found that he was growing early potatoes for market and planting a second crop on the same land after the first crop had been removed. The second crop of potatoes were only about half grown and therefore, were very immature at the time of frost and digging in the autumn. These immature potatoes, however, were used for planting in the following spring. This method seemed to be used quite extensively. Since then, experiments have been conducted at the Ontario Agricultural College by planting potatoes at different dates in order to secure seed of different stages of maturity for planting the following year. The average results of the experiments over a series of years show that those potatoes which were most immature produced the highest yield per acre, and that the yield gradually decreased as the stage of maturity of the seed potatoes increased.

#### CUTTING SEED POTATOES.

Extensive experimental work under ordinary conditions has shown that it is a good plan to use good-sized seed potatoes and to cut them in pieces of from one to two ounces in weight, and having two, three or four eyes in each piece. It is an excellent plan to throw the freshly cut pieces in finely ground land plaster or

gypsum and to plant the sets immediately after cutting. The best returns have been obtained by planting in rows about twenty-eight inches apart and leaving sets singly from twelve to fifteen inches apart in the rows. In the average of ten years' experiments about four bushels per acre increase has been obtained from hilling the potatoes in comparison with level cultivation.

#### PRODUCTION OF EARLY POTATOES.

In order to hasten the growth, numerous experiments have been conducted by placing whole potatoes of about two or three ounces each under different exposures for a period of three weeks before planting. As the result of these experiments, it has been found that the greatest satisfaction has been given from exposing the potatoes in a comparatively warm room with a moderate light for about three weeks before planting. This method increases the yield and hastens the early crop of potatoes.

#### CARE OF THE GROWING POTATOES.

As the results of experimental work it was ascertained that potatoes which were carefully sprayed with Bordeaux Mixture were not only freer from the rot caused by the late blight in unfavorable seasons, but also that the spraying increased the yield somewhat, even when there was no rot present. Three sprayings both on top and underneath the leaves gave better results than five sprayings on top of the leaves only.

In order to prevent the ravages of the potato beetle or potato bug, the insects can best be hand-picked in the small patch of potatoes. If this is not practicable, however, a solution of one-half pound of Paris Green, two pounds of Arsenate of Lead with forty gallons of water is usually effectual in keeping the plants comparatively free from the damages of the potato bugs.

#### CARE OF POTATOES.

In digging the potatoes, care should be taken to expose tubers to the sun as little as possible. They should be kept in a cool, dry place in the autumn. When stored in the cellar potatoes keep in an excellent condition if the temperature is fairly constant and around thirty-five degrees above zero. It is important to keep potatoes firm during the winter and free from sprouting in the dark in the spring before planting.

JAS. E. BROWN: All the experiments are not conducted at Guelph, although we are indebted to that Institution for a great deal of our success in gardening. In the Spring I purchased one bushel of Irish Cobbler potatoes from an Eastern firm. Out of this bushel there were some bad ones, and some small ones, so that there were only 56 lbs. of good potatoes to start with. These were cut into sets, having one eye in each piece, except in the case of some very small potatoes, which were used whole.

They were put into a bed the first week in April, high up from the ground, exposed to the sun, and very lightly covered and were allowed to sprout for five weeks, at which time the potatoes were about four inches high and had a good root.

The ground in the lot was then plowed and harrowed, and the furrows plowed—not too deep—seven feet apart. After plowing, the ground was allowed to dry out before the plants were put in.

The plants were then taken up and set in these furrows, set every twelve inches apart. They were covered over lightly, leaving the tops of the potatoes out to the

sun and air. They were hoed in a week from that time, and some more covering put on the plants. A week later they were hoed again, and some more dirt thrown over the plants making the ground level. Shortly afterwards the seven feet of ground between the rows was thoroughly cultivated. This was done twice, about two weeks apart. By this way the ground was very clean. The potatoes grew



The National Flower of England.

so rapidly with very strong tops and with the exception of a few times picking the bugs from the vines which came from the sets having two or three eyes, these being weaker there was no spray used on them.

On the 26th of May I planted Stowe's Evergreen Sweet Corn between the rows. The potatoes made very rapid growth, and the vines grew from three to three and a half feet high. The row measured about four feet across the top. The corn was slow in coming and did not prevent plenty of air reaching the potatoes.

On September 2nd I dug my potatoes, and from the original fifty-six pounds  
6 H.S.

of seed, there were 846 lbs., or fourteen bushels, and the potatoes were all large, averaging 150 potatoes to sixty pounds.

Under each set there were from two to five large potatoes, and few small ones. There was only one bushel of small and medium potatoes out of the fourteen bushels, and the large potatoes were from the sets with one eye, the smaller ones coming from the sets with two or three eyes.

The potato vines falling down as the potatoes ripened, gave plenty of air and room for the corn, and I also had an excellent crop of sweet corn.

It is wonderful what a little patch of ground will produce if scientific methods are employed, and the proper care taken, even by amateurs.

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## REPORT OF THE COMMITTEE ON NAMES AND VARIETIES.

H. J. MOORE, NIAGARA FALLS.

This is an attempt to standardize things, score cards, a list of annuals and perennials, so that following along these lines and accepting this standardized list of plants we will be able to give the word horticulture a greater dignity, you will be able to beautify your gardens as you have never been able to do in the past. But in order to do that we must have your sympathy, the help of every person in this Organization, and with that sympathy and help, in a few years your Committee will be able to show you something worth while.

The report of the Committee on Names and Varieties this year consists of two contributions, one giving a complete list of "Annual and other Flowers, including Greenhouse, Tender, and Half-hardy Perennials, which in Canada cannot be classed as Hardy Perennials," which list is prepared as a guide to their hardiness, common names and the correct pronunciation of their botanical names. The other consists of score cards on Bulbs, Pæonies, Roses and Sweet Peas, together with notes compiled to make clear the terms which appear on the cards.

The Committee has not been able to meet together for consultation this year and the Secretary has had to depend on correspondence for the suggestions and help received from other members of the Committee.

H. J. MOORE, *Chairman*

F. E. BUCK, *Secretary.*

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## A COMPLETE LIST OF ANNUAL AND OTHER FLOWERS, INCLUDING GREENHOUSE, TENDER AND HALF-HARDY PERENNIALS WHICH, IN CANADA, CANNOT BE CLASSED AS HARDY PERENNIALS.

Prepared as a guide to their hardiness, common names, and the pronunciation of their botanical names by the Committee on Names and Varieties of the Ontario Horticultural Association.

### NOTES AND EXPLANATIONS.

An asterisk preceding the name of a plant signifies that as a rule it is, correctly speaking, a perennial, but having tender roots which require greenhouse or indoor conditions it cannot be grown in the open in Canada, except as an annual.

The signs H., H.H. and T. refer to the hardiness of annuals, or those plants which are generally grown outside as annuals, H. signifying that they stand considerable frost and T. that the first frost kills them. Those marked H.H. withstand varying degrees of frost before succumbing. At the Central Experimental Farm, Ottawa, 98 per cent. of these flowers have been tested as *annual*. In a few places in Canada such flowers as snapdragons, pansies, etc., can be wintered successfully, but even then it is more satisfactory to treat them as annuals. Most of those with the designation G. are grown as greenhouse annuals, but when grown under garden conditions they are also entitled to be classed with true annuals.

A few of the plants which are tender to early frost at Ottawa are considered H.H. at Niagara Falls or Toronto. For example, Amaranthus, Balsam, Celosia, Eutoca, Salvia and Zinnia.

The common or English name is given for all the better known annuals. In such cases as dahlia, geranium, petunia, etc., where the botanical name is well known, the committee recommends that it be used as the common name.

The correct pronunciation of all the Latin names is given. In some cases another pronunciation is frequently heard. It is advised, however, that, as far as possible, the following should be accepted as the correct pronunciation.

In about a dozen cases certain flowers are better known in their perennial than in their annual forms.

The Committee recommends the adoption of this list as the basis for Canadian authority on these points.

\*The sign ' following a syllable signifies that it is the accented syllable of the word. The sign — signifies that the vowel is long.

<i>Botanical Name.</i>	<i>English Name.</i>	<i>Correct Pronunciation.</i>
Atriplex, H.H.	Red Mountain Spinach.	a'tri-plex.
*Antirrhinum, H.	Snapdragon.	an-tir-rhī'-num.
Ammobium, H.H.	White Everlasting.	am-mō'-bi-um.
Abronia, H.H.	Sand Verbena.	ab-rō'-ni-a.
Acroclinium, H.H.	Daisy Everlasting.	ak-rō'-klin'-i-um.
Agrostemma (Lychnis) H.	Rose of Heaven.	ag-ro-stem'-ma.
Alonsoa, H.H.	Mask Flower.	al-on-sō'-a.
Alyssum, H.H.	Sweet Alyssum.	al-is'-sum.
Amaranthus caudatus, T.	Love-lies-Bleeding.	am-ar-anth'-us.
Amaranthus tricolor, H.H.	Joseph's Coat.	
Anagallis, H.H.	Pimpernel.	an-a-gal'-is.
Arctotis, H.H.	African Daisy.	ark-tō'-tis.
Argemone, H.H.	Prickly Poppy.	ar-gem'-ō-nē.
Arnebia, H.H.	Prophet Flower.	ar-nē'-bi-a.
Asperula, H.H.	Woodruff.	as-per'-u-la.
Agathaea, G.	Blue Marguerite.	ag-a-thē'-a.
Adonis, H.H.	Pheasant's Eye.	a-dō'-nis.
Ageratum, T.	Floss Flower.	adj-er-ā'-tum.
*Achimenes, G.		a-ki-mē'-nēz.
Amberbia, H.H.		am-ber'-bi-a.
Anchusa, H.H.	Cape Forget-me-not.	an-kū'-za.
Angelonia, G.		an-gel'-ō-ni-a.
Adlumia, H.H.	Allegheny Vine.	ad-lū'mi-a.
Bartonia, H.H.	Barton's Golden Flower.	bar-tō'-ni-a.
Brachycome, H.H.	Swan River Daisy.	brak-i-kō'-me.
Browallia, G.	Amethyst Plant.	brow-āl'-li-a.
Balsam, T.	Balsam.	bal'-sam.
*Begonia, G.	Begonia.	be-gō'-ni-a.
*Bellis, H.	Daisy.	bel'-lis.
Bryonia, H.H.	Bryony Vine.	bri-ō'-ni-a.
Cacalia, T.	Tassel Flower.	ka-kā'-li-a.
Calandrinia, H.H.	Rock Purslane.	kal-an-drin'-i-a.
Calceolaria, G.		kal-sē-o-lar'-i a.

<i>Botanical Name.</i>	<i>English Name.</i>	<i>Correct Pronunciation.</i>
Calendula, H.	Pot Marigold.	kal-end'-u-la.
Cannabis, H.H.	Chinese Giant Hemp.	kan'-na-bis.
Cardiospermum, T.	Balloon Vine.	kar-di-o-sperm'-um.
Celosia, T.	Cockscomb.	sē-lō'-si-a.
Cineraria, G.	Cineraria.	sin-er-ar'-i-a.
Cineraria (Senecio), H.H.	Dusty Miller.	
Collinsia, H.H.	Collin's Flower.	kol-lin'-si-a.
Cosmos, H.H.	Mexican Aster.	koz-mos.
Calliopsis, H.H.	Calliopsis.	kal-le-op'-sis.
Callirhoe, H.H.	Poppy Mallow.	kal-li-rhō'-e.
Callistephus, H.H.	China Aster.	kal-li-steph-us.
Celsia, G.	Celsia.	sel'-si-a.
Collomia, H.H.		kol-lō'-mi-a.
Convolvulus, T.	Morning Glory.	kon-vol'-vu-lus.
Coreopsis, H.H.	Coreopsis.	kor-e-op'-sis.
Clarkia, H.H.	Clarkia.	klar'-ki-a.
Chrysanthemum, H.H.	Chrysanthemum.	kris-an'-the-mum.
Coleus, T.	Coleus.	kō'-le-us.
Cuphea, T.	Cigar Flower.	kū'-fē-a.
Cyclamen, G.	Cyclamen.	sik'-la-men.
Cucumis, T.	Gourds.	kū'-kū-mis.
Cyclanthera, T.		sī-klan-the'-ra.
Centaurea cyanus, H.H.	Corn Flower or Bachelor's Button.	sen-tau'-rē-a.
Centaurea candidissima.	Dusty Miller.	
Centaurea moschata.	Sweet Sultan.	
Cleome, H.H.	Spider Flower.	klē'-ō-me.
Cobaea, H.H.	Cup and Saucer Vine.	ko-bē'-a.
Campanula, H.H.	Bell Flower.	kam-pan'-u-la.
Carnation, H.	Carnation.	kar-na'-shon.
Catananche, H.	Cupid's Dart.	kat-an-an'-ke.
Contranthus, H.H.	Red Valerian.	sen-tranth'-us.
Cheiranthus, G. and H.H.	Wallflower.	ki-ranth'-us.
*Canna, T.	Indian Shot.	kan'-na.
Datura cocinifolia, T.	Horn of Plenty.	dā-tū'-ra.
Datura arborea.	Angel's Trumpet.	
Diascia, H.H.	Bonnet Plant.	dī-as'-ki-a.
Dimorphotheca, H.H.	Cape Daisy.	dī-mor-foth'-e-ka.
Dolichos, T.	Hyacinth Bean.	dol'-i-kcs.
Dahlia, T.	Dahlia.	dahl'-i-a or dāyl'-i.
Delphinium, H.H.	Larkspur.	del-fin'-i-um.
Dianthus, H.	Pink.	dī-an'-thus.
Didiscus, H.H.	Didiscus.	dī-dis'-kus.
Dracocephalum, H.H.	D. agon's Head.	dra-ko sel'-al-um.
Erysimum, H.H.		er-is'-i-mum.
Euphorbia, marginata, H.H.	Snow on the Mountain.	ū-for'-bi-a.
Euphorbia, heterophylla.	Mexican Fire Plant.	
Euphorbia, pulcherrima, G.	Poinsettia.	
Eschscholtzia, H.	California Poppy.	e-skeltz'-i-a.
Eccremocarpus, H.H.	Chilian Glory Vine.	ek-kre-mo-kar'-pus
Erzegovine, T.	Ornamental Tobacco.	er-zē-gō'-ve-ne.
Eutoca, T. (Phacelia).		ū-to'-ka.
Exacum, G.	Exacum.	ex'-a-kum.
Everlasting Star Flower, H.H.		
Echeveria, H.H. (Cotyle- don).		ek-e-vē'-ri-a.
Echinocystis, T.	Wild Cucumber.	e-kī-no-sis-tis.
Erythrina, G.	Coral Tree.	e-rith-rē'-na.
Gaillardia, H.	Blanket Flower.	gā-l-lar'-di-a.
Godetia, H.H.	Satin Flower.	go-dē'-shi-a.
Gypsophila, H.H.	Baby's Breath.	giu-sōf'-il-a.
*Geum, G.	Geum.	ge'-um or iō'-um.
Gamolepis, H.H.		gam-o-lep'-is.
*Gesnera, G.		ges-ner-a.
Gerbera, G.	Transvaal Daisy.	ger'-bē-ra.
Gilia, H.H.		gil'-i-a.



<i>Botanical Name.</i>	<i>English Name.</i>	<i>Correct Pronunciation.</i>
*Gloxinia, G.	Gloxinia.	glox-in-'i-a.
*Gladiolus, H.H.	Gladiolus.	g'ad-'iō-lus.
Gomphrena, H.H.	Globe Amaranth.	gom-fre-'na.
*Grevillea, G.	Silver Oak.	gre-vil-'e-a.
Geranium, T.	Geranium.	jer-ā-'ni-um.
Humulus, H.H.		
Helichrysum, H.	Everlasting Flower.	hel-i-kris-'um.
Hebenstreitia, H.H.		he-ben-strī-'tia.
*Heliotropium, G.	Heliotrope.	hē-li-o-trōp-i-'um.
Helipterum, H.H.	Humboldt's Everlasting.	he-lip-'ter-um.
Hibiscus, H.H.	Mallow.	hi-bis-'kus.
Helenium, H.H.	Sneeze Weed.	he-lē-'ni-um.
Helianthus, H.H.	Sunflower.	hē-li-an-'thus.
Hunnemannia, H.H.	Tulip Poppy.	hun-ne-man-'ni-a.
Ipomea, T.	Morning Glory.	ip-o-mē-'a.
Ipomea quamoclit.	Cypress Vine.	
Ipomea quamoclit hyb.	Cardinal Climber.	
Ipomea Bona-nox.	Moon Flower.	
Iberis, H.H.	Candytuft.	i-bēr-'is.
Impatiens, T.	Balsam.	im-pa-'shens.
Ionopsidium, H.H.	Violet Cress.	iō-nop-sid-'i-um.
Isolepis (Scirpus).		i-so-lep-'is.
Iresine (Achyranthes).	Iresine.	i-re-sī-'ne.
Jacoea, H. (Senecia).	Jacoea.	jak-o-bē-'a.
Kaulfussia, H.H.		ka'il-fūs-'si-a.
Kochia, H.H.	Summer Cypress.	kok-'i-a.
Lathyrus, H.H.	Sweet Pea.	lath-'i-rus.
Lavatera, H.H.	Lavatera.	la-va-tē-'ra.
Linum, H.H.	Scarlet Flax.	li-'num.
*Lantana, G.	Lantana.	lan-tā-'na.
Layia, H.H.		lāy-'i-a.
Leptosyne, H.H.		lep-toz-'i-nē.
Leptosiphon, H.H. (Gilia)		lep-to-sī-fon.
Limnanthes, H.H.		lin-nan-'thēz.
Lupinus, H.H.	Lupine.	lū-pī-'nus.
Linaria, H.H.	Toad Flax.	lī-nar-'ia.
Linaria, G.	Kenilworth Ivy.	
Lobelia, H.H.	Lobelia.	lō-bē-'li-a.
Loasa, H.H.	Chili Nettle.	lō-ā-'sa.
Lychnis, H.H.	Lychnis.	lik-'nis.
Lychnis coronaria, H.H.	Dusty Miller.	
Lophospermum (Maurandia).		lof-o-sper-'mum.
Malope, H.H.	Mallow-wort.	mal-'ō-pē.
Malcomia, H.H.	Virginian Stock.	mal-kō-'mi-a.
Martynia, T.	Elephant's Trunk.	mar-tin-'i-a.
Mattiola, H.H.	Stocks.	ma-ti-'o-la.
Matricaria, H.	Snowball Chrysanthemum.	mat-ri-kar-'i-a.
Mimulus, H.H.	Monkey Flower.	mim-'ū-lus.
Mirabilis, T.	Four-o'clock.	mī-rāb-'il-is.
Maurandya, H.H.	Maurandya.	mau-ran-'di-a.
Mesembryanthemum, H.H.	Ice Plant.	mes-em-bri-an-'the-mum.
Mina Lobata, H.H. (Ipomea).	Mina.	mī-'na.
Medicago, H.H.	Snails.	med-i-kā-'go.
Mimosa, G.	Sensitive Plant.	mi-mō-'za.
Momordica, H.H.	Palsam Apple.	mo-mor-'di-ka.
*Musa, T.	Abyssinian Banana.	mū-'za.
Nasturtium, H.H.	Nasturtium.	nas-tur-'shl-um.
Nemesia, H.H.	Nemesia.	ne-mē-'si-a.
Nemophila, H.H.	California Bluebell.	nē-mof-'il-a.
Nicotiana, H.H.	Tobacco Plant.	ni-kō-shi-ā-'na.
Nierembergia, H.H.	Cup Flower.	nē-rem-ber-'gi-a.
Nigella, H.H.	Love-in-a-Mist.	nī-gel-'la.
Nycteria, H.H.		nik-ter-in-'i-a.
Oxalis, H.H.	Oxalis.	ox'a-l-is.
Papaver, H.H.	Poppy.	pa-pā-'ver.

<i>Botanical Name.</i>	<i>English Name.</i>	<i>Correct Pronunciation.</i>
Perilla, H.H.	Perilla.	per-il'-la.
Phacelia, H.H.	Phaceia.	fa-sē'-li-a.
Phaseolus, H.H.	Scarlet Runner Bean.	fa-se-ō'-lus.
Phlox, H.H.	Drummond Phlox.	flox.
Platystemon, T.	Cream Cups.	plat-i-stē'-mon.
Pentstemon, H.H.	Beard-Tongue.	pent-stē'-mon.
Petunia, H.H.	Petunia.	pe-tū'-ni-a.
Polygonum, H.H.		po-lig'-o-num.
Pansy, H.	Pansy.	pan'-sy.
Portulaca, H.H.	Sun Plant.	por-tū-lak'-a.
*Primula, G. and H.H.	Primula.	prim'-ū-la.
Pueraria, H.H.	Kudzu Vine.	pū-er-ar'-i-a.
Reseda, H.H.	Mignonette.	re-sē'-da.
Rhodanthe, H.H.	Swan River Everlasting.	rho-dan'-tē.
Ricinus, T.	Castor Oil Plant.	ris'-in-us.
Rudbeckia, H.H.	Cone Flower.	rud-bek-i-a.
Rahmannia, G.		rāh-man'-ni-a.
Romneya, G. and H.H.	California Bush Poppy.	rom-nē'-ya.
*Stevia, H.H. (Piqueria).	Stevia.	stē'-vi-a.
Santolina, H.H.	Lavender Cotton.	san-to-li'-na.
Sanvitalia, H.H.		san-vi-tā'-li-a.
*Saponaria, H.H.	Bouncing-Bet.	sa-pō-nar'-a.
Scabiosa, H.	Pin Cushion Flower.	skā-bi-ō'-sa.
Schizanthus, H.H.	Butterfly Flower.	skiz-an'-thus.
Silene, H.H.	Catchfly.	si-lē'-ne.
Solanum, G.	Jerusalem Cherry.	sō-lā'-num.
Sphenogyne, H.H.		sfe-nog'-i-ne.
Salvia, T.	Scarlet Sage.	sal'-vi-a.
Salpiglossis, H.H.	Velvet Trumpet.	sal-pi-glos'-sis.
Schizopetalon, H.H.		skiz-ō-pet'-a-lon.
Sedum, H.H.	Stone Crop.	sē'-dum.
*Streptocarpus, G.	Cape Primrose.	strep-to-kar'-pus.
Statice, H.H.	Sea Lavender.	stat'-is-ē.
Senecia, H.H.	Dusty Miller.	sen-ē'-si-a.
Senecia, G.	German Ivy.	
Santpaulia, G.	African Violet.	sant-paul'-i-a.
Specularia, H.H.	Venus' Looking Glass.	spek-u-lar'-i-a.
Tagetes, H.H.	Marigold.	ta-gē'-tez.
Tydaea, G. (Isoloma).		tī-dē'-a.
Torenia, G.		to-rē'-ni-a.
Tithonia, H.H.		ti-thō'-ni-a.
Thunbergia, H.H.	Thunbergia.	tun-ber'-gi a
Tecoma, G.		te-kō'-ma.
Tropaeolum, H.H.	Canary-Bird Vine.	tro-pē'-o-lum.
Thelesperma, H.H.	Cosmidium.	the-les-per'-ma.
Viscaria, H.H.	Viscaria.	vis-kar'-i-a.
Verbena, H.	Verbena.	ver-bē'-na.
Viola, H.H.	Pansy.	vī'-o-la.
Whitlavia, T.	Whitlavia.	whit-lā'-vi-a.
Xeranthemum, H.H.	Immortelle.	xēr-an'-the-mum.
Zinnia, T.	Youth and Age.	zin'-ni-a.
Zea, T.	Ornamental Corn.	zē'-a.

#### SCORE CARDS FOR THE USE OF HORTICULTURAL SOCIETIES.

The following score cards have been prepared by the Committee on Names and Varieties in accordance with a motion carried at the 1917 Convention of the Association, which requested the Committee "to prepare a score card system for judging at Exhibitions of the Horticultural Societies, this work to continue from year to year and that there be presented at the next Annual Meeting a report on the judging of roses, sweet peas, peonies and spring flowering bulbs. That reports on these subjects be considered and discussed at the Annual Meeting at which they are presented and if approved to be adopted by the Association, and that all Horticultural Societies be required to use these score cards

in judging the respective classes at exhibitions and thus secure uniformity.

Inasmuch as it was not possible to carry out the intention of the motion that the score cards be discussed at the Annual Meeting at which they are presented, before being printed in the report of the Association, it is suggested that they be discussed and should any changes be made as a result of the discussion, that they be printed in a revised form in the next report.

The notes on judging flowers which follow the score cards are compiled to make clear what is meant by the various terms which appear on the score cards.

#### SCORE CARD "A."

##### TULIPS AND NARCISSI.

Maximum Number of Points, 100.

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Form and substance .....	25
Colour .....	20
Size .....	15
Condition .....	20
Fragrance .....	10
Setting up or arrangement .....	10

Each specimen should be uniform with its fellows in all essential characteristics. See note on "Uniformity."

#### SCORE CARD "B."

##### PEONIES.

Maximum Number of Points, 100.

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Form .....	20
Size .....	15
Colour .....	20
Substance and stem .....	15
Condition .....	15
Fragrance .....	15

Each specimen should be uniform with its fellows in all essential characteristics. See note on "Uniformity."

#### SCORE CARD "C."

##### ROSES.

Maximum Number of Points, 100.

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Form .....	20
Colour .....	20
Size .....	15
Substance and condition .....	15
Foliage and stem .....	10
Fragrance .....	10
Setting up or arrangement .....	10

Each specimen should be uniform with its fellows in all essential characteristics. See note on "Uniformity."

## SCORE CARD "D."

## SWEET PEAS.

Maximum Number of Points, 100.

Form and substance .....	20
Colour .....	25
Size .....	15
Condition .....	15
Number of flowers to a stem .....	10
Setting up or arrangement .....	15

Each specimen should be uniform with its fellows in all essential characteristics. See note on "Uniformity."



Mr. H. C. Cox's Lawn on Lake Shore Road.

## NOTES ON THE JUDGING OF FLOWERS.

1. *Form.* The form of a flower is due to the arrangement of its petals, which may be similar and uniformly arranged, as in the tulip; dissimilar but uniformly arranged, as in the sweet pea; and dissimilar and not uniform, as in the pæony. In each example the ideal form is that which most closely approximates to certain general and sometimes personal standards of symmetry, beauty, grace, strength, etc.

2. *Color.* Perfection of color in a flower is sometimes a variety characteristic and sometimes related to the "condition" of the flower. As a variety characteristic color should last for a relatively long time for the variety without fading and should be rich and attractive rather than dull.

3. *Size.* Size in a flower is both a variety characteristic and an indication of cultural skill, etc. If a standard of size for the variety exists, specimens below that standard may be discriminated against, but when they are above that standard and possess other equally good qualities, abnormal size may be considered a merit.

4. *Condition.* Every flower at the time of judging should be in the most perfect phase of its possible beauty. The term "condition" therefore relates to its openness, its freedom from blemishes and its freshness. Condition is partly an essential quality and is partly due to the skill of the exhibitor.

5. *Substance.* Substance in a flower is closely related to its form, because without substance it quickly loses its form and becomes flabby or shapeless. Substance also relates to the stem of the flower because stem and the petals are intimately related. An ideal substance in a flower is one which, while not being coarse, conveys the least idea of perishability and fragility for the variety.

6. *Fragrance.* Fragrance is an essential quality of flowers which, although highly attractive, is relatively possessed by few and can be used only on score cards of certain flowers where fragrance varies much within the species.

#### UNIFORMITY.

Uniformity, although often used on a score card, is a term not always applicable. It is not applicable, for instance, to single specimens. When used as a heading in the judging of several specimens it should not be given too prominent a place because a judge is invariably apt to consider uniformity when considering each essential characteristic of the flower. Uniformity is not an essential characteristic and it is wiser, perhaps, to consider uniformity under the terms of form, color, size, etc., rather than to use it as a separate heading.

#### SETTING UP OR ARRANGEMENT.

Setting up or arrangement is the art of displaying flowers in their respective vases so that they show up to the best advantage under the judge's eye. It calls for a certain amount of taste and skill and arranging the foliage and setting up even a single specimen requires judgment. Flowers which have become slightly wilted or delapidated may be restored to their natural conditions by skilful handling. This is quite legitimate and is to be distinguished from "faking" or supplying parts of another flower to replace damaged parts, which is not allowable. The arrangement of flowers in a collection also requires skill, judgment and considerable care.

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#### MINORITY REPORTS ON "SCORE CARDS."

F. E. BUCK, C. E. F., OTTAWA.

The Report on "score cards" had to be prepared at short notice, and two of the members of the Committee had not handed in their contributions at the time when the Report was prepared for the printer's use. Had these contributions been received earlier no doubt the majority report would have been modified to embody many of the suggestions. It is thought desirable, therefore, to present the delayed contributions in the form of minority reports.

Member "A" would modify the score cards with respect to "Fragrance" and one other minor point. Member "B" suggests a new system entirely which

would do away with the method of allotting points on the basis of "relative values" and substitute for it a system of "fixed values." Both suggestions will no doubt provoke valuable discussion at the Convention.

MINORITY REPORT A: Member "A" suggests the following system of score cards and the reason why he differs from the other members of the Committee:—

TULIPS AND NARCISSI.

Form and substance .....	25
Colour .....	20
Size .....	15
Condition .....	20
Stem .....	10
Setting up or arrangement .....	10

PÆONIES.

Form .....	20
Size .....	20
Colour .....	20
Substance and stem .....	20
Condition .....	20

ROSES.

Form .....	25
Colour .....	20
Size .....	20
Substance and condition .....	15
Foliage and stem .....	10
Setting up or arrangement .....	10

SWEET PEAS.

Form and substance .....	15
Colour .....	25
Size .....	20
Condition .....	15
Stem, length, and number of flowers .....	15
Setting up or arrangement .....	10

REASONS. Member A states, "The only item on which I really would differ from the scoring is in fragrance. In tulips and pæonies I should think fragrance as a family characteristic is questionable, and it would penalize the great majority of the finest specimens. As for narcissi, in the most fragrant, the Chinese Sacred Lily, many would say that the least fragrant specimen should receive the highest count, and as ordinary people differ in their appreciation of this particular fragrance might not judges differ also.

Then in roses. While we would say that fragrance is undoubtedly a family trait it is only the minority that have what is accepted as a real rose fragrance, and the others run the whole gamut of perfumes, while in many of the recent creations fragrance is almost lacking. If we insist on fragrance the penalties to be suffered by many fine roses will be great, and then what a task for the judges. One judge cannot accept another judge's scoring on this point and when ten per cent. is allowed this may become a serious bone of contention at

exhibitions between judges and also be the reason for many an appeal from the exhibitor. One thousand roses is no unusual number to confront a judge, and his powers of differentiation would be greatly taxed before he ended and above all he has no tangible standards to go by. Can a true rose fragrance, such as, say, of some of the *Rugosa* hybrids, be compared with, say, the characteristic carnation perfume of *Caroline Testout*? Or how about the alcoholic tendency of *Camoens*? Would not some of our most reliable judges change their ideas of the acme of perfection when such a reminiscent odor suggests itself? Is fragrance as a requirement fair to our established gardens, is it fair to the rose itself and is it fair to the judges?

The only other item I would differ on is for tulips and narcissi, to give recognition to the stems, this being most necessary in Darwin tulips; and also to give points for length of stems in sweet peas.

In substance I would not like to see "the least idea of perishability and fragility" penalize delicacy which in many flowers, and roses and sweet peas in the present list, is a worthy attribute.

**MINORITY REPORT B:** Member B believes that in future judging methods must be standardized and gives the following reasons why he suggests a new type of score card.

1. The chief obstacle to the adoption and successful working of any system of score cards is the legitimate but uncertain element of "personal taste" of the judges.

2. Therefore, to offset that obstacle and in order to make score cards simple and workable it is necessary to give up almost completely the old system of relative values.

3. By relative values is meant the method whereby the points are apportioned on the score card. For instance, the character of a flower, described under the heading of "Form," may have as many as twenty-five points allotted to it, while color may have twenty points allotted to it. Flower characteristics are supposed to have different values, but very few judges agree absolutely on the apportionment of the points to express these values.

4. It is proposed, therefore, to establish a system of score cards which will make it immaterial whether the judges agree or disagree on the apportionment of such points, and allow them to keep their personal opinions on such matters.

The advantages of the system will be:

(a) That a uniform system of judging will be possible.

(b) Greater sureness and dispatch will be obtainable.

(c) The system will more closely approximate the methods of experienced judges who seldom use score cards.

The principles underlying the system are briefly as follows:

First, the three universal characteristics of flowers are taken and allowed twenty points each. These three characteristics are Form, Color and Size.

Second, the special characteristic or characteristics which distinguish the particular kind of flower are grouped under the fourth heading and allowed another twenty points.

Third, the exhibitor's skill is then taken into consideration and twenty points are allotted under the fifth heading, which generally deals with setting up or arrangement, but may include something else in that, provided it is connected with the skill of the exhibitor.

The reason why the system of relative values on the score cards is replaced by the different method is that the judge in making his award has no reason

at all to consider relative values. He is confused in his judging by so doing. What a judge does do is to compare the merits of say exhibits A, B and C with regard to certain fundamental characteristics and skill on the part of the exhibitor. It is far easier for him to remember that he has to compare all these characteristics on a uniform basis than it is for him to be constantly referring to the score cards to see how many points are awarded for this characteristic and the other characteristic. It is confidently believed that the complicated type of our present score cards is the great reason why experienced judges do not favor or use score cards to any extent, and it therefore follows that where that is the case there can be no uniform system of judging.

A simple standardized score card system should be universally used and of great help.

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TULIPS AND NARCISSI.

Form and substance .....	20
Colour .....	20
Size and stem .....	20
Condition .....	20
Setting up or arrangement .....	20

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PEONIES.

Form .....	20
Size .....	20
Colour .....	20
Substance and stem .....	20
Condition .....	20

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ROSES.

Form .....	20
Colour .....	20
Size and stem .....	20
Condition and foliage .....	20
Setting up or arrangement .....	20

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SWEET PEAS.

Form and substance .....	20
Colour .....	20
Size and stem (length and number of flowers) .....	20
Condition .....	20
Setting up or arrangement .....	20

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REPORT OF REPRESENTATIVE TO CANADIAN NATIONAL EXHIBITION.

P. H. MITCHELL, TORONTO.

As your representative on the membership of the Canadian National Exhibition in 1918, I beg to report as follows:

The Board of Directors of the Exhibition accepted me as a member representing the Ontario Horticultural Association on March 15th, 1918.

On March 30th, I attended the meeting of the Agricultural Committee which mainly dealt with the prize lists and classes. It is this Committee that your



representative is particularly connected with and it deals with three sections, namely, (a) Grain, Roots and Vegetables; (b) Floriculture; (c) Fruit and Honey. It is obvious that our Association is interested mainly in Vegetables, Floriculture and Fruit.

The Toronto Horticultural Society also has a representative on the same Committee, Mr. W. J. Evans.

Your representative was able to have several items in the rules for exhibiting made more specific; several classes amended so as to adapt to present day conditions, particularly in dahlias; Rose Class for Amateurs limited in number; and further, in displays, that quality of flowers was made of greater importance than arrangement.

Several other changes of importance were made at Mr. Evans' suggestion and others by the Committee as a whole so that the list now shows considerable improvement.

The subject of large displays by Horticultural Societies was gone into at length, but as there was no prospect of an appropriation for a prize list of fitting magnitude this was left over.

Your representative was frequently present at the Horticultural Building during the exhibition and I hope was of some assistance to the exhibitors.

(Signed) P. H. MITCHELL.

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#### THE BURGOYNE MUNICIPAL ROSE GARDEN IN ST. CATHARINES.

Moved by DR. F. E. BENNETT, seconded by REV. DR. SCOTT, "That we record on the annals of this Society our unbounded appreciation of the magnificent gift of Mr. Burgoyne of a Municipal Rose Garden to the City of St. Catharines. Mr. Burgoyne is one of the most energetic and enthusiastic horticulturists in the Province and a former President of this Association. In placing on record our deep gratitude we cherish the hope that Mr. Burgoyne may be rewarded by seeing his example copied, and that it may be our good pleasure to record from time to time similar gifts which will be at once an inspiration and an impetus to increased activity on the part of all Horticultural Societies. Carried.

Mr. Burgoyne replied stating his appreciation of the manifestation toward him of the Convention. He said he got his inspiration from the municipal rose gardens of the United States in Hartford, Conn., and in Minneapolis, and he saw no reason why Canada should not have such gardens as well: that out of his deep appreciation at having been allowed to close four decades of business life he could do nothing that would give himself greater pleasure than this, as he termed it, small gift. He said he wanted to feel that the young people growing up should feel that it was *their* garden.

Rev. Dr. Smith, of St. Catharines, paid very high tribute to Mr. Burgoyne as a citizen of St. Catharines for the splendid help he had always yielded in the beautifying of the city, and also the encouragement given the girls and boys at all times in the matter of the school gardens. "While we are proud of the donation," said Mr. Smith, "we are doubly proud in hearing this testimony of appreciation from this Association."

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## JUDGING THE DECORATIVE CLASSES.

MISS MARY YATES, PORT CREDIT.

The subject of the arrangement of cut flowers merits far more interest than is popularly supposed, though much is being done to draw attention to it by individuals who appreciate a study of the basic principles of beauty.

There is no doubt that the decorative classes should be encouraged by every means in our power, the purpose behind their encouragement being the educational possibilities that lie in the development of a sense of artistic values in any individual.



From the Dunlop Nurseries.

These classes include the arrangement of flowers and foliage to form :

1. Table Decorations.
2. Buttonholes, sprays, bouquets, sheaves, bunches (as Violets) or the flat French effects with mixed flowers.
3. Bowls, baskets and vases.
4. Displays, groups and stands, a large entry of which adds considerably to the attractions of the Showroom.

The primary purpose of the entries in these classes is the enhancement of our home life by the decoration of our persons and of the living rooms, halls, stairways and sun parlors of our homes.

Their secondary purpose is to strengthen the recognition of the fact that beauty depends upon elegance rather than upon rarity of bloom which should not count, in these entries, more than the beauty of those less rare.

Economic value ranks high in the estimation of commercial judges, and in their recounts special attention is paid to relative financial values, or to difficulties in cultivation. *Per contra*, educational judges, in doubt of the order of merit in these classes, pay special attention to artistic values and to difficulties in arrangement.

It should be remembered that entries in the Amateur Decoration classes are not intended for sale, their beauty is intended to be loved and lived with, not merely to be stared at, as some one has well said.

Outside the group of brave people told off to give their opinion upon Amateur decoration, there is little open discussion, in the Societies, of fundamental principles upon which judgment is based. Personal taste is a delicate subject with many; and otherwise courageous beings, are often cowards about disclosing and eventually maintaining their views about artistic values. The opinion of the general public is interesting and it is noticeable that ability to arrange native flowers effectively is greatly admired, by those, too, who seldom make use of them in their own homes. Classes for their arrangement are nearly always a centre of interest in shows where they are provided for. "Collections" of native flowers are not meant, but arrangements in vases, baskets or bowls. In illustration it may be mentioned that the President of a Horticultural Society offered a handsome prize for table decoration, the material to be selected freely by those competing and judgment to be pronounced by public vote. On counting up it was found that the arrangement of wild flowers had secured the highest vote and in a class too, where many costly flowers had been used.

The winning table was dressed with the dainty "butter and eggs" abundantly in bloom by the wayside at that time. The flowers had merely been delicately massed in bowls of lavender-blue pottery and the table evidently made its own appeal by reason of its naturalness.

What may be called *the natural style* in arrangements, is a comparatively recent interest, in contrast, that is, to *the decorative or formal florist's method*.

At no very distant period all Art ran to decoration, and some exhibits, even still, appear to be valued more for the design than for actual arrangement.

General taste at the present time is mostly in favor of loose arrangements of long-stemmed flowers, stiff formal designs are tabooed, and the "pyramid" as a popular table design has vanished.

Flowers of course should be fresh and used as cut from the plants, no artificial aids to be allowed in this style of arrangement. It is easy to see why length and strength of stem is of such importance to the grower of cut flowers.

The American Rose Society scores length of stem as follows:—

6 inches .....	1 point.
6-8 inches .....	2 "
8-10 inches .....	3 "
10-12 inches .....	4 "
Over 12 inches .....	5 "

A detailed discussion of the rival merits of judging systems for decorative classes, used by Horticultural Societies in other countries is hardly in place here, it is sufficient to state that an interesting literature exists, for the Art of flower

arrangement is a very old one, and much study has been given to it. The Japanese attach great importance to individuality, distinction, refinement, and fragrance.

In the British R.H.S. freshness, elegance of habit, and arrangement, count for a good deal.

After considerable thought I submit the following for consideration when studying the entries in decorative classes.

In an analysis of the beauty of an arrangement intended for home use should not *naturalness* count first, namely the recognition of the beauty of a few flowers naturally arranged? Over-crowding and tightly packed blooms do not dispose themselves gracefully and super-abundance frequently coarsens and cheapens the effect of the whole. Possibly the second point to consider is that of *grace and beauty of line*—line if possible without repetition—the stems being frankly exposed for the purpose. An impression of strength and vigor in composition is frequently conveyed by the origin of these same stems.

Other points to be considered from the standpoint of the natural style in arrangement, might be those of *simplicity* in all directions, and the *sense of proportion* and suitability in the relationship of the water container to the material used. The *color scheme* of the whole arrangement would count of course whether it represented harmony, uniformity or contrast. If these five primary considerations were applied to the analysis of the beauty of any bowl or vase of flowers, with say 20 points given for each heading, we would have a score card as follows, under the divisions of which the secondary considerations could be taken up:—

1. Recognition of beauty of few flowers naturally arranged— <i>naturalness</i> ..	20
2. Elegance—grace and beauty of line .....	20
3. Simplicity in all directions .....	20
4. Sense of proportion .....	20
5. Colour schemes .....	20

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The decisions of judges have very frequently to be arrived at by comparisons made between defects in the entries, rather than between their beauties, or between the entries and the ideal in mind, at the same time Judges employed by the Association should be able to fill out a score card, if requested, for any exhibition desiring one, whether the award was based on judgment by score, by comparison, or by guess.

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## RASPBERRIES AND CURRANTS FOR THE HOME GARDEN.

W. T. MACOUN, DOMINION HORTICULTURIST, C.E.F., OTTAWA.

Now that we are thinking more about the food we produce and eat than we used to do, both from the standpoint of patriotism and of our pockets, it is a special pleasure to contribute any information which will encourage the production of fruit in our gardens.

Vegetables may be more necessary than fruit, but we cannot do without fruit, and he or she who has picked it in his own garden knows how desirable it is to grow one's own.

Two fruits, only, will be dealt with in this short paper, the raspberry and the currant; but, needless to say, no garden should be without strawberries where any small fruits are grown.

Both the raspberry and currant need an abundance of moisture to do well, and, while both of them will stand some shade, they succeed best in full sunlight. In order that those with very small gardens may get some idea as to whether it won't be worth their while taking up space with either raspberry or currant bushes, it might be well at the outset to state how much room the bushes require and what yield might be expected.

Experiments have shown that a very satisfactory distance apart for raspberry bushes is three feet in the row with the rows six feet apart, thus each bush occupies 18 square feet; or if the bushes are planted 5 feet apart each way, each bush occupying 25 square feet, they will not have too much room. A single row across part of all of one end of the garden close to the boundary line with the plants 3 feet apart may be found desirable. The yield which might be expected from the area occupied by say 12 original plants, occupying one row 36 feet in length, will depend very much on the variety, the care the plants receive, the character of the soil, and in the colder parts of Ontario on whether they are injured by winter or not. The best yield obtained at the Experimental Farm, Ottawa, was from the Herbert variety which from two rows each 18 feet long (equal to 1 row 36 feet long) yielded 50 lb. 12 oz. of fruit, which is at the rate of 10,234 lb. per acre. One half of this amount is a yield which might be expected in an average garden in an average year, or say about 2 lbs. from each plant. Thus, there would be in the 10 to 14 pickings which might be expected about 2 lbs. at each picking. As there is about a pound of fruit in a well filled box such as is purchased, one will be able to decide from these figures what area it will be necessary to devote to raspberries in order to have sufficient for the family needs. One must not, however, make the mistake of thinking that a full crop is obtained at once. If the plants are set out in the spring of 1919, no fruit need be expected that year, but in 1920 a half crop might be obtained, or say a dozen boxes from the 36 feet, and in 1921 there would be a full crop.

Raspberries may be planted successfully either in the autumn or in the spring. The advantage of planting in the autumn is that if any plants die they may be replaced in the spring, whereas if planted in the spring, it may be too late to plant others when the dead ones are noticed and so a season will be lost. A very good plan in order to better ensure having a perfect stand is to plant two plants in each hole or close together so that if one dies the other will probably live. There is nothing in the method of planting raspberries which one who plants herbaceous perennials needs to learn. The plants should be set about an inch deeper than they were before and the soil made firm about them with the foot. Planting a little deeper than they were before is recommended so that they will not be planted shallower than they were before, and if they are planted in the autumn it provides for a little heaving which will occur under some conditions. Plants should be cut back to within six inches of the ground when planted. Raspberries need good soil but the average garden soil will usually be found quite suitable. The oftener the surface of the soil is loosened with the hoe the first season, the stronger the growth will be, and, as the crop the second season will be grown on the canes made the first season the importance of having good canes can readily be understood. No pruning will be needed the first season. Frequent hoeing should be given the soil about the bushes during the second season as in the first, and during this year suckers will be sent out several feet from the original plants. It will now be necessary to decide on whether the original plants will be kept as single plants or whether suckers will be allowed to grow up and a continuous row of plants about three feet in width maintained from year to year.



Exhibit of St. Thomas Horticultural Society at Western Fair, London.

The better plan, we think, when raspberries are grown in a garden is to keep all suckers hoed out and depend on the canes which grew from the base of the original plants. These plants will, as a rule, give excellent crops for eight or ten years, and are easier handled in a garden than a matted row, which is liable to get too wide and prove troublesome in the garden. The canes which bear the fruit die each year after fruiting and their place is taken by new ones which grow up during the summer. Usually, however, there are too many new ones for best results, hence, when cutting out the dead canes the weaker of the new ones should be removed also. About six strong canes are enough to leave, as when these throw out side shoots when growth begins the space allotted to each plant will be well taken up, and too much crowding results in poorer fruit. In gardens where the soil is rich and the growth very luxuriant it will be found desirable to tie the canes of each plant loosely to a stake to keep the fruiting branches from bending down and touching the ground and the fruit getting dirty. A good plan is to have posts driven into the ground from 10 to 12 feet apart, to which are nailed cross pieces about two to three feet long and three feet six inches from the ground. A wire is now run along each side of the row and fastened to the cross-piece. This makes an excellent support for the canes. The canes often grow taller than it is desired to leave them, but they are not cut back until spring as they may be injured by winter. In the warmer parts of Ontario it is not necessary to protect canes in winter, but in Eastern Ontario it is found desirable to bend the canes down just before winter sets in and hold them down with some soil on the tips. They are thus usually protected with snow through most of the winter and come through very well. In some parts of the prairie provinces it is necessary to entirely cover the canes of most varieties to ensure their being uninjured. The canes are uncovered in Ontario as soon as the frost is out of the ground in the spring, and the canes are then cut back to from four to six feet in height.

Only one variety of raspberry has been mentioned so far, namely, the Herbert. This has been found the best for home use of Ottawa, but the great commercial berry in the warmer parts of Ontario and also one of the best for home use is the Cuthbert. The Cuthbert is not quite so juicy as the Herbert, hence not so popular with many as a home berry as the Herbert. Other red varieties might be mentioned, but for a home garden either of these is sufficient. The purple raspberries are very popular with some, and the best of these is the Columbian. These do not sucker, hence can be kept within bounds easier than the reds, but the fruit is more acid and not so palatable to most people when eaten raw as the red. The Black Cap raspberries are not recommended for the average small garden as they are not so popular as the red or purple, and results with them are very uncertain except in the warmest parts of Ontario. Hilborn, Older and Gregg are three of the most reliable.

While the currant is not so popular as the raspberry, and while comparatively few like them raw, no one, we think, will deny that red currant jelly and black currant jam are both delicious and should be well represented in the winter's supply of preserved fruits, and those who have got the habit of eating some red currants in the garden just before breakfast, or at the breakfast table, know how appetizing they are. This being so, each one should consider whether a place in the garden can be found for a few bushes.

The highest yield obtained from six bushes of red currants in one season was 79 lb. from a variety called Long Bunch Holland. This is at the rate of 19,118 lb. per acre, but half of this amount would be a good yield in an average season for the larger fruited varieties. The Red Cross, one of the most reliable of these,

averaged per year for a five year period 5,929 lb. per acre or nearly 20 lb. from six bushes per year, which is only about one-fourth of the crop of the highest yield obtained in any one year. The Pomona, another good variety, averaged for a five year period about 25 lb. from six bushes per year. Perfection is one of the best of the newer sorts. There is a marked difference in the hardiness of red currants, the larger fruited varieties such as the Fay Prolific, Cherry and Comet being the tenderest and very poor yielders at Ottawa, while at the other extreme are the Red Dutch, Raby Castle, Long Bunch Holland and Red Grape, which are very hardy but much smaller. Between these, are the Red Cross, Perfection and Pomona, which have comparatively large fruit and give a fair to good crop in the colder parts of Ontario and a good crop in the warmer sections. The Wilder is of good size but not quite hardy enough at Ottawa.

Two year old plants are the best kind to plant, and when these are used there will be a little fruit the year after planting, though nothing more than to whet the appetite, but in the year following there should be from one to two pounds to a bush, and the fourth season the bushes will be nearly in full bearing.

Black currants do not yield quite so much as the red, although some astonishing high yields have been obtained at Ottawa. The largest yield was from a variety called Topsy, originated by the late Dr. Saunders, which in 1914 yielded 63 lb. 4 oz. from six bushes, or at the rate of 15,306 lb. per acre. But, as with the red, half this amount would be a good average. Topsy is a hybrid between the Dempsey Black Currant and a Gooseberry. There is, as in the red currants, a marked difference in the hardiness of varieties. The Boskoop Giant, which bears very large fruit, is a light cropper at Ottawa, and so is the Victoria Black, another large fruited sort. These bear better crops in the warmer sections. Of the very large fruited varieties, the Buddenborg has proved the best cropper at Ottawa. The Black Champion has been one of the most popular sorts in Ontario, but the varieties originated by the late Dr. Wm. Saunders, such as Topsy, Magnus, Kerry, Clipper and Climax, while not of the largest size, are of good size and are hardy and productive and of good quality. There will be a little fruit the year after planting black currants, but the third season there should be half a crop, and the fourth season nearly a full crop.

Currants may be planted either in the autumn or the spring, but autumn planting is preferable, as the bushes start into growth very early in the spring, and will get a better start if they have been planted in the fall. A good distance for both black and red currants has been found to be six by five feet apart. Bushes grow to be a large size in a garden and require this amount of space for full development. Good cultivation is required in order to get strong growth. Little or no pruning is needed the first year. The black and red currants bear most of their fruit on wood of different ages, hence the pruning of one is a little different from the other. The black currant bears most of its fruit on wood of the previous season's growth, hence it is important to always have a plentiful supply of one-year old healthy wood: the red and white currants produce their fruit on spurs which develop from the wood two or more years of age, hence it is important in pruning red and white currants to have a liberal supply of wood two years and older, but as the fruit on the very old wood is not so good as that on the younger, it is best to depend largely on two and three year old wood to bear the fruit. From six to eight main stems, or even less, with their side branches well, when properly distributed, bear a good crop of fruit. Future pruning should be done with the aim of having from six to eight main branches each season and a few others coming on to take their places. By judicious annual pruning the bush can be kept sufficiently open to



admit light and sunshine. A good rule is not to have any of the branches more than three years of age, as if kept down to this limit the wood will be healthier, stronger growth will be made and the fruit will be better.

The chief enemy of the red currant is the Currant Worm, and too often one finds the bushes in the garden stripped of leaves, as the worms are numerous and they eat very rapidly. When the leaves are eaten the fruit does not ripen properly and the bushes are weakened, which affects the next year's crop. There are usually two broods of the Currant Worm, the first when the leaves have about reached their full size and the second when the fruit is beginning to ripen. A close watch should be kept for them as they are almost sure to be on the bushes every year. For the first brood a weak mixture of Paris Green, 1 oz. to 10 gallons of water, will kill them. For the second brood a less poisonous substance should be used as the fruit will soon be ripe. If the bushes are thoroughly sprayed with White Hellebore in the proportion of 1 oz. to 2 gallons of water there will be no danger to human beings and the worms will be killed. Hellebore could be used for the first brood, but it is important to kill them as soon as possible, hence an arsenical poison is preferable. Aphis are sometimes troublesome, and for these the ordinary contact sprays such as Nicotine Sulphate, Black Leaf 40, and soap washes are used. The spray must strike the insects, hence it should be applied to the under side of the leaves.

Currants should be kept well cultivated, pruned and fertilized, and, if well cared for, will yield bountiful crops.

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## THE DAHLIA.

JAS. S. WALLACE, TORONTO.

The Dahlia in its wild state was known to Europeans in Mexico as early as the year 1600, and in 1615 was described and illustrated by Francisco Hernandez in his book "The Plants and Animals of New Spain." It was no doubt abundant then as now in its native habitat—the Mexican Highlands and mountain sides 5,000 feet above the Sea—and was known by the natives as *Acotii*.

The flowers of red, yellow and purple, consisted of a single row of flat petals about a central disk of yellow florets, and were small to medium in size, resembling our *Cosmos* and *Coreopsis* to which it is closely related.

In 1789 the director of the Mexican Botanic Garden sent seeds of the plant to director Cavanilles of the Royal Gardens at Madrid, from which the latter grew not only single but semi-double flowers. In 1791, Cavanilles published a figure and description of the semi-double form and named it Dahlia in honor of M. Andre Dahl, an eminent Swedish botanist of that period. About the same time seeds were sent to England, but being grown under glass, the stock lived only two years. About 1812, M. Doukelaar of Louvaine did valuable work in developing full double flowers from singles in the 3rd generation.

From this modest beginning the Dahlia has since passed through one of the most wonderful developments known in floriculture, and to-day it probably shows a greater diversity in form, color, habit and size than any other species known to the florist.

Easy of cultivation, adapted to a wide range of soils and conditions, with plants of a size and habit to suit almost any garden, and with a long season of

bloom, it is not surprising that the Dahlia is so popular in England, and is rapidly coming to the front in America.

Many commercial fields of from five to one hundred acres may be seen in the New England States and at the Government Experiment Stations at Geneva, N.Y. and St. Paul, Minnesota. Dahlia testing plots are grown. English Dahlia Societies maintain gardens where growers may send their new varieties to be grown under observation, and The Dahlia Society of California has recently established trial gardens at San Rafael in that State.



Gladiolus Lady Borden, originated by A. Gilchrist, Toronto.

The Dahlia has been grown in England since 1802, and the present form of the Show or Ball-Shaped variety since 1840. The flatter decorative form was re-introduced and became popular about 1870.

The modern Cactus Dahlia is descended from a single tuber sent to Holland in 1872, in a collection of Mexican plants and roots, and is probably the most popular form of the flower. Beautifully incurved blooms 7 and 8 inches in diameter on good stems are not uncommon, the majority of newer varieties coming from the English growers. The Peony-flowered came from Holland in 1900, and is the result of crossing the cactus and single varieties. The Dutch still excel in this class, while some of their new Decoratives are commanding attention with twisted and pointed petals suggesting a Cactus Strain in their breeding.

The Collarette Dahlia originated in France 1901, and is very popular in England though seldom seen here.

Modern forms of Cactus-Decorative and Paony-flowered varieties are little known in Canada and our gardening members who have tired of the old fashioned ball-shaped flowers may find keen enjoyment in growing tested varieties of these, some of which are named in this article.

Before making selections see the plants in bloom, if possible, and, where space is available, do not limit the number of types to be grown as the greater the variety of form and color the more lasting will be the interest and pleasure obtained from their culture. Start your collection with recognized standard varieties; many of the good ones grown to-day are quite cheap.

**SOIL AND LOCATION.** Dahlias seem to do equally well in a variety of soils, although sandy loam is considered best. It must not be too rich or the gardener will have foliage instead of bloom.

The location should be well drained, open to the sun and a free circulation of air, but protected from high winds. Do not plant near trees or shrubs—shade and excessive watering will produce bushy plants with very few flowers, and these usually hidden by foliage.

The Dahlia loves cool nights and does particularly well in the vicinity of bodies of water.

**PREPARATION.** When possible prepare your ground in the Fall and dig over again in Spring allowing it to mellow before planting. Dig deeply—at least a foot—and give the plant roots a chance to reach moist cool earth when the hot days come.

If soil is light, add old manure at first digging, but if heavy, a liberal addition of coal ashes or sand will improve it. Manure from sheep stables is very good, and one prominent grower uses bone meal and potash as fertilizer with success. Old manure helps to retain moisture in the soil, but when this is not available use two parts of wood ashes to one of bone meal, or a complete potato fertilizer. A top dressing of lime (without manure) is sufficient for some heavy soils. Never use lime and manure together.

**PLANTING AND CULTIVATION.** Planting time varies with locality, but, where only a few plants are grown, the first of June is recommended. Never plant in cold soil. Where possible, divide your stock of tubers and plant equal portions May 15th, June 1st and June 15th, and if a hot dry summer follows, the early planting may suffer from excessive heat at blooming time, while the later ones will enjoy a succession of bloom. When plants from cuttings are used instead of tubers, June 1st is early enough for setting out. Where early bloom is desired, start the tubers inside in pots or boxes in April and transplant to the garden when danger of frost is passed. Space plants three feet apart if possible. In planting make a trench or hole five to six inches deep, place tuber on its side in bottom of furrow, cover with two inches of soil and gradually fill in level as stalk develops. Never allow crowns to be exposed.

If soil is heavy and wet, surround the tuber with clear sand to prevent rot.

It is a good plan to place stakes when tuber or plant is put out.

Give a good watering at planting time but subsequent watering must be governed by conditions. An occasional rain will keep the plants in good shape, but if a dry period comes, give plants a thorough soaking once a week. Learn to water by experience, and be sure to moisten the root area, not the surface only. Frequent sprinkling is harmful but, after buds come, spraying the foilage in the evening during the hot spell will help to keep plants growing. Keep soil about plants cultivated after every rain or watering; never allow ground to cake.

Do not cultivate close to plants after buds form, or you may injure the new roots. Grow one stalk only in a place, and when plants are a foot high, tie securely to a stake with raffia or soft cord, and renew the fastening as plant develops.

If a stocky growth is desired, remove centre bud when plant has three pairs of leaves. This will delay blooming somewhat but will not hurt the plant.

When the buds appear, use a mulch of old manure—at least three inches deep—or where this is not obtainable, mulch with grass clippings, leaves, or fine straw, and give plants weak manure water (after watering) every ten days. The mulch conserves the moisture and saves watering.

Working bone meal or other fertilizer in to the surface of the soil about the plant after blooming a few weeks helps to ensure good flowers. Pulverized sheep manure or four parts meal to one of nitrate of soda give good results. Use a small handful to each plant.

If plants become hardened or blasted by excessive heat, cut them down at once and the established root system will quickly give you one or two new stalks and excellent flowers before frost comes.

**PROPAGATION.** In America, field grown tubers or pot roots are planted, while in England, shoots or cuttings are favored.

Do not divide the field clumps until the sprouts appear, but if latter are two inches long, cut them off half an inch from base before planting, as a stronger sprout will quickly develop. The size of the tuber does not indicate either the size or quality of bloom.

Plants from tubers and cuttings stand drought better than those from pot roots and while plants from cuttings give fine exhibition blooms they are not so free flowering as plants from tubers.

In propagating by cuttings, remove the clumps from storage in March and place on forcing table or similar situation with temperature of 60 degrees. Cover to level of crown with sand, moss, or some moisture holding medium and water sparingly at first for fear of rotting tuber. When sprouts appear, water more freely to hasten growth. When shoots from the tuber are three inches long or have three pairs of leaves, cut them off with a sharp knife just below first joint to ensure early rooting of the cutting and facilitate future tuber formation. Trim off lower pair of leaves close to the stem and plant cutting in clean sand up to second pair of leaves, on bench or in a box, and keep temperature about 65 degrees. Sand must be at least six inches deep. Plants should root in three weeks and can then be potted for transplanting to the garden. Plants from both cuttings and seeds often do make full-sized tubers. In growing from seed one good seedling in fifty plants is a high average.

**CUTTING.** In cutting blooms take long stems with one or two joints as this helps the plant and is all the disbudding most varieties need. Cut in the evening or early morning and place stems in water immediately.

For long keeping, remove most of the foliage and immerse the stem for five minutes first in water as hot as the hand will bear, and then in cold water containing one teaspoonful of salt to the gallon. Water should not be quite so hot for soft stemmed varieties.

For choice flowers, develop only the centre bud in the clusters of three, nipping off the two side ones.

Never allow blooms to die on the plant.

**HARVESTING AND STORING ROOTS.** Two or three days after a killing frost, cut off stems close to the ground and dig the clumps of roots carefully, remembering

that roots of some varieties extend out from base of plant. Shake off the loose dirt and expose to the air for a few hours. Remove to winter quarters and pack with stems down in boxes or barrels. Never pack wet roots. In a dry room with temperature of 40 degrees to 50 degrees they will keep without covering, but if temperature is liable to go higher, cover with old ashes or sand. Small tubers had better be kept separately in ashes or sand as they are liable to dry up if exposed to the air. After January, if tubers appear to be drying up, moisten them by covering with several layers of heavy paper on which water is sprinkled. If rot appears on tubers, scrape or cut it away and dust wound with slaked lime.

NOTES. After plants are ten inches high, spray regularly once a week with tobacco or soap solutions and discourage insect pests.

If the roots of plant are attacked, a glass of lime water will often stop the trouble. Soot or slaked lime about young shoots will keep away cut worms.

Several well known Dahlias have a distinct and agreeable odor.

RECOMMENDED VARIETIES. The Dahlia Catalogues contain names of thousands of varieties but those named above are in the writer's opinion at the top of the list:

#### RECOMMENDED VARIETIES.

##### *Good Ones at a Modest Price:*

Countess of Lonsdale.  
Delice.  
Rene Cayeux.  
Papa Charmet.  
A. D. Livoni.  
J. H. Jackson.  
Mme. H. Furtado.  
Floradora.  
Princess Victoria.  
Grand Duke Alexis.  
Genoveva.  
Rev. Jamieson.

##### *Some of the Very Best:*

Geisha or Orient.  
Marguerite Bouchon.  
Kalif.  
Mina Burgle.  
Mildred Slocombe.  
Albatross.  
Yellow Colosse.  
Mrs. Geo. Gordon (Sweet Scented).  
Union Jack or Crystal.  
King of the Autumn.  
Rheinischer Frohsinn.  
Sir Douglas Haig.

### A NATIONAL FLOWER FOR CANADA.

F. E. BUCK, CHAIRMAN OF THE OTTAWA COMMITTEE.

The question of adopting a national flower for Canada was not made a national question until the autumn of 1917, when, as already stated by the Secretary, a report submitted on behalf of an Ottawa Committee was adopted by the Ontario Horticultural Association at its annual convention in Toronto in the month of November.

The very satisfactory amount of interest and discussion which has taken place since then throughout the Dominion may be attributed to the action taken at that convention. As a result of the adoption of the original report the Ottawa Committee was empowered to add to its numbers and now consists of the following: George Simpson, President of the Ottawa Horticultural Society; W. T. Macoun, Dominion Horticulturist; J. M. Macoun, Botanist of the Geological Survey; Dr. M. O. Malte, Dominion Agrostologist, Miss Faith Fyles, Assistant Dominion Botanist; F. E. Buck, Assistant Dominion Horticulturist, Chairman; and J. B. Spencer, Chief of the Publications Branch, Secretary. This Committee, in placing before the Convention this year its report, trusts that other steps will be taken which will carry the matter of adopting a national flower into the final stages.

The Secretary has mentioned in his report the fact that the Hepatica and Trillium were considered suitable flowers for the Province of Ontario by the Toronto Committee, which, under the Chairmanship of Prof. R. B. Thomson, met together to consider the matter of a national flower. This Convention, therefore, should have its attention called to the possibility that the Provinces are likely to adopt Provincial flowers. The Ottawa Committee has not felt it desirable to discuss the question of Provincial flowers to any extent, feeling that such work should be undertaken by Provincial Committees, but will be very glad to collaborate with such Committees in any way possible. The following extract from a letter received from Prof. R. B. Thomson, of the Botanical Laboratories, University of Toronto, is given to confirm the above suggestion:

“The Committee also expressed hearty approval of the idea of decorating the soldiers’ burial places with typical Canadian flowers and submitted a small planting list, suggesting that the other Provinces should do likewise.”



M. C. R. Park, St. Thomas, formerly a weed patch.

It is possible also that if Committees were established in each Province to look into the matter that the work of the Ottawa Committee would be made very much easier, as, without doubt, the time is extremely opportune for the adoption of Provincial flowers. The argument used by the Ottawa Committee as the reason why it was opportune to discuss the question during the war was that at the close of the war such a flower would be of great value for use on the burial grounds of Flanders. It is more than likely that each Province would far rather use some peculiarly typical Provincial flower to adorn the burial grounds of its sons than one which, although called the national flower, might be less typical of the Province.

Without doubt there does exist a very distinct and intelligent desire for a national flower. Discussion in this connection has been carried on all over the Dominion and a surprisingly large number of editorial and press references have dealt with the question. While the discussion has shown that such a desire exists and is well supported by many citizens in every part of the Dominion it has also shown that there are some who are jealous lest the maple leaf should

be supplanted. It should be pointed out, therefore, that the question of a national flower has not very much more to do with the maple leaf than it has to do with its animal life, which is typified by the beaver. It is not a question of substitution but addition. A tree can never be used to typify Canada's flora. A national flower for Canada is a new question. "The maple leaf forever" and "Canada, the land of the maple" are established terms. The term, "Lady of the snows" is also apt and striking, but these terms only describe one phase of Canadian life and are incomplete without some term which may be used to describe her wonderful flora. By adopting a national flower Canada will also be known as the land of the Trillium, or of the Columbine or the Wild Aster or the Tiger Lily, and a complete picture of Canada will then be possible in terms which will describe her in her winter, spring, summer and autumn garb. It should, therefore, be pointed out that those who ask that a national flower be adopted in Canada ask not that her prestige be lessened or that her accepted symbols be discarded, but rather that they be enlarged and established.

The initial reasons given by the Ottawa Committee why Canada should have a national flower were, of course, somewhat comprehensive, but there is one reason alone, namely, the desirability of having flowers representative of Canada to plant on soldiers' graves in the burial grounds of Europe which should be sufficient to justify immediate action on the part of all interested persons, and therefore the Committee has pleasure in suggesting that this report be adopted and that the following resolutions be carried by this Association:

The addenda to this report consists of four formal motions and it is moved that the whole report be adopted.

Mover, F. E. BUCK,

*Chairman of the Ottawa Committee.*

Seconder, J. B. SPENCER,

*Secretary of the Ottawa Committee.*

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## A NATIONAL FLOWER FOR CANADA.

J. B. SPENCER, OTTAWA.

The suggestion that a national flower should be selected for Canada has been well received from coast to coast. Following the action of the Ontario Horticultural Association last year in accepting the proposition of the Ottawa Horticultural Society, the Ottawa Committee placed the matter before various institutions in every Province, including the universities, the agricultural colleges, teachers' organizations, and official botanists and florists. Most of those written to expressed their approval of the idea, and a large percentage succeeded in having the matter considered by their organizations. Comparatively few institutions, however, followed the subject to a conclusion, which goes to indicate that a subject of so great importance and on which wide differences of opinion exist, cannot be quickly disposed of. In some of the Provinces the question has been kept before the public through the press, and it is fair to assume that further systematic effort is needed to bring about the selection of a flower acceptable to the horticulturists of Canada.

As a result of the initial step taken by the Ottawa Committee, a large number of flowers have been mentioned as appropriate. Commencing in the east,

Mr. L. A. DeWolfe, Director of Rural Science Schools, speaking for Nova Scotia, suggests that some species of any one of the following flowers would be suitable: Lupine, Clover, Violet, Wild Rose, Kalmia, Mallow, Lily, and Great Willow Herb.

Mr. R. P. Graham, Instructor in Nature Study at the Fredericton, New Brunswick, Normal School, adopted the unique plan of taking a secret ballot from the pupil teachers representing the different counties in the Province. The total votes cast were 213, and all were in favor of the selection of a national flower. The leading flowers and votes received in their favor were as follows: Violet, 111; Buttercup, 32; Columbine, 16; Mayflower, 12.

Rev. Brother Leopold, Horticulturist at the Oka Agricultural Institute, makes a strong plea for the Painted Trillium, of which he says, there are few choicer flowers that adorn the woods and forests of Canada. He also says a good word for the *anemone canadensis*.

It was but natural that Toronto should take vigorous action in regard to this matter. Mr. R. B. Thompson, Professor of Botany of Toronto University, called a meeting of representatives from the various educational, artistic, and practical institutions of the city, especially to deal with the matter. After considering the subject from various standpoints, the Ottawa list, which was suggested at the last year's Convention, was taken up plant by plant and each considered inappropriate. The *Cornus Canadensis*, popularly known as the Dwarf Cornel, was considered a good choice for a national flower, but unfortunately not as widely known to the people as desirable. The Hepatica and Trillium were considered suitable flowers for Ontario Provincial emblems.

V. W. Jackson, Professor of Botany at the Manitoba Agricultural College, strongly favors the *aquilegia Canadensis*, which, he points out, responds well to horticultural treatment and makes a quick growth and a good showing.

The appeal of the Committee to the Manitoba Horticultural and Forestry Association resulted in the appointment of a Special Committee to deal with the matter. This Committee, after due consideration, recommended that the Columbine, or Aquilegia, be chosen, and defended their choice on the ground that the Columbine is native to many parts of Canada, and that it is capable of easy culture.

President Murray, of the University of Saskatchewan, looks forward to the happening of something that will give one flower a place in the thoughts of the people and it will then become naturally the national flower.

Mr. G. Fred McNalley, Principal of the Normal School at Camrose, Alberta, expressed the view of the students and staff that none of the flowers that they had seen suggested by the Ottawa Society was itself sufficiently characteristic to make a choice desirable.

During the year the question of a national flower has been kept before the readers of *The Agricultural Gazette*. This has drawn from individuals suggestions that are worthy of consideration. Mrs. E. L. Curry, of Port Hope, recommends the *sanguinaria Canadensis*. Its beautiful pure white flower and red sap renders it appropriate to decorate the graves of our fallen heroes in France and Flanders.

A correspondent from St. John, New Brunswick, who had observed Canadian boys in New Brunswick Depot Battalion growing Pansies in boxes in the windows of their building, suggested this plant as a suitable national emblem.

A claim for the Red Tiger Lily, *lilium philadelphicum*, has a strong exponent in a correspondent who signs himself R. McD., and contributes the following verses in its support:



The red, red Tiger Lily flaunts itself along the line,  
 Its petals stand up bravely in the shadow, rain or shine,  
 'Tis spotted like its namesake, or a dainty speckled trout,  
 Where a tiny lip of honey from its heart is peeping out.  
 As the troop trains speeding eastward, bore our boys away to fight,  
 The red, red Tiger Lily from the windows met their sight;  
 And one hero wrote his mother, from the trenches mud and gloom,  
 Do not worry, dear, I'm coming back, when Tiger Lilies bloom.  
 On a stricken field in Flanders—the land where poppies blow,  
 I saw a hillside, a deeper crimson glow;  
 'Twas the red, red Tiger Lily, planted by a comrade's hand,  
 Where a gallant boy from Canada had made his final stand.  
 His life is in the petals of that Tiger Lily red,  
 Its cup is full of brown stains from the blood he bravely shed;  
 Where they stopped the raging flood of Huns which swept across the Rhine,  
 Like the lads from its dear homeland, it is holding down the line.  
 You may tell of English roses, or the lilies fair of France,  
 Of Scotland's hardy thistle, or the shamrock's green perchance,  
 Maybe the violet's sweeter, or the primrose is more gay,  
 But the red, red Tiger Lily stands for Canada to-day.

Another correspondent says a good word for the perennial aster, which is addressed in the following stanza:

O dainty little lady with your starry, purple eyes,  
 The autumn day is calling me with rustlings and with sighs;  
 In your royal gold and purple you are wonderfully fair,  
 Among the swaying golden rod with sunlight in your hair.

Other flowers that have been recommended by individuals are the Trillium, the Lily of the Valley, and the Wild Rose.

A medical officer serving in an English military hospital, considers the Perennial Aster, Trillium, and Goldenrod, have each a real claim to consideration.

Of the flowers selected, the Columbine and the Trillium have been about equally popular; others that have received more or less support being, the Wild Rose, Violet, Aster, Buttercup, Tiger Lily, Anemone, Pansy, Goldenrod, Crocus, Lily of the Valley, Sanguinaria, Dwarf Cornel, Lily, Clover, Lupine, Kalmia, Mallow, and Great Willow Herb.

MR. BUCK suggested that the name of Miss Yates be added to the Committee on Judging Roses, Sweet Peas, Pæonies and Spring Flowering Bulbs, to which the meeting agreed.

MR. GILCHRIST: The term "wild flowers" is not quite applicable, there was no such thing in a native plant, and if you brought these flowers into the garden they would soon be domesticated. Great strides had been made in decorating. This country and the United States were ahead of England in this respect, and we grow better roses inside than in England, though their outdoor product was better, as they had the climate.

A national flower for Canada should be a native of Canada, hardy, easily grown in the gardens of the common people.

It should be adapted to be grown on the graves of our fallen heroes in France and Flanders.

It should possess qualities as a cut flower, lasting well when cut: distinct in form and color, to be used in wreaths or garlands, heraldic and symbolic devices. From an extensive experience of our native flora, I would like to suggest our Canadian Lily of which we have three species, *Lilium Canadense* (common name) Yellow Canadian Lily flowering June and July, *Lilium Superbum* (common name) Turk's Cap (lily), flowering July and August, *Lilium Philadelphium* (common name) Orange Lily) flowering June and July.

These lilies have been introduced into the gardens in the United States and England. William Robinson, founder and editor of the *Garden* speaks thus of lily superbum, "A very tall kind with slender stem and leaves and a profusion of flowers with from ten to forty blossoms on a stem." Edward Rand, Jr., author of "Seventy-five Flowers," speaks of it thus, "Lilium Canadense and Superbum two splendid species with drooping yellow and reddish-orange flowers. They are worthy of every care, for they are among the most graceful and beautiful of the family. We have had Lilium Superbum in our garden eight feet high with thirty flowers on a stalk and the groups when in bloom were magnificent." I have a group of Lilium Superbum in my garden planted about twelve inches deep and among them Trillium Grandiflora planted about six inches deep growing two crops of flowers in the same bed; my soil is a moist black sand. There is nothing better as a cut flower for they can be cut with long stems lasting more than a week after cutting and every bud opening to the very top.

Lilium Philadelphium was found in great abundance at one time near my home east of the Humber River on the dry sandy plain, but now nearly exterminated by fires and people pulling them up when in bloom. Very few are found now. It is more plentiful in the west but nearly exterminated in older Ontario. Flower erect, orange spotted with purple inside. This is the characteristic of our native lilies, a most charming native plant.

Lilium Canadense quite distinct from L. Superbum or L. Philadelphium: flowers vary from yellow to orange, bell shaped, heavily spotted inside with brown, very graceful and pretty. It likes plenty of moisture, and is found along river banks and streams. It produces quantities of flower when established in the garden.

The lily is a symbol of purity, and next in popularity to the rose. The lily sweet and modest has been entwined with the rose in heraldic emblems in ancient times. The United States in recent years have adopted thirty-eight State flowers, twenty-five by legislation enactment, the balance by popular vote. But they have still left us the lily, the pride of them all. There is no poor relation or weedy plants in the lily family. By some the lily has been regarded as queen of flowers. Linæus called the lily "the noblest of the flowering kingdom." Pliny remarks, "Lilium Nobilitatum."

The lilies high bespeak command,  
A fair imperial flower,  
She semed designed for Flora's hand,  
The sceptre of her power.

THE TRILLIUM—Natural order *Liliaceae*.

Common names, Wake Robin or Wood Lily.

This beautiful genus is exclusively a North America plant; all the species are low plants rising by a single stem from a tuberous root or creeping root stalk. All parts of the plant are in three the stem bearing a whorl of three leaves; and the solitary flower having three green sepals and three white petals. There are four varieties native to Canada and about eight varieties in America. Trillium grandiflorum is the finest of the genus, the flower vying in beauty with that of any spring blooming plant. No one who has seen a mass of this species in full bloom in the garden as we have grown it for years will wonder at our classing the Trillium among the choicest garden flowers. The three leaves on the stem represent the three nationalities, England, Ireland and Scotland as the

basis of the British Empire of which we form a part. The three sepals represent the trinity, the basis of our Christianity, the three pure white petals represent purity, truly a divine flower. What flower could be more appropriate for a national flower for this fair Province of Ontario. As a child of the Canadian wood I loved to pluck it and love it still, and it might justly be called Kipling's "Lady of the Snows."

Flower in the crannied wall,  
I pluck you out of the crannies.  
I hold you here, root and all, in my hand.  
Little flower—but if I could understand  
What you are, root and all, and all in all,  
I should know what God and man is.—*Tennyson.*

The meeting then adjourned to visit the greenhouses of Sir Edmund Osler.

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### RETURNED SOLDIERS FOR THE SOIL AND THE SOIL OF CANADA FOR HER RETURNED SOLDIERS.

REV. A. H. SCOTT, M.A., D.D., F.R.H.S., PERTH.

One of the beautiful things tending to make life cheerier we have from two good friends of Horticulture, one of them a former President of our Ontario Horticultural Association. Mr. W. B. Burgoyne writes in his wife's name as well as his own, to the Mayor of his city: "The war was on, and it did not seem wise, even were I in a position to carry out my desires, to broach the matter at that time. . . . the war is now over, and we can begin to turn our thoughts more and more to matters of civic beautification, betterment, and beneficences."

This writing appeared on the first of February, just the other day, a day of the month in which we are holding our Thirteenth Horticultural Convention in Ontario. In the letter was an enclosure. The enclosure was a cheque. The value of the cheque was a thousand dollars. What for? A thousand dollars toward the establishment of a Civic Rose Garden in his native town.

Benedictions upon the donors! They have a son who is home from the war. Our friends have been together in business for forty years and they have a good many years belonging to the record before their particular business was begun. And our friends, well on in life, are thinking of gardens and of roses and they are furnishing the money to produce roses in these rose gardens.

I have a whiff at this moment from that rose garden that is yet to be. There is something from my friends' conception that does me good. The law of "Association of Ideas" comes into operation and helps to furnish soul for my sentences in this contribution to the Convention. A garden, a garden for roses, thought, purpose, the carrying out of purpose, mindfulness of others, pleasure for the many, something that will live on, sweet scent, aroma, etc., etc. The combination puts the membership of this Convention in good trim and incites good feeling. And that is the feeling that is becoming as we contribute part of an hour in the interest of those who are returning from the war. It is for the cultivation of that good spirit that we have this on our programme.

Closed eyes cannot see the white roses,  
Cold hands cannot hold them you know:  
Breath that is stilled cannot gather  
The odours that sweet from them blow.  
What to closed ears are kind sayings?  
What to hushed heart is deep now?  
Life is the time we can help them  
So give them the flowers now.

You cannot touch the subject of the returned soldier without touching the subject of war. Wars have been, wars are yet to be, but the most horrible war in the annals of man is that from which our soldiers are returning. Not so long ago a part of the world settled down to nurse the delusion that man had reached such a pass by civilization that the days for war were over. But all the while what some men termed the acme of civilization was quietly and persistently preparing for war. A little less than five years ago the war was on. Because Great Britain became participator in this particular war Canada was voluntarily and necessarily in the war. When righteousness was to be defended this young country and the mother country must be together.



Path through the woods at Ennisclore.

“In peace there’s nothing so becomes a man as modest stillness and humility, but when the blast of war flows in our ears then imitate the action of the tiger.” This counsel of the immortal bard the soldiers from Canada followed. A mother in France had a son in Canada when war was declared in 1914. Joffre carried in his pocket a letter written by that mother a portion of which was as follows: “My dear boy, you will be grieved to learn that your two brothers have been killed. Their country needed them and they gave everything they had to save her. Your country needs you, and while I am not going to suggest that you return to fight for France, if you do not return at once never come.” I am glad that three of my sons went to the war. I am glad that Canada sent so many brave soldiers to the war. One of the conquered near Mons, after the event of the eleventh of November, said to my youngest son, “We hate you

Canadians, but we are bound to acknowledge that you are terrific fighters." A General of the Imperial Army who had been in the thickest of the fight said in sincerity to an officer in the service. "These men from Canada are not only the most capable for attack among the forces of Great Britain, but their superiors in general warfare are not to be found in the whole of Europe." If there must be war, and soldiers must conduct war it is worth while pausing to reflect that our men who have gone to the war, some of them never to come back, some of them returned or else returning bear a name for having done valiantly. Whatever the returned men may do for themselves, and whatever we may be to them or do for them, it rings melodiously in my ear that two hemispheres speak praisefully of the bravery and efficiency of the Canadian warrior.

Nor can you touch the subject of the returned soldier without red-lettering the fact of victory. You may not care to state your choice when certain theories are submitted for your consideration. There are at least three theories about the turn of events at the Marne. In connection with the first of the three the overwhelming forces of Germany when almost within the sight of Paris divided. The airmen signalled that there was a wide cleared space between the two divisions. The way was so cleared that some commander who would have the glory would pass through. Some one would repeat the victorious entrance into the French Capitol of the Franco-Prussian period. But that glory seemingly so near was yet so far away. The airmen and the defenders filled the gap and the glory turned another way. Another theory takes one over to Port Arthur in the days of the war between Russia and Japan. How came it that Port Arthur was so easily captured. Russian commanders were drunk when they should have been on the watch. So this second theory holds that when proper orders were not given at the Marne the troops became disorganized and explanation in the case is found in the percentage of intoxicants in the French vintage. A third theory takes you back to the days when the Spanish Armada was destroyed. Prospects bade fair for the invasion of England. But the winds and the waves wrought wreckage, and thoughtful men have found the explanation of the turn in the tide of war to lie in the interposition of God.

Wheresoever lies the correctness of interpretation at the Marne the fact is there that our victory was begun almost as soon as the war was begun. True, it looked as if Calais would be reached, but by British acknowledgment the Canadians "saved the situation," and all the while from the time of the retreat at the Marne until the time that the last cracks of Canada's men were administered at Mons the war shaped for the end that the victors chronicle. Had the war gone otherwise where would Canada be to-day? Because the God of Battles would have it as it is we in Canada have something welcome and something to purpose with the warriors' return.

But have we pondered the significance of this: "Nothing except a battle lost can be half so melancholy as a battle won."

The world's situation to-day is a sacred and serious situation. From one viewpoint they may be right who maintain that it would have been better had the war continued a fortnight longer. It does not belong to us, here and now, to pronounce upon this. But tidings from Versailles together with conditions in Europe, to say nothing of our own and other continents reveal the facts that give occasion for concern to all thoughtful men.

The getting back of millions of men from the scenes of the late war creates questions and problems the exact like of which no past generations have been called upon to face. Canada never until now had the matters to deal with that

have come upon her programme with the return of the soldier, the sailor, the aviator, the nurse and the kindred that is part and parcel of the homebound hosts. If these were alone—but you must think of those others, the quality as well as the quantity of them, that have an eye upon Canada to-day. Canada was never so advertised as she is now. There is a mongrel crowd hanging on to those now returning to this Dominion that if unwatched will do more harm here than the “mixed multitude” that followed the Israelites when they departed from Egypt for the promised land.

Our returning soldiers are taught to fight shy of the big centres. The authorities are planning to lead them home by another way. There are men overseas who know something about this great half of North America, men, and women, too, who are now bidding a fond farewell to the Canadian contingents that have done so grandly and they have expectations for the future of the returned soldiers. They look across the great waters and they behold this Canada of ours as young and new, a land of lakes and rivers, an expanse of fields and gardens, a western world of promise. Some of these well-wishers in the old land, men of the greatest sanity who feel the responsibility of the times most keenly are telling of this land to thousands who have never been here with a view to the occupation of our unused acres.

I know very well that the soil is not the sole occupation of man. The city, the town, and the village have their honorable place in preparing a people who are here for a few short years for a better place beyond. But just at this pass it seems to be given to us who understand the soil to speak its merits where we are wishing the best for our returned and returning men.

As far as I am able to interpret the situation the deep-seated longing of those who have been at the war is to get home. Home has more in it to them than ever before. In anticipating what lies before them they crave for a set of surroundings that will cause them to feel the reality of a home. Some of us are concerned about the soldiers' trend when they come back to Canada.

One ship drives east, and another west,  
With the self-same winds that blow;  
'Tis the set of the sails, and not the gales,  
Which decides the way they go.

Hence the earnestness that would have decision in the way that would lead to the place where the soldier would have the best home after his experiences without home.

Just here, then, scope is furnished for the proclamation of good tidings concerning the returned soldiers for the soil and the soil of Canada for her returned soldiers. “The home is the basic foundation upon which must depend the stability of good government, and the broadest liberty consistent with the best welfare of society.” The movement of population toward the soil means for vast numbers enhanced opportunity for the blessings that centre in the name and reality of home.

There is no such home-making institution in the world as the country when the people who are there honor God and revere citizenship. It is the hollowest kind of mockery that pictures the city as the place where “all are wealthy and where the wealthy have all the attractions.” The truth is that they are not all wealthy in the big centre, and the wealthiest and the best in the city have chief attractions in the country. It is not only because they can raise grain and cattle and vegetables and fruit there, but it is mainly because in their gardens and on their wider areas they may raise “the expectation of life.”

In too many places they are dying young and they are dying poor. Too great a portion of this generation is become insane actually and metamorphically. Young Canada through her Governments, Legislatures and organizations should by this time be acquainted with the fact that "philanthropy is heavily taxed to meet the increasing demands of dependency." Prevention is better than cure. And the soil is given so that in an understandable sense, it may be a saviour to us and our children and our returned soldiers.

When I look about me and witness in so many places the eternal grind, and the vanity of so great a part of it, I wish for a thing that Xenophon wrote about long centuries ago—for that understanding of the soil which will prove to him or them that work it that it is profitable. I wish for many an appreciation of that portion of Emerson's creed which runs, "I believe in a spade and an acre of good ground. Who so cuts a straight path to his own living by the help of God in the sun and rain and sprouting grain, seems to me an universal working man."

The grand fleet was a spectacle in the North Sea when its command was invincible in stillness. It was a spectacle again at the time of "the surrender." But "the finest fleet that ever sailed in any country is the fleet of plows, tractors, harrows, seeders, etc., that will shortly put out into the fields. God speed this fleet! It goes out in peace, it battles for human happiness."

Whatever else they may have when they get back from the war I wish for our returned heroes that they may have neither poverty nor riches, but food convenient for them. I wish for them a personal interest in the place where the fish bite, and that other place where the cabbage grows. I wish for the soldier a home where wife will have good things to cook from her own garden, where the children can have a swing and a see-saw on their own ground, where the morning sun can shine into a well-ventilated room through a good sized window and where, when evening comes father and mother and family may surround the altar and examine the message from God's own word.

Secure for the returned soldier the right conception of the soil and you have gone a long way toward the best thing that you offer the returned soldier. Regarded in the more general way of agriculture or considered under the more intensive term of horticulture the soil is the most engaging of the occupations of man.

It is the oldest of the world's occupations. "Adam was a gardener, Cain was a farmer, Abel a herdsman; and Cain did not go to live in a city or to build one until after he had committed his great crime."

Not only is it the most historic, but it is also the most necessary. All other pursuits could be more readily spared than this one. The man on the soil who looks intelligently to his calling finds himself in an environment both dignified and profitable, and he is engaged in a work that gives stability to every other industry and pursuit.

All kinds of inventions are consecrated to the soil. "The products of the mine, the forest, the quarry, the hammer, forge, saw and engine have been pressed into its service. How many kinds of toilers and artisans have brought their inventions and labor to make tilling the ground profitable?"

More than that, how many sciences wait reverently upon husbandry. "For it Geology ransacks the bowels of the earth; Chemistry proclaims what nutriment certain plants absorb from soil and what enrichment certain alkalis will give; Botany collects the varied grasses to make possible the permanent pasture on the principle of the survival of the fittest; Astronomy smiles on it and causes

the sun to do more for its prosperity than any thing however gracious and the clouds more than any landlord however beneficent."

So there is the inviting field. One-third of the British Empire lies here in Canada and perhaps no portion of it has greater attractions for those who weigh considerations well than the portion that is ours in fair Ontario. It is highly becoming that we who have watched the proceedings across the sea, for the last four years and a half, should give the Canadian soldier a warm welcome home. Along with that welcome we should enhance the attractiveness of our Canadian home-land for our returning men, and for all who set their feet this way, by adherence to and proclamation of that righteousness that exalteth a nation.

When our representatives at the war come back, and take time to think things out, I am sure they will be led to mourn for the comrades left behind. And there will not be wanting a company here to sympathize with them as we reflect upon the marked graves in France's and Flanders' fields. The unmarked spots, too, in no man's land, the sleeping places at the bottom of the sea, and the new made resting places in Canadian cemeteries will tell of the ravages of death. It will fall to us to furnish a word of comfort and uplift by emphasizing our faith in Resurrection and by witnessing anew our confidence in the risen and returning Christ. Of course, by the farthest reach, we good men and women of Canada have in view the coming glory yonder for all who have "well done." But it is worth while for soldier, civilian and all the rest of us to keep in mind the golden age that is preparing for this old earth of ours, and to live lives of hope, and comradeship and exalted ambition "until the day break and the shadows flee away."

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## WHAT IS BEING DONE FOR RETURNED SOLDIERS.

HON. W. D. McPHERSON, PROVINCIAL SECRETARY.

After briefly giving a resume of the duties and responsibilities which had devolved upon the Department of Militia before the Military Service Act was passed in securing recruits, Mr. McPherson went on to say:

A meeting of the Prime Ministers of the various Provinces was held in Ottawa in order to devise ways and means of taking care of the returned man. That resulted in the formation of what is known as the Military Hospitals' Commission. Many of the returned men required hospital treatment before they could be returned to civil life, and a series of hospital buildings were procured and staffed, as well as they could be, because the demands of the war had not only taken away large quantities of able bodied men, but they had also made enormous inroads upon the medical profession and the nursing sisters, so that it was no easy matter either to equip the hospital buildings or staff them with doctors and nurses.

However, when matters became somewhat more systematized, a splendid chain of military hospitals was inaugurated between the Atlantic and Pacific, and the result was that each Provincial Prime Minister returned to his seat of Government pledged to organize a Commission to aid in the work of looking after the men of that Province brought home, for military hospital purposes, and likewise from the standpoint of employment after they became discharged from military service.

The Premier of Ontario sent for me, and asked me to undertake the formation of our Provincial Commission, which I very gladly did and which was called



the Soldiers' Aid Commission. A similar Commission was launched in each of the Provinces. We who were charged with the executive duties of the work in its different phases have had a number of conferences together.

Up to the present time we have received from overseas approximately 38,000, and some odd. These men have come from all over Ontario. Of course, the large cities furnished a very much larger number of men proportionately than the smaller ones and the country places; but, at the same time, many men who enlisted from cities really had their homes at some little distance from the city. They were not necessarily city men, although they came in and enlisted in a city regiment. So that the question of distribution of the returned man has been something that we have had to pay very close attention to. It has been a big proposition. As the men come to the home seaport, their documents are all



Pæony Monsieur Ronselon (20 inches in circumference).

prepared, and a sheet which is prepared on shipboard is made out in three copies—one of them remains at the depot of debarkation, and the other two are sent to the headquarters at Ottawa. One is retained and the other is sent to the Province for which the man is destined. From that sheet we receive all the information about the man. We get to know his name, his regimental number, his home address, what his pre-war occupation was, whether he is a married man, and if so, what family he has, where they are residing and how they have been maintained. If he is sent home for hospital purposes, of course, he remains in the charge of what is known now as the Invalided Hospitals' Commission, the organization of the Federal Branch has been known as the Soldiers Civil Re-establishment, which is divided into two heads—the Pension Department and the Invalided Soldiers' Commission. The Invalided Soldiers' Commission has charge of the men who require hospital treatment to a limited extent prior to their discharge. As I stated to you, the duties of the Militia and Defence Department originally were very largely taken up with the procuring of men and sending them overseas. When that work was finished their duties were so much lightened

this arrangement: It was recognized that the duty of finding employment for the returned man devolved upon the Federal Government. It was they who in the discharge of their duties under the Militia Act, invited the men to enlist. They got them to leave what were in many cases lucrative employments, to go overseas. It was very important indeed that responsibility should be fixed in some way upon some particular body who would acknowledge that responsibility, for procuring employment for the returned man. Consequently, the Federal Labor Bureau have undertaken that branch of the work, which means the soliciting of manufacturers and employers all over the Dominion, not only in regard to employment for the returned man but likewise for the civilian population who require employment. It now has become a question of finding employment not only for the returned soldier but also for the civilian people who are looking for employment. The Province of Ontario has been divided into ten zones. The head office is at the City of Toronto and is staffed by an official from the Provincial Labor Bureau and a representative of the Soldiers' Civil Re-establishment who is there to receive returned soldiers each day, and see that they receive the preference where there are any vacancies. That is working along very well, but, of course, the state of the market, so far as the labor market is concerned, is not very well settled yet. A good many factories which were engaged in the making of munitions have not steadied down to ordinary peace conditions and it will probably be two or three months before everything settles down. I feel confident from my knowledge of the splendid efforts that are being put forward both by the Federal Government and the Provincial Government, that it will be a very short time only before matters are straightened out and we will be able to cope with the situation, particularly in view of the anticipated movement of new arrangements of one kind and another which will be required to be undertaken to meet public demand.

Now, in regard to Vocational Training: We have about 80 classes in the Province of Ontario—a number of them in the City of Toronto, Hamilton, London, Brantford, Stratford, Windsor, Sarnia, Collingwood, Peterboro, Kingston, Ottawa, practically all over the Province, and the men have, of course, to be dealt with carefully—a man who is only convalescent in health cannot be expected to take regular school hours. But we have to do the best we can and deal with each case on its own individual merits. So far we have about 1,500 in our various classes, with men who have already passed through our classes numbering approximately 2,500, so that about 4,000 of the 38,000 that have returned have received assistance through the Vocational Training Classes. The Federal Government bears the expense of the staff and paying of teachers who are imparting this instruction to the returned men, and special efforts are made as soon as a man has finished his course in vocational training, to get him into a position where he will receive lucrative employment such as his physical ailments will permit him to carry on. I am very glad indeed to be able to inform you that with comparatively few exceptions the men who have received vocational training are now in a position to carry on and are quite comfortable.

During the time that the men are receiving vocational training they are continued on "pay and allowance" on a scale slightly better than that received when they were overseas. As I dare say most of you know, when a soldier was overseas, there was what was called a Separation Allowance for the wife, in addition to a certain portion of his assigned pay. And where there were children under the age of sixteen years allowance was made for them also. There was also provision made for the wife and children from the Patriotic Fund. So that

I think all in all the system we worked out in Canada provided for the carrying on of the soldiers' families in a very comfortable way. While the man is taking vocational training, the pay and allowances go on just the same. If he comes from a part of the country where there is no class in the particular subject in which he requires his instruction, his travelling expenses are paid to wherever there is a class, and if he desires to have his wife accompany him, and his family, their transportation is also paid and allowances are continued to the wife and family until the man is ready to go on with employment. In addition to that he also receives the pension he is entitled to.

That will give you in a summarized form what is being done in Ontario for our returned soldiers. Excellent committees exist in all the cities and in all towns and villages to look after them and are doing everything that can possibly be done. We have heavy correspondence with the branches and likewise with the head office every day. We have a staff at our head office here on College Street of about 25 and so strenuous has the work been for some time past that we not only have to have a day staff of 25 but for some time we have been working a night staff of 25 also, in order to keep pace with our work. The work is pretty well up-to-date, and with the exception of the somewhat slight unemployment that exists since war ceased everything is carrying on very well.

There was inaugurated in Toronto a new movement to try to stimulate public opinion in regard to the returned man, not only to see that the returned soldiers receive a preference where there is a chance to give him one, but likewise to see that the personal touch was a little more in evidence than the Government institutions have been able to give him. We cannot do too much for the men who were our magnificent representatives on the battle front. And the attendance at that public meeting, very largely attended by some of the most representative business and commercial men of the city, was of a most encouraging nature. I hope and trust the same feeling will be evidenced in other cities, so that nothing will be left undone for the returned men.

Now, as far as the children of returned men are concerned, we have also made special provision for them. It became apparent some time ago that many of the men who had paid the supreme sacrifice in France had left widows and children in the Province of Ontario. During the recent influenza epidemic some of the mothers unfortunately died and we were left with a number of orphan children on our hands for whom immediate shelter must be provided. As you know, we have the system in the Province of Ontario, of the Children's Aid Society. The Province is very well organized in that regard, but primarily they have to do rather more with neglected and deserted children. But the Government felt that something better should be forthcoming for the children of returned soldiers and those overseas. So we formed what was called the Children's Hostel in the City of Toronto, and we purpose extending that to other places as rapidly as we are advised by our various branches that there is any occasion for it. Only to-day we admitted six children from one family from Creighton Mines. The father was a returned soldier who was engaged as a miner in the nickel fields and the mother became demented. She was unable to look after her children, and I received a telegram from Sudbury advising me of the circumstances, and we immediately made arrangements to bring the father to the hospital, brought the mother to Toronto and placed her in the Reception Hospital where she will receive the very best of treatment, and the six children were admitted to the hostel. The hostel is not carried on as a charity. It is merely a place where the children may be excellently looked after, where they

may have all home comforts but they pay their way, and the way that is done is as follows: As I told you a little while ago, the Pension Department makes provision for the payment of pensions. If the father is killed a certain pension goes to the mother and so much for each child. If the mother dies then the pension is continued for the children, and we have perfected arrangements with the Federal authorities whereby the monies to which the children are entitled are paid over to the Soldiers' Aid Commission and we administer those funds for the children. The Government pays all overhead expenses, we provide the building, we equip and furnish it, provide it with a superintendent who is a trained nurse and staff it with the necessary cooks, housemaids, assistant superintendents and so on, in order to give it a perfect staff. The children, where they are old enough, go to school; those who are younger have a kindergarten in the house for them, and I can assure you that kind-hearted people of the City of Toronto, through the Rotary Club, and other organizations, do everything possible to make these children's lives happy and useful. Many times when the children come to us they have been sadly neglected. It is perfectly pitiful sometimes to see these poor little things and the condition they are in. But they are not very long under the superintendence of Miss Wardlaw until you would not know them from the children of the best families in the land. And it is perfectly joyful in a way to see how well the children respond to the treatment. The other day we had three children leave us who had been with us three or four months (and they had had rather a hard time before) the father having in the meantime got home, and as his home was broken up by his wife's death he resolved to go back to the old country from whence he came. The children were very loath to go. We have had about 25 or 30 who have left us during the past month or six weeks who have been adopted by various relatives or other friends of the family after arrangements had been perfected, and we take the utmost care to see that they go into homes where they will receive every possible advantage, the aim being that the future position of the child shall be not only as good as it would have been if their parents had been alive but better, if possible. We are open to suggestions, and we are only too glad to have the assistance and co-operation of the public in every way. So far we have had that to an excellent degree, and we sincerely trust that the friendly feeling which has been in evidence to so great an extent in all parts of the country up to the present time will continue until the scars of war are healed.

W. B. BURGOYNE: We have to-night been honored by the address which the Hon. Mr. McPherson has just delivered. It has been a revelation to us to learn of the wide ramifications of his Department. We can assure him that it is scarcely possible for them to do too much for the returned soldiers. I have pleasure in moving a hearty vote of thanks to Hon. Mr. McPherson for his splendid address.

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## THE HOME GARDEN BRIGADE.

C. A. HESSON, ST. CATHARINES.

This was a new venture with the Society. I do not know if any one has had any experience along these same lines. So far, the matter has been solely in my hands, and therefore the responsibility for any shortcomings is at my door. I have learned through experience from other years that there are possibilities in the way

of improvement, and I would like to see some of the Societies work along the same lines if they see fit during the coming year, and ultimately it may redound to the benefit of all Societies.

1. Our motive is to have the children form the habit of Industry—of being busy at something that will be useful and keep them occupied. Gardening opens a field of Nature-study that is ideal, furnishing material for the very best kind of school work. Three-fourths of the children will, on leaving school, seek employment with their hands. How much better workmen they will become should they have acquired the habit of doing their part well. Nature-study through the garden, Manual Training and Domestic Science are subjects of vast importance tending to efficiency.

2. The number of members and consequent gardens established in connection with each school in the city is as follows:



Community Garden, organized by St. Thomas Horticultural Society,  
14 plots, 175 x 50 feet.

Alexander School .....	374	Victoria .....	137
Connaught and St. Paul's .....	164	St. Mary's .....	43
St. George's .....	74	St. Nicholas .....	39
St. Andrew's .....	70	St. Catherine's .....	49
Central .....	94	St. Thomas .....	40
		Total .....	1,084

3. The estimated quantity of vegetables produced by these gardens is as follows:

Squash—3,794, or an average of 3.5 squash per garden.  
 Beets—12,357 feet, an average of 11.4 ft. per garden.  
 Parsnips—11,598 feet, an average of 10.7 ft. per garden.  
 Carrots—11,598 feet, an average of 10.7 ft. per garden.

Making a total of nineteen tons of squash (estimated) and a row of the other vegetables, were they placed one after the other, of six and three quarter miles.

It was not possible to arrive at the weight of the under-ground vegetables, but the schools reported the number of feet in the rows grown—the homes were of course using the vegetables, from the first possible moment, and so much so was this the case, that when exhibition time came around some children reported no vegetables left to show. It will be remembered in this connection that each child's application for membership had to be approved of by the parent, and that approval seems to have been extended to the results of the children's efforts, even though it caused disappointment to the children at exhibition time.

4. The following expenditures were incurred, toward which the children contributed, at 10 cents per head, for the four packets of seed, making the actual charge upon the Society as under:

The Wm. Rennie Co., 6,000 special packets seed .....	\$150 25
<i>The Standard</i> , printing, etc. ....	69 60
Thos. Wibby, brigade buttons .....	29 25
Roden Bros., shields .....	15 90
Bank of Toronto, savings bank books .....	20 00
Cash paid as prizes .....	28 00
Less cash contributed by children .....	\$108 40
Less value of seeds on hand .....	37 50
	145 90
Net cost of Brigade to the Society .....	\$167 10

The exhibitions held on the afternoon of Wednesday, Sept. 11th, in the several schools were undoubtedly a revelation, the teachers and members of Committees entered whole-heartedly into the work, producing according to the varied accommodation of the school buildings, displays which were invariably pleasing and valuable as evidence of what the Brigade had accomplished. Some of the buildings lent themselves more satisfactorily to this feature, notably Alexandra, Victoria and Connaught, all large and new buildings, but while the displays here were outstanding ones, the others held up to the high standard when allowance was made for the handicap in surroundings and opportunity.

The Chairman cannot but express his appreciation of the interested manifested and labor extended by the various committees, as also of the assistance given by the judges in awarding the prizes under stress of time available and enormous amount of exhibits to be gone over. As an example of what this means, I may say that at one school there were 426 entries made and set up.

The competition for the Trophy Shields which took place at the Society's annual September Exhibition introduces a new and surprising feature, which I feel sure the Society will be desirous of repeating. The children not only sent their vegetables but further evidenced their interest, by attending on the afternoon of Friday, September 13th, to the number of 1,058.

The experience gained this year should be taken advantage of, having proved that the venture was very much worth while.

The circular, "About Home Gardens 1918" was sent through the schools addressed to the parents. We charged the children for the seed at the same rate they paid for it, as they realized in St. Catharines that something gotten for nothing was not valued.

In this way, the children had to go to the parents. And we had the evidence of the parents' interest. Now I went to the School Teachers Association early in the season and I was fortunate in finding there the Chairman of the School Board and several members of the Board, and I struck while the iron was hot. After

saying a few words to them I got the Association to appoint two members of the teaching staff in each school as part of a Committee, and then I went to the Society and I asked the Society to provide one member who was in close contact with that school, to form the third member of this Committee. I got my committees immediately, and I might say they worked well, and, from the chairman down, we got the teachers and the members of the Society in close contact with the schools.

Then we followed up with a card which is divided into two parts. The first is application of the child for membership in the Home Garden Brigade. He then takes it home to his parent and the parent signs his approval. On the return of that to the teacher, the teacher, or a member of the committee, issues to the child a certificate of membership. The parents are asked in the circular to put that card up in a prominent part of the home so that it can't be missed.

On the front of the card is a statement of the cash prizes. There are 16 cash prizes in each school. One prize was a Savings Bank Book of \$2. Now those savings bank books I followed up in the Bank, and everyone of them stuck. The only change in them to-day is that one child who was in the Penny Savings Bank or something of a similar nature, had it transferred to that account. These little accounts teach children to take care of what they do get. The proposition is to extend that feature through the coming year and also the cash prizes and to issue certificates of merit.

A success of this can be made anywhere provided the child is given a chance to feel that he is in the game.

Silver and bronze shields were then obtained and we started a competition between the teachers. We had the ten schools exhibition on one day, the next we had our Societies' exhibitions and we put up these children's for competition. The teachers were supposed to set these exhibits up from the vegetables grown by their pupils. We had the teachers tied down to further interest up to the last minute and it was interesting to see how they lack in the proper knowledge of the setting up of an exhibit. There were tons of stuff. But they learned something and the teachers are interested for next year. And so we lead them on. The first thing we know we will have the teaching staff enthusiastic where before we did not have them interested.

MR. MCKAY: Is the Committee prepared to know definitely whether the children accomplished all the work in their own gardens with their own hands?

C. A. HESSON: No. You will understand this was a new venture, and that is one of the points which is worth considering in another year's work.

MR. MCKAY: Is the Committee prepared to state definitely that all the exhibits by the children were the children's production?

C. A. HESSON: Yes. We had a member of our Society in close touch with the district, and he or she was expected to see that those exhibits that were brought there were from those children's gardens.

The Treasurer's Financial Statement will be found on page 6.

### RESOLUTIONS.

The following resolutions were carried unanimously.

"This Convention submits that, in connection with the adoption of a national and provincial flower, it would be desirable for the federal and provincial Departments of Agriculture, through the Experimental Farms, Stations and Agricultural Colleges, to direct that at each such centre a collection of most of the principal native Canadian wild flowers be established for the purpose of enlightening Cana-

dians and visitors from abroad on the riches of Canada's flora, and for the secondary purpose of stimulating an interest in the making of brighter and more beautiful Canadian homes."

"It is moved that this Convention being desirous of obtaining the support of the Dominion Government to obtain a national flower for Canada, earnestly make request for support through the Minister of Agriculture, and suggests that one phase of it should take the form of a small grant from the funds provided by the Agricultural Instruction Act. Such grant to be used as directed by the Minister of Agriculture in consultation with the Ottawa Committee."

"It is moved that the Secretary of the Ontario Horticultural Association notify all Horticultural Societies in the province that this Convention considers it desirable that each Society should take practical interest in the work of obtaining a national flower for Canada and a provincial flower for Ontario."

"That the Ottawa Committee be instructed to take steps to ascertain to what extent the Maple Leaf is now officially recognized in National or Provincial designs, or as an emblem. And that, should it be thought desirable to pursue the subject further, a suitable design of one distinct species, or a combination of several species, be made, and that collaborative work be undertaken to get such design officially adopted for Canada."

Moved by MR. BUCK, Seconded by MR. TAYLOR, "That this Convention of delegates from the Horticultural Societies of the Province places itself on record as being in favor of the establishment of Children's Peace Parks throughout the cities and towns of the Dominion as War Memorial Parks, and advises all Horticultural Societies throughout the Dominion to do all in their power to forward the movement." Carried.

## CANADA'S NATIONAL FLOWER.

A. GILCHRIST, TORONTO.

This is a subject which has interested me for a quarter of a century. Mrs. Gilchrist wrote an article on the subject which was much discussed twenty-five years ago. She then gave the Trillium as a suitable flower. Since then our decorations have changed. We are using flowers more for the table and for decorating rooms. We want longer flowers. I know most of the native flowers of this province. They can nearly all be transplanted into our gardens and do well. This list (hereto attached) was published by the Government about 16 years ago. The Department of Agriculture asked me to go out and talk to the people to surround their homes with our native perennials and shrubs. We can never make parks satisfactory to our country by using foreign shrubs and foreign trees. The most of our native shrubs and trees are free from insects, adapted to our outdoor climate, and they are as beautiful as those grown anywhere. We have thirty odd flowers which would do for a national flower. The one I would suggest is the Khaki Lily—that is a new name for an old flower. It has been called the *Lilium Canadense*, *Philadelphicum* and *Superbum*. There are very few of these left around my home. There used to be thousands of the *Philadelphicum* there. Whenever people see it in the woods it is pulled up and taken away. The people at the present time do not know the Khaki Lily. The Lily stands next to the Rose as a beautiful flower. It has no poor relations.



Its qualifications are as follows: It is native; it is perfectly hardy. It has a beautiful color, nearer khaki than anything else.

I come to its peculiar distinctive quality—when it is cut it will last for weeks, if you cut it with long stems it will last for two or three weeks. It comes in July and August, about our Dominion Day. It can be used for the national holiday at that time, for decoration at that time. Take a single bloom and put it through the centre of the maple leaf and you have the two combined—the maple leaf and the Khaki Lily. It is easily propagated, it multiplies rapidly. It will grow in any part of the Dominion of Canada. It grows well in Europe. You can take it and plant it next spring on the graves of our brave heroes. It will grow, the *superbum* about 4 or 5 feet tall, the *Philadelphicum* about 2 or 3 feet. It grows on moist land, along our river bottoms, we find it on our alluvial land. On the light land around Toronto it grows well. So these lilies could be produced on any kind of soil.

### NATIVE HERBACEOUS PLANTS.

That will transplant well.

- Columbine (*Aquilegia Canadensis*).
- Liver-leaf (*Hepatica tribola and auctiloba*).
- Bloodroot (*Sanguinaria Canadensis*).
- Cardinal flower (*Lobelia cardinalis and syphilitica*).
- Harebell (*Campanula rotundifolia*).
- The Lily Family (*Lillium Canadense, Philadelphicum, and Khaki Lily (superbum—Turk's Cap Lily)*).
- Phlox (*Phlox divaricata*).
- Wake-Robin (*Trillium grandifolium and erectum*).
- Solomon's Seal (*Polygonatum biflorum and giganteum*).
- Dog's Tooth Violet (*Erythronium Americanum*).
- Spurge (*Euphorbia corollata*).
- Butterfly-Weed (*Asclepia incarnata and tuberosa*).
- Wind Flower (*Anemona nemorosa, Virginiana and Pennsylvanica*).
- Meadow-Rue (*Thalictrum dioicum and Cornuti*).
- Sneeze-Weed (*Helenium autumnale*).
- Cone Flower, purple and yellow (*Rudbeckia laciniata and hirta*).
- Sun-Flower (*Helianthus divaricatus*).
- Beard-Tongue (*Pentstemon*).
- Mayflower-Ground Laurel (*Epidaea repens*).
- Squirrel Corn (*Dicentra Canadensis*).
- Dutchman's Breeches (*Dicentra cucullaria*).
- Violets (*Viola cucullata, pubescens and Canadensis*).
- Lupine (*Lupinus perennis*).
- Geranium Cranesbill (*Geranium maculatum, Robertianum—Herb. Robert*).
- Wood Sorrel (*Oralis acetosella and stricta*).
- New Jersey Tea (*Ceanothus Americanus*).
- Saxifrage (*Saxifragea Virginiensis*).
- Blazing-Star (*Liatris spicata and cylindrica*).
- White Snake-root (*Eupatorium ageratoides*).
- Elecampane (*Inula Helenium*).
- Golden Rod (*Solidago Canadensis*).
- Starwort (*Aster multiflorus and Novae-Angliae*).
- Oswego Tea, Horse Mint (*Monarda didyma*).
- Wood Betony (*Pedicularis Canadensis*).
- Waterleaf (*Hydrophyllum Canadensis*).
- Dogbane (*Apocynum androsae, ifolium*).
- Skunk Cabbage (*Symplocarpus foetidus*).
- Bellwort (*Uvularia grandifolia*).

MR. SIMPSON: As a member of the Ottawa Committee dealing with the question of a national flower. I have my personal opinion as to a flower we should adopt.

I am not saying anything about that at the present moment. It is not so much a question of a decision of the numbers of flowers that have been suggested as of creating a sentiment in favor of a national flower. Shall we have a national flower or not? Incidentally this question affects horticulture in a practical way in that it directs the attention of the public to flower growing, and therefore interests horticultural societies as such. But it is more than a horticultural question. It is a question of national sentiment. It is a question that affects almost every person in the country—Horticulturists perhaps from the horticultural point of view. The immediate task before Horticultural Societies particularly is to endeavor to develop a public opinion on the subject. The way to do that is to take up the question, to pass a resolution, have it published in the local paper, and to endeavor to ascertain the mind of the public on this question of a national flower. Shall we have a national flower or are the present national emblems sufficient in the opinion of the public?

Having decided that, then we want to secure the opinion of the public as to which flower shall be adopted. My suggestion is that that part of the report which asks local societies to take the question up and take some definite action upon it be taken seriously to heart by all societies. The Ottawa Society will immediately take the question up again and pass a resolution in that sense.

MR. BUCK: I did not have the opportunity of adding anything to the discussion on this question, but I want to add to it in a personal way. There is one aspect which is not personal. That is suggested in a cutting from a local paper. It says that the Minister of the Interior in France in replying to the Government said that "every honor would be done to the dead." That you see is taken care of by the National Assemblage. Now there is the question for Horticultural Societies—providing suitable emblems of affection for our dead in France.

But there is another side and a personal side that I think is very well evidenced in a letter that came to us a few days ago: "Observing that a national flower is urged for soldiers' graves I would suggest our Wild Rose so plentiful in Ontario and the Western Provinces. The brave men who fought our battles loved the Wild Rose, I am sure. Rose for England, Wild Rose for Canada. I know it is the flower my boy who is continuing the fight shall place on his eldest brother's grave who fell in the war."

You and I have friends over there who died in the war, and we want to see that suitable obsequies take place. We are discussing the obsequies of the noblest of the race, and it is fitting that we take some action so that the graves in France and Flanders shall not remain dreary-looking places but that they shall be a tie which shall bring us as brothers and sisters, to those of our beloved who have died and are buried there. We may raise memorials in our cities here, but surely it is not too much to expect that we want some token which we can send over there (as we do now in our own land on the graves of those who are buried at home), which we shall be proud to see growing there when we go over next year.

This great common grave is the grave of all countries. The grave which we are particularly interested in is that which covers the British Empire; the one we are more particularly interested in is the one which covers our own 50,000 Canadian heroes; and, the particular grave you and I are most particularly interested in is that of our own particular friends.

The Canadian Government has planted trees in Flanders, and any societies which wished to be supplied with the same seed of the trees which produced the seed for those planted in Flanders could have it in two or three years time. This

could be used to stir up sentiment and probably increase the membership in the Association to some 50,000.

MISS BLACKLOCK: We ought to deal with this matter intelligently. The Wild Rose is a very beautiful little shrub, but it is a shrub not a herbaceous plant. I suppose really it is a herbaceous plant we want, one that dies down and comes up fresh every year. I have had a very firm conviction that it is the Trillium we should choose. It is a very showy flower and will grow almost anywhere. However Mrs. White seemed to think it was necessary to have the *Canadensis*. It has the advantage of having a beautiful bunch of red berries in the fall. Now I am quite



Tree Pæony Flora.

willing to say that the *Cornus Canadensis* is equally as good as the Trillium. There is no flower that is as suitable as the Trillium, the *cornus Canadensis* and the Columbine. They are the most suitable and typical Canadian flowers that we have. I think one of the American States has already annexed the Columbine, so that rules that out. We should have a beautiful flower. The Trillium is and also the *cornus Canadensis*. The scarlet berries in the fall of the latter are very ornamental, in fact more so than when the flower is in bloom.

Of course the Lily is a beautiful flower, but I don't agree with Mr. Gilchrist that Lilies are easy flowers. My experience is that the Wood Lily would require a

certain amount of shade which perhaps the Trillium would not do. I think the *cornus Canadensis* would fill all the requirements of a national flower and it has the advantage that it does not need any staking to keep it up. It is not more than 6 to 8 inches high, and masses most beautifully.

MR. RYERSON asked Miss Blacklock if the *cornus Canadensis* is not particularly a flower that is a habitant of shady places.

MISS BLACKLOCK: I think not, because I have seen it grow in fence corners right out in the sunshine, and I believe it grows from coast to coast. Also another thing, the Trillium is a flower that is easily conventionalized, and that is a quality that is very desirable in a national flower.

MR. HUNT: I have been very much interested in all that has passed *re* the national flower to decorate our heroes' graves in Flanders and being interested in flowers as well this matter has appealed very much to me. Now I understand there has been a Committee appointed in regard to the national flower. I want to impress upon all the delegates the importance of taking up this question at some good rousing meeting when they have a good attendance of members. It is a very important thing and I don't think we should determine this very hastily. We should get the consensus of opinion from all over. There are so many points as, Mr. Buck says, to be taken into consideration, such as the adaptability of the flower. Some of the flowers that have been mentioned are a little difficult to grow and to transfer from the wild state to our gardens. We want to have these things close to our homes. Those of you who have in the past been accustomed to taking wild flowers from their wild state and trying to cultivate them in our gardens have a knowledge of what would be the best. My experience has been that it is more difficult to take a plant from its wild state and cultivate it than it is to take a cultivated plant and put it in your garden.

Moved by MR. BUCK, seconded by DR. SMITH, "That the thanks of this convention be tendered to Prof. R. B. Thompson and his committee for the work done in connection with obtaining a national flower for Canada, and this committee expresses its desire that the work be continued, and that the matter of a flower for the Province of Ontario be given immediate attention. Carried.

A DELEGATE: Prof. Thompson told me this morning that what he had done in the past in the way of research on this subject was not by any means finished. He is perfectly willing to do anything that any of the Societies pass resolutions to ask him to do.

MR. MCKAY: One great object for such a flower in my opinion would be to get something that would make it entirely national. Is there not a danger of proceeding along provincialism when we strive towards getting a flower for each province? Are we not in danger of going along provincial lines?

It was moved by REV. W. H. MADDEN, seconded by A. GILCHRIST, "That a Committee be appointed by this Association to make a selection of at least one-half dozen flowers from which a provincial flower may be selected and that a circular be printed presenting those names and reasons for their selection, also that copies of said circular be sent to all Horticultural Societies for their consideration and discussion at public meetings in each district called for this purpose." Carried.

## PÆONIES.

PROF. A. P. SAUNDERS, CLINTON, N.Y.

I come to you as an ambassador of the pæony, and the American Pæony Society, to try and stir up the interest of those of you who are not yet aware of the value of the Pæony as a garden flower and to bring to the more experienced cultivators of the Pæony here what suggestions I can regarding the newer varieties, especially those that have been produced in the States and which have been shown now for a number of years in the exhibitions of the American Pæony Society.

For the experienced pæony grower we do not need to say anything in praise of our favorite flower, but for those of you who do not yet feel that the pæony is the greatest of all garden plants I want to tell you first of all that it is, and then I want to tell you why it is the ideal plant for a northern garden. There is no other plant that I know of that combines so many fine qualities as the pæony and combines them with perfect hardiness and a great enthusiasm for co-operating with the gardener to produce a beautiful effect. Who could possibly claim that the fine varieties of roses, for instance co-operate very enthusiastically with their owners? He must do all the co-operating himself. He gets gorgeous results, I admit. But the proof of the ability of the pæony to withstand natural conditions, natural disadvantages of climate, is shown in its wide dissemination as a cottage garden plant. I do not know how widely disseminated pæonies are in Ontario, but in that section of New York State where I live there is no hardy plant that is so common in cottage gardens as the pæony. It is true, most of the pæonies that you find about the farm houses are very bad ones; that is all the more reason why we should preach the doctrine of fine pæonies.

What a great thing it would be for our countryside if we could have these worthless plants discontinued, and such varieties as Festiva Maxima, Joan of Arc, or Richardson's Perfection introduced in their place. Those beautiful things would be an adornment everywhere of the small cottage garden.

For everyone who wants to start out to form a collection of pæonies, the first question that has to be solved—I suppose—although some of us don't devote much attention to it until it is too late—is how much money we have to spend on it. But no one need be deterred from starting a collection of fine pæonies for financial reasons. Very many people buy bad pæonies in preference to good ones. It is not hard to find people who have elaborate gardens and pay a gardener \$50 or \$80 a month and buy pæonies at a Departmental store bargain counter rather than spend a dollar or two a piece for a dozen good ones and start a collection of really fine varieties.

The first thing I would like to bring to your attention is this—if you have some old bad pæonies about your own place that you have kept around for sentiment, root them out and start anew. If your purse is limited, I can name to you half a dozen or a dozen varieties of pæonies that can be bought for from 50 cents to \$1 a piece, some of them among the very finest things we have.

The American Pæony Society made an effort last fall to compile a list of the best varieties by a new method. We have something like 2,000 varieties all told. That is much to many. A great many of them are worthless and should be thrown out of cultivation altogether. That is one thing that we wish to effect. We want to get up a black list of pæonies, to discourage anyone from buying them; for if nobody buys them, the nurserymen will discontinue them in time. Then, on the other hand, we want to construct a list which will be placed at the forefront of

any pæony list. In order to accomplish this, we printed a list of all the standard varieties of pæonies. It is quite a long list and includes a lot of pæonies that are not much grown. That list was sent out to members, with a request that each man should grade from 0 to ten, whatever varieties he was familiar with. Ten was perfection; 8 or 9 good, anything below 5 was not considered at all. Returns are in and I am having them tabulated and will soon have them in print.

The results of the voting were—3 pæonies graded up to 9-7/10 on the basis of from 25 to 30 votes. Those three are:—

*Therese*, a wonderful light pink variety that was introduced by Dessert about fifteen years ago, the one in my opinion that is indispensable in every collection. There are not many of them that you need to say that about. In a good many cases if you do not feel like spending 25 dollars for a pæony, you can get one for \$1 that is almost as good. *Therese*, however, costs \$5 or \$6, but it is not replaceable by any cheaper kind. The other two at a grade of 9-7 are *Le Cygne*, and *Solange*, both Lemoine varieties. Then we don't find anything on 9-6. There is nothing beyond 9-7.

The next one is very interesting to see, and is one of the American varieties of recent introduction—*Elizabeth Barrett Browning*, one of Brand's pæonies. He has his gardens in Faribault, Minn., where he has accumulated a large collection. Brand has an abundance of acreage and apparently all the help he needs. He was at our show in Cleveland last spring. He is an attractive, unassuming enthusiastic fellow, as all pæony men are. Brand has selected out of his enormous number of seedlings in the course of eight or ten years about two dozen varieties, some of which I think are of very high quality. *Elizabeth Barrett Browning* is one of the best of them and grades 9-5. Here we come to a peculiarity in the method of reaching conclusions. The pæony is, of course, a flower that impresses different individuals differently. And if you wish to come as near as you can to the truth, you must have a large number of votes in order to eliminate the cranks and also in order to eliminate those cases where a grower may have a pæony that is not true to name. That, unfortunately, happens. Nurserymen are human beings and make mistakes. And sometimes the long rows of pæonies in a nursery will get somewhat mixed. So that if you send out a list of pæonies and get 30 or 40 votes, the chances are that there will be one or two of them that will be based on a plant that is not true to name. And it takes a lot of votes to eliminate the effect of one or two eccentric ones. Therefore, I don't set a great deal of store on averages unless made up of about fifteen votes. This one for *Elizabeth Barrett Browning* is made up of seven votes, so that I should think her position is a little questionable still.

At 9-4 we have a group of 3 magnificent pæonies—*Kelway's Glorious*—I am inclined to think is the finest white pæony we have to-day excepting *Le Cygne*.

*Madame Jules Dessert*, a magnificent beauty; and *Tourangelle*, another of Dessert's novelties. *Tourangelle* is a light pink, a very beautiful regularly formed flower. It was shown in Philadelphia three years ago in beautiful form. At a grade of 9-3 we encounter our first dark red pæony, *Philippe Rivoire*. It is somewhat too purple for a great many people but a good color, as it was shown at Cleveland last year. Next to that one of the oldest pæonies, *Festiva Maxima*—ranking up to these and to be had for 50 to 75 cents each. Next to that the notorious *Lady Alexandra Duff*, about which I could talk to you at some length. It has had a strange history. There are a few growers in the States who have it for sale for a consideration. I don't know about the Canadian nurserymen at all, but I presume that some of the growers over here have it. It is the most difficult pæony to-day

to get true to name. Then come La France, a very beautiful sort, of an apple-blossom pink color.

In the next group at an average of 9-2 and you see we are very high up still, 9-2 means practically all the votes at either 9 or 10—we have Mrs. Pleas' Jubilee. This is an American variety. By the way, I have told you what I think about Mr. Brand, but I have not yet mentioned some of the other of Brand's pæonies which are very well worth your consideration. Mr. Brand is very fond evidently of dark reds, and has introduced three or four pæonies in dark red shades that are very good, particularly Longfellow and Mary Brand. Any of you who are interested in Mr. Brand's pæonies, might do well to write to him for a list. Longfellow and Mary Brand in dark red; Elizabeth Barrett Browning and Frances Willard in white, are all of the very highest quality.



Herbaceous Pæony, La Rosière.

I consider Mrs. Pleas' Jubilee a very fine pæony. But they tell me it has a weak neck. It was shown in Philadelphia two years ago, and as there staged was very lovely in quality. Here also we find Sara Bernhardt, one of the most popular of the newer Lemoine varieties with the commercial growers. Also we find Walter Faxon, one of Richardson's seedlings. Richardson lived near Boston in the 60's and 70's and later. His history shows up what anyone of us might do. He had a few of the standard pæonies of good quality, the best that were in existence in the 60's, and of those he saved the seed. I do not think he can have raised more than about 100 or 200 seedlings each year, and yet of the things that Richardson left us when he died, there are three varieties which I think are as good as the very best we have to-day, namely Milton Hill, Grandiflora and Walter Faxon. Of these I should always put first the one that I had most recently seen. Grandiflora

is an extra late flat bloom, huge in size, delicious in perfume and a great bloomer. It is certainly the finest of all the late light pinks I know. Milton Hill has an extraordinary fragrance. It is late in the season, a delightful color, a slightly mauvish shell pink, but it is an extraordinary and beautiful color. Mr. Farr showed a bloom of Milton Hill at the Pæony Show in Cleveland that would have driven any sane person crazy. Fortunately there was no one there of that description as they were all pæony men.

At this level we encounter another Lemoine variety that I recommend to you particularly—that is La Fée, a magnificent bloom. And here we come to our friend Monsieur Jules Elie which you can get for 75 cents or \$1. Three or four years ago at our Exhibition in Boston in the class for the finest individual bloom there was a bloom staged of Jules Elie—I don't know how to tell you how big it was; I never saw a flower so big, it was an incredible bloom.

A MEMBER: How about the stem?

PROF. SAUNDERS: What sort of stem would you need considering that the plant is a tall grower and that the stem has to support a bloom which when dry might perhaps weigh one pound and when wet about two or three pounds? Of course it would be very desirable if we could have stems that would hold our pæonies up in spite of all the weather conditions; but after all, if you think what that would mean with the largest flower and tallest bloom, you would need a stem as thick as my thumb! So I am inclined to think the best we can do is to tie our stems. Take a bloom like Sara Bernhardt or Le Cygne—the stem would have to be exaggerated to bear those up under all conditions of weather.

At 9-2 is another variety, Martha Bulloch. It is good of course; it is fine; very large and the color is, I think you would say, good. I do not know why the flower does not appeal to me more than it does, but it seems to me to lack charm a little bit. And at this level there appears a variety that interests me very much, Mary Woodbury Shaylor. Those of you whose memories go back twenty years will remember the earlier days of pæony culture in this country, when we did not have such big catalogues or long lists of foreign varieties. It was very much harder to get European sorts in those days, and Mr. Shaylor who was then at Wellesley Hills was a pioneer in importing the best European sorts. Now Mr. Shaylor has become interested in raising seedlings of his own, and several of them are varieties of high quality, and here we find Mary Woodbury Shaylor in the same category with Sara Bernhardt and Jules Elie.

At 9-1 we find three Lemoine varieties—La Lorraine, Madame Emile Lemoine, and Mignon.

And at 9 we have another of Mde. Pleas' varieties, Elwood Pleas. Then Frances Willard, another of the Brand varieties, and Marie Crousse, a grand pæony in a shade of almost salmon pink. And here we come to the wonderful Richardson variety—Milton Hill.

That gives you all the pæonies at 9 and above in that symposium.

Now I know that you feel resentful that certain pæonies are not there—Primevère for instance which I marked at 10. It is sometimes called the yellowest pæony we have, and it is one of the yellowest of the cream colored pæonies. But the plant has a beautiful habit of bloom and a most intoxicating fragrance. And I can sit down beside a bush of Primevère and have a very good time for an hour on a June morning hybridizing and enjoying the delicious fragrance. Eugene Verdier and Eugenie Verdier, for instance, also are not there. But we will have another of these elections in a year or two and some of our favorites may do better then.



Now regarding the price of pæonies: Here is a list that I drew up quite a time ago "Pæonies for a Modest Purse." It included Duchesse de Nemours, which is certainly one of the finest whites we have to-day in spite of all the novelties; also Festiva Maxima and Marie Lemoine. These are pæonies for 50 cents or 75 cents. If you are going to buy pæonies for little money you must be very careful what you buy. It is a great deal easier to make mistakes at 50 cents or \$1 than it is to at \$5 or \$10, because at \$5 or \$10 they are nearly all novelties that are in great demand, and they are in great demand because they are fine; while the cheaper are nearly all old sorts and the bulk of those old sorts are bad, and ought to be thrown away.

Philomèle is a great favorite of mine. It is a lovely plant in the garden. No one can go by it without smiling. It is very highly fragrant, of very good habit, and altogether a good garden plant.

Then Mademoiselle Leonie Calot, and Jean d'Arc, which is I think to-day unbeaten. I had a letter from one of our members in connection with this voting business, and he said, "I can't understand why people don't rank Jean d'Arc at the top."

In order to pick out this list I took a standard catalogue and picked out the best 50 or 75 cent ones, and I will confess to you that it was not easy to find half a dozen of them. When you get up to the \$1 a piece it is easier.

Richardson's Grandiflora for one. For another Carnea Elegans, the one originated by Calot; but this must be cut just as the petals are opening and brought into the house, the blooms are spoiled by sunlight. Then, Eugene Verdier. But since I made this list I have come to know the sister variety, Eugenie Verdier, and I have come to prefer her of the two. When you buy Eugene Verdier you may have good luck or bad luck. If you have good luck you will get the good variety. If you have bad luck you will get a variety which we have all agreed on the other side to call "L'Indispensable." That variety came over to America from Holland some years ago, and got into the trade as Eugene Verdier, and some dealers still persist in calling it Eugene Verdier. We had to do something about it, so we decided that this plant should be L'Indispensable and that the other should be Eugene Verdier because it agreed with the originator's description. The true Eugene is rather a dwarf grower and the bloom has a good deal of yellow in it. It is almost white, but there are touches of yellow in it. The other flower grows quite tall and is distinguished by a bad distinction—by the fact that almost all the buds split on the side. Then I would put in here a grand variety, and that is Madame Emile Gallé.

A MEMBER: What is the best way of fertilizing?

PROF. SAUNDERS: The best way is to dig a large hole when you put the plant in and get some well-rotted manure and mix it up in the bottom of the soil so that there will be a supply which will keep the plant going for ten or fifteen years. For top fertilizer year by year, I think that crushed bone-meal is good.

Q.:—With your knowledge of pæonies, if you were starting a collection, would you confine the number to 100 or would you go below or above?

A.:—In my collection, I have rather a limited space. I do not want to use my half acre all for pæonies. I try to keep my collection down to 200 by throwing away, roughly, as many as I buy. Those of you who have grown pæonies for years know that it takes a considerable exercise of will to take out a great big pæony plant and throw it away, but if you say to yourself, I am getting half a dozen varieties, I must get rid of four or five of my old ones, you go around and find which ones it is easiest to discontinue. Now I am speaking as an amateur. If we have 150

varieties of pæonies, we have probably got everything we need, and if you will sit down some time and try to name the best 100 pæonies you will find it is quite easy to name 50 or 75, but the last 25 are hard to select if you are determined to name only first rate ones.

MR. SIMPSON: I was very much interested in the list to which Mr. Saunders referred. I assume that this list is identical with the one published under the name of Mr. Saunders in the *Garden Magazine* some time ago. Might I suggest as Mr. Saunders has not included that old list in his speech, that it be included in the record as I presume that every gardener would be glad of it.

LIST OF PÆONIES REGARDLESS OF PRICE OR ANYTHING ELSE  
EXCEPT QUALITY.

Therese.  
Le Cygne.  
Madame Emile Galle.  
Albatre or Avalanche.  
Marie Crousse.  
Grandiflora.  
James Kelway.  
Venus.  
Duchesse de Nemours.  
Jeanne d'Arc.  
Philomele.  
Marie Lemoine.  
Eugene Verdier.

Madame Boulanger.  
Baroness Schroeder.  
Mlle. Leonine Calot.  
Milton Hill.  
Carnea Elegans.

To these I would like to add:

Eugenie Verdier.  
Rosa Bonheur.  
Kelways's Gloria.  
Kelway's Queen.  
La Fee.  
Frances Willard, and perhaps two or three others of Mr. Brandt's.

THE EVOLUTION OF THE COMMERCIAL GREENHOUSE IN RELATION  
TO HORTICULTURE PAST AND PRESENT.

W. R. COBB, NEW YORK.

When one passes through the country to-day and sees the number of up-to-date greenhouses, ranging from 30 feet to 85 feet in width and from 200 feet to 600 feet long it is hard to realize that only thirty-five years ago a greenhouse wider than 20 feet was almost unheard of and hard to find.

The first greenhouses were constructed of sash similar to those used on cold frames. First came the lean-to built against a wall or building, then the full span about 10 feet wide. These were heated with brick flues connected to a hot air furnace through which the hot air was carried. The walk levels and walls were below grade so as to have as little surface exposed to the outside air as possible. There was a centre walk through which one was able to pass by keeping the head well down.

The introduction of hot water and steam as mediums to heat greenhouses made wider and longer structures possible. From this time a slow but steady growth in size and construction began. Roofs built of separate sash disappeared, and the modern method of constructing the roof as one big sash was adopted, the houses were built on the same level as the ground, sides made higher, and separate sash arranged to properly ventilate the houses placed at the ridge. The houses were constructed entirely of wood on locust or cedar posts placed in the ground 3 ft. and extending 4 ft. above, and the sides covered with boards from grade to eaves. Next the sides were made higher and glass introduced.

At this time steel was being used in the building of greenhouses on private estates. At first this construction was too expensive for florists to consider, but

as lumber advanced in price and steel decreased, it became possible for florists to use some steel in the construction of their houses. This resulted in what is known as pipe frame or semi-steel construction and houses as wide as 30 ft. became common. As time went the steel rafter construction began to be built, the widths increased to 50 ft. and 60 ft. To-day houses 85 ft. wide have been constructed. I will not go into the construction, but summing up the features that have contributed largely to the improvement and expansion of Horticulture and Vegetable growing we have:

Increase in width and length.

Increase in height of sides.

Increase in width of glass.

Decrease in size of members.

Better ventilation.

Lapping the glass instead of butting.

Introduction of hot water and steam as heating medium.

Better planning.

Increasing the width and length makes it possible to cover more ground at less cost. The sides of a greenhouse cost the same whether the house is 20 ft. or 80 ft. wide, and are the most costly part of the structure. The roof is the less costly, and by increasing the span of same the cost per square foot of ground covered decreases. As the length of the houses increases so does the cost up to a certain point. In wider houses a larger volume of air is enclosed, consequently the number of feet of radiation required is less than in narrow houses. The abandoning of the ridge and furrow type of house and the building of separate houses has been beneficial. In separated houses there are no pockets for snow, consequently more light, no labor required to keep the pockets clear of snow, etc., no gutter to leak and drip.

By increasing the height of the sides (the standard is now 7 ft.) it is possible to have a serviceable walk next to the sides thus moving the plants away from the cold sides of the structures.

The plants being a goodly distance from the glass grow and thrive in an even temperature.

Increasing the width of the glass admits more light. First 6 in., then 8 in., 10 in., 12 in., 14 in., 16 in., have come into use and in some cases 20 in. and 24 in. The 16 in. has been generally adopted as being the most economical and practical size and the length 24 in.

By the use of steel in construction, the framework can be so designed that the entire weight will be sustained by same, allowing the reduction of the wood members to a point where they serve simply as a secure setting for the glass and a house which is practically a bit of enclosed out-of-doors is secured.

Building houses with continuous lines of ventilating sash at the ridge in runs of 50 to 75 feet, placing ventilating sash on the sides and operating these sash with improved ventilating machinery gives perfect control of ventilation all through the year. It has been hard to convince some growers that side ventilation is necessary but once tried it will never be abandoned.

Lapping the glass in the roof instead of butting it has resulted in a decrease in loss of heat, draughts and a tighter roof in every respect.

By using steam or hot water, houses of any width, length and number are possible. Circulation by gravity has its limitations but by installing pumps (as many large establishments have) there is hardly any limit as to what can be

done. One range I have in mind consists of 10 houses 80 ft. by 600 ft. which are successfully heated from a central heating plant.

Few realize what an important part the planning plays in the economical building and maintaining of a greenhouse plant. No matter how small a beginning you make, start with a definite plan for future growth. Lay out your plans for as an extensive a plant as you have aspirations for, build as little of it as



Japanese Tree Pæony Selrin.

you are able, but build that little as part of a unit and you will never regret it. Before you build visit every establishment you can, consult with expert greenhouse builders, inform yourself in every way possible, make up your mind what you want and have it done.

During the past 15 or 20 years I have done considerable travelling. During this time I have seen the florists and vegetable industries emerge from rather indifferent ones into the great growing, going class. Where formerly bankers and investors could not be induced to listen to appeals for capital and help they are now sitting up and taking notice. That formerly they fought shy I do not wonder. Most of the establishments were a collection of small narrow houses of

all kinds and varieties, wandering off in all directions, ill kept, on different levels, with many and separated heating plants, and the whole offering as far as appearance and arrangement was concerned little to attract or induce one to lend or invest any money in them. Many times I have visited florists who asked for credit and in most cases the final decision has been greatly influenced by the degree of neatness around and through the greenhouses.

As the florists and vegetable growers began to build better houses they began to raise better and more abundant crops; as communities began to prosper the demand for flowers, etc., increased. The fact that passersby saw better greenhouses in use created a desire for flowers and vegetables which they did not have before. The demand has steadily increased and will, I believe, continue to increase.

Prices of everything in connection with building and maintaining greenhouses have increased, and you have increased the prices of your product. Do not try to see how much more you can increase prices but try to keep the selling price at such a level that more people will purchase, relying on economies in planning, building, growing and extensive cultivation to get and increase your profit.

On the Seabrook Farm Company at Bridgton, N.J., outside crops of all kinds are grown, and the soil is never empty except when it is frozen. There are several large greenhouses on the farm and they are never empty except for about two weeks of the year when the soil is being changed or enriched. In April cucumbers are planted and from that time to the 15th of August these crops ripen and mature. They pick from the middle of May up to August 15th. By the last of the month the houses are again planted with cucumbers which crop bears from October to Christmas. Then three crops of radishes are sown and picked, these requiring not over 45 deg. of heat. A crop requiring little heat and consequently little coal, can be profitably raised during the coldest months. In other houses tomatoes are grown. By intensive cultivation, eliminating all waste as to space, labor, etc., an industry has been founded on the strength of which the growers can go to bankers and investors when money is needed for further expansion and be received and received with joy and pleasure.

Many florists are adding nurseries to their greenhouse business. This allows them to keep the same men employed summer and winter.

I have endeavored to show you how the evolution of the commercial greenhouse has made it possible to grow better stock, increase the volume and variety of bloom, reducing the cost of operating per square foot of bench. I could produce a mass of facts and figures to prove this, but in the limited time at my disposal this is impossible.

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## TREES AND SHRUBS FOR SMALL PARKS.

ARTHUR H. SHARPE, LANDSCAPE ENGINEER, TORONTO.

The trees and shrubs which may be used in the planting of small parks are not limited by our title. They may be restricted by the individual park site through the influences of soil, climate and design but not by the area. The plant material which is adapted to large parks is also adapted to small ones. There is this difference, however, the small park entails concentration of treatment with important attention to details. The planting instead of extensive becomes intensive. In places of expansive vistas where the masses blend naturally

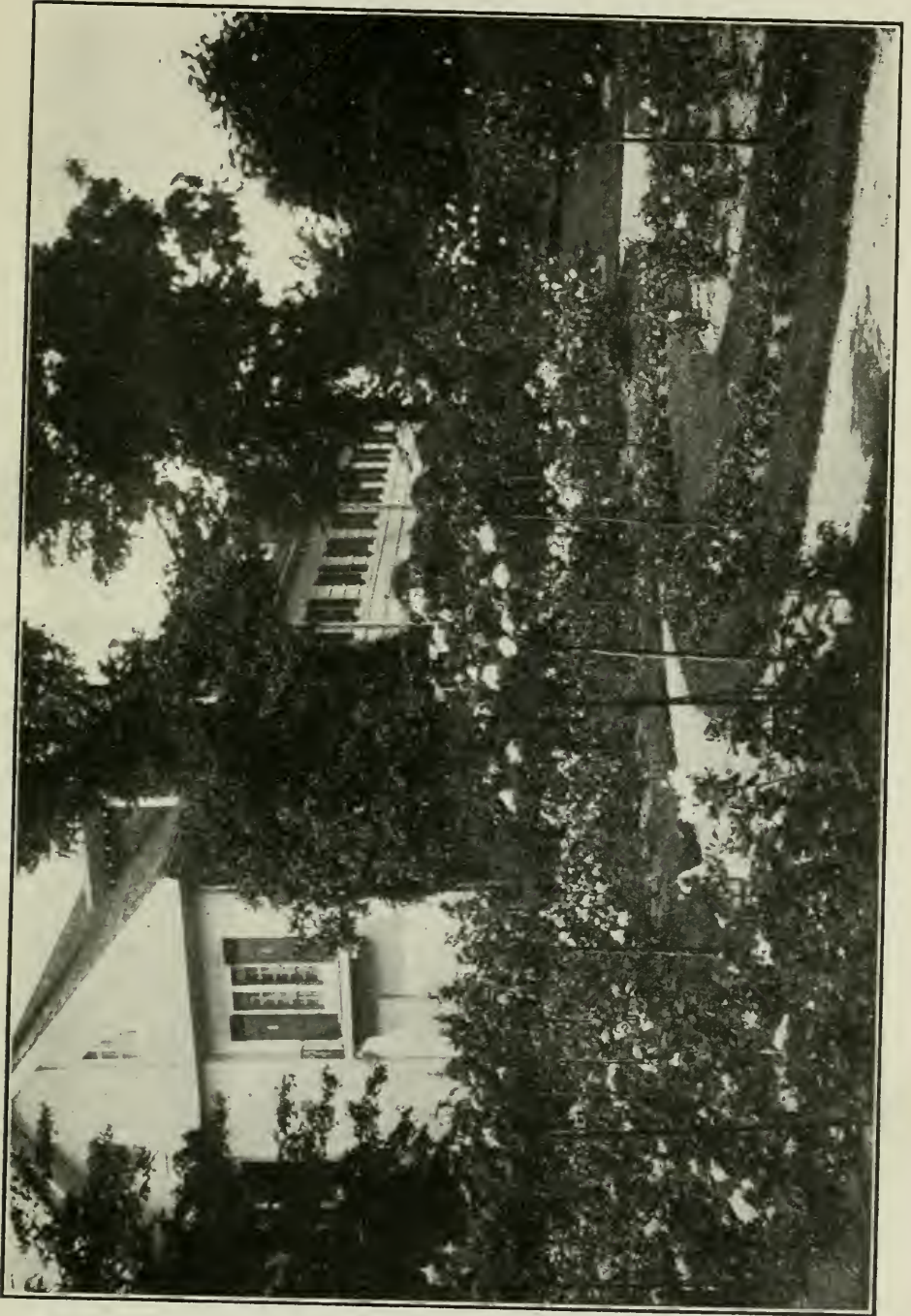
under the vision, the planting is viewed close up, and the contrasts become more vivid and harmony in the artificial arrangement should be most carefully studied. This is the sole limitation of the word "small" in our title and it is well to express this clearly. The planting of small parks requires the most thorough attention to details that the results of harmony and contrasts may be satisfactory under the intimate regard at close range.

By the term "small parks" reference is made to areas of ten acres or under. Under this classification we may include the grounds of institutions, grounds of a memorial nature, grounds devoted to athletics, grounds with a community association commonly called "neighborhood parks." With all these purposes as justification of existence it may be easily recognized that there must be a diversified arrangement of the planting if the utilitarian side of each is to be well developed. We can easily see that the planting of a playground must be so arranged that there is sufficient open space for athletic exercises and differs widely from the planting of a purely athletic area where the massing of material is the important consideration.

Every park must have a definite use which is its justification for existence. The lessons of the heroic four years just closing have been many, but to my mind the greatest has been the lesson of service. The unnecessary things of parasitical pre-war days were torn from us by the God of War and the redeeming angel of necessity stripped each of us of the stifling mantle of indulgencies. Everything and everyone had to justify an existence or migrate to the land where cooking is the common occupation and the electric range is unknown. Even the esteemed gentleman of every community who could flash a bank roll and own to no particular employment came into his own through the famous order-in-council, which elevated him to the peerage of "gentleman hobo" and he was told that he must do one of three things, work, fight or decorate the interior of a Government building where the more fastidious members of his class have been wont to sojourn. That parks have a useful place in a community has again been evidenced by an incident in this city during a time when each utility was under the acid test. Last year the hospital commission found that the accommodation for returning soldiers was inadequate and with the uncharacteristic energy of such commissions stirred this renowned city of passive endurance from the Humber to the Don by a demand for the right to erect a hospital in High Park. The request had been made to our municipal fathers and the petition partly granted before the citizens were aware of the procedure, but, when they awakened to the fact that this beautiful area was to be despoiled by the erection of buildings a mighty roar of protest burst from the throats of a people whose hands had hastened to pour money in millions for the support of the fighters. Think of it. A city which had covered itself with a mantle of fame by its generosity to the soldiers, revolting at an attempt to use a park for a hospital site. That park had a use and so well did it serve its purpose of health building to the citizens of Toronto that they were unwilling to forego its benefits even for a short period.

I am going to develop this thought one step further because there are many communities even to-day that are neglecting to provide parks space for want of a recognition of the use such areas are to a community.

Mr. Geo. E. Kessler, of Kansas City, recently investigated the advantages of park areas, and he succeeded in reducing their effects to a dollars and cents value. He is able to show that a park has an earning power in money to the community. He took land values, in his city, of districts before and after areas



Rose Garden, Emmisclare.

devoted to parks were developed, and in every case he found that value showed a material increase through the installation of parks. That meant that people were willing to pay more for their homes, and also to pay a yearly sum through taxes, if they could have their homes in a district served by a park.

Should a further comment upon the monetary value of parks be necessary to convince the gathering that every community here represented should have a well organized plan of development under way, I would refer you to the commercializing of parks as assets in real estate development. Not only in Canada, but the garden cities of the Old Country, the modern town of the United States, in fact, the re-building plans of the devastated areas of Western Europe, all contain provision for parks. I might say more emphatically, their absolute foundation is raised upon parks. It is remarkable now to find that any plan of real estate development does not contain certain areas devoted to park space. These operators are the keenest financial men of the day and the fact that they are setting aside parts of their lands to serve as parks is one of the strangest testimonials to the monetary value of such lands.

With the recognition of a useful purpose in park areas comes the responsibility to have areas fulfil that purpose in the greatest degree of efficiency. The land should be chosen for a definite purpose, this purpose should be kept in mind by the designer, and the community should protect the accepted purpose after the development work is completed. A small park should have a single purpose, a large park may have segregated areas devoted to a single purpose.

Decide what purpose your park is to serve in the community, design the area to fulfil that purpose efficiently, and protect that purpose that its use may be lasting.

With the purpose of the park ascertained it is possible to so locate the planting that the trees and shrubs will make the park serve its purpose. This may be best illustrated by the grounds of institutions. Here the "motif" of the parks is—a proper setting for the buildings. One of the strongest rules of this type of planting is to arrange the material around the base of the building so that the angle formed by the vertical lines of the walls with the horizontal lines of the lawns may be obliterated and the building blended with the grounds surrounding it. We see many buildings standing stern and harsh upon a bit of well graded lawn as if they had arrived at that location via the R. A. F. transportation system. The problem here is a simple one, and can be easily handled by the massing of shrubs near the base of the building.

This location of planting for special purpose is well represented by a problem presented to me a few years ago. I was called in by the Ontario Commission on Penal Institutions to provide a design for the Guelph Farm. The planting was of a single anæsthetic purpose, but was complicated by the distinctive nature of the grounds. The masses of planting must be so arranged that the observation from the guard towers would be unobstructed. We accomplished this by studying the vista and contour lines for location, and, by the supplementary method of raising the mass above the ground by long stemmed material so that the ground was visible underneath.

You may have noted that the remarks so far refer to the informal type of planting, but we often find that our grounds require an elaborate treatment, and have to produce a formal design. Here the structure of design is absolutely a matter of location. The first consideration of the planting of any parks is the location of the material, but as has already been emphasized, in a small park



this matter of design becomes magnified, as if under a microscope, and the details require the most intimate study to secure satisfactory results.

You may have received the impression that the planting of parks has, usually, been wrong from beginning to end. We must get our structure right or the decoration, however skilfully done, will be a failure. We often use shrub as "camouflage," if I may be pardoned from employing a world already fatigued from overwork. Unsightly places are screened by shrubs, which alleviate the conditions somewhat, when the proper way would be to remove the eyesore bodily. Planting may cover a multitude of sins, but a better physical condition would result if the sin was removed and trees and shrubs added to glorify the place.

Our subject is "Trees and Shrubs," and an obligation is implied to consider them in their relation to small parks. It is the plant material which we are to discuss. Of the vast list of plants which may be grown in our Dominion every designer may make his choice. The basis of selection is founded upon an analysis of each plant which reveals its characteristics. I find it convenient in preparing a planting plan to have a table before me, showing, first, the Latin name, second, the common name, third, the mature height, fourth, the season of flower, fifth, the color of flower, sixth, the characteristics of foliage, seventh, the soil preference, eighth, the habits of growth. This classification is again divided into three groups. 1st, plants adapted to formal design, 2nd, plants adapted to informal design, 3rd, plants adapted to naturalistic design.

With such a carefully prepared list one can make safe and rapid progress in the composition of a planting scheme.

For instance, in a formal design the structure depends upon straight lines and radial curves. Certain plants lend themselves especially to this type of planting, among which we note especially the evergreens. The design is heavy, stiff, and very exact, and it will be readily seen that the conifers bear these characteristics in a marked degree over the deciduous trees. The Irish Juniper (*Juniperus Communis Hibernica*) could never be made to harmonize with the flowing lines of the Spiraea Thunbergia. The Lombardy Poplar (*Populus nigra fastigiata*) is one of the deciduous trees which is extensively used in the formal design and is especially adapted to the grounds of buildings of purely classical architecture. I must confess that I have a very great regard for the informal design and also the natural, and use the formal only under the pressure of architectural conditions. Generally speaking I believe that the informal is more adapted to our national life, which is void of the pomp and elaboration of Eastern Europe. While I design a formal garden I cannot help wondering how long the owner will be able to exist without bending his spine and thereby violating the spirit of my beautiful composition. Most of us are quite familiar from the newsprint views now being published, of the palace of Henry 14th, at Versailles, the present sitting of the Peace Conference. You noted the elaborate building and the ultra formal design of the grounds. Nowhere on this good old earth is such a grand and lavish display of formality fitted to be the scene of the great assembly which it now holds.

It was a distinct relief to me when Versailles was chosen, for I knew that in such a setting the backbones of our representatives would not bend, and the terms to the conquered would be as stiff as the atmosphere of the place.

However, planting trees in parks and planting civilization in Germany are not especially related, though the success of each may be largely a matter of soil.

The informal design is characterized by graceful curves and undulating surfaces. There is a certain trimness to this style, with ease replacing the stiffness of the formal. The horticultural varieties of trees and shrubs are especially adapted

to the informal planting. The plants are arranged in masses with flowing, horizontal and vertical curves. Harmony of juxta position becomes of great importance, and the classification above alluded to is necessary in its several subdivisions. To illustrate: We may have an interior of a mass composed of eight to twelve feet shrubs of medium size leaf. Usually such shrubs are not clothed to the ground and it becomes necessary to face the mass with smaller growing shrubs and a fine leaf is chosen. Again these secondary shrubs are often faced



Seedling Tapis Blanc.

with a low growing sort of very fine leaf. This carries the face of your mass in a sweeping line which blends well in the lawn. *Berberis thunbergia* has been used extensively for a facing shrubs, as also, *kerria japonica*, and the smaller growing white flowered *spiraea*. A good result is always secured by carrying the same facing shrub around the entire mass, which unifies the whole and creates a harmony. Simplicity of planting should be sought, the tendency is to use too many varieties in a single mass; six to eight, or even less, secure better results. As grace of form and beauty of color are the results sought in the informal com-

position, the stock usually found in a well equipped commercial nursery is adapted to the purpose as these plants have been selected for these two features. This is the type of design especially suited to the average small park.

We now come to the last and most interesting of these types of design usually found in this country. It is at once the most prevalent, the least understood and the most abused. I refer to the designs of nature or the naturalistic style. Every community has its naturalistic parks, it may be the undisturbed woodland where youthful Canada is daily re-enacting the battles of Vimy Ridge, Ypres, and Passchendaele, undisturbed, as the municipally owned ravines made accessible by attractive motor roads and trails. These are characteristic and distinctive spots in every community which should be acquired by the municipality and preserved undefiled for succeeding generations of citizens. High Park referred to earlier is a fine example of such land and, indeed, had its origin in the Will of the founder to preserve a truly natural bit of scenery for the future generations of this city. The great problem in designing these areas is to make them accessible without destroying their natural scenery. We are often called upon to go further than this and besides opening them up to service, restore the natural scenery and enhance the beauty. The City of New York owes its origin to a deposit of stone. In the early days of its history a stone quarry was opened and the small cluster of workmen's houses grew to the dignity of a town. The quarry had long since been abandoned, but the progressive citizens recognized the spot as typifying the spirit of the founders, and resolved to make it of greatest influence. A landscape architect was engaged. Under his guidance the rough hole was made accessible by steps and the rugged character of the walls were made beautiful by native shrubs and wild flowers, though the treatment would lead no one to misinterpret the origin of the place.

Just before the war I was commissioned to report on a park at Port Arthur. A new reservoir had been constructed and the shores of the flooded area for a certain distance had been given to the municipality for park purposes. I was on the ground shortly after the land had been formally deeded to the newcomers, but alas, not soon enough. What was my dismay, when, on that first day, as I tramped around the lake, I found that the actual devastation of war had preceded me. A large gang of men had set upon the place and hacked and tore away the greatest assets of the site, destroyed every tree and shrub which was capable of making the place attractive. My indignation at such utter block headedness, was uncontrollable, and the report which I issued at that time will never be included in the literature selected for shell shock cases.

The plant material suited to the natural style is to be found upon the grounds to be so designed. If additions are to be made to the natural forestation, the material should be collected locally. A *catalpa bignonioides nana*, more frequently called the "bungeana" is as out of the place in this planting as the *Spiraea van Houttei*. Very few of our horticultural varieties can find a place, and these are confined to the varieties nursery grown, but of local habitat. Even though the natural woodland may seem easy to imitate I assure you, after years of practice, I approach this type of design with the most thorough study, and feel that success may be attained only by the greatest effort. It is very difficult to design really natural scenery which, when completed, will not fall into the same fraternal organization with the stuffed duck in the china closet. In determining your planting list for the natural park make a list of trees and shrubs found locally, supplemented by a list of the wild herbaceous plants. Use these plants in natural grouping and your success will be measured by your ability

to analyze nature. The results are worthy of the effort, for the natural park is truly a Canadian park, the best type yet produced.

I cannot close this paper without referring to another class of parks the grounds of which serve every community. Sooner or later each one of us is bound to have a deeply laid interest in their existence and enjoy their hospitality through an extended sojourn. I refer to the burial grounds or cemeteries.

You may seem surprised that I have seen fit to allude to these areas as parks but in truth, that is their nature. One must indeed be blessed with an elastic imagination if he would conceive of such a term covering the too frequent graveyards of our great Province where the tombstones are dusted thickly with their



Mushroom Growing at Ardworld.

weak forms pointing to every angle of the heavens like a bedraggled flock of frightened sparrows crouching to take wing and scatter to the multiple points of the horizon, that they may be no longer visible. There weeds and grasses flourish in unkempt riot, and the trees, if any exist, include only the heavy, depressing evergreens, which complete a picture of utter desolation, a disgrace to the memory of the departed and a woe to the community. Such places have no right to exist and are not included in our reference.

The modern cemetery is truly a park, with well kept laws, entrancing vistas defined by masses of beautiful shrubs and airily graceful trees, the beautiful memorials are well placed in a carefully studied setting, thus is the true memorial park, a tribute to the memory of those gone before and the pride of the community. The reconstruction of the existing cemeteries and the building of new memorial parks is a very live movement in Canada at the present time. For

the past few years I have specialized in this work, and now devote practically all my time to cemetery work. There has been more advance made in cemetery design during the past ten years than during the century preceding and we have as yet only made a beginning. The planting of the cemetery is usually of the informal design, though the architectural or formal, is frequently used in partial vistas, and in segregated areas one often finds a bit of delightful natural scenery. The same observations made upon the planting of parks are applicable here, with this exception that as the grounds are subdivided into burial space the problem of planting becomes complicated.

There is an encouraging feature of the work of cemetery improvement and that is, the cost is easily borne by the grounds. Every cemetery is capable of paying expenses and to the degree of most efficient development. The horticultural societies here represented are the proper organizations to undertake this important work of municipal improvement and each one of you should return to his community resolved to have your burial area transformed into a Memorial Park. The long list of trees and shrubs which you have waited to hear enumerated has not materialized. I believe that I have mentioned at least four individuals during the reading of this lengthy paper. I have, however, been honest with you, and instead of giving you the names of all the members of these inexhaustible families, have sought to acquaint you with the principles upon which their selection depend. There is only one way in which trees and shrubs for small parks may be determined—and that is by measuring their characteristics by the effects sought. You all know these materials in a more or less familiar way, it is the methods of using them which present your greatest problems.

The work of the Horticultural Societies of Ontario is a noble work, heroic in patriotism and right worthy in record of glorious achievement.

A new area of opportunity is just being entered upon and we rightly look to this splendid organization to lead us to a new civic advancement.

The newly appointed President then took the chair and thanked the delegates for the honor they had done him.

Moved by COL. JOHN DAVIDSON, Chatham, seconded by JOHN GLASSFORD, Chatham, that owing to pressure of time at the Convention all papers to be given must be sent to the Secretary and Editor at least two weeks previous to the holding of the Convention for the purpose of condensation. Carried.

Moved by W. B. BURGOYNE, St. Catharines, seconded by DR. A. H. SCOTT, "That this Association desiring that the graves of our Canadian heroes buried in the war cemeteries of Flanders, France and England should be appropriately and lovingly decorated with flowers and plants as though they were in our home cemeteries, memorialize the Dominion Government to set aside an endowment fund for the purpose of providing in perpetuity for this tribute to our soldiers of the affection of the people of Canada." Carried.

Moved by DR. BENNETT, seconded by MR. BURGOYNE, "That a vote of thanks be tendered to the retiring President, Mr. Dockray, for his kindness in providing refreshments both evenings after the Convention." Carried.

MR. EVANS gave notice of motion, stipulating, that if five or more Horticultural Societies were represented at the Convention from any one district, these five Societies might convene and among themselves elect their district director at the Convention.

The Secretary was requested to write to the members of every Committee advising that they are on such committees.

This Convention, which was considered the best ever held was brought to a close by the singing of the National Anthem.

## ACTUAL RECEIPTS AND EXPENDITURE OF HORTICULTURAL SOCIETIES IN 1918.

Societies.	Legislative grant.	Municipal grants and donations.	Members' fees.	Gate receipts at exhibitions.	Total actual receipts.	For exhibitions.	For seeds, bulbs and plants and Civic Improvement.	Lectures and periodicals.	Officers' salaries.	Total actual expenditure.
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Acton .....	75	50	120		247		80	40	15	153
Agincourt .....	56		56		112		19			90
Alvinston .....	49		63		144		134			145
Amherstburg .....	124	110	51		413		281		25	336
Aylmer .....	125		98		547	7	405		42	507
Barrie .....	151		112		269	41	208	6	65	357
Belleville .....	80		112		194		143	11	25	228
Blenheim & Harwich .....	139		38		283		213	13		239
Bowmanville .....	70		68		139		122		10	139
Brampton .....	180		154		334		222	61		318
Brantford .....	545	125	345		1,026	*57	330	33	300	778
Brussels .....	80		87		167		131	6	10	158
Cardinal .....	32		52		134		153			165
Carleton Place .....	176	56	165	28	545	60	243	2	50	395
Chatham .....	800	1,000	433		2,800		2,277	108	50	2,785
Chesterville .....			73		80		42	1	14	77
Clifford .....	229	10	85	177	705	267			30	819
Clinton .....	192	21	236		449		391		15	425
Cobourg .....	49		60		109		56	21		92
Dryden .....	55	4	40	9	125	49	5		25	161
Dundas .....	171		114	8	293	153	54	38	25	318
Durham .....	50		51		122		78		30	124
Dutton and Dunwich .....	75	108	85		448	6	306		30	360
Elmira .....	74	30	69	31	214	47	81	18	10	193
Elora and Salem .....	123	25	80	20	421	73	125		23	330
Essex .....	99	125	121		433		363	37	50	491
Fergus .....	75		85	16	177	82	18		15	152
Ford City .....	124		61		222		84	2		120
Fort William .....	142	7	116		301	81	91	18		283
Galt .....	263	100	231	19	716	203	265	11	100	690
Goderich .....	115	20	129		264		208	2	20	275
Grimsby .....	47	12	75		131	16	48	36		124
Guelph .....	378	602	490	63	1,575		270	99		1,542
Haileybury .....	141	28	66	85	369	211			50	335
Hamilton .....	456	50	608		1,262	104	552	98	130	1,085
Hanover .....	221	24	201		512		215	12	20	403
Hespeler .....	78	125	120		259		267	49	10	347
High Park .....	114	135	266		573	95	36	31	28	590
Hillsburg .....	104		14		122		9		2	16
Ingersoll .....	259	50	169		1,330	37	1,028			1,335
Kingston .....			8		8					8
Kingsville .....	151	125	103		751	149	502		20	706
Kitchener .....	324	225	344	85	1,090	315	319	4	100	1,077
Lindsay .....	200	347	276		983	75	502	133	12	761
Listowel .....			65		86		85	20		114
London .....	436		1,100		1,593		745	472	150	1,748
Milton .....	81		88		175	*50	49		15	148
Mitchell .....	106		123		246		134	46	25	264
Morrisburg .....	75	81	88		375	61	137			346
Napanee .....	60	100	16		248		68	22	25	128
Newcastle .....	47		78		214		184			203
Niagara Falls .....	75	130	234		444		191	83		308
Orangeville .....	131		131		405	8	335		15	449
Orillia .....	88		102		225		172			186
Oshawa .....	100		99		202		161		10	187
Ottawa .....	800	576	1,300		2,722	311	*142 1,335	31	150	2,485
Owen Sound .....	192	103	136	14	644	229	277	7	15	607

ACTUAL RECEIPTS AND EXPENDITURE OF HORTICULTURAL SOCIETIES  
IN 1918.—Continued.

Societies.	Legislative grant.	Municipal grants and donations.	Members' fees.	Gate receipts at exhibitions.	Total actual receipts.	For exhibitions.	For seeds, bulbs and plants and Civic Improvement.	Lectures and periodicals.	Officers' salaries.	Total actual expenditure.
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Paris .....	283	4	272	16	762	187	478	5	.....	803
Perth .....	196	60	176	.....	453	.....	230	29	25	415
Peterborough .....	265	4	256	.....	537	12	374	5	50	533
Picton .....	78	50	86	.....	227	.....	138	5	20	205
Port Credit .....	60	8	69	.....	156	58	37	.....	.....	152
Port Dover .....	107	30	93	24	326	105	5	38	40	320
Port Hope .....	93	.....	92	.....	185	.....	73	38	10	130
Richmond Hill .....	76	.....	63	.....	162	90	25	.....	.....	151
St. Catharines .....	800	486	828	193	2,712	346	1,162	15	310	2,966
St. Thomas .....	800	2,230	923	.....	8,046	.....	4,651	134	600	7,984
Sandwich .....	415	617	176	.....	1,237	.....	952	75	.....	1,199
Seaforth .....	234	25	154	.....	587	7	309	6	35	452
Smith's Falls .....	123	247	60	12	443	57	175	.....	.....	416
South Norwich Tp ..	51	.....	51	.....	103	.....	87	.....	.....	97
Stirling .....	60	.....	75	.....	136	6	82	18	.....	117
Stratford .....	609	125	516	.....	1,369	157	719	71	50	1,091
Strathroy .....	198	.....	321	.....	519	17	322	26	25	448
Thornhill .....	115	35	50	.....	428	97	.....	.....	.....	468
Tillsonburg .....	234	.....	64	.....	468	37	379	36	25	499
Toronto .....	700	.....	557	.....	1,623	460	99	54	60	1,703
Walkerton .....	55	.....	63	10	131	26	25	25	22	146
Walkerville .....	204	.....	172	.....	489	10	237	4	75	448
Wallaceburg .....	130	365	150	.....	963	.....	829	.....	.....	1,046
Waterloo .....	81	29	89	49	264	73	*10— 77	7	40	264
Welland .....	75	2	97	.....	252	.....	214	.....	.....	266
Westboro .....	83	26	127	.....	259	78	114	.....	15	259
Weston .....	164	12	530	.....	741	67	477	.....	15	711
Wheatley .....	75	.....	83	.....	331	.....	254	.....	.....	262
Whitby .....	74	.....	72	.....	150	12	81	28	.....	142
Winchester .....	159	145	211	.....	531	11	359	.....	20	515
Windsor .....	636	300	460	.....	1,933	.....	990	.....	150	1,612
Woodstock .....	248	100	207	31	586	106	247	.....	50	497
Totals .....	16,663	9,504	17,033	890	55,105	4,806	29,102	2,190	3,393	53,822

\* For lawns and gardens.

## STATEMENT OF MEMBERSHIP AND LEGISLATIVE GRANTS FOR 1917-19.

Societies.	Expenditure in 1918, on which grant for 1919 is based.	Membership.		Legislative grants.		
		1917	1918	1917	1918	1919
	\$ c.			\$	\$	\$
Acton (organized in 1918).....	153 30	.....	120	.....	75	7
Agincourt do .....	89 78	.....	56	.....	56	4
Alvinston .....	144 62	.....	59	59	49	5
Amherstburg .....	336 06	105	51	76	124	9
Aylmer .....	506 67	100	99	82	125	15
Barrie .....	356 71	200	112	160	151	12
Belleville .....	228 50	80	111	62	80	8
Blenheim & Harwich .....	239 00	150	99	.....	139	8
Bowmanville.....	139 30	85	67	49	70	5
Brampton .....	318 22	234	154	169	180	12
Brantford .....	778 46	753	345	309	545	29
Brussels .....	157 61	111	87	75	80	6
Cardinal.....	164 79	52	52	35	32	5
Carleton Place .....	395 10	213	165	146	176	14
Chatham .....	2,784 87	357	518	438	800	80
Clifford.....	819 42	153	141	179	229	23
Clinton .....	425 31	242	236	114	192	17
Cobourg .....	92 30	73	60	40	49	4
Dryden .....	160 67	50	50	40	55	.....
Dundas .....	318 34	109	112	113	171	11
Durham .....	124 39	52	51	42	50	4
Dutton and Dunwich (organized in 1918).....	359 96	.....	85	.....	75	11
Elmira .....	192 66	66	69	48	74	6
Elora & Salem.....	329 66	96	92	54	123	10
Essex .....	490 79	130	121	87	99	15
Fergus .....	151 88	80	85	42	75	6
Ford City .....	119 99	102	61	43	124	4
Fort William.....	283 31	184	139	61	142	11
Galt .....	690 21	218	231	195	263	23
Goderich .....	275 14	135	129	92	115	10
Grimsby .....	124 28	75	75	45	47	5
Guelph .....	1,542 10	330	490	158	378	51
Haileybury .....	334 98	90	100	88	141	11
Hamilton.....	1,085 12	601	608	334	456	45
Hanover .....	299 93	235	201	127	221	15
Hespeler .....	347 49	109	120	55	78	12
High Park.....	586 89	174	280	84	114	23
Hillsburg .....	15 60	60	50	77	104	2
Ingersoll .....	1,334 73	169	169	75	259	30
Kingston .....	8 35	.....	8	52	.....	.....
Kingsville .....	706 22	95	103	88	151	19
Kitchener.....	1,077 10	268	392	297	324	37
Lindsay .....	761 19	299	284	85	200	27
Listowel .....	114 00	60	65	73	.....	.....
London .....	1,747 73	617	1,100	340	436	70
Milton.....	147 95	100	88	46	81	6
Mitchell .....	263 60	131	123	75	106	10
Morrisburg (organized in 1918)...	345 79	.....	88	.....	75	10
Napanee .....	127 60	53	63	54	60	5
Newcastle .....	203 32	69	78	36	47	7
Niagara Falls (organized in 1918)	308 26	.....	234	.....	75	14
Orangeville.....	449 19	96	139	111	131	14
Orillia .....	185 86	128	102	57	88	7
Oshawa .....	186 92	133	99	84	100	7
Ottawa .....	2,485 39	1,457	1,300	535	800	80
Owen Sound.....	606 89	167	171	110	192	19
Paris .....	802 80	300	304	189	283	27
Perth .....	415 28	151	176	160	196	13
Peterborough .....	532 58	300	268	234	265	27
Picton.....	204 76	111	86	37	78	7



## STATEMENT OF MEMBERSHIP AND LEGISLATIVE GRANTS FOR 1917-19.—Continued.

Societies.	Expenditure in 1918, on which grant for 1919 is based	Membership.		Legislative grants.		
		1917	1918	1917	1918	1919
	\$ c.			\$	\$	\$
Port Credit .....	151 88	68	70	32	60	58
Port Dover .....	319 83	92	93	62	107	104
Port Hope .....	129 61	131	93	72	93	60
Richmond Hill .....	150 75	74	63	60	76	56
St. Catharines.....	2,965 96	824	828	713	800	800
St. Thomas.....	7,984 06	765	964	800	800	800
Sandwich .....	1,199 45	282	176	292	415	338
Seaforth.....	451 98	220	156	143	234	156
Smith's Falls .....	415 73	82	60	101	123	115
S. Norwich Tp. (organized in 1918)	96 81	.....	51	.....	51	38
Stirling .....	117 02	72	75	46	60	51
Stratford .....	1,091 29	669	516	344	609	420
Strathroy .....	448 05	249	321	149	198	209
Thornhill .....	468 12	59	50	49	115	126
Tillsonburg .....	498 63	85	64	116	234	138
Toronto .....	1,703 45	1,006	557	593	700	575
Walkerton.....	146 07	63	63	42	55	.....
Walkerville .....	447 64	183	172	184	204	161
Wallaceburg.....	1,045 88	134	150	75	130	292
Waterloo .....	264 00	85	89	61	81	90
Welland (organized in 1918).....	265 61	.....	102	.....	75	96
Westboro .....	258 92	113	127	51	83	101
Weston.....	710 66	179	545	120	164	342
Wheatley (organized in 1918) .....	262 25	.....	83	.....	75	89
Whitby .....	141 53	88	79	64	74	60
Winchester .....	515 39	182	219	125	159	192
Windsor .....	1,611 84	584	460	585	636	524
Woodstock.....	497 41	300	207	101	248	182
New Societies						
Aurora .....	.....	.....	.....	.....	.....	75
Bothwell .....	.....	.....	.....	.....	.....	52
Chesterville .....	.....	.....	.....	.....	.....	71
Fenelon Falls.....	.....	.....	.....	.....	.....	75
Iroquois .....	.....	.....	.....	.....	.....	75
New Hamburg .....	.....	.....	.....	.....	.....	70
New Toronto .....	.....	.....	.....	.....	.....	75
Russell.....	.....	.....	.....	.....	.....	65
Warton.....	.....	.....	.....	.....	.....	66
Totals.....	53,338 74	17,156	17,558	11,496	16,668	16,885

## SECRETARIES OF HORTICULTURAL SOCIETIES.

Societies.	Secretaries.	Societies.	Secretaries.
Acton .....	R. M. McDonald.	Milton .....	R. L. Hemstreet.
Agincourt .....	T. A. Paterson.	Mitchell .....	A. J. Blowes.
Alvinston .....	Pearson P. Winn.	Morrisburg .....	C. E. Cook.
Amherstburg .....	Rev. L. W. Reid.	Napanee, .....	W. S. Herrington.
Aurora .....	D. McLeod.	Newcastle .....	Mrs. J. E. Matchett.
Aylmer .....	A. A. Learn.	New Hamburg .....	W. H. Umbach.
Barrie .....	T. T. Young.	New Toronto .....	C. W. Longley.
Belleville .....	W. J. Diamond.	Niagara Falls .....	G. L. Sherlock.
Blenheim & Harwich	O. F. Anderson.	Orangeville .....	H. F. Tuck.
Bothwell .....	Rev. J. Kinner.	Orillia .....	G. J. Overend.
Bowmanville .....	Mrs. E. V. Scobell.	Oshawa .....	Mrs. E. J. Jacobi.
Brampton .....	F. S. Jennings.	Ottawa .....	H. W. Jackson, 25 Spark St.
Brantford .....	Jas. L. Rowe, 15 Chestnut Ave.	Owen Sound .....	Miss J. S. Maughan.
Brussels .....	B. S. Scott.	Paris .....	C. R. Whitby.
Cardinal .....	J. F. Harries.	Perth .....	R. S. W. Buffam.
Carleton Place .....	J. R. McDiarmid.	Peterborough .....	E. E. Brumwell.
Chatham .....	Jas. Innes.	Picton .....	Miss G. Hazard.
Chesterville .....	Miss Helen Moad.	Port Credit .....	A. W. Briggs.
Clifford .....	Jno. R. Scott.	Port Dover .....	W. L. Sovereign.
Clinton .....	H. R. Sharpe.	Port Hope .....	M. E. Dann.
Cobourg .....	C. R. Gummow.	Richmond Hill .....	Mrs. A. L. Phipps.
Dundas .....	Jas. A. Kyle.	Russell .....	Miss S. L. A. Lowrie.
Durham .....	C. Elvidge.	St. Catharines .....	Mrs. Pirie Blain.
Dutton & Dunwich..	W. H. Cape.	St. Thomas .....	R. W. Johnson.
Elmira .....	C. W. Schierholtz.	Sandwich .....	A. R. Marentette.
Elora & Salem .....	W. O. Mendell.	Seaforth .....	Wm. Hartry.
Essex .....	Rev. H. Millar.	Smith's Falls .....	H. S. Hunter
Fenelon Falls .....	F. W. Warren.	S. Norwich Tp. ....	Miss Ivy E. Penning- ton.
Fergus .....	J. C. Templin.	Stirling .....	J. S. Morton.
Ford City .....	J. F. Foster.	Stratford .....	Jno. Elborn.
Fort William .....	Andrew Caskey.	Strathroy .....	Chas. Beckett.
Galt, .....	Arthur McBean.	Thornhill .....	Miss M. Simpson.
Goderich .....	W. Lane.	Tillsonburg .....	H. Fairs.
Grimsby .....	W. B. Calder.	Toronto .....	O. St. G. Freer, 136 Arlington Ave.
Guelph .....	J. E. Carter.	Walkerville .....	D. C. Bawtinheimer.
Haileybury .....	Jas. N. White.	Wallaceburg .....	Wm. Heap.
Hamilton .....	Mrs. R. B. M. Potts, 16 Bruce St.	Waterloo .....	J. Uffelmann.
Hanover .....	Dan. Luesing.	Welland .....	A. Many.
Hespeler .....	E. H. Birkin.	Westboro .....	Miss B. R. Davidson, Mines Branch, Ottawa.
High Park, Toronto..	H. P. Howard, 208 Pearson Ave.	Weston .....	J. M. Pearen.
Hillsburg .....	Miss Z. Barbour.	Wheatley .....	Mrs. R. W. Leader.
Ingersoll .....	R. Rogerson.	Whitby .....	R. M. Tipper.
Iroquois .....	C. K. O. Cameron.	Warton .....	J. J. Tyson.
Kingston .....	A. W. McLean.	Winchester .....	E. N. Elliott.
Kingsville .....	J. E. Brown.	Windsor .....	H. J. McKay.
Kitchener .....	H. R. Wood.	Woodstock .....	W. L. Mackay.
Lindsay .....	Miss G. Haugh.		
Listowel .....	Thos. Male.		
London .....	G. Lorne Spry.		

# Ontario Department of Agriculture

FIFTIETH ANNUAL REPORT

OF THE

# Fruit Growers' Association

OF

# Ontario

# 1918

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PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO

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TORONTO:

Printed by A. T. WILGRESS, Printer to the King's Most Excellent Majesty

1919

Printed by  
THE RYERSON PRESS

To His Honour SIR JOHN STRATHEARN HENDRIE, C.V.O., a Lieutenant-Colonel in  
the Militia of Canada, etc., etc., etc.

*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to present herewith for your consideration the Fiftieth  
Report of the Fruit Growers' Association of Ontario for the year 1918.

Respectfully yours,

GEO. S. HENRY,

*Minister of Agriculture.*

Toronto, 1919.

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# Fruit Growers' Association of Ontario

## OFFICERS FOR 1919

<i>President</i> .....	JAS. E. JOHNSON, Simcoe.
<i>Vice-President</i> .....	C. R. TERRY, Clarkson, Ont.
<i>Secretary-Treasurer</i> .....	P. W. HODGETTS, Parliament Buildings, Toronto.
<i>Executive</i> .....	OFFICERS, together with A. CRAISE, St. Catharines, and H. SIRETT, Brighton.
<i>Auditor</i> .....	D. F. CASHMAN.

## DIRECTORS.

DIV. 1. W. T. MACOUN, Ottawa.	DIV. 8. A. CRAISE, St. Catharines.
2. F. C. KEELER, Brockville.	9. J. E. JOHNSON, Simcoe.
3. H. LEAVENS, Bloomfield.	10. P. E. HYND, Forest.
4. H. SIRETT, Brighton.	11. H. K. REVELL, Goderich.
5. R. W. GRIERSON, Oshawa.	12. J. C. HARRIS, Ingersoll.
6. C. R. TERRY, Clarkson.	13. W. MITCHELL, Clarksburg.
7. J. P. BRIDGMAN, Winona.	O.A.C., PROF. J. W. CROW, O.A.C., Guelph. H.E.S., E. F. PALMER, Vineland.

## REPRESENTATIVES TO FAIR BOARDS AND CONVENTIONS.

*Canadian National:* W. F. W. FISHER, Burlington.  
*London:* J. C. HARRIS, Ingersoll, and A. SADLER, Lambeth.  
*Ottawa:* W. T. MACOUN, Ottawa.

## COMMITTEES.

*Horticultural Publishing Company:* P. W. HODGETTS, Toronto.  
*New Fruits:* W. T. MACOUN, Ottawa; PROF. J. W. CROW, Guelph; E. F. PALMER,  
Vineland Station.  
*Historical:* A. W. PEART, Burlington; W. T. MACOUN, Ottawa.  
*Transportation:* T. H. P. CARPENTER, Winona; W. H. BUNTING, St. Catharines;  
W. R. DEWAR, Leamington; JAS. E. JOHNSON, Simcoe; W. A. SHOOK, Clarkson,  
W. F. W. FISHER, Burlington; M. C. SMITH, Burlington.

## TREASURER'S REPORT, 1918

### RECEIPTS.

Balance on hand, 1917 .....	\$1,350 61
Fees, 1918 .....	121 52
Interest .....	34 48
	-
	\$1,506 61

### EXPENDITURES.

Annual meeting .....	\$100 70
Committees .....	2 25
Periodicals .....	107 60
Miscellaneous .....	70 87
Stock—Horticulturist .....	400 00
Balance on hand, Dec. 31, 1918	825 19
	\$1,506 61

### DETAILS OF EXPENDITURE.

#### ANNUAL MEETING.

S. O. Blunden, expenses.....	\$4 60
Hotel Carls-Rite, convention hall .....	20 50
M. E. Coe, reporter .....	60 00
P. Hynd, expenses .....	4 80
R. B. Whyte, expenses .....	11 30
	\$100 70

#### COMMITTEES.

A. W. Peart, expenses .....	2 25
-----------------------------	------

#### PERIODICALS.

Canadian Horticulturist .....	\$54 00
	53 60
	107 60

#### STOCK.

Horticultural Publishing Co., Ltd. ....	400 00
---	--------

#### MISCELLANEOUS.

Auditor .....	\$10 00
Insurance, Treasurer's Bond .....	10 00
Clerical help .....	50 00
Exchange .....	87
	70 87

Total .....	\$681 42
-------------	----------

Audited this 30th day of January, 1919  
and found correct.

D. F. CASHMAN, *Auditor.*

R. W. GRIERSON, *President.*  
P. W. HODGETTS, *Secretary-Treasurer.*



# Fruit Growers' Association of Ontario

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## ANNUAL CONVENTION

The fifty-ninth annual meeting of the Fruit Growers' Association of Ontario was held in the Carls-Rite Hotel, Toronto, on Tuesday and Wednesday, February 18th and 19th, 1919.

The President, R. W. Grierson, Oshawa, occupied the chair at all the sessions.

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### PRESIDENT'S ADDRESS.

R. W. GRIERSON, OSHAWA.

On this the fifty-ninth annual convention of the Ontario Fruit Growers' Association, I have the honor as President, to welcome you to our first annual meeting since the successful ending of the great war, in which the young men of Canada have so nobly acquitted themselves at immense sacrifice of life and much hardship.

And now our thoughts are with the Peace Conference, in which representatives of all the Allied Nations have the difficult task of changing the map of Europe and bringing order out of chaos. They will likely have serious problems to consider for many months to come. As the Allies are already mixed up in the affairs of Russia, it will be a very difficult matter to withdraw, or not to become more deeply involved. When you consider that Russia as an agricultural country, produced about one billion (1,000,000,000) bushels of wheat annually before the war, what must be the amount produced under present conditions. We in Canada should be very thankful that we are free to attend to our business and assist in making Canada a better country than ever to live in.

The fruit growers have also had their share of troubles. In the sudden death of Mr. D. Johnson, the late Dominion Fruit Commissioner, the fruit growers have lost a good friend, one who did so much to promote the fruit industry of the Dominion. One of his last acts was to preside at a most successful Fruit Conference held at Ottawa, in March of last year, of which no doubt you received the report. The late R. B. Whyte, of Ottawa, who was one of our Directors, and had taken so much interest in fruit growing, has also joined the silent majority.

The past fruit season was not a very successful one for the majority of fruit growers, the high cost of producing a light crop of fruit, even at good prices, left but a small profit to the grower, and many fruit trees were killed during the winter of 1918, especially peach, cherry, and apple.

Very few apple orchards have had the necessary care and attention during the war and many will never recover from the neglect, so that it looks as if the prospects might be good for the man who has taken care of his orchard. As quite a large section of our Province is so suitable for growing apples of such excellent flavor, and the cost of production is no greater, if as great, as in other parts of the world, we should make an effort to produce not only as a duty to

ourselves, but, as a greater national duty, on account of the immense increase in our national debt.

As the great bulk of our apples are grown on farms where general farming is carried on, and as apples could not be exported to Great Britain, during the war, there was not the same effort made by the growers to produce a crop, but much more attention was given to the growing of more necessary food products; but now that we have the European markets back, and as large numbers of fruit trees were destroyed over there, the demand should be good for many years to come.

While apple orchards of twenty-five to one hundred acres may be successfully handled by some men, I believe that the majority of farmers should confine themselves to ten or fifteen acres of apples of good quality, and by a proper rotation of crops and by keeping all the live stock the farm will carry, the orchard as well as the farm, could be kept up, and the revenue very much increased.

No doubt the uncertainty of being able to market an apple crop, and the certainty of high prices for other food products, was the principal cause of the neglect of the apple orchard in Ontario, but with much lower prices in the near future for all kinds of farm produce, and better prospects for help, greater attention will be given to the orchard as the best paying branch on the farm.

Of course, freight rates would have to come back to normal conditions again, and express rates remain as they have been for a number of years, if the fruit industry is going to continue a success.

On January the 13th, a large number of prominent fruit growers met in Toronto, and appointed a committee to appear before the Dominion Board of Railway Commissioners for the purpose of protesting against the proposed increase in express rates on fruit. Mr. McIntosh presented the case to the Commissioners, and the Committee gave very strong reasons why the rates should not be increased.

In conclusion I might state that I understand from our Secretary, Mr. P. W. Hodgetts, that we are likely to have the Fruit, Flower, and Honey Show this coming fall, which should be an incentive to all to try to grow better fruit.

MR. FLEMING: What grant did we get this year in connection with the Association? The balance on hand for last year was \$1,350; what were the details? I did not see any details in the last report.

MR. HODGETTS, Secretary of the Association: Do you mean the difference between the \$1,350 and the balance on hand at the present time?

MR. FLEMING: Yes.

MR. HODGETTS: The greatest item of expense was \$400 for stock in *The Canadian Horticulturist*. This journal was published by this Association for a long period of years, about fifteen or twenty years, but the Directors felt that they were spending too much money in carrying it on and transferred it to a company whose stockholders were largely fruit growers, which company has been running it ever since. At the same time this Association, so as to retain interest in the paper, purchased \$1,000 of stock, and we received \$1,000 for the good will of the paper, so that we controlled \$2,000 capital stock. During the war conditions have been such that it has been very difficult for the publication to continue, and last year the directors of the paper approached the directors of our Association to ask them to take some further stock. This matter was fully discussed, and the directors decided to take this \$400 worth of stock on condition that the directors of the *Horticulturist* themselves would see that a further sum of \$2,000 was subscribed by outside parties. That would explain the item of \$400; the other items were expended on the annual meeting and periodicals.

MR. FLEMING: What was the membership fee?

MR. HODGETTS: One hundred and twenty-one dollars and fifty-two cents fees for 1918. Our books were audited up to the end of—I am not sure whether it was December or November. On account of the war and the switching of our annual meeting from November, when it was usually held up to 1914, to February, it has made a difference in our annual statement, and I am not quite sure whether the books were audited to the end of November or December. The total membership is 376 to-day, whereas before the war we had a membership of over 1,200, but there are some membership fees due. The books were closed early and some of the Associations did not get their fees in.

MR. FLEMING: Approximately how much would the membership fees be?

MR. HODGETTS: That is pretty hard to say; our membership fee is only 50c. for local Associations.

MR. FLEMING: Two or three years ago the membership fee was doubled from 25c. to 50c., but I notice in the report instead of the membership fees increasing they have consistently decreased, and now they are down to \$1.21; is the membership falling off?

MR. HODGETTS: The membership is falling off. We had over 1,200 before the war, and at the present time only 376, and 369 of these come from Associations at 50c. a piece. So far as membership fees are concerned, they are an insignificant item, and we could not continue the work of the Association if it was not for the Government.

A MEMBER: Is there a Government grant?

MR. HODGETTS: Yes.

Q.—It is not shown?

MR. HODGETTS: No. Last year the Government asked the Associations if they did not actually need the money to forego their Government grant on account of the war. Our Association did not do that in 1917, but last year, because we had on hand at the beginning of the year an amount of \$1,350.61, the directors met and decided not to take the Government grant of \$1,800, but we let that grant go back to the Government last year on account of their request.

MR. FISHER: What steps are going to be taken to restore the membership?

MR. HODGETTS: We certainly would like to get back to normal conditions, and the membership is a good indication as to the feeling toward the Association, especially among the mixed-farmer apple growers. They have been compelled by war conditions to stop work in their orchards. In fact, both the Federal and Provincial Governments advised them if they had not enough labor to handle the whole of the farm, the orchard was the part to suffer, and as a result, the interest in apples is decidedly less than it was in 1914, the year war broke out.

THE CHAIRMAN: Have you any suggestions to make in regard to increasing the membership, Mr. Fisher?

MR. FISHER: I do not think I have anything in any concrete way to suggest, but it does seem to me a very great anomaly that a room of this size should be adequate to hold the fruit growers of the Province of Ontario at an annual meeting. I think we should have at least a thousand in attendance at meetings of this kind. How we are going to reach that stage is another matter. I have not given that feature any thought.

MR. LICK: There is nothing in this discussion that discourages me in the least little bit. There is nothing that will please me more than to see the suggestion that Mr. Fisher threw out worked out into a possibility. I do not know

whether at this meeting we can decide the best method of determining how we are going to get the thousand members for this Association. We understand perfectly well the causes that have led to this decrease, and it seems to me that it is the work of the Directors to put up a programme—an attractive programme—of work to be accomplished and work actually accomplished that will show the fruit growers of the Province that they cannot afford not to be members of this Association nor to attend the annual meeting.

THE CHAIRMAN: I think it would be well if a large number of circular letters were sent to the secretary of every other organization, and he could forward those to his different members, not only requesting his attendance, but including a programme. I believe that might be a very good means of getting a larger attendance here. If we get a few men from each district or section, it would have an immense influence on the growing of fruit, and it would have a great effect on our meeting here.

MR. JAS. JOHNSON: I do not lay any blame at all to the directors; I lay the blame on the fruit growers of Ontario. For instance, in Norfolk County we had a membership of over 300, and at the present time we are not a fourth of that. We have got indifferent, and we have not looked upon this educational association as we should.

MR. FLEMING: I think that Government grant ought to be asked for. There is no reason why they should forego this grant. With a considerable balance in hand we could do an immense amount of good. The expenses of the men attending before the Railway Commissioners in regard to the express rates should have been borne by this Association, and many other things. We come here and find we never got any Government grant, and our capital has been used up for other things. This Association ought to take the initiative in all fruit matters in Ontario, and not the smaller associations throughout the Province. If this grant has not been received, it is not too late for it to be applied for now.

THE CHAIRMAN: The suggestion is a very good one. I have a different idea myself of a Government grant, which comes from all the people, and anything that particularly applies to the fruit industry should be borne by the fruit growers. It is a very small matter to send a deputation to Ottawa by any small body of men to fight, say, the daylight saving bill. I am opposed to that, and I hope this meeting won't forget to pass a resolution opposing it. This bill is likely to come up in the House again and may become law.

MR. FAIRBAIRN: It does seem to me that the Government grant should be asked for by this organization. This Association represents the fruit interests of the Province of Ontario, and anything affecting in a general way this industry—such as the express rates—should be taken up and dealt with by this organization rather than by the smaller individual organizations throughout the Province. So I feel, as Mr. Fleming does, that we ought to get after this grant or at least apply for it, and use it in matters that affect the fruit industry of the Province.

THE CHAIRMAN: This matter of a grant came up last year, and we felt we did not need the money. There is sufficient money to pay the expenses we have. We have \$800 on hand, and we can use that money. Money is always better in the hands of the people than piled up in an Association of this kind. We felt it was our duty not to ask for this grant unless we saw some way of spending it for the Association.

MR. LICK: I do not think we would be wise in overruling the decision of the directors. The bulk of the money for the last three or four years has been

used in the transportation end of our work, and that is one of the foremost things this Association should look after. The only thing we need to discuss in connection with this report is that the grant be applied for next year, if the directors see fit to do so.

MR. HODGETTS: I have a letter from the Niagara Peninsula Fruit Growers' Association, in reference to these express rates:

January 25th, 1919.

"I have been requested by our Directors to write you concerning the payment of expenses of our Association members, who were called to Toronto to meet the Board of Railway Commissioners *re* Express rates. As this was of Province-wide or greater interest, they think the Ontario Fruit Growers' Association should pay the expenses of our members, who were the speakers before the Commission, our Association paying the expenses of our members who went as supporters of those who spoke.

Will you kindly arrange this and write me as soon as you decide, when I will either have them write you direct and send statements or otherwise as you require."

I think that is a very fair request. Of course the same will have to be done for the men from Leamington and Burlington and other parts. In answer to Mr. Fleming's remarks about that express inquiry, I might say Mr. McIntosh communicated with me as well as the other secretaries in other parts of the Province, and we arranged to get the delegates to Toronto and to prepare the case for the fruit growers as a whole. Of course the Niagara District men being the largest shippers were the ones mostly interested. The men from Leamington were also interested and the men from Hamilton. Other sections were not at all interested in the express fight, and the brunt of the fight fell on the Niagara District Association, whose representatives were sent to the meeting in Toronto. If the Association so desires, we will pay the expenses of these speakers. The Niagara District Association receives a small Government grant, and they are willing to pay the expenses of all except those who spoke, and I would suggest that the Ontario Fruit Growers' Association should pay the expenses of all those who took part in the presentation of the case before the Railway Commissioners at that time.

MR. CARPENTER: This express matter is not completed yet, as I understand it. When we had this meeting in Toronto we all felt we were not prepared for that meeting. We did not have details or sufficient data. We asked for an adjournment, but it was not granted us, and we feel that something further should be done when the Railway Commission hold their meeting at Ottawa or Montreal in order to combat these express companies. This is one of the most important things the fruit growers have to contend with. We should go further with this matter, and see if we cannot appoint some delegates to take this in hand, and pay their expenses.

I would move that as a resolution.

MR. SHEPPARD: I second that.

THE CHAIRMAN: It has been moved and seconded that the expenses of the fruit growers who took part before the Railway Commissioners should be paid by this Association. Carried.

MR. FAIRBAIRN: I move that we accept the Treasurer's report. Carried.

THE CHAIRMAN: Would it be well to appoint a committee to look after this express matter, of men from the Leamington, Burlington and Niagara Districts, for the meeting of the Board of Railway Commissioners at Ottawa?

MR. FAIRBAIRN: I think it is very important that that committee should be appointed at this meeting. This is a question of vital importance to every

fruit grower in the Niagara District and to every farmer in the Province, because there is no farmer but what ships produce of some kind by express, particularly the milk producers. A committee should be appointed by this Association to co-operate with the milk producers and any other farmers' organization which is vitally interested in this increase of express rates.

I will be very glad to make a motion to this effect: "That this Association appoint a committee to consider the further question of the increased express rates and to co-operate with any other farmers' organizations, such as the milk producers, in presenting their case to the Railway Commission."

Considerable discussion ensued when the following explanation was made by the Secretary.

MR. HODGETTS: I was just going to state that there is no Transportation Committee at the present time. As you know for a number of years Mr. McIntosh was employed by the Ontario Fruit Growers' Association as transportation agent, and for the last three years we have allowed him to select any men he needed for an appearance before the Railway Commission, or any other matters in connection with transportation; so for three years we have not had a transportation committee, but only a transportation agent in Mr. McIntosh.

I was going to state this just as soon as the discussion quieted down. Consequently I think Mr. Fairbairn's suggestion is the proper one, that a special committee be appointed to take this matter up.

The Niagara District, the Burlington and Leamington Districts are the three sections that are vitally interested, and it should be easy for us from these nine or ten shipping stations to form this committee for this inquiry.

In regard to the statement that the case was brought on quickly, as soon as Mr. McIntosh advised me that the express companies had applied for these new rates, I wired the Chairman of the Commission to ask if they could not postpone the hearing, and I got word back from him that Monday afternoon might be the only chance we would have to present our case. I do not know what the reason was; that is something in the minds of the Railway Commission, why they brought it on so quickly, and for that reason I had to hurry the delegates from the different sections to present their case on Monday afternoon.

MR. LICK: I would suggest that this meeting leave it to the Board of Directors to appoint the Special Committee to take charge of the matter to come before the Railway Commissioners.

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#### APPOINTMENT OF COMMITTEES.

NOMINATING COMMITTEE: MR. F. A. J. SHEPPARD, St. Catharines; PROF. J. W. CROW, Guelph; MR. P. W. HODGETTS, Toronto; MR. W. F. W. FISHER, Burlington; MR. JAS. E. JOHNSON, Simcoe.

RESOLUTIONS COMMITTEE: MR. HAMILTON FLEMING, Grimsby; MR. H. T. FOSTER, Burlington; MR. GEORGE HORNE, Clarkson; MR. W. H. BUNTING, St. Catharines; MR. DAVID ALLEN, Grimsby.

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## REPORT OF THE HISTORICAL COMMITTEE, 1918.

BY A. W. PEART AND W. T. MACOUN.

The winter of 1918 was the coldest for over fifty years. The snow fall, too, was very heavy.

A great deal of damage was done to fruit trees. Many of the more tender varieties of apples in portions of the Province were killed outright. Pear orchards also suffered severely, especially those infested by the *Psylla* in preceding years. Some orchards of Duchess pears were completely wiped out. Plum trees also were injured, the Lombard perhaps to the greatest extent.

North of Lake Ontario fully 75 per cent. of the peach trees were frozen to death, while south of the lake, and in Western Ontario the damage was very considerable.

Grape vines were materially injured, in some cases the wood being killed to the snow level.

Cherry trees stood the extreme cold the best of all.

From personal observation I am inclined to think that the low temperature destroyed the San José Scale in some districts.

In proportion to the injury of the wood, fruit buds also suffered.

Apples, pears, plums, cherries and peaches were a very short crop, as well as the small fruits. Prices materially ruled high, as the following averages will show: Strawberries, 16c. per qt.; raspberries, 25c.; black currants, \$2.25 per 11 qt. basket, red, \$1.25; gooseberries, \$1.35; plums, 65c. to 85c.; Bartletts, 85c.; sour cherries, \$1; peaches, \$1; apples, 75c. per bush., tree run, and picked and delivered at packing house. So that those fortunate enough to have fruit made a little money.

The embargo *re* the export of apples to Great Britain was lifted in November. Several thousand barrels and boxes have since gone across. War prices have prevailed, a maximum of 12c. a pound wholesale, and 18c. retail. Our Ontario barrel nets 140 lbs. of apples, and box 40 lbs., so that the maximum price on the former would be \$16.80, and on the latter, \$4.80.

Apples arriving in good condition have sold at the above price. The ocean freight was, however, \$5 per bbl. and \$2 per box. Recently the rate has been reduced to \$3 per bbl. and 85c. a box, which will doubtless be followed by a corresponding reduction in the maximum price. These costs, with numerous others incident to the export trade, made shipping very costly. However, there was a good margin of profit left, and it is very gratifying to our growers that the British market is again open for our fruits.

Our last four annual meetings were held under the shadow of the war. It is a great relief and a cause for thankfulness that we now meet under the auspices of peace.

Our fruit growers have done their part well for right and freedom. Their sons were found in every branch of the service—in the air, on the water, in the trenches, giving aid to the stricken, mining, engineering, building railroads, lumbering, facing death and terrors unknown. Those who have come home bear the mark of it all in their faces, they have stood in the presence of the grim realities of life and death. Some have made the great sacrifice, others will carry their scars and disabilities to the end of life, while again others seemingly sound

also bear their wounds in spirit, the haunting memories of that terrible thing, of which nothing can be spoken.

It is fitting that our Society should place their names on record in the roll of honor, for these men bear the genuine stamp; they gave themselves for Canada and the Empire.

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#### THE LATE MR. R. B. WHYTE.

Mr. R. B. Whyte, who was probably the greatest amateur horticulturist of his time in Canada, and an old member of the Ontario Fruit Growers' Association, passed away on April 15 at his home in Ottawa at the age of 67. He represented Division No. 1, formerly District No. 2, of the Association, almost continuously since 1893, and was a well known figure at the meetings in which he usually took a prominent part.

He was a typical amateur horticulturist, growing fruits, vegetables and flowers for the love of it. He had an acre of ground at Ottawa on which he grew some of the best of the tree fruits that succeed in the Ottawa district, and there he experimented with small fruits. It was here that the Herbert raspberry originated in 1887, a variety that has become one of the most popular in the colder parts of Canada on account of its hardiness and productiveness, and the large size and good quality of the fruit. In this raspberry he has left a fine memorial. Although a lover of all kinds of fruits, his specialty among them was the English gooseberry which succeeded admirably under his attentive care. He had grown probably over one hundred of the best varieties, and the collection which he left contained some of the choicest sorts. He had tested the fruit of many of these in England before adding them to his collection. He left many promising seedling gooseberries which he originated. Not content with the limited area available in the city, he had a few years ago bought a farm near Merrickville, where he had established orchards and small fruit plantations of considerable size. Mr. Whyte was keenly interested in all horticultural movements, and did much to encourage horticulture in Eastern Ontario by addresses, by personal work and by financial assistance. He was even better known for his work with flowering plants than with fruits, and is much missed in the Ontario Horticultural Association, and the Ottawa Horticultural Society, he being one of the founders of both.

#### THE LATE MR. DONALD JOHNSON.

Fruit growers all over Canada were shocked to learn of the death of Mr. Donald Johnson, the late Fruit Commissioner, at his home at Forest, Ont., on August 4, 1918. He had been ill since May, but his death came very unexpectedly. In the four years during which he was Fruit Commissioner of Canada he had made many friends, and his death was deeply felt among fruit growers from the Atlantic to the Pacific.

Mr. Johnson was born on his father's farm near Forest, Ont., in 1877, and was thus only 41 years old when he died. His father, James Johnson, was one of the early pioneers of Lambton County, having come to Canada with his father, Hugh Johnson, early in the nineteenth century, and when a young man bought 101 acres in Bosanquet Township. There was a small clearing of seven acres on which were 100 apple trees planted a few years before, which were said to comprise the first orchard in the district, the trees being brought through the



bush from London. Some of these original trees are still standing. This was the beginning of the large orchard owned later by the Johnson Bros.

Donald Johnson was educated at Forest and at London, Ont., and taught school for a time. He was also connected with the Ontario Department of Agriculture for several seasons, and lectured on fruit growing in Ontario. He organized the first Fruit Growers' Co-operative Association at Forest. He was half owner with his brother of the homestead of 101 acres on which were 45 acres of apples and peaches, and eight to ten acres of plums. They also operated seven leased orchards, and had two evaporators. The Johnson Bros. were the first box packers of apples in the district, and for several years had sold the bulk of their crop in boxes.

The late Mr. Johnson took an active part in the Ontario Fruit Growers' Association. He was a Director of the Association from 1907 to 1913, and President in 1911 and 1912. When the office of Fruit Commissioner became vacant by the death of the late Alex. McNeill, Mr. Johnson was chosen to fill his office, and was appointed on May 1st, 1914. His appointment was a very popular one among fruit growers, and the great success which marked the administration of the work under his charge showed that the appointment had been a wise one. On his appointment the Fruit Division was organized as a separate branch, it having been up to this time included in the Dairy and Cold Storage Branch. One of the most important matters accomplished by Mr. Johnson when Fruit Commissioner was the inspection of fruit at point of shipment. This had been urged for some time by fruit growers, and when arrangements were made by the appointment of additional temporary inspectors to carry this into effect, it was greatly appreciated and has meant much to the fruit trade. The appointment of a Fruit Trade Commissioner in Great Britain to look after Canada's interests in fruit over there was another good piece of work accomplished by Mr. Johnson. He was anxious that the Inspection and Sales Act should be amended in several particulars, and succeeded in getting a conference of fruit growers at Ottawa in March, 1918, to discuss the proposed amendments. He had the satisfaction of seeing these passed by Parliament before he died. Mr. Johnson had important plans for improving marketing conditions for fruit, and doubtless would have accomplished much in this direction before he died if the war had not broken out.

We shall always remember the late Fruit Commissioner as "Dan Johnson." He was the kind of man who made friends wherever he went because of his kindly disposition and sterling character. Canadian Horticulture and the Ontario Fruit Growers' Association have in his death lost a friend and helper.

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#### REPORT OF THE NEW FRUITS COMMITTEE.

The members of the New Fruits Committee submit the following matter for publication in the Annual Report:—

##### APPLES.

CURRIE (Northern Spy Seedling).—Originated in the Horticultural Division, Ottawa. Size large, form conical to oblong conical; cavity deep, open; stem medium length, moderately stout to stout; basin deep, open, wrinkled; calyx open; color yellow thinly washed and splashed with carmine; predominant color carmine approaching orange red; seeds above medium size, acuminate; dots few, white,

distinct: skin moderately thick, moderately tender; flesh yellowish, tender, melting, moderately juicy; core medium; flavor subacid, pleasant, spicy; quality good; season October to January or later. Has a slight resemblance to Northern Spy in color and shape. Has a suggestion of the flavor of Sops of Wine.—W. T. M.

**HUME** (McIntosh Seedling).—Originated in the Horticultural Division, Ottawa. Fruit medium to above medium; form roundish to oblate, slightly ribbed; cavity open, medium depth; stem short, stout; basin deep, medium width, slightly wrinkled; calyx open; color yellow well washed and splashed with deep to dark attractive crimson; predominant color deep crimson; seeds medium size, acuminate; dots few, white, distinct, bloom moderate, bluish; skin thick, moderately tender; flesh dull white and yellowish with traces of red, crisp and tender, juicy; core medium; flavor subacid, pleasant; quality good; season late September probably to November. A very handsome apple suggestive of McIntosh in color, flesh and flavor. Perfumed somewhat like McIntosh.—W. T. M.

**MERLIN** (Shiawassee Seedling).—Originated in the Horticultural Division, Ottawa. Fruit medium to above medium; form oblate; cavity open to moderately open, deep, russeted at base; stem medium length to short, slender; basin deep, medium width, wrinkled; calyx open: color pale yellow, splashed and washed with crimson; predominant color crimson; seeds medium size, acute; dots few, yellow, indistinct; bloom medium, pinkish; skin thin, tender; flesh white with traces of red, crisp, tender, juicy; core medium, open; flavor subacid, pleasant, spicy; quality good to very good; season October and November. Resembles Shiawassee considerably in shape, flesh and flavor.

**OMESAL** (Salome Seedling).—Originated in the Horticultural Division, Ottawa. Fruit large; form oblong conical, ribbed; cavity open, medium depth, russeted; stem short to medium length, stout; basin deep, medium width, wrinkled; calyx closed or partly open; color yellow, well washed and splashed with orange red; predominant color orange red; seeds medium size obtuse or acute, almost acuminate, mottled in color; dots few, yellow, distinct; skin moderately thick, tender; flesh yellowish, coarse, firm, crisp, moderately juicy; core large, open; flavor subacid, pleasant; quality above medium to good; season December to late winter. An attractive looking apple resembling Salome considerably in outward appearance, flesh and flavor. A very good keeper and has proved very hardy though not quite as good in quality as some others.—W. T. M.

**ORSINO** (Shiawassee Seedling).—Originated in the Horticultural Division, Ottawa. Size large; form oblate to roundish, slightly ribbed; cavity medium depth and width, russeted at base; stem medium length, moderately stout; basin open, medium depth, wrinkled; calyx open or partly open; color pale greenish yellow thinly splashed and washed with carmine; predominant color carmine; seeds medium size, acute; dots obscure; skin moderately thick, tender; flesh white with traces of red, tender, melting, moderately juicy; core small; flavor subacid, pleasant; quality good; season late September to early November. Resembles Shiawassee considerably in flesh and flavor. Attractive in appearance, and a good dessert apple.—W. T. M.

**ORSITOSH** (McIntosh Seedling).—Originated in the Horticultural Division, Ottawa, Ont. Fruit medium; form roundish, slightly angular; cavity medium width, medium depth, russeted at base; stem short, stout; basin deep, medium width, slightly wrinkled; calyx partly open; color pale green well washed with deep rather dull crimson, green about cavity; predominant color deep crimson; dots moderately numerous, gray, indistinct; seeds medium size, acute; skin

moderately thick, tough; flesh white tinged with red, tender, juicy; core small, open; flavor subacid, pleasant, sprightly, aromatic; quality good; season October to mid-December. Resembles McIntosh a little in outward appearance, also in character of flesh and flavor. Distinctly of Fameuse group. Not as good in flavor as McIntosh, but much like it in flavor.—W. T. M.

PEACE (Langford Beauty Seedling).—Originated in the Horticultural Division, Ottawa, Ont. Fruit above medium to large; form oblate to roundish, regular; cavity deep and medium in width; stem short to medium length, stout; basin open, medium depth to deep, slightly wrinkled; calyx open or closed; color yellow; well washed and splashed with deep, attractive crimson; predominant color deep crimson; seeds medium size, acute to acuminate; dots few, yellow, indistinct; bloom slight, bluish; skin moderately thick, moderately tough; flesh yellowish, crisp, tender; core medium; flavor briskly subacid, pleasant; quality good; season mid-September to mid-October, though it is sometimes in condition for eating until December. Resembles Langford Beauty considerably in outward appearance, flesh and flavor. A handsome apple.—W. T. M.

SHISHEE (Shiawassee Seedling).—Originated in the Horticultural Division, Ottawa, Ont. Fruit above medium to large; form roundish, ribbed; cavity narrow, deep, russeted; stem medium to long, moderately stout to slender; basin deep, open, slightly wrinkled; calyx open; color pale yellow thinly washed with crimson on sunny side; predominant color pale yellow; seeds below medium, roundish, acute; dots obscure; skin moderately thick, tender; flesh white, fine-grained, tender, moderately juicy; core small, open; flavor subacid, pleasant, pear-like; quality good; season November and December. No marked resemblance to Shiawassee seedling except in having white, fine-grained, tender flesh.—W. T. M.

WILGAR (Northern Spy seedling).—Originated in the Horticultural Division, Ottawa. Fruit above medium to large; form roundish, conical, slightly ribbed; cavity deep, medium width, russeted; stem short, stout; basin deep, open, slightly wrinkled; calyx open; color yellow washed and splashed with crimson; predominant color crimson; seeds medium size, acute; dots few, yellow, indistinct; skin moderately thick, tough; flesh yellowish, tender, juicy; core medium, open; flavor subacid, pleasant, not high; quality good; season December to March. Resembles Northern Spy considerably in outward appearance, color and shape, and in flesh and flavor. Would be quite promising if a little higher in flavor.—W. T. M.

Seedling apple from Jud Tuttle, Iroquois. Few promising seedlings were received for examination in 1918, but the following is a description of one sent to Ottawa by Jud Tuttle, Iroquois, Ont. Fruit above medium to large, oblate conic; cavity deep, open; stem medium length, moderately stout; basin open, medium depth, wrinkled; calyx closed; color pale greenish yellow, well washed with dark crimson; seeds medium size, acute; dots moderately numerous, yellow or brownish, indistinct; skin moderately thick, tender; flesh white with a red line about core line, tender, melting, juicy; core medium; flavor subacid, pleasant; quality good to very good; season evidently October to mid-November. A little too dark in colour for best appearance, but it is attractive, and on account of quality is quite promising. Suggestive of St. Lawrence in flesh and flavor. Described November 5, 1918.—W. T. M.

NEW CRAB APPLES WHICH SHOULD PROVE ESPECIALLY VALUABLE IN NEW  
ONTARIO.

**NORA** (Progress seedling).—Originated by the late Dr. Wm. Saunders, Ottawa. Fruit large for a crab, 2 by  $2\frac{1}{4}$  in.; form roundish conical to oblate conic; cavity narrow, shallow to moderately deep; stem long, slender; basin shallow, open, slightly wrinkled; calyx closed or partly open, persistent; color pale yellow, splashed and washed with orange red to deep crimson; seeds small for an apple, large for a crab; dots numerous, yellow, distinct; bloom thin, pinkish; skin thin, tender; flesh yellowish with traces of red, crisp, breaking, juicy; core medium; flavor subacid, slightly astringent; quality above medium; season mid to late September. Quite crablike, but of large size for a crab.—W. T. M.

**PRINTOSH** (Prince x McIntosh).—Originated by the late Dr. Wm. Saunders, Ottawa. Fruit large for a crab,  $1\frac{7}{8}$  by 2 in.; form roundish; cavity narrow, medium depth; stem medium length to long, moderately stout; basin open, shallow, but calyx tube is open and deep, nearly smooth; calyx drops; color pale yellow washed with pinkish red; predominant color pinkish red; seeds below medium size, acute; dots moderately numerous, pale yellow, indistinct; skin moderately thick, moderately tender; flesh white with traces of red, crisp, breaking juicy; core medium; flavor subacid, pleasant, quality good. No marked resemblance to McIntosh except in having a good flavor.—W. T. M.

**ROSILDA** (Prince x McIntosh).—Originated by the late Dr. Wm. Saunders, Ottawa. Fruit small for an apple, but very large for a crab,  $2\frac{1}{4}$  by  $2\frac{1}{2}$  in.; form roundish; cavity shallow, open; stem moderately long, moderately stout; basin open, medium depth, wrinkled; calyx closed or partly open; color pale yellow, well washed with bright crimson; predominant color bright crimson; seeds below medium size for an apple, acute; dots moderately numerous, white, distinct; bloom thin, pinkish; skin thin, tender; flesh yellowish tinged with red, firm, crisp, breaking juicy, perfumed; core above medium; flavor briskly subacid, pleasant; quality good; season early September. A handsome fruit resembling McIntosh somewhat in color though brighter. Promising as a large crab apple.—W. T. M.

PLUMS.

A promising American plum originated in the Horticultural Division, Ottawa, was named in 1918, and the following is a description of it:

**EKARO** (Caro seedling).—Fruit large,  $1\frac{7}{8}$  by  $1\frac{3}{4}$  in.; oval, somewhat lop-sided; cavity deep, medium width, abrupt; stem medium length, moderately stout; suture a distinct line, slightly depressed; apex flattened or slightly depressed; colour yellow washed with deep lively red; predominant color deep lively red; dots numerous, yellow, distinct; bloom moderate, lilac; skin thick, moderately tough; flesh deep yellow, juicy; flavor sweet rich; stone large oval, flattened cling; quality good; season mid to late September. A handsome plum.—W. T. M.

Seedling peach from Col. Delamere, Toronto, submitted by P. W. Hodgetts, 1917. Fruit medium to above medium size, roundish; cavity deep, open; suture a distinct line, slightly depressed near apex; apex indented; color yellow washed with dull red, mainly on sunny side, about half red and half yellow; skin thin, tender; flesh deep yellow, red about stone, juicy, rather soft; stone medium size, oval, free; flavor sweet, slightly subacid, pleasant; quality good; season evidently early to mid-October. A little dull in color but a nice peach.—Described by W. T. M., Oct. 19, 1917.

## APHIDS INJURIOUS TO FRUIT TREES IN ONTARIO.

W. A. ROSS, DOMINION ENTOMOLOGICAL LABORATORY, VINELAND STATION.

Aphids, or plant lice, are the small soft bodied insects commonly found clustering, usually in dense colonies, on fruit trees and almost all kinds of plants. Most of our common species are green; others again are reddish, brown or black; and some kinds are covered with a white powdery or woolly material. They are insignificant in appearance but because of their tremendous powers of multiplication they are capable of inflicting serious losses.

## APPLE APHIDS.

In Ontario four species attack the apple—the green apple aphid, the rosy apple aphid, the oat aphid and the woolly aphid. As the last two are only of minor importance, in this Province, I shall confine my remarks to the first two—the green apple aphid, green in color, and the rosy aphid, rosy or purplish in color.

**INJURY.**—These insects injure the foliage, by extracting the sap or life juices by means of their piercing sucking mouth parts. This causes the foliage to become curled and distorted and in extreme cases to turn brown and die. In this manner the aphids rob the tree of vitality and check its growth (especially noticeable in the case of young trees). They may also seriously injure the fruit by dwarfing and deforming it to such an extent that it is unfit for sale. (Most injury to the fruit is caused by the rosy aphid). The foliage and fruit of badly infested trees may become covered with a sweet, sticky material called honeydew, excreted by the aphids and with a black fungus which grows in the honeydew.

**LIFE HISTORY.**—The eggs of these insects are deposited on the twigs and branches in the fall and they hatch in spring when the buds are swelling and beginning to burst. The nymphs which hatch from the eggs develop in a short time into wingless females. This generation is then rapidly succeeded by brood after brood of winged and wingless aphids until by fall as many as 13 or 14 generations may have arisen. All the spring and summer forms are females which give birth to living young. In the fall true females and males appear and after pairing the females deposit the winter eggs.

The rosy aphid has the peculiar habit of abruptly changing its food plant. In July, it deserts the apple and migrates to plantains. In fall the return migration to apple takes place. The green apple aphid, however, feeds on apple all year and for this reason it is more difficult to combat.

**CONTROL.**—Apple orchards which are more or less subject to aphid injury every year should be treated as follows. Postpone the so-called dormant spray until the buds are commencing to burst but are still compact and then combine nicotine sulphate with the lime-sulphur wash ( $\frac{3}{4}$  pint nicotine sulphate to 80 gallons of spray). This spray when applied with great thoroughness (every bud must be coated) will control the rosy aphid, also the oat aphid and the spring infestation of the green apple aphid. If the apple trees become re-infested with the green apple aphid during the summer an additional application of nicotine sulphate and soap may have to be made.

In connection with outbreaks of this species such as we had last year, experience indicates that if the infestation does not become severe until about mid-July and if the weather is hot and dry it does not pay to spray. Nature in the form of hot dry weather and insect enemies will somewhat rapidly bring the

pest under control. This is what happened last year—by the second week of August practically no aphids were to be found on the trees. The only apparent damage caused by last year's late infestation was the coating of the fruit with the sooty honeydew fungus and fortunately most of this was washed off before picking time by heavy rains.

#### THE BLACK CHERRY APHIS.

The sweet cherry is frequently seriously injured by a black aphid. This same species occurs on, but so far as I am aware is never destructive to, the sour cherry.

**INJURY.**—The aphid feeds on the buds and tender foliage and it also attacks the blossoms and fruit, especially the stems. Infested leaves become tightly curled and when badly attacked turn brown and die. Sometimes all the young shoots on trees severely injured by the aphid look as if they had been scorched by fire. The fruit may also be damaged—cherries may be small, may ripen irregularly and may be covered with sticky honeydew and with honeydew fungus.

**LIFE HISTORY.**—Eggs are laid on the twigs and branches in the fall. In spring they all hatch before the buds open. The aphid remains on cherry until about mid-summer and then migrates to peppergrass. The return migration takes place in autumn.

It is of interest to note that some aphids may remain on cherry all year but that these forms cannot deposit the winter eggs until they have paired with males which are produced only on peppergrass.

**CONTROL.**—Delay the dormant spray until just before the buds open, combine nicotine sulphate with the lime sulphur and thoroughly drench the trees.

#### PLUM APHIDS.

Four species of aphids commonly occur on the plum in Ontario, but apparently only the one species, the mealy plum louse, is of economic importance. This insect is green in color and is covered with a white powder.

**INJURY.**—Badly infested leaves turn yellowish and drop.

**LIFE HISTORY.**—This species migrates during the summer from the plum to certain grasses.

**CONTROL.**—In combatting the rosy apple aphid and the black cherry aphid it is essential to put on the application when the recently hatched nymphs are feeding on the buds, because this is the only time these insects are vulnerable to sprays. Later applications put on when the insects are present in large numbers are of little, if any, value because by this time the aphids are afforded splendid protection by the tightly curled leaves. Fortunately, however, the plum aphids do not curl the foliage to any extent, so that it is not necessary to spray for them until they are actually threatening to become destructive.

**SUMMARY OF CONTROL MEASURES.**—And now to summarize what I have said: In apple and cherry orchards subjects to aphid injury the delayed dormant spray should be applied. This treatment is in the nature of insurance. It is put on at a time when it was not possible to know if the insects are going to be troublesome. It is made on the assumption that they will be injurious later on and it is applied at this stage because later applications are of little if any value against the rosy aphid and the black cherry aphid.

In the case of plum trees it is not necessary to spray until the aphids are actually present in injurious numbers.

## THE SMALL MIXED FARM FOR THE FRUIT GROWER.

A. D. HARKNESS, VINELAND.

The subject of the small mixed farm for the fruit grower, especially in our own district on the other side of the lake, is very important at the present time when we have difficulty in procuring labor to do our work. One of the most important points is the location of the small farm. If you are near a shipping point or near markets, it is a great advantage to the small farmer, because he is sure to have small quantities of fruit or vegetables at different times of the season to sell or to ship, and it only takes him a small part of an hour to dispose of his produce. Another important point is to be where there is a Co-operative Association. Where you have a small quantity to ship, the express rates will eat up the profit, but if you ship through your Co-operative Association, you get a 100-pound rate, and you make a great saving in your express charge.

At the present time with our high rate of wages, the man who has a small farm does a large portion of his own work, and he makes good wages for himself and for any other members of his family who may be able to work on this small place with him.

From the present outlook I think that wages are going to be much higher than in the past. I do not think we will ever see low wages again; I mean by that, that we won't get down to \$1.50 or \$1.75 a day throughout the farming or fruit growing districts again. It will be more like \$2 a day or a little higher.

With the small farm there is also a saving of land. A man with a large farm is not so particular whether he uses every portion of his land to produce fruit or vegetables as the man who has a small lot. On my place, there is a creek running across it. In 1914, when I took up this land, this creek used up a strip about 30 or 40 feet in width; now it does not take up any land at all: I have the land cultivated right to the bank of the creek, and I am planting a row of Wagner apple trees on the bank, so I can spray from either side. In our thickly settled districts, we can use every foot of land, and we have no waste. As you go through the country, on the large farms you will see any amount of land going to waste that ought to be made arable.

Another point for the small farm is that we do not require such expensive machinery. On a seven, eight or ten acre lot we do not require the Power Spray Pump. While I believe better work can be done with the Power Spray Pump, you must admit that good work can be done with the hand pump. While we do not get as much force with our hand pump, I am inclined to think we cover the trees a little better than with the power pump. We are not so apt to miss some part.

I believe the small tractors are going to play an important part in our small fruit farms when they become perfected, just as important as the large tractor plays on the large farm.

In the small fruit lot we are enabled to keep bees and poultry. I am of the opinion, and I think general experience will bear me out, that bees are almost a vital factor in the successful growing of fruit. The small fruit grower is enabled to keep a few colonies—from 20 to 50, and perhaps more. In 1914 I got a few bees and ran them along with my farm, and I think they have been a success. I never handled bees before and I have learned practically all I know about bees

since then, with this result: In 1916 I had 9 colonies and I took 800 pounds from them. In 1917 I had 18 colonies and I took 900 pounds. In 1918 I started the spring with 22 colonies, and I took off 2,400 pounds of honey. This was all white honey. In the Vineland District we do not get any second crop of dark or buckwheat honey.

Poultry works in nicely on the small fruit farm, also.

What I would plant on the small farm would depend largely on the nature of my soil. If I had a light or sandy loam I would plant strawberries, raspberries, blackberries, asparagus, peaches and sweet cherries. When I got my place I thought I was unfortunate in having about three acres of clay on a ten acre lot, but I find that this is the soil I can get on earliest in the spring, and I believe it is just as valuable and perhaps more valuable than the lighter soils. On these three acres of heavy soil I planted, plums, pears, apples, black currants, red currants, and gooseberries.

In our district a good many of our growers have been paying special attention to the growing of peaches whether their place was large or small. When I bought my place there were over 500 peach trees on it—practically half the ground was taken up with peach trees. The first spring I took out several of these trees; I did not take out enough. In the fall of 1917 I took out more, and I planted raspberries. As soon as I took my peaches out, I cultivated the ground and worked it up and planted the raspberries. In the winter of 1917 I put on a good top-dressing of manure, and in the spring of 1918 I cultivated this in. I wanted to produce something, because I have to make my living off my place. I planted a row of tomatoes between each row of raspberries. I got a good crop of tomatoes and my raspberries did exceedingly well. From the tomatoes I took a crop that paid me at the rate of \$160 per acre. Next summer I will take off a fair crop of raspberries, and then the following year my raspberries will be in excellent condition for producing a full crop.

I wanted to produce a crop the first year I got my land, and then to plant for permanent crops something that would come in very quickly. I used grapes, that come in bearing in about three years, and I used black currants for a permanent crop, inter-planting among my plums on the heavy soil. Off the 500 black currant bushes that I planted in 1914, I took 480 pounds in 1916; in 1917 I took off 980 pounds, and in 1918, 1,350 pounds. As you all know black currants were a light crop last year; from the present outlook for 1919, I hope to have 2,500 pounds or 3,000 pounds of black currants.

Tomatoes are one of the finest annual crops we can grow for inter-planting among our trees. We can either sell them to the factories or basket them. In our district we have a factory, and when prices are low we send them to the factory, and when prices are high enough we put them up in baskets and sell them through our Association.

Asparagus is another good thing to plant on the small fruit farm, but we should not plant asparagus unless we are close to a shipping point. It takes asparagus about four years to come in. I have come to the conclusion that to get the most out of any ground it should be well under-drained, and from my observation in the last couple of years, I am satisfied that for asparagus we have to make our soil rich, planting the rows three and a half or four feet apart. On well under-drained soil that can be got on early in the spring, there is no reason why we could not grow radishes and lettuce between our rows of asparagus. These two crops come on early; they are shallow rooted and are harvested early. I have seen this worked out and I intend to try it myself.



As I have stated, I believe on the small lot or even on the large lot, peaches have been planted too extensively. In 1914 we had no crop of peaches at all; in 1915 the prices were very low; in 1916 prices were still very low, in fact, so low that there was very little money in the crop for the grower. In 1917 peaches were better, but still there was not much money in the crop. In 1918, those who had crops got good money, but the crops were very poor. For these same years, look back over the plum orchards. In the last seven or eight years, there has only been one year that plum trees have not had a crop, so I think it is important for a person with a small fruit farm to have a portion of his acreage planted with plums and grapes. Grapes are a very reliable crop, although perhaps not as great money makers on your high priced lands, as other fruits, yet they are almost a sure annual crop.

I bought my place in 1914. Practically all my planting except my peaches and raspberries was done by myself in that year. I had 226 plum trees planted, and a number of pears and grapevines, and a few quince, and a few apple trees and sweet cherries and sour cherries. Last year I commenced to get fruit from them, but only a small quantity. My peach trees were planted in 1912; they ought to have given a big crop in 1916; I got 50 baskets. In 1917, I got 250 baskets; in 1918, 267 baskets. If I do not do any better I am going to take them all out, practically all my money has been made from inter-planting.

Last year I sold off my small place \$2,410 worth of produce. It cost me for baskets, labor and picking, \$390 odd. It is a small fruit farm but I am satisfied with it, and I am satisfied with my home. I have not a greenhouse to grow my early crops yet, except a cold frame, and I am working under considerable disadvantage, but I am going right ahead to fix things up, and I believe on my small place there are good prospects for the future. If some person came along and said to me to-day, "Harkness, what would you take for your farm?" I would ask \$10,000 for my nine acres, three acres of which is heavy soil and six light soil.

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### THE FRUIT GRADER—FOR PEACHES.

J. B. FAIRBAIRN, BEAMSVILLE.

I have been using the peach grader for four years. There are in the Niagara District a few graders in use at the present time, and I am not just sure why the peach men are not using the graders. It seems to me if we are to economize in labor that the grader is one of the best things we can use. Labor has been a vital question during the last few years. In 1913 and in 1915 I had a large number of packers. In 1916, with the use of the grader I was able to curtail the number of packers very materially. I am not sure that we get from the trade generally the recognition which we ought to get when we grade our fruit. Criticism no doubt will enter in here, that there is no established grade for peaches, and we are hopeful that through the efforts of this organization and the Department at Ottawa the time is not far distant when we will have properly qualified grades for peaches and pears and plums and so on. I see no reason why, if we can have grades for apples, we could not have the same for these other fruits.

I have not found that the mechanical grader injures the peach—I won't say all varieties, but certain varieties—providing the peaches are in first class

condition for shipping. Care must be taken to see that the fruit is not over-ripe. One gentleman from the Grimsby District used the peach grader this past season, and bought peaches from a good many of the other growers, and really started the central packing house idea. Just how successful he was in that I am not prepared to say; I had hoped he might be here to give us the result of his experience. The central packing house idea, so far as peaches are concerned, has not been tried out; everyone has been afraid to give it a trial, and I am sure his results would be very helpful and interesting to the peach industry.

The two graders that are in use in the district are the Gifford and the Burke; of these there are possibly eight or ten in use between Winona and St. Catharines. Out of these eight or ten not more than two or three are used exclusively for peaches; the others are used for pears and apples. Those used for peaches have been found to be very satisfactory. It is not a difficult thing to arrange a packing table and attach it to your grader, so that you can accommodate one or two packers for each of the various grades that come from the machine, and your peaches, as they are graded, may be packed by these packers just as rapidly. If your grader is of normal capacity, it will take the peaches from the orchard just about as fast as you can bring them in, and so you have a continuous operation—bringing the peaches in, running them through the grader and packing. You would have two packers to each grade which would mean eight, as the grader grades into four sizes and operates very nicely and economically.

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### THE FRUIT GRADER—FOR APPLES.

W. F. KYDD, TORONTO.

It seems to me that we ought to do more grading of our apples than we have been doing. If you go into any part of Toronto you will find in almost all the fruit stores imported apples in boxes. Are we going to allow these imported apples to take the place of our apples in this city or not? If we are going to compete with these imported apples, we will certainly need to grade our apples. I believe it is possible for us to compete with these imported apples up to the middle of January with such varieties as we grow to great success in this country. We can grow Ribston Pippins to begin with, Snows, McIntoshes and Scarlet Pippins and Kings to great perfection and all of good color. If we are going to box these apples, we will have to grade them.

Take for example these three apples that I have in my hand. If you put them all in one box, you could not box them successfully as they are so different in size, and I do not believe they should be put into a barrel together. The smallest one looks like a cull beside the largest one, and yet they are No. 1 apples. Across the line they sell their apples by size.

There are a number of graders on the market. We have had a little to do with two; the one bought several years ago was the Britton. It does not cost very much money, but it has disadvantages. One great objection is that the apples are very apt to ride on the top of the grader instead of dropping through the holes. Another thing, it is a high grader, and the apples are more or less inclined to bruise. I think that grader cost us about \$70 laid down here.

There is another grader that I have seen working, but it does not seem to make quite size enough, and you have got to size the apples by hand that go over the tail end of the machine.

There are other makes on the market. I understand there is a fine grader they are using in the west. It is costly, but it seems to do excellent work and grades the apples into a great number of sizes, and I understand it does not bruise the apples.

I believe some of the Associations in Ontario will pack quite a number of boxes next fall, and undoubtedly they will get apple graders. I think Mr. Johnson can give us some ideas on this subject. Some men claim that the boxed apple is too costly. I do not know that it is more costly to box them than to barrel them. You can get women to box them splendidly. We had girls who never boxed apples at all until last year, and they could wrap and box 90 to 100 boxes a day.

MR. FAIRBAIRN: Were they graded for them?

MR. KYDD: They were graded and they could not pack that many unless they were graded.

MR. JOHNSON: Box packing in Ontario is certainly very limited. Last year I put up about 9,000 boxes. I used the sizer previously mentioned, but I call it a very crude machine for the handling of apples. It wants considerable padding, and considerable adjustment in order to make grade sizes. I arranged the machine so that I could get five sizes very easily. Another objection to the machine is that it handles the apples roughly, so that at each one of the outlets I had to stand and pick the apples off, instead of letting them drop into the box.

In the west they have sizers which are made upon the same lines as the orange sizers in the States. I have seen these tried out, and to show how carefully they will handle the fruit, I have seen them put eggs through them and they would come through without breaking. That is my idea of how fruit should be handled, and that is one objection I have to the sizers we have at the present time; if you have not had a great deal of experience in the packing of apples, you are liable to let them get bruised going through the machine and into the boxes.

Mr. Fairbairn gave us a good idea regarding the boxing or basketing of peaches off the sizer apron. The only way that can be done with ease would be to elevate the sizer and let the peaches or apples run down upon a wider table so as to give the packers room to work. But that causes trouble, because when you elevate your sizer, it is a lot of bother getting the fruit up to the sizer.

MR. FAIRBAIRN: If your fruit is elevated and your packers are standing below the platform, you have not got to raise it at all.

MR. JOHNSON: That is right; you could do that, or you could build a pit in the floor, as they used to do in the south, and have the packers standing there; but I like the idea of the elevating of the fruit. It handles the fruit easier, and the important thing is to handle the fruit in the most careful manner. The western machine is expensive, and is only used in large packing houses. Another great advantage is it has a floating bottom. As the apples run into this pan, there are springs underneath, and the bottom of the pan lowers as it is filled, and then as you pick the fruit out, it rises again.

I am in hope that in Ontario we will be able to grow more box apples. We are coming nearer each year to what we call the individual package, and the consuming public is going to demand it.

W. H. GIBSON: My experience with the grader is very limited. We used the Gifford grader a short time this fall. Our men did not like it; I suppose they thought it would shorten the season too much. This year there were many spotted apples and perhaps 50 per cent. scab, and every apple had to be picked off and turned over to sort them accurately, and there was not much saving of time with the grader. But with the Ben Davis there was a great saving of time, and I am sure the machine paid for itself in running the Ben Davis through. I carefully figured up the wages, and the cost to me was 30c. a barrel, in the old way, and when they used the grader, with the same line of apples, the cost was 23c. a barrel.

MR. JOHNSON: I might add with regard to the sorting of apples, mentioned by Mr. Gibson, that with this new western grader, the apples are carried probably 10 or 15 feet on revolving tables, with sorters on each side, and these apples are put into three different grades. Your grading is all done before the apples reach the sizer.

Q.—What would be the cost of this machine?

A.—Six hundred dollars, Portland, Oregon. The Ideal Sizer would cost about half that amount, and I think it would answer our purpose very well.

MR. FAIRBAIRN: Are the three grades you mentioned, according to scab and fungus?

A.—Yes.

Q.—Not according to size?

A.—No. Your apples are graded according to quality as 1st, 2nd, and 3rd, and then they are run on the sizers. They are sized after they are graded.

MR. FISHER: Is there any better grader for the individual growing from six to ten hundred barrels of apples than the Gifford? This large machine could not be used by most of us individually, and we would like to know what is the best of the smaller sized machines?

MR. SHEPPARD: I was not at Rochester, and I could not give you any information at all. We have a few Giffords in our section.

DELEGATE FROM CARADOC ASSOCIATION: We ran through a number of barrels to see whether it was cheaper to do it the old way or not. We did several barrels by hand, and then I asked the man to pick out a barrel of No. 1 apples, and on running this barrel of No. 1's through the grader, we got half a basket of No. 2's out of that barrel. Then we picked out a barrel of No. 2 apples, and I suppose there were two and a half baskets of No. 1's in this barrel of No. 2's. Some person might say our men were not accurate packers, but they were packers of long experience and good work, and I will defy any man to go to a pile of apples and pick out those all of one size, unless he squanders a lot of time over it. I think we are making money out of the graders, according to this test, because we certainly make more out of No. 1's than No. 2's. We use the Gifford grader, and it is very satisfactory.

MR. DEMPSEY: We used a grader this year and were well satisfied with it. The only objection was that our No. 1's are uneven in size. We had a large No. 1, which ought to be separated from the medium size No. 1, and then I think we would have it about right.

MR. MAYCOCK: Being anxious to find out something about grades, I wrote to the Secretary of the Winchester Fruit Growers' Association, West Virginia, to find out what they were using, and I also wrote to Mr. Hill, of Rochester, and my correspondence induced me to visit Trescott last year to see the Trescott

grader. I have seen the Gifford and the Kingsbury, and after going over the Trescott, I decided it was the grader I was looking for. It is made in units, and you can make as many grades as you want by purchasing the units. I bought a grader last 4th of September; they shipped it to me by express on the 11th of September, and I received it on the 15th of December after my work was all done, or very nearly all done. It grades to eighths of inches, and you can have the apples delivered on tables at right angles, if you wish, or you can have them delivered into bushel boxes. I believe it is the best thing on the market for the grading of apples.

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### WHAT THE UNITED STATES EXPERIMENT STATIONS ARE DOING FOR THE FRUIT GROWER.

E. F. PALMER, HORTICULTURAL EXPERIMENT STATION, VINELAND STATION.

It has been my experience and pleasure to visit during the past two or three years a few of the many Experiment Stations in the United States, and to come into personal contact with many of the workers from other Experiment Stations which I have unfortunately not been able to visit.

This afternoon it will be my endeavor to tell you something of the work in the interests of fruit growing being carried on by the various States of the Union along lines similar to the work under way at Vineland, *i.e.*, plant improvement, and experimental and research work in horticulture. It would manifestly be impossible for me to touch on all the work being done, or even a small part of it, as you will readily understand when I tell you that in the State of California alone there are considerably over fifty definite experimental projects in fruit culture being carried on. And just as an illustration of the scope and thoroughness of these investigations, I might add that an expenditure of half a million dollars is estimated for one of these experiments alone. This figure, of course, covers the total expenditure for that particular experiment from the time it was started until the time of its completion, say in fifteen or twenty years. In by-products work in California, dealing with such problems as drying, canning, etc., there are upwards of sixty separate and distinct problems being more or less thoroughly investigated and experimented upon. This is in addition to the experimental and research work in fruit culture of which I have just spoken. California is, of course, probably the richest State of the union from a horticultural viewpoint and we would naturally expect that the experimental and investigational work under way there would be very considerable. There are Experiment Stations, however, in every other State of the union so far as I have been able to discover, some of the States having two or more stations, and at all of these stations a great deal of time and effort and money is being expended in the interests of the fruit grower. We should not lose sight of the fact either that much of this work, especially that being done in New York, Massachusetts, and other Northern States, is of direct value to the Ontario fruit growing industry and we should therefore make every effort to keep ourselves fully informed of the progress they are making.

In view therefore of the immensity of the State work in fruit growing being done to the South of us and the impossibility of touching upon more than a very small part of it. I shall confine my remarks almost altogether to work which I have actually seen or of which I have first hand information from the experimenters themselves. And even then I shall be able to hit only a few of the high spots

and possibly some other work which, while not of great importance to Ontario fruit growers, yet I think will be of considerable interest.

The Experiment Station work in horticulture falls naturally into three main groups: experimentation, research and plant improvement. By experimentation is meant such work as the establishment by comparative tests of the superiority of one method of pruning over another. Research would continue the above work and discover if possible the fundamental reasons for the superiority of the one system over the other. In other words, experimentation establishes the fact that one system is superior to another and research endeavors to establish the cause of that fact. The term plant improvement explains itself. It is the attempt to improve by selection, breeding, etc., the existing varieties of fruits so as to better suit them to their environment.

Dealing first with a few of the experimental projects under way at some of the United States Experiment Stations, I would call your attention to an experiment at the Massachusetts College of Agriculture on "The Interrelation of Root and Scion in Apple," or in plain English, a study of the extent to which the seedling root system of our grafted orchard trees influences the growth and fruitfulness of the individual trees. We have all observed grafted trees of which the trunk diameter was greater above the union of the graft and root than below it and sometimes the reverse also has been noted. In the Massachusetts Experiment containing over 1,400 trees, while the experiment is really only well under way, the following interesting information has been obtained: Spy and Duchess root have a marked dwarfing effect on the scion grafted on them. Duchess is an inferior root variety. Northern Spy is especially dwarfing for Yellow Transparent. McIntosh on Transcendent Crab root makes a strong growth while Red Astrachan on Transcendent root is dwarfed in a remarkable fashion. McIntosh on its own root makes a remarkably strong growth.

Such facts as the above are experimental results. In this experiment it has been planned to continue the work into the realms of research and ascertain if possible the reason for the above remarkable results. This experiment is planned to continue over a period of twenty years at least, but it is considered doubtful if it will be completed in that time. It is moreover an experiment which, taking in as it does over 1,400 trees, requires a very considerable acreage and expense. Other experiments of a different nature can sometimes be worked out in a space 4 ft. x 4 ft. in a greenhouse at very small expense. Most of our really basic problems in fruit growing, however, should be carried out in an extensive way for a long term of years where the matter of expense, while possibly considerable, should nevertheless be treated as of secondary importance.

Extensive fertilizer experiments have been conducted and are still being conducted in many of the Experiment Stations, some of the work being planned in a somewhat superficial manner and other experiments being very carefully planned and conducted and giving results which can be considered as conclusive. The work being done in Pennsylvania by Dr. J. P. Stewart is so well known to you already through Dr. Stewart addressing this Association in past Conventions, as to require no further comment from me at this time.

Other noteworthy work in fertilizers being carried on is that in Oregon State. Chemical analysis of the light soils of the Pacific North-West has shown them to have a relatively low nitrogen content and at the same time naturally to be deficient in the supply of organic matter. Under these conditions, apple trees and apple orchards generally often show a devitalized condition. Experimental

work has established the fact that nitrate of soda applied one month before blossoming, increased the yield on the average ten-fold and has established the further fact that, for Pacific coast conditions at least, the critical time in the yearly life of the tree is just before, during, and just after blossoming. The results of this experimental work do not of course necessarily apply to our conditions where ordinarily nitrogen and organic matter are present in the soil to a sufficient amount or nearly so.

In pruning, every one in experimental work in the States with whom I have come in contact, has some work under way. As a result of this experimental work in pruning in the States and also as a result of what we are doing in Canada, there should in a few years to come, be accumulated a great mass of information dealing with this subject which, while it is one of the oldest horticultural practices, yet is one of which we seem to know very little indeed. Work in pruning being carried on in West Virginia, Massachusetts, New York and Ohio is especially noteworthy, the bulk of the evidence pointing to the fact that we have probably been pruning *young* apple orchards too heavily.

Winter injury is a problem which has always called for a great deal of investigational work. It is one of the most important problems in the States even as it is with Ontario growers. Its importance in the United States you will readily appreciate from the fact that the peach orchards of Michigan and parts of Ohio were practically wiped out by the cold winter of 1917-18. I shall not go further into the question of winter injury here as there is to be an address and discussion on this subject later on in the afternoon. I would simply call your attention in passing to the very important and extensive work that has been done in the past and is still being done by Prof. W. H. Chandler of Cornell University, New York State.

In variety test work, every station is of course doing something. One Experiment Station reports between three and four thousand varieties of fruits under test. Other stations report varied numbers of varieties ranging from less than fifty to three thousand. This will serve to give you an idea as to the extent of the variety testing work. It is to be regretted, however, that there is not more co-operation and exchange of ideas resulting from this variety test work, between the various Stations. This lack of co-operation makes the value of the work done very local indeed instead of continent wide.

*Plant Improvement*: All Stations I have come in contact with either directly or indirectly are devoting considerable time to plant improvement work and are planning more and more as time, money, material and trained help are available. There is hardly a fruit grown, however obscure and unimportant at the present time, that someone is not trying to improve so as to make it more valuable commercially. Some of the main problems in plant breeding work which are being tackled in an extensive way are: blight resistance in pears, scab resistance in apples, hardiness in bud and wood in peaches, late blooming in peaches, better quality in our native species of grapes, and, generally, disease resistance, increased productiveness, increased size and better quality in all our fruits (but not at the expense of shipping quality).

The effort to breed disease resistance into our fruits is one of the most important problems. I need not dwell on the advantages of scab resistant varieties of apples to replace such varieties as Fameuse and McIntosh; nor of the value of blight resistant varieties of pears. It may be more difficult to secure a codling moth resistant apple or aphid resistant plants generally but possibly the time may

come when entomologists will turn more of their attention to natural means of control such as parasitic enemies rather than to spraying which is an artificial means. "Set a thief to catch a thief." Also:—

"The greater fleas have lesser fleas  
Upon their backs to bite 'em;  
The little fleas have lesser fleas,  
And so *ad infinitum*."

A codling worm resistant apple might very probably be resistant to humans also.

Fairly extensive breeding work looking towards blight resistance in pears is being carried on, amongst other places, at the New York Experiment Station, Geneva, and more extensively in Oregon. The work at Geneva was started some ten years ago and has now reached the stage where thirty seedlings have been selected for further trial. However, it may be another ten or fifteen years before Experiment Station officials are satisfied that they can recommend any one of these seedlings for general culture. This naturally brings up the question as to who is going to get the benefits of the present day breeding work. Generally it would look as if the next generation were more likely to profit than the present one. Breeding work is a long, slow process. However, lest that should discourage you, I would remind you that some of the men who started Ontario's grape industry are still alive, and furthermore the Concord grape was only introduced in 1854 and yet to-day the Concord, with its offspring such as Worden, furnishes 75 per cent. or more of the grapes of Eastern America. The development of the Washington navel orange industry also has been one of the last twenty-five years.

The pear breeding work in Oregon already referred to is very extensive. Resistant stocks from all over the world and particularly China are secured at great expense with which to better carry on the work. However, the expenditure of several hundred thousand dollars on this one problem alone would be a small item indeed compared with the value that resistant varieties would be to the fruit industry of America. And blight resistant varieties will be secured though it may be some years yet before satisfactory results are obtained.

At the Geneva Experiment Station, work is also being done with a view to securing scab resistance in apples, using as one of the parents such varieties as Ben Davis which are partly resistant at least. Such resistant varieties are crossed with other high quality varieties with the hope of securing good quality, scab resistant from the seedlings.

In Missouri, extensive apple breeding work is under way looking towards the origination of late blooming varieties which will thereby escape late spring frosts. This is a problem of particular importance to Missouri, late spring frosts being a very serious menace in that State.

Considerable work has also been done at several Experiment Stations in bud selection work with apples. Generally the result of this work has been negative, no marked difference being found in the comparative productiveness of buds from low producing and high producing trees. This is especially important at the present time when so many nurserymen are advertising so-called "pedigreed" stock, meaning stock budded from selected trees. With citrus fruits, on the contrary, very marked results have been secured by bud selection. The Washington navel orange, which supplies on an average about 27,000 cars out of California's



total of 40,000 cars of oranges annually, is very variable as a bud. In fact, the Washington navel itself originated as a bud variation at Bahia, Brazil, the fruit of the parent variety, *laranja Selecta*, being seeded while the Washington navel is of course seedless. Good, bad and indifferent bud variations occur very frequently in the Washington navel orange groves of California. One of the poor variations which frequently occurs is that of strong growing, unproductive trees, and unfortunately these unproductive trees were once used very largely in the securing of bud wood as they furnished a large amount of bud wood for very little effort. Extensive investigations by the United States Department of Agriculture have led to the practice of keeping production performance records of individual trees, high producing trees of desirable type of fruit being used for propagation work.

Breeding work with peaches with the object of securing good, yellow flesh varieties, hardy in bud and wood, is an important problem in the various peach growing States and one that is receiving a great deal of attention. Hardiness in the peach is of course one of the main objects of our breeding work at Vineland. Considerable work is also under way particularly in New Jersey on the problem of securing late blooming varieties which will be free from the danger of late spring frosts. It is this problem of late spring frosts which makes apricot growing impracticable in Ontario.

In Minnesota and North Dakota, extensive work is being done in the breeding of hardiness into plums and apples. Many seedlings commercially valuable for those States have already been distributed to the public and are helping greatly in the establishment there of a fruit growing industry.

The work of the United States Department of Agriculture in plant improvement problems is widespread indeed. Practically every fruit grown is under observation in one way or another and there is a special Bureau of Plant Industry (which includes fruit), part of whose work is to secure from other countries species native to those countries which may be of service or of value to the horticulture of America. Special explorers are sent out by the Bureau, and they spend years away from home exploring little known countries for economically important plants.

In conclusion I would like to make a few general remarks which will apply to experimental and plant breeding work in Ontario as well as in the United States. Prof. U. P. Hedrick, of the New York Experiment Station, stated at the 1919 Rochester Fruit Convention, that we are now at the stage where more can be done in the next twenty-five years in plant improvement with fruits than in the past one hundred years, that five things are required: time, material, trained help, ideas and money.

I have already laid considerable stress on the time required for plant breeding work. Regarding the second point, material, I would like to relate to you as I heard it, the story of the origination of a drought resistant variety of gooseberry by Dr. Van Fleet, of the United States Department of Agriculture. A native species from the North-West was used as a start, this native species having the factor of drought resistance, but being in other ways of no value. By fifteen years of constant breeding and the introduction of blood from other varieties and species of gooseberries, Dr. Van Fleet has finally produced a vigorous growing, medium sized fruited, good quality, heavily productive and commercially valuable gooseberry *which is drought resistant*. Dr. Van Fleet could only accomplish this result by having the proper material to work with and knowing where to go for it.

This leads me to say that there are undoubtedly many native species of our various fruits in Canada, not yet discovered, which would be of inestimable value in our breeding work. Unfortunately we have no good means as yet of securing this material.

The problem of trained help is one that can only be solved by the securing in the first place men interested in breeding work and the retention of these men by suitable salary increases when such are necessary. Men who are with us for two or three years to be followed by other men for another two or three years are of little, if any, value in plant breeding work. They must be trained first, and then retained at any cost.

Ideas, the fourth point, should come from the fruit growers themselves. Plant breeding is in their interests and it is for them to make known to a large extent at least what problems they are confronted with which might be overcome by breeding work.

As regards money, it is the all essential. Time, material, trained help and ideas are useless unless sufficient money be provided to carry on the work in a thorough and comprehensive manner, and on a large scale. Crosses must be made not in tens but in hundreds. Seedlings must be raised and fruited not in hundreds but in thousands and tens of thousands. And if it is possible by intelligent breeding work to produce half a dozen varieties of peaches to cover the season, which are hardy in bud and in wood, and as good in other ways as our present varieties, of what moment is an expenditure of \$50,000 or \$100,000 or \$500,000 in the securing of those varieties?

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### PRUNING.

PROF. W. H. CHANDLER, CORNELL UNIVERSITY, ITHACA, N.Y.

I might say in the beginning that I have been able to prune, myself, over 1,500 trees in experiments. I like the subject of pruning, but it is exceedingly difficult to talk about it thus far separated from the trees, and I hope you won't expect me to give you advice. However, it is worth while to review the subject generally and separate those things that we know are right from those that we must do, even without adequate knowledge as to whether we are doing the right and best thing or not.

Those of us associated with colleges have generally assumed we knew too much. We have not given enough credit to the opinion of the growers themselves. Any man's practice represents much more than the sum of his experience and intelligence; it represents the experience and intelligence of many others.

The results that follow any kind of pruning are very complicated. Thus a pruning given during this winter or spring may have the effect of reducing the yield next summer, but of increasing it the second after the pruning is done; or it may have the effect of reducing the yield during several years, but still be profitable because it prolongs the life of the tree. In pruning to shape the tree, the effect of a system of training adopted when the tree is young may not be known in a climate like that of New York for fifty years even if the same system is followed during the life of the tree. For this reason, our knowledge concerning the best methods of pruning is very meagre indeed. Thus, if we are to learn by experimenting what are the best methods of pruning, those experiments must

extend through a large proportion of the life of the tree, with the apple certainly thirty to fifty years in training experiments. None have been conducted through so long a period. For the same reason, the experience of growers gives less conclusive guidance than with other phases of orchard practice, where the effects are more quickly seen.

On account of this chaotic state of our knowledge even what we do know with certainty about pruning does not seem to be made use of very generally in practice. It would seem, then, that a discussion of the subject of pruning in which what we know is carefully separated from what we must do without adequate knowledge as to what is the best method, would be well worth while.

Concerning the immediate effects of cutting away parts of the tree top in pruning, we can speak with more certainty than concerning the effect of any particular shape on the bearing of the tree. Thus, it is common knowledge among people who have had experience in pruning that cutting away part of the top of a tree during the dormant season increases the vigor of growth during the following season of adjacent twigs that are left. The new shoots will be longer, the leaves larger, and growth will continue later in the season. It is also true that this new growth is generally stockier.

In spite of this increase in vigor, the effect of pruning is to reduce the total amount of growth. Although the growth following pruning is more vigorous there are fewer growing points. Not only is the new growth insufficient to replace what has been removed but in actual fact less growth is made than on the unpruned tree. In other words, in case of two trees, one rather severely pruned and the other unpruned, the unpruned tree will be larger than the pruned tree by more than the amount of growth that has been removed from the pruned tree. The explanation of this is the fact that the pruning, by removing buds that would open into leaves, reduces the foliage. In our own pruning experiments, we have found a marked reduction in the total leaf surface of those trees that have been pruned with any degree of severity. When it is remembered that the material from which the entire tissue of the tree is built is elaborated in the foliage it will be seen that this reduction in growth would be expected to follow a reduction in foliage unless an improvement in the water supply or other conditions for growth should be associated with the pruning.

Thus, with some one-year-old apple trees in the nursery where the leaves were removed early in the summer to a height of about twenty inches on fifteen trees, at the end of the season the weight of the roots was 35 per cent. less and that of the tops 40 per cent. less than those of the unpruned trees that were no larger at the beginning of the experiment. It will be seen then that the foliage even on a branch that must come out later may be of value to the tree by increasing the growth of roots and the size of the trunk.

Not only does pruning reduce the size of the tree, but even more markedly it reduces the fruitfulness during the early years of the life of the tree. In the experiments done by Pickering, which are by far the most extensive in this line, the fruitfulness of severely pruned trees was reduced during the first fifteen years of the life of the tree by more than 100 per cent. Of course, no one now would consider such severe pruning as Pickering was doing, but in our own experiments we find that the relatively small amount of pruning necessary to shape a tree to an open head reduces the fruitfulness, at least during the first few years. In this pruning, few of the trees had more than two pounds of wood removed in a year, and yet the effect has been appreciably to dwarf the tree and to reduce

the fruitfulness, though, of course, not to anything like so great an extent as when they were pruned as severely as Pickering pruned.

While it is true that any amount of pruning on young trees reduces the fruitfulness, we cannot be so sure with reference to old trees. Some evidence indicates that pruning actually stimulates better fruitfulness in the old trees. The effect of pruning with the old trees as with young trees would be to increase the vigor; and an increase in the vigor of individual spurs of the trees has been shown to increase the percentage of sets on years like the past two, when conditions are not favorable for pollination at blooming time. Fewer seeds, in other words, less perfect pollination, will hold the fruit on a vigorous strong spur than on a weak one. It has also been found that the old distorted spurs set fewer flowers and of these a smaller percentage set fruit than in case of younger spurs, and spurs so weak that the leaves on them are very small will not form fruit buds. An unpruned, old tree may reach a condition where there are few if any points of terminal growth but all growth is in the spur. It seems the new growth also starts from the side of the spur and is greatly distorted and therefore offers much resistance to the movement of water to the leaves and fruit. Pruning tends to stimulate new growth on which would be formed new spurs that are larger and more vigorous.

It makes much difference, however, how the pruning is done. Thus, if any limb is cut back severely we expect water sprouts or increased growth in the part left, but that increased growth comes close to the point where the cut is made and very little effect is seen on the other growth of the tree. Even the whole top of the tree may be cut off without greatly affecting the vigor of the lower portion of the tree, except at the ends of the cut branches. If pruning, then, is to result in the stimulation of better growth in the spur and in the formation of more new spurs, it must be distributed through the top of the tree, cutting back from the ends to good side twigs or branches. Such pruning may be considered rather expensive, but it should be borne in mind that not all parts of the tree would need such pruning on every year, but that during a period of two or three years all parts of the tree would have some of this renewal pruning.

We can be reasonably certain, also, about the time of pruning. The experimental evidence shows rather conclusively that it makes not the slightest difference in what portion of the dormant period the trees are pruned, and they may be pruned even as late as blooming time without in any way affecting the vigor of growth of the new wood. The effect of pruning in summer is different in different sections, depending largely upon the length of the growing season. In most sections, the effect is to reduce fruitfulness to about the same extent as an equally severe pruning in the winter would do, and to dwarf somewhat more than equally severe pruning in winter would do. In some sections, where the growing season is long, pinching or cutting off the ends of the twigs in summer at exactly the right time may increase the number of fruit buds formed.

**SHAPING THE APPLE TREE.** Concerning the subject of shaping the trees, little or nothing conclusive is known. Some people are inclined toward what is known as the "central leader" or as it is sometimes called "the two-story tree" where all the branches are young and the growth is thrown into a central trunk. This is supposed to give a better union of the branches to the trunk; it may be said, however, that in case of some varieties a very injurious amount of pruning would be necessary to secure such a tree. Further, when the trees are old the branches are found to be too thick, and when the trees become tall, it is very difficult to correct forks that form near the top.

In the Pacific Northwest, the trees are almost uniformly shaped to an open head. The top with this system consists of about five branches, one preferably larger than any of the others which though constituting one side of the tree, in fact serves as a leader from which the other branches grow and to which they are united perhaps by a stronger union than would be made with branches of equal size. Each of these branches is shaped, the secondary branches being clipped back enough to prevent crowding out of secondary branches along portions of the main branch, thus a good distribution is secured; in fact, each of these main branches would constitute a central leader for the secondary branches and would be handled much like the central leader form of tree. While such a tree is considered an open head tree, in actual fact, none of the main branches would be exposed to direct sunlight and the center of the tree would be partly filled with bearing secondary branches; yet it is expected that the sunlight would be able to penetrate more nearly to all parts of the tree than with other systems. In the Pacific Northwest, the average yields are much larger than we secure in the East, but it seems more probable that this would be explained by climatic conditions than by the system of pruning. Yet, this system of pruning does permit a very uniform renewal pruning of old trees like that mentioned above. All of the spurs could be kept younger and more vigorous and it is not impossible that when the tree is at its maximum bearing age, better fruitfulness would be secured and perhaps better fruit. When this shape is secured, however, with the smallest possible amount of pruning it still dwarfs the tree and delays fruiting. Thus, in our seven-year-old orchard the average yield so far from each tree receiving very little pruning is one hundred and forty-six fruits, while that for trees pruned to an open head was eighty-three fruits. Yet the pruning given to secure the open head was probably much less than is ordinarily given in shaping trees. Whether by increased fruitfulness when the tree is older this style of shaping will be worth what it costs in reduced fruitfulness while the tree is young we cannot say.

The system most commonly recommended, if not practised, in New York State, is one of very little pruning. The branches of the young trees are not permitted to come out so near each other that there will be injurious crowding; otherwise, the tree is permitted largely to shape itself. Unquestionably, by this system more fruit will be secured during the early life of the tree. As to whether or not this would be true throughout the life of the tree, we have no information. In following it one takes the least risk since most apple growing sections really practice little shaping. Of course, more pruning during the early life of the tree will be required to secure the open head than to secure this last form. But as to which of these shapes would be most profitable in the long run, there is no information.

It should be borne in mind that in most cases, more pruning is done in an attempt to secure the shape wanted than is necessary. During the first three or four years of the life of the tree all the pruning would be to remove all but the four or five branches that are wanted. Such pruning as this would seem desirable for any system. It is more than probable that with many trees one of the branches will naturally be larger than the others, so if the shaping of the secondary branches such as one would want for an open head is not begun before the trees are several years in the orchard the final success may be just as marked and the trees will not be dwarfed so much. It is seldom, if ever, necessary to prune the secondary branches of the young trees in this climate to secure stockiness, though such

pruning seems to be necessary in drier, hotter sections. I am inclined to the opinion that the partially open head tree secured by as little pruning as possible with the idea that when the tree is twenty-five to thirty years old a renewal pruning well distributed throughout the tree both in the lower and upper branches will be practised, would be best for the permanent trees in the orchard. I am very strongly of the opinion, however, that almost no pruning whatever would be best for filler trees.

As to other fruits than the apple, the pruning is somewhat more simple. All of these fruits are planted rather close, and there is in my mind not the slightest doubt that with the exception of the cherry, which seems to need little pruning, all should have renewal pruning. By the time they have reached maximum bearing they will in all cases have occupied the space available. Further growth can be only upward, and it would seem inadvisable to have the bearing surface any higher than necessary. Pruning, then, in this case would serve not only to keep more healthy fruiting wood, but to keep the bearing surface lower so orchard operations could be done more cheaply.

**PRUNING THE PEACH.**—Renewal pruning for peaches is uniformly practised. This may be done by clipping back the one-year-old twigs a part of their length, but I am of the opinion that it is much better done by shortening the terminal portion of the main and secondary branches back to good side branches, the cutting on any one branch not necessarily being done every year. This requires much less work in pruning: it also tends to keep the tree more open and with good growth better distributed along the branches. With plums, I am strongly of the opinion that exactly the same system is best except that less pruning will be necessary.

Concerning the pruning for pears, we have, of course, no information either from experiments or from experience of growers that is uniform and extensive enough to be at all conclusive. I am of the opinion, however, that there is even more reason to expect good results from the open head system such as was discussed for the apple than was the case of the apple. It is perhaps more important to have a renewal of spurs with the pear than with apples, but it is of still greater importance to have a uniform twig growth in the pear. Its natural habit is to make too vigorous a growth in the top, such growth being very susceptible to blight. The greatest resistance to blight comes when the new wood ripens well, very close up behind the growing points, so there is never a period when there are long, soft, succulent portions on the twigs. This system would render the renewal pruning possible not only in the top but on the secondary branches throughout the length of these main branches, which would tend to give a more uniform distribution of growth throughout the tree.

In pruning pears, there does not seem to be any justification for the system of lopping off the top. The result of this is to encourage water sprouts in the top and instead of giving a more spreading head it tends rather to encourage more upright growth. With some varieties of pears, it may be necessary to prune rather severely in order to get better size in the fruit. This increased size could be better secured with such well distributed pruning as one could give trees of this form. Whatever system is followed in pruning pears, the upright, vigorous growth in the top should be cut back to outgrowing side branches so that the formation of water sprouts is reduced to the minimum and the growth is distributed throughout the secondary branches below. In our pruning experiments, such pruning has resulted in spreading the tops even of such difficult varieties to prune as Sheldon.

Q.—About what age would you prune an apple tree?

A.—It would depend on the variety and the climate and the soil; the Northern Spy is no older at 50 than the Wagner would be at 25, and a tree is as old in Missouri at 30 as in New York at 50 or 60 years, but the principle is clear—when the tree has ceased making good growth and the spurs have become weak.

Q.—How large were the wounds?

A.—We cut off branches 1½ inches in diameter, and there would be little killing or drying out, or there would be a little stub sticking out there, and the wound would be a year in healing.

Q.—How about pruning peaches in winter? Are there ill effects?

A.—I have done a lot of pruning all winter with peaches, and I have not seen very bad effects. I have seen peaches die by picking a little from the ends of the twigs; but that is the only case I have seen where there was any harm in pruning done in the winter season.

Q.—Would you leave about three leaders in the young tree?

A.—I would not have a thing like that (fork). If I had a condition like that I would shorten in one branch and throw the growth into one another.

MR. FAIRBAIRN: With regard to apples, for how long do you consider that you ought to shape the tree? If you plant a tree this spring, how much will you do to it next year and the year after?

PROF. CHANDLER: By this system I have suggested, where the branches are too thick I would cut out some and shorten them back a little. The next year I would go through, and if I had a fork like that, I would be inclined to shorten back one of the branches a little, and if some had budded, down, where I did not want a branch, I would cut it down. I should say on our trees pruned to this system, there would be some trees that would not have a knife in them for three or four years at a time. In going through a hundred trees, I would doubt if we would make a cut on more than one in five in any one year. One tree would get it one year and another another.

Q.—You would check for the forks by cutting back one only so as to encourage the growth of another?

A.—Yes. Supposing this is the branch, and there is another forking with that, instead of clipping back twigs, I would be inclined to shorten to a growing point, but that with young trees would not make very much difference. Suppose I had four or five branches, and there was danger of the two top ones making a fork, I would delay that. If I cut, I might take away the one I wanted later, so I wait until the tree is up to fruit, and shorten it back. Then often I do not have to do it, because one might get the advantage of the other, by some accident.

Q.—Supposing that was a miniature tree and going with the wind, how would you try to correct that?

A.—I would not try very hard. If I did do anything I might cut away some on the side away from the wind.

Q.—When you are putting out a young tree, how many branches would you leave?

A.—Personally I do not feel an apple tree ever has room for more than one main branch and about four others, at the time you start. I would leave these and cut off the rest. Later I might shorten the ones I left back, but you would be surprised how little difference it makes.

Q.—Would that tree thrive better the first or second year if there was nothing done?

A.—It would not look as good but it would thrive as well; by the time it came into bearing it might be a little bit ahead of the others because of not having these leaves cut off. In Missouri and Nebraska, the loss of water is more a question of sunshine, and if I were out there I would shorten the tree back more than in the east where we get a good deal of mist and generally some rain fall.

Q.—Could you do anything in pruning to apple trees about 25 or 30 years of age which produced fine wood growth but no fruit, in order to check that?

A.—The more you prune the more you encourage that.

Q.—Do you know anything about peeling the bark to stop that?

A.—Yes; you can peel off the bark if you do it at the right time when the wood is growing, and throw the tree into bearing. I have seen a good deal of that done, and I have seen a good sized orchard killed by it. It is not as advantageous here as it would be in a drier, sunnier climate. In Missouri a man would find a good time when the bark would peel nicely, and he would peel it off, and it would commence to heal. Then there would come dry hot winds that would check all that growth in a few days. You would not get a new layer of bark that that cambium would form, and that tree would be several years getting back the bark, and it might be weakened or else die. The wounds are not always healed over, and I do not think it a good system. Perhaps Prof. Macoun has watched that.

PROF. MACOUN: I think it is very risky for the average man.

DR. CHANDLER: It would be less risky here than farther south or west.

Q. Would it bring that tree into bearing if it was satisfactory?

A.—Yes, sometimes it brings it into bearing. I would never throw a young tree into bearing unless it was a filler that I was going to get rid of. In the case of an old tree you might practice it, but it must be done with care. I would take a ring of bark off not more than a quarter of an inch wide.

Q.—June would be the best month?

A.—I would think June would be about the time.

Q.—Would you advise the pruning of apple trees in the winter when the temperature was probably 20 or 25 below zero?

A.—I would ask Prof. Macoun to answer that.

PROF. MACOUN: I have never seen any injury from winter pruning. We have pruned at Ottawa. The only chance of injury is the bark may loosen for a little distance back from around the wound.

Q.—It does not heal over as quickly?

A.—No, but it is only a temporary injury.

Q.—Do you ever notice the limbs bleeding?

A.—No, we never noticed that; they might bleed for a little while.

DR. CHANDLER: You have never seen a case where the drying out around the wound was of much importance?

PROF. MACOUN: No.

DR. CHANDLER: We shorten back old apple trees just before the leaves are off in the fall. The limbs that drop the leaves first are the weakest, and I cut out the weakest. We do not hesitate to prune orchards before the leaves are off in the fall.

PROF. CROW: I have seen serious results from the pruning in the fall, which seemed to me to be due to the fact that there was a long period in the winter



through which to dry out. I think there is serious risk in cutting large limbs or limbs of about  $1\frac{1}{2}$  inches in size.

DR. CHANDLER: I am not without fear that that might be so, but I have pruned very many trees at all times of the year and made large wounds, and I can at least say it is not important.

PROF. CROW: I damaged some 30 or 40 apple trees very seriously by pruning in the fall, in November or December, for the purpose of finding out whether there was any injury involved. They were a very hardy variety like Duchess and Yellow Transparent. Several died around the wound; sometimes there was a strip of dead bark from a foot to a foot and a half.

MR. HARRIS: In 1903, on the 15th of November, the winter came in very suddenly, and I killed 125 trees about 20 years old. In the spring of 1904, I had Prof. Hutt come to look at my orchard, and he thought they would survive but not one that I pruned lived. I had nine trees that I trimmed about the 1st of December that were nine years planted, and I did not take off anything as large as my little finger and it killed every one.

PROF. CROW: Of course the winter of 1903-04 was a very severe one.

PROF. CAESAR: Is there any way of making a tree that blossoms profusely bear fruit?

DR. CHANDLER: Can you think of some particular variety?

PROF. CAESAR: There is the Monarch plum.

DR. CHANDLER: I am not acquainted with that variety. Of course we have varieties that must have pollen from some other variety. We have found, in the case of the apple, the fruit is more likely to set if the spur is vigorous. Let us say you have a cool spring, and you have a variety that requires or does best with pollen from another variety; you have two apples with the same kind of spur, one with six set and the other with three; the one with six is more likely to stay on. But if you have two apples with the same number of sets, the one with the vigorous spur is more likely to stay on. In the West we apply nitrate to make it set better, but I doubt if you have conditions in the north where nitrate would do the same for you. Renewal pruning may help it to set better—anything to invigorate this spur. The vigor of a tree sometimes is a factor.

Q.—What about root pruning?

A.—I would not say it may be beneficial sometimes to Spies. It checks the tree, but it would be only a temporary thing.

MR. KYDD: Would thinning have a tendency to make young trees annual bearers?

A.—I am afraid there is no difference seen with us. We thin our trees regularly for pruning experiments, and I am afraid thinning has nothing to do with annual bearing. It certainly will increase the number of fruit buds on budding trees, but it has nothing to do with annual bearing, and there are plenty of experiments to that effect.

MR. BUNTING: Before calling on the next speaker, there is a matter I would like to refer to. Last year a committee from this Association, in co-operation with a committee from the Niagara Peninsula Association, dealt with the Department of Labor in connection with the National Service Girls. A circular has been issued from the Department of Labor with reference to this coming year's operations, inquiring whether the fruit growers would require the girls again. In view of the fact that some 2,500 girls were placed throughout the Province last year, the matter is of considerable importance to this Association and to fruit

growers at large. A number of the committee appointed last year are here, but they feel somewhat reluctant to carry on any further negotiations in the matter without some mandate from this body. Miss Hart is on the programme to speak on this question to-morrow and she has requested an interview previous to her address with some gentlemen who would be authorized by the Association to take up the question with her, and I have been requested by a number of the gentlemen interested to bring the matter before you, in order that the Association may have an opportunity of saying whether they wished to appoint a committee to deal with this matter previous to Miss Hart's address. I would like to ascertain about how many there are present who actually employed National Service Girls last year. From those gentlemen, the proposed committee might be formed to meet with Miss Hart this evening and discuss this question.

It was ascertained that 11 delegates present had employed National Service Girls during the past summer.

MR. BUNTING: Perhaps one of these gentlemen would make a resolution expressing approval or otherwise of the service of these girls, and a request that their services be continued, or otherwise.

MR. FAIRBAIRN: I had a camp of National Service Girls last summer, and I feel that without the assistance of these girls it would have been absolutely impossible to get along, and from the present prospects for labor for the coming year, it seems to me that we are not very much better off than last year, and unless we have the assistance of these girls, we will find it very difficult indeed to harvest our fruit.

While there may be some criticism to offer with regard to this assistance, at the same time I feel that on the whole the work of the girls was very satisfactory, and I for one would hate not to see an effort put forth on the part of the Department to render the same assistance this year as we have had during the past two seasons. I feel sure that if it is in order, a motion expressing our appreciation of the assistance rendered by these National Service Girls and also expressing the hope that some arrangement can be made whereby we may have the assistance of the National Service Girls again this coming season, would be appreciated by the Department.

MR. IRELAND: I second that.

MR. SHEPPARD: I do not think we have the right idea of what Mr. Bunting wants. He suggested that a committee should be appointed among the gentlemen who last year employed the National Service Girls to act in conjunction with last year's committee in order to meet Miss Hart and try to get together on what the conditions would be this year. I believe the girls are asking for an increase in the wages, and there is some doubt in the minds of the growers as to whether conditions the coming season would warrant that increase. It is to get down to facts and figures that this committee is wanted. I would suggest that the mover of that resolution would name his committee.

MR. HARKNESS: We had a meeting at Vineland two weeks ago, and we came to the conclusion that we ought to have a committee to meet Miss Hart to discuss the terms for this coming season. We do not know whether we are warranted in giving an increase in wages, and especially the nine hour day. In our fruit growing districts where we have to handle our fruit quickly and get it away to the market, I do not think we could get along with the nine hour day. I would be pleased to second the motion that a committee be appointed to meet with Miss Hart.

MR. BUNTING: I was intending to follow up Mr. Fairbairn's resolution with a resolution somewhat on the lines that Mr. Sheppard and Mr. Harkness have referred to. But I think the proper procedure is to get an expression of opinion from those who had utilized the girls last year, and Mr. Fairbairn's resolution is quite in order, so that this committee that may be appointed to meet Miss Hart has some basis upon which to treat with her and can discuss the whole situation with her and her colleagues, and bring in to-morrow afternoon some proposition or resolution in regard to the matter.

I would ask that the committee appointed last year be re-appointed with power to add to their numbers of those gentlemen who are directly interested in the employment of the girls.

The original resolution carried.

MR. BUNTING: The committee of last year was: T. H. P. Carpenter, F. A. Sheppard, David Allen, W. F. W. Fisher, W. Gayman, S. H. Rittenhouse, E. F. Palmer, and myself.

MR. DAVID ALLEN: I would suggest that the men who employed these girls last year be asked to stand again, and that their names be added to this committee, in order to get the benefit of their experience.

MR. FLEMING: Would not it be better for Mr. Bunting to ask all those interested in this matter to meet with the representatives of the Labor Bureau at a certain time and place?

MR. BUNTING: The committee, whoever they may be, will meet Miss Hart at seven o'clock. And I would ask that this committee meet immediately at the close of this session in order to discuss this matter previous to meeting the ladies.

MR. ALLEN: I still maintain that we ought to get our committee into concrete shape, and that all those who employed the girls last year be added to this committee.

MR. C. R. TERRY: I take much pleasure in seconding that. Carried.

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## WINTER INJURY AMONG FRUIT TREES.

J. A. NEILSON, DEPARTMENT OF HORTICULTURE, O.A.C., GUELPH.

Winter injury to fruit trees is not an unusual occurrence in Ontario and other countries having low winter temperatures. Fortunately for fruit growers the losses due to low temperatures are usually not heavy. The winter of 1917-18, however, proved an exception and great losses to our fruit plantations occurred in every part of Ontario. It is quite safe to say that thousands of trees were killed outright and hundreds of thousands were damaged more or less. The full extent will not be known until after next summer as many which were not killed outright last winter will likely die before the close of the next season. Nearly all kinds of fruit trees were injured, the extent of the injury varying with the locality, the kinds and varieties grown. From Toronto eastward to Belleville the loss was heavy—in some cases as many as 50 per cent. of the trees in some apple orchards being killed. In other cases the loss was lighter. As a general statement one could say that the loss in apple orchards in this section averaged to 20 per cent. From Toronto westward and southward, the damage in apple orchards was not so heavy as in the east, but nevertheless it was heavy enough to cause appreciable loss to growers. In the warmer parts of the Province the

chief loss to apples occurred in young orchards which had been cultivated late in the season. In the northern apple sections, e.g., Simcoe County, considerable loss was experienced, excepting in orchards which were very well protected.

European and Japanese plum trees were quite badly killed in the Ottawa district. The American varieties, however, came through in good condition. In the Niagara district plums were not badly damaged, although in other sections some loss occurred.

The crop of sweet cherries was light in 1918 and this may have been due to the killing of fruit buds. Sour cherries were also damaged more or less; the degree depending upon the latitude. In the colder sections of the Province sour cherries were killed outright. At Craighurst, in Simcoe County, Mr. Caston reports that even the hardier Russian varieties were killed. In the warmer section less injury was noticed. As with sweet cherries the crop was light, the reason for which has been previously noted.

Peach trees in the Niagara district and other peach growing sections were more or less injured. In some sections the loss was quite heavy in young peach orchards—one grower in Essex County losing twenty acres of young trees. In the peach growing area of Lambton the damage was quite heavy, many trees being killed outright and the remainder were badly killed back.

Pears where grown were injured considerably in the colder sections, and even in the pear growing districts some damage occurred, especially on varieties which had been top worked on Keiffer stocks.

#### FORMS OF WINTER INJURY.

Nearly all the forms of winter injury noted by those who have studied this question, were seen by the writer during the past summer. These vary in degree from complete killing of the tree to bud killing and include root killing, collar rot, bark splitting, sunscald, black-heart, killing of bark on the trunk, crotch injury, killing of bark on large and small limbs, killing of fruit spurs, killing of fruit buds, and killing back of terminal growth.

**ROOT KILLING.**—The roots of young fruit trees are sometimes killed in winter, while the trunk and branches are uninjured. Trees injured in this manner usually come out in leaf in the spring, but in a short time the leaves wither and die. If the roots are examined the bark will be found to be dead and brown. Root killing is caused by deep freezing and is induced by the following factors: Tender root stocks used in propagation, absence of snow or other protective coverings, exposure to strong cold winds, late fall plowing and poor soil drainage. This form of winter killing is generally worse on light sandy or gravelly soil, especially on ridges of the same soil types. Professor Macoun states that very little root killing has occurred at the Central Experimental Farm since the roots of the Siberian crab have been used as stocks for grafting.

**COLLAR OR CROWN ROT.**—Collar or crown rot is so called because the bark near the collar or crown appears to be dead and brown. The injury may be found on a small area of bark or it may extend all the way round the tree and for some distance above the ground. Certain varieties of apples such as the King, Ontario, Pewaukee, Duchess, Gravenstein, are susceptible to this form of injury. Cherry and peach trees are also occasionally affected by this form of winter killing.

**BARK SPLITTING.**—Bark splitting may be noticed on sweet cherry trees and on some varieties of apples. The bark is often split vertically from the ground up for several inches; in some cases almost up to the limbs. One or several splits

may occur and in extreme cases the bark will split away from the trunk laterally as well as vertically. A few trees were seen on which the bark could be pulled entirely away from the trunk by taking hold of one of the exposed edges. In apples the Stark and Ontario are quite susceptible to this form of injury.

**CROTCH INJURY.**—Trees affected with crotch injury showed an area of dead bark in the crotch. This might be confined to the crotch or it might extend clear around the base of the limbs and in some cases, also the trunk just below the crotch. Several trees were observed on which the dead area of bark extended down the trunk in a long V shape or in an irregular form. The varieties most affected were Young Northern Spy, Cranberry Pippin, Baldwin, Gravenstein and Scarlet Pippin.

**KILLING OF BARK ON TRUNK.**—On many trees the bark on the trunk was found to be dead and discolored. The dead area might be confined to large patches or as was frequently noticed nearly all the bark on the trunk above the snow line was dead.

**BLACK-HEART.**—This is common trouble on young Baldwin trees in many parts of Ontario and is especially prevalent on trees growing in areas exposed to cold winds. One grower in Norfolk has lost several hundred Baldwins from Black-heart. Black-heart may sometimes appear in the nursery but will also attack older and larger trees. It is generally worse in trees exposed to strong cold winds. The injury is thought to be due to freezing of the sap-wood, this causing a dark discoloration; hence the name of black-heart. The cambium layer, however, is not injured and continues to form new layers of sap-wood. In course of time, if the injury is repeated, the injured sap-wood may decay and this often weakens the trunk or branches to such an extent that they break down or die.

**KILLING OF BARK ON BRANCHES.**—The bark on the larger branches was often seen to be affected very much the same as that on the trunks.

**KILLING OF FRUIT SPURS.**—The fruit spurs on many apple and some pear trees in the colder sections were frequently killed back to the branch on which they were borne. Some pear trees were observed where the fruit spurs were killed as described and from near the base of the spur strong vigorous shoots had started to grow, when seen in June.

**KILLING OF FRUIT BUDS.**—This form of injury is not uncommon, especially on peaches and cherries. The buds are killed by extreme cold or through starting into growth in mild weather and being subsequently frozen in cold snaps.

**KILLING BACK.**—The terminal growths on young and old trees are occasionally killed by severe freezing. Injury of this kind is generally confined to the previous season's growth but during the past winter it often extended into the older wood. Peaches and some varieties of apple trees are quite susceptible to this form of injury.

#### FACTORS WHICH PRE-DISPOSE FRUIT TREES TO WINTER INJURY.

The question may properly be asked, what are the factors which pre-dispose our tree fruits to damage by low temperatures. As is well known the primary cause of winter killing is a very low temperature but along with this there are several factors which may directly or indirectly increase the degree of injury. These are given herewith.

1. **COLD RESISTANCE OF VARIETIES.**—It is a well known fact that there is a great difference in the hardiness of varieties, when grown in the same soil and under the same conditions. The past winter has shown more clearly than ever

before, that certain varieties are more resistant than others. In Ontario the hardiest varieties are mostly those which originated in Russia, Canada or the Northern States. The unfortunate thing in connection with those of Russian origin, is that while they are very hardy there are really no first-class apples amongst them. The good varieties of Canadian origin, while hardy enough for most winters, are not sufficiently hardy to stand exceptional winters such as the past one.

2. EXPOSURE TO STRONG COLD WINDS.—Trees growing on the sites exposed to strong cold winds were invariably injured to a greater extent than those growing in well protected areas. Examples of this were seen in Norfolk, Prince Edward and in York Counties.

3. LATE CULTIVATION.—Orchards which were cultivated late in the season were generally more severely injured than other orchards in the same localities where cultivation was discontinued early or where but very little cultivation was given. Late cultivation causes the trees to grow late in the season. In such cases the wood does not ripen properly and hence may be injured by very cold weather. Killing back and bark splitting may be induced by late cultivation. I do not wish to depreciate the value of orchard cultivation by any means, as I think that judicious cultivation will produce good results, but I do think, however, a mistake has been made by cultivating too late in the season. Plowing the soil away from the base of the trees late in the fall is not advisable as it may pre-dispose the trees to collar rot. If fall plowing is done do not plow the soil away, close up to the trees. If the orchard is plowed in the fall, plow so that the soil is thrown toward the trees not away from them.

4. POOR SOIL DRAINAGE.—Trees on poorly drained soils were invariably injured more than those on well drained soils. This fact was noticeable in all sections but especially so in the peach growing areas.

5. LACK OF SOIL FERTILITY.—Bearing trees growing on soils deficient in fertility were more severely injured than those growing on moderately fertile soils. Of course it is possible to make some soils too rich, especially in nitrogen, but this seldom occurs. My own observations and the observations of others who have studied winter injury justify me in stating that many of our bearing fruit trees are pre-disposed to winter killing by lack of food.

6. HEAVY PRODUCTION OF FRUIT DURING PRECEDING SEASON.—Trees which bore a heavy crop of fruit in 1917 were more severely damaged than trees of the same variety or of the same hardiness which bore a light crop or no fruit during 1917. In Prince Edward County the writer saw what appeared to be an example of the relationship of heavy fruiting to winter injury. A Pewaukee tree had the unusual habit of producing a crop of fruit on a central leader branch in one year and the next year the lower lateral branches bore fruit. On this tree the central leader limb bore no fruit in 1917 and in consequence thereof appeared to be quite healthy while the lower lateral branches which bore a heavy crop in 1917 were nearly all dead. In Northumberland County a Northern Spy orchard, which bore a heavy crop of fruit in 1917, was badly injured during the last winter, while another Northern Spy orchard nearby on practically the same kind of soil escaped almost uninjured, due largely to the fact that but little fruit was produced in 1917. Prof. Macoun of the Central Experimental Farm, gives some interesting data on this question. Accurate records kept annually for twenty years show that the heavy bearing trees are much more susceptible to winter killing than those which produce a light yield or no fruit at all.

7. INSECT PESTS AND PLANT DISEASES.—Insect pests and plant diseases which attack the foliage of fruit trees often weaken the trees considerably by interfering with the growth processes, which are necessary for the proper maturity of wood and thus pre-dispose the trees to winter injury.

#### HOW CAN WE PREVENT A RECURRENCE OF THESE LOSSES.

1. PLANT BREEDING.—Fruit growers everywhere are asking the question—What can we do to prevent a recurrence of the losses of the past winter? This problem is not easy to solve as we have no reasonable assurance that similar climatic conditions may not return and cause further losses. Until we can produce by plant breeding and selection, good varieties that are hardier than any we now have, we cannot hope to escape some loss by winter killing. This work is of necessity very slow and cannot be undertaken with the hope of immediate returns by the fruit grower. Work of this nature is under way at our Provincial Experimental Stations, but in view of the losses which have been sustained during the past ten years and especially during the past winter it should be carried on much more extensively than heretofore. The interest on the capital value of the fruit trees destroyed in Canada during last winter would adequately finance an undertaking of this kind. It is quite true that the present generation of fruit growers would not derive much benefit from this work, but we should not forget that we are now reaping the benefit of the labor of horticulturists who have gone before and if we are to do for others as we have been done by, we should continue this excellent work and do something for those who come after us.

2. GOOD CULTURAL PRACTICES.—The other preventative measures which might be employed to advantage are only those which are considered to be the best cultural practices. The value of these cultural practices and the principles to be observed in the selection of sites for orchards have been more clearly emphasized by what occurred last winter.

In regard to cultural practices, I would suggest that orchard cultivation be started as early in the spring as the soil can be easily worked. The time when cultivation should be discontinued will depend upon such factors as latitude, soil and climatic conditions. As a general statement, I would say that cultivation should be discontinued earlier than is the usual custom except in dry seasons and on lighter soils. In such cases it would be wise to cultivate later than on heavier soils or in seasons when rainfall was abundant. For apple orchards the range of dates for stopping cultivation would vary from early June for the north to July 1st in the southern sections. Peach orchards, of course, should be cultivated somewhat later than apple orchards, up to August 1st in most cases.

3. USE OF COVER CROPS.—Cover crops exert a beneficial influence in checking late growth, help to ripen the wood, hold the snow, and may prevent deep freezing on light soils.

4. JUDICIOUS USE OF MANURES AND FERTILIZERS.—Bearing orchards should be supplied with plant food in sufficient quantities to keep the trees in good thrifty condition but care must be exercised, however, to prevent forcing the growth of trees, as this would pre-dispose the trees to several forms of winter killing.

5. SOIL DRAINAGE.—The drainage for soils intended for fruit growing is of the greatest importance as a means of preventing winter killing. Soils which are not naturally well drained should be thoroughly under drained. This will pay

handsomely as trees growing on well drained soil will invariably give much better results than those on the poorly drained soils.

6. THINNING OF FRUIT.—In seasons when labor can be obtained at a moderate price it will pay to thin the fruit on heavily laden trees. As previously mentioned heavy bearing is a big factor in pre-disposing trees to winter killing and it would seem that for this reason alone the practice would be profitable.

7. THOROUGH SPRAYING TO CONTROL INSECTS AND DISEASES.—Professor Caesar and others have repeatedly pointed out the benefit to be derived from thorough spraying as a means of controlling plant diseases and insect pests. The experience of the past winter has shown very clearly that thorough spraying is of definite value in preventing winter killing by destroying insects and diseases which by their attacks weaken the trees and thus pre-dispose them to winter killing.

8. PROVISION OF SHELTER AGAINST STRONG COLD WINDS.—A good wind break, properly located, will undoubtedly lessen the amount of winter killing. This applies especially to the colder sections of the Province but would apply equally well to any section where the orchard was exposed to high cold winds or was located on exposed sandy or gravelly ridges. In some of the warmer areas of the Province where natural conditions are most favorable or where land is very expensive it may not be necessary or profitable to plant wind breaks but there are many other places where wind breaks would doubtless be worth while. Wind breaks should not be located too close to the trees as they might cause a dead air space in their immediate vicinity and thus cause the development of fungus diseases, such as apple scab and sooty blotch. If set back some distance, say from 150 to 200 feet or more the protection afforded would be quite effective and trouble from diseases would be obviated.

9. PROPER CHOICE OF SITE.—A site for an orchard should have air drainage as well as soil drainage. An ideal site is one on a gentle slope (preferably to the north or north-east) where the cold air can flow down to the lower areas. One should not locate an orchard in a hollow where cold air settles as such a site will favor injury to the trees in winter and to the blossoms during cold spells in the spring.

10. HARDINESS OF VARIETIES.—With the exception of most of the crab apples and the American plums, very few kinds of fruit or varieties have proven absolutely hardy. At Ottawa some of the hardest Russian sorts were injured. There is, however, a marked difference in the cold resistance of varieties. I am giving herewith a list of varieties which have proved somewhat cold resistant and also list of varieties which have been rather seriously injured:

VARIETIES LEAST AFFECTED.

- 1—Hibernal.
- 2—{Duchess.  
Patten's Greening.  
Dudley.
- 3—{McIntosh.  
Yellow Transparent.  
Wolf River.  
Wealthy.  
Haas.  
McMahon White.
- 4—{Snow.  
Alexander.  
Baxter, Golden Russet.
- 5—{Scarlet Pippin.  
Spy.

VARIETIES MOST AFFECTED.

- 1—Baldwin.
- 2—Ontario.
- 3—King
- 4—Cranberry Pippin.
- 5—Wagner.
- 6—Spitzenburg.
- 7—Gravenstein.
- 8—Hubbardston.
- 9—Stark.
- 10—Pewaukee.
- 11—Ben Davis.
- 12—Bottle Greening.
- 13—R. I. Greening.



DR. CHANDLER: Mr. Chairman, I do not know that there is much I can add to what Prof. Neilson has said. Our own experience has been somewhat similar; we have these injuries he mentioned. A thing I had not thought about or never had observed before was the marked effect that the heavy crop of 1917 had on the hardiness of the tree. Of course we had many trees killed that had not a heavy crop in 1917; it was not the only determining factor, but it had a marked influence. With us our most important variety is the Baldwin, and it was our tenderest variety, but it was the off-year with the Baldwin, otherwise you can imagine what we would have lost. We found the Hubbardston killed when they bore heavily in 1917, and in colder parts they were not killed so badly when the crop was lighter. We found anything that reduced the foliage, reduced the hardiness. Excessive pruning we found made the tree more tender. It seems the milk comes back from the foliage to ripen the wood, and that seems in line with this heavy crop. We know there is less sugar and starch in the wood when the tree is bearing heavily, and it seems that what would go down to ripen the wood normally, would go into the fruit. I saw one interesting example in Massachusetts where a man had fertilized his orchard rather heavily and instead of having a harmful effect, it seemed to benefit that orchard, and in spite of bearing a heavy crop in 1917, it suffered the least injury. Of course it had a very vigorous healthy foliage, and perhaps that had something to do with it.

Our worst injury was to the sap wood. We had the bark injury, and when we get that we dislike it more than the sap wood, because you can detect the killing of the sap wood. Where the bark was not killed there has been a tendency for the trees to send out sprouts. Where only the sap wood has been killed, I should expect the trees to look poor. I advised our growers not to cut away part of a tree until we had another year. Then you can decide how much cutting you want to do. I do not know that that would be wise advice for you up here. With nearly all of our trees we found an improvement in the new growth starting during the middle of summer when we got this new layer of sap wood.

Our experience was in line with Mr. Neilson in the case of young trees. Whatever encourages the growth on young trees reduces their hardiness.

I do not like to give advice, but I do feel that we cannot let this one season determine our future methods. I do not believe we will live to see another set of conditions like that again, where you have the shortest summer to ripen our wood, and then as cold a winter as we had.

Q.—About when do you stop your cultivation, generally?

A.—I am coming to believe the advice Mr. Neilson gave is good for us—to stop it earlier than before. I am sure there are cases where it will increase the hardiness, particularly in good soil, so a good early cultivation that starts the trees off with good vigor in the spring, and to cease it early, I believe, although we do not have evidence to answer the question with certainty, brings the best results.

Q.—There are a number of peach growers here, and our peaches suffered quite severely last year. I suppose there was a loss of 20 per cent. killed and 25 per cent. of the others are more or less injured; what do you think of the prospects of those more or less injured?

A.—Again, I do not know what your market conditions are. Any sort of peach tree ought to be worth money since so many have been nearly ruined, so

I should try to save the tree that looks pretty bad. We have lost enough peach trees to make it almost certain that the prices will be good for peaches, so a tree that will bear half a crop is worth saving. Those branches that are not inclined to stand under heavy bearing, I should be inclined to prune them back just a little farther, provided I could leave healthy twigs. I have seen peach trees, wherever they have put on new sap wood, live for a number of years and do pretty well.

PROF. CAESAR: Our winter was not so much killing sap wood but killing in the bark, particularly in the crotch.

DR. CHANDLER: I consider that a worse injury than in the sap wood. You will have to encourage the growers to carry a stiff upper lip. I advised our fellows to cut that out fairly early so as to avoid rot fungus in there. After my summer's observation I felt it was not rot. There were many trees that seemed to be dead on which the cambium was not dead, and they made new bark and new sap wood. We had a lot of cases where the bark was killed but the cambium underneath was not. Where the bark was killed, I am inclined to think if we get that out of the way and get paint in there, it will help.

Q.—Would you put coal tar on?

A.—Yes, gas tar.

MR. NEILSON: In some cases you could take the bark and peel it right away from the tree; the bark was completely expanded all the way around the tree.

A MEMBER: There were one or two well marked cases that came under my notice in St. Catharines in cherry trees where the bark pulled right off, leaving a gap, but the cambium kept on growing and the trees are pretty good still. If the trunk is painted I see no reason why the tree would not live for many years.

MR. FAIRBAIRN: Has not coal tar a tendency to pull the bark away?

DR. CHANDLER: You mean painting it on the outside of the bark? I was thinking of putting it just inside to heal the wound. I could not say whether it would enlarge the wound at all. I should think it would prevent the heart rot fungus getting in.

Q.—What would you think of plowing up a peach orchard in the fall, but not plowing away from the tree?

A.—There would be the question of root freezing there. Wherever you plow, you increase the depth of the freezing a little.

PROF. MACOUN: I think my observation is the opposite.

DR. CHANDLER: In New York State we would not hesitate to plow our clay soils in the fall, but of course we would not turn the ground away from the tree and leave the roots exposed. The roots will not stand much freezing.

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## GRAPE GROWING FOR FACTORY PURPOSES.

D. E. SKINNER, WELCH GRAPE JUICE COMPANY, WESTFIELD, N.Y.

In the first place I wish to say that this has been an intellectual feast for me. While my hobby is grapes, I almost feel like going home and sending in an order for some trees. It seems queer to me that any person who is interested in fruit culture could listen to the talks at this convention and not enthuse over it. It has been my privilege to attend the New York State Annual Fruit Growers' Convention held at Rochester, N.Y., at different times. I enjoyed the exhibits,

for they were beautiful, table after table with plates, barrels and half barrels all rubbed and shone to the brilliancy of a looking glass. I did not try to shave from them, but I assure you they made my mouth water, I also enjoyed the learned talks from the professional men. As I said before the exhibits were beautiful, wonderful, but I understand that they have got to enlarge on their decorative imaginations if they expect to get anything on the Canadians as I have been informed that you have exhibits that are hard to beat.

While our section is mostly grapes in the fruit line, sections each side of us are given to tree fruits, I do not know the reason unless our section is more adapted to grape culture, their country being more inland and away from the influence of a large body of water which we deem of much importance to the growing of grapes. On the south we have what is called the Chautauqua Hills which are 800 feet above old Lake Erie, with a gentle slope to the lake of about from five to eight miles, starting first with a clay and shale soil, then on the flat we have a gravel and on the lake section we get a sandy loam, and grapes are successfully raised on any of these soils that are under the influence of old Lake Erie. The old settlers had orchards. I remember well of one man having 25 acres of apples which was considered big. There are few old original trees in our section that have responded to a strenuous treatment and are doing well, but the most of them are gone, for a lack of proper treatment and in most instances vineyards have taken their place. I cannot remember that there ever was a spraying machine in those orchards, neither was there saw or shears.

If my memory serves me right, about sixty-five years ago a man by the name of Elisha Fay started in a small way to raise grapes in the Town of Portland, N.Y., Catabawa and Isabellas being the leaders; but as these varieties were late and as they sometimes failed to ripen the Concord grape was settled upon as the one best adapted to our section. It was not until fifteen years later that anyone thought of raising grapes as a standard crop. I remember well the excitement in our country over the setting out of the big vineyards of 36 acres by a company of three men, and we all thought the business surely was overdone. A year ago that vineyard was run by one man and 400 acres besides, and the business has developed from that 36 acres to around 40,000 acres and from one car to thousands—one year 8,000 cars. From over a hundred varieties the standards are Moore's Early, for early, followed by Worden's, then the Concord which is the universal market and juice grape.

However, this is only history, and it is not what I came here to talk about, but before I close on the historical part I wish to say that I run a grape farm one-half mile from the places mentioned, and in my boyhood days I have hooked grapes from these vineyards spoken of. I grew to manhood there, and instead of quoting to you from books I am relying entirely upon memory and experiences. A little later I imagined at least that I had developed into a full fledged grape grower, being young and enthusiastic I did considerable experimenting with fertilizers, cover crops, spraying, etc. I went through the trying panic times of four years commencing 1896 when the average price was from 6½ to 8 cents for an 8-pound basket, and from \$7 to \$10 per ton for a bulk. Owing to large crops we saw low prices and hard times. I have a statement showing a couple of tons delivered at \$7 per ton, then was the time we thought the grape business was overdone. But little did we know that down in Vineland, N.J., a certain doctor who had a son Charles, was experimenting on unfermented grape juice. Their first large output being 12 quarts of real unfermented grape juice. This

was 50 years ago, and I had the privilege of attending the 50th anniversary held in Westfield a short time ago. In 1897 the industry was brought to Westfield, N.Y., and has since been known as the Welch Grape Juice Co., and since that time prices for grapes have been more interesting, and in place of discouragement and loss we have received encouragement and some profit.

To-day the son Charles spoken of is President of the Welch Grape Juice Co., is vigorous, full of enthusiasm, ready for business or play, congenial, in short a thoroughly good fellow, knows every one of his many employees by Bill, Tom and Mary, and he presides as over a large family, chastising one minute and loving the next. The large office force is made up from the town boys and girls as far as possible and if you will pardon me, I wish to say that I consider those boys and girls the cream of the town. Four sons, Edgar, Paul, John and William, assume large responsibilities and relieve the father, better known as Doctor, of as many duties as possible. John, by the way, is in France. As an illustration of what the Welch Grape Juice has done for the grape industry, 22 years ago they handled 300 tons and since that time they have handled as high as 16,000 tons and have developed from one factory to four, one being in your beautiful fruit section of St. Catharines.

I could talk all day on the Welch proposition, but time will not permit, but as a grower the very best thing I could wish for you, is that you could have a Welch factory where you could reach it by team or by cars. I might mention that almost every town of any size in our country has an unfermented juice plant, DuBell at Silver Creek, N.Y., Red Wing at Fredonia, N.Y. The Paul Delany and Naboth at Brocton. The Welch Grape Juice Co., and Armour Co., at Westfield, the Randall Co. at Ripley, and the Welch Grape Juice Co., at North East, Pa.

I presume there are many professors in this room that have forgotten more than I ever knew about grape culture, and I thoroughly enjoy listening to them, but whether they would touch on the minute details that are of vital importance to the setting of a vineyard for the first time or not, I do not know. What I give you is from 30 years' experience, and I am going to talk to the man who is contemplating setting a vineyard for factory purposes and does not know the first thing about it. Perhaps it may interest some of the practical grape growers to hear just how we do it over in the States, even if told in a simple way, by one who has practised the very thing he is preaching.

1st. We have on exhibit the cutting, rows 18 inches apart and two inches in the row.

2nd. The one year perfect No. 1 root, also prepared for planting with roots divided going each way in furrow.

3rd. The cull root which is prepared for re-planting, this is where we get the 2 year old root. Have seen a growth of 6 feet of roots from culls trimmed back to a stub.

4th. The second year from planting tied to first wire, this is to enable you to more thoroughly cultivate rubbing off all buds but two below the wire.

5th. The third year, this is the first year of bearing, and we generally figure on getting paid back a portion of our expenses up to date.

6th. The fourth year from setting showing the vine forming.

7th. The fifth year from setting with vine trimmed to the horizontal arm system. It would not be out of place to call it the Chautauqua system as it is universally used and called in New York State.

8th. We have the renewal system or fan, beneficial on heaving soil as it will not pull the roots when the posts heaved.

9th. We have the Kniffin. I see several grape growers in the St. Catharines district who are using this system, and while their rows are ten to twelve feet apart and the vines nine and ten feet in the row they bear extremely well, giving from  $2\frac{1}{2}$  to 5 tons per acre.

10th. We have the Umbrella system. While I have never used this system, I rather favor it for the reason that I believe they will not come down as bad as our way, which is the reverse from the horizontal or Chautauqua system.

Never clip a top when it bleeds.

Would advise cover crops sown the 20th of August, good results have been obtained with fertilizers as follows: 300 pounds of acid phosphate and 200 pounds of nitrate of soda—give two applications with soda, the acids can be put on earlier at any time.

SPRAYING.—Bordeaux mixture 5-5-50 for fungus and mildew, for poison add arsenate of lead, 5-5-50, sometimes we add molasses for insects.

HANDLING OF FRUIT FOR FACTORIES.—About all there is to that is to use good common sense. If you went out into your vineyard after a cluster of grapes to add to a pitcher of lemonade it is unnecessary to say that you would pass by the red immatured or muddy cluster. This covers our inspection. We do not intend to be arbitrary to the extreme; all we ask is a good fair and square deal.

Q.—Do you use tractors?

A.—No, just a horse plow. Our rows are eight feet apart, and we use three plows, which just about take that eight feet going down and back, and after we plow our grapes, then we have a horse hoe, which we call the Anderson hoe. It is really a very handy thing; it is very strongly made, and I will guarantee you can dig out a bunch of yellow weeds or briars or anything; or you can dig a ditch with it if necessary. It has an adjustment on the handle so that you can use the blade up or down as you are going right along. If you come to a hard place where you want to do business, you can tilt your blade and your horses know they have something behind them, and it just rolls the furrows out. Then you can throw your blade around and throw the furrow around when you come to a torn up vine.

Here is a picture of a two-horse cultivator; it is a home-made affair, although they are manufacturing them over on our side now, and they cost \$16 a piece here. I never use the casters; I feel in my vineyard I want to do business, and not have one side of the cultivator out of the ground half the time. I would rather have a thistle cutter on there. You can make them yourself; they are about six or seven feet long. You can take the disc off your Morgan hoe and use it on the cultivator.

MR. KYDD: How many buds do you leave on each cutting?

MR. SKINNER: We generally leave three.

Q.—Some varieties have buds farther apart?

A.—These thrifty little fellows are my choice, because a cane that is as large as your little finger and with buds as far as that (indicating) is what we call a bull cane.

Q.—How do you store them?

A.—Regular root cellar. Keep them just a little moist and be careful not to let them heat, but where they won't freeze.

Q.—How much above these high roots would you put the soil in planting?

A.—Right up to there (indicating). The universal way of plowing for grapes is to strike a back furrow right to a line. Every eight feet stick your stakes in and go down; the next time come back and make a back furrow, and then set your stakes over. Make a business of marking it off.

Q.—Which will produce the heaviest crop of fruit, the Chautauqua system or the renewal system.

A.—I do not know that there is so very much difference. Of course we use the renewal system more where your ground is apt to heave, and these are not trained around the wire at all.

A MEMBER: I have a vineyard trained on the Chautauqua system and another on the renewal system, and I find the renewal system yields me the heaviest crop of fruit.

MR. SKINNER: You get it by cutting this stuff down?

A MEMBER: Yes.

MR. PATTERSON: Do you think there is anything in the French idea that the nearer you go to the ground the finer the bunches?

MR. SKINNER: I think that would be feasible, but I think if we have the grapes up high, they would get a better circulation of air, and it would eliminate to a certain extent loss by mildew.

Q.—How long do you use the arms before you renew in that renewal system?

A.—We renew every year.

Q.—Suppose you cannot renew one of these arms, what do you do?

A.—I would cut it off.

Q.—And leave three instead of four?

A.—Yes, and if I could not get three, I would cut them off to two, and if I could not get two I would cut to one, and if I could not get one, I would run it to the first wire and rest a year.

PROF. CAESAR: How many buds do you leave to each of these vines?

A.—I could not say as to that; there are hardly any two vines that have the same amount of buds, but I should think from 30 to 35 or 40—about eight buds between the wires I should think.

Q.—This old wire would have to be renewed every year?

A.—No. I have seen a bunch of wires on as thick as my two fingers; it will rust off in a few years.

Q.—You only put one wire to the cane?

A.—Yes.

Q.—When we tie with string we have to tie every wire twice, down here and up here?

A.—You do not want to tie the lower one with a wire unless you tie mighty loose, where you want to receive any real benefit beyond the wire. It stops the waving back and forth and is apt to knock the vine down. One girl over in our country will tie as many with wire in a day as five or six would with string. We use string where it is necessary; we cut the rope into lengths and we put that around, below the weeds, where it is really necessary, but we have so many grapes that we do not take a lot of time and pains to look after little details as one would with only a few in a garden.

Q.—What does that wire cost a pound?

A.—I think we used to get it as low as 6 or 7 cents, but I believe it is 10 or 12 cents now. It comes in 50 pound boxes, machine cut on purpose for us—cut  $6\frac{1}{2}$  to 7 inches.

Q.—How much does it cost to wire the vineyard per acre?

A.—I think it takes anywhere from 5 to 7 pounds of wire.

Q.—Do you take the brush out before you tie or after?

A.—Take the brush out first. We are trimming now, and then we pull our brush and cut it out, and then we come along with a three gang-plow. We do not try to level it up because it does not get hard over there anyway. When we get over our acreage we turn around and do our garden work or any other kind of work. Then we come back and plow away from the vine, and then we take the Anderson horse hoe or the Buck-eye horse hoe or whatever we have for a horse hoe, and go through with that, and then if we have any hand hoeing to do, we go ahead with that work. If there are any suckers, you want to chop them out. After we get it cleaned off, we turn around and flop the earth back again. Generally we go through with a one-horse plow or the Anderson horse hoe and turn the furrow up. We see that the foul stuff is kept down, and we keep the land mulched, but there is nothing that will mulch the vineyard like a plow.

Q.—How deep do you go, four or five inches?

A.—Not very deep, not over two and a half or three inches.

Q.—Two horses would turn a three-furrow plow?

A.—Yes.

Q.—Do you cultivate to the full depth of your plow?

A.—Very nearly. You have got to be very careful with the cultivators or you will be into the roots. Some people say it does not matter to cut into the roots, but I do my own root pruning. About the 20th of August, I sow my cover crops, and then I cultivate that in; that answers for the last cultivation, and I follow that with just a common smoother which smooths out all these cultivator tracks. If your land is at all inclined to wash, the water will follow the cultivator track and make a rut.

Q.—What fertilizers do you use?

A.—Everything, about the same as you do over here. They used to use what they call Universal Ammoniated Bone, but of course we cannot get any potash now, so they are using most anything they can get, but principally, if they can get it, acid phosphate and nitrate of soda.

Q.—Do you use barnyard manure?

A.—Oh, yes, all we can get, and all we can borrow and have the money to buy, but our Experimental Stations recommend acid phosphate and nitrate of soda. The Government has helped us to get it. They charge us \$75 or \$80 a ton.

Q.—If you can grow oats do you need nitrate of soda?

A.—I need something to produce vines, so I would be glad to use nitrate of soda or anything to help those vines recuperate. You must keep the nitrates in the soil. There are a good many farmers that are using oats in preference to anything else.

Q.—For the least amount of bleeding and so on when do you claim is the ideal time for pruning?

A.—Some seasons are earlier than others. When I cut off the top and they do not bleed, I am ready for it, and if they bleed I let them alone.

Q.—They do not bleed only just before the growth starts?

A.—Yes, they will bleed when the growth gets away out there.

Q.—But not until just before the time it starts?

A.—I do not remember about that.

Q.—Not before April?

A.—Yes, I think they will bleed when we come to the first warm day and the sap starts.

Q.—Is there serious injury in bleeding?

A.—I never knew that there was. We never have figured that it ever made a bit of difference.

Q.—Do you believe in fall plowing?

A.—We do not do any work from the 20th of August except to get our cover crop in there. The ground is good and firm by winter time, and I think it will go through the winter in better shape than if you plowed in the fall and turned up that loose soil so that it would freeze and then thaw, and the winds blow the nitrates and the rains wash it away. That is just my idea. We use 300 pounds of acid phosphate and 200 pounds of nitrate of soda to the acre. We put the acid phosphate on as early in the spring as possible, and then make two applications of the nitrate of soda after the buds start, that is to give them a little help.

Q.—If you have plenty of wood growth, would you apply any nitrate?

A.—No, I do not think I would if I was getting too much.

Q.—Do you think that a wider row gives better air circulation?

A.—No doubt about that, and you get a larger area for your roots to feed on too.

Q.—Do you ever try anchoring the end posts instead of bracing them?

A.—Yes, but I do not like it as well, because it will gradually work over.

Q.—I think the anchor is cheaper and less trouble than the brace?

A.—We used to have regular rail fences over there. They pulled up these fences, and they have no fences now, only vineyards. They used to take these long rails and run them off; the longer they were the harder it would be for the end posts to pull out, but it took two men to handle the proposition, one man at the top where the post was, and the other man at the stub, so it did not take them long to discard that system, and they now use braces.

Q.—Do you have a great deal of trouble with mildew?

A.—No, only in some sections in low places.

Q.—What do you use instead of the Bordeaux mixture?

A.—Bordeaux is our real spray.

Q.—But yourself?

A.—I do not use anything.

Q.—Does not it depend on the soil and the situation?

A.—Yes. In some sections where the insects are prevalent, they have to spray there, of course.

In regard to sending grapes to the factory, of course they are put into crates. There is no trick in packing grapes for the factory. All we have to do is to use common horse sense. The factory does not want a grape picked up off the ground full of mud. The worst trouble with our growers is they try to sell something they ought not to. They put grapes in baskets that are not fit to throw into the pigs. All the factories want is just a square deal. Sending to factories eliminates baskets and is an easy way of getting rid of your fruit.

Q.—What time do you cut your grapes?

A.—When they get ripe, of course, but the seasons vary. I have been in the business thirty years, and I have kept track of my picking, and I have started on an average around the 1st of October—from the 25th of September to the 1st of October.



## DIVERSIFICATION IN FRUIT FARMING.

J. W. CROW, PROFESSOR OF HORTICULTURE, O.A.C., GUELPH.

The most important aspect of the fruit situation so far as the future of the industry is concerned is that relating to the cost of production. We shall have to lower production costs if we are to stay in the business permanently.

The factors which determine cost of production in any given case are:

1. The variety grown.
2. The distribution of labor.
3. The size of the producing unit.
4. Cultural methods, particularly the use of fertilizers.
5. Marketing facilities.
6. The suitability of the soil, site, and climate.

Aside from variety, labor is the most important single item entering into cost, and the most effective means of lowering the cost per box or per barrel is so to arrange the farm scheme as to make the best use of labor. The labor of fruit growing is very seasonal and one of the greatest difficulties is to avoid the rush of certain seasons and provide profitable employment at other seasons. Labor is not often so readily at hand, that it can be called in when wanted and dismissed when the job is finished, so that the real problem is to distribute the labor as uniformly as possible over the season, or better still over the full year.

In the report of Prof. Leitch covering the survey made in 1918 of the Dairy Farming business in Western Ontario, it is stated that on farms where equally good cows are kept, farmers who depend on milk sales for from 91 per cent. to 100 per cent. of their income make labor incomes averaging \$1,006 per year. Those who derive only 61 per cent. to 70 per cent of their returns from milk and who supplement milk sales with sales of cash crops and other products receive labor incomes averaging \$1,487, a difference of \$401 per farm per year in favor of the latter. These figures mean that a dairyman who specializes in milk alone or largely is not always able to use to best advantage the labor employed and that it pays him to organize his business as to get the best use from land, equipment and labor without increasing proportionately the running expenses of the farm. They also mean that in dairying the largest actual profits come from partially diversified farming rather than from too intense specialization. This principle will no doubt hold good also in fruit growing.

It is possible in all branches of fruit growing to relieve the rush of fruit picking by selecting varieties which ripen in succession from early to late, and in many cases where winter apples are being handled the situation can be further alleviated by doing the grading and packing in the fruit house in the winter time.

It is possible also to distribute the labor over a long season and at the same time to include a very desirable measure of diversification without going outside the field of fruit growing. Some of the most successful fruit growers produce a general line of fruits, including apples, pears, plums, cherries, strawberries, raspberries, currants and gooseberries and where climate permits, peaches and grapes as well. In fact, it seems to the writer that where it can be worked out completely or in part, this scheme is likely to be more satisfactory than any other. It reduces the risks consequent upon putting all the eggs in one basket: it distributes the labor over a wide range of season and it utilizes to the full, the special knowledge, special skill and special machinery of the growers.

Dairying does not seem to offer much opportunity for engaging in any line of fruit growing, except in a small way, and the same is true of general farming. The small apple orchard in the hands of some men is useful as a cash crop side line but a permanent fruit industry can never be built up on this basis. The fact that some growers do well out of small orchards indicates nothing so plainly as that the same grower would make a much larger profit if his orchard were larger. The cost of production per box or per barrel is so high in the small orchard that ultimately it will have to drop out of the competition.

Hogs seem to go along with dairy cattle and seldom work in satisfactorily, in any number, upon a fruit farm.

Beef cattle go well with large apple orchards or with general fruit growing and provide winter employment besides valuable supplies of stable manure. Where a good market for hay exists this will be found to combine well with apples and with other tree fruits, excepting cherries.

Asparagus and peaches make an excellent combination for high priced land in suitable districts and there would seem to be many other cases in which asparagus could be used to advantage.

Poultry on a large scale does not seem to work out well with fruit growing, the reason being that poultry keeping is in itself a well balanced scheme, with continuous steady employment the year round.

In conclusion I would venture to suggest that fuller and more exact information on this subject is urgently needed and I should be glad to know whether the fruit growers would care to co-operate in a careful study of the problems involved.

What I mean in the last paragraph is that we should like very much to get some more accurate data on the questions discussed here. In order to do that we should get from fruit growers information not only as to what they grow and how much, but some idea as to various crops and their returns.

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## CARE AND PROFITS FROM THE SMALL ORCHARD.

FRANK SHEARER, VITTORIA.

This subject relates very closely to the cost of production that Professor Crow has just brought out.

Small orchards of standard varieties, rightly located, and well cared for will return good profits; this has been my experience and it is from these results I am speaking.

The orchard contains an acre and a half with sixty-five bearing trees set on the square, 30 feet apart and is about 40 years old; they are too close together and there are too many varieties; Wagners, Greenings, Baldwins, Spies, Russets and Grimes Golden, and a few odd trees of other varieties. It is planted on a fairly good sandy soil with good soil and air drainage; this last a feature almost entirely overlooked in years gone by. We began taking care of the orchard 16 years ago, up to that time it was in sod and sometimes had a crop and sometimes did not.

The care of the orchard may begin any time after the crop is harvested. Put the manure on any time convenient during winter. A light coat regularly gives best results. We set the spreader at three loads to the acre or about the same amount spread from the wagon.

*Scraping* is another winter operation. That is with a dull hoe: scrape off the old rough bark from the trunk and large limbs, being careful not to dig deep enough to show the green wood; this puts the trees in better shape for good results from spraying.

Trimming is another essential operation and can be done any time after the severe cold is over. I was interested in the discussion this afternoon when Dr. Chandler said the cold weather did not hurt very much for pruning. There were two orchards right near us that were pruned in the fall; they were large bearing orchards of about the same age as our own, and every tree that was touched was killed. It took about 30 or 40 trees out of that orchard. I like to wait until we are over the coldest of the weather before cutting out anything from the trees. The more trimming you do the more you have to do, and I agree with the doctor in cutting down and not cutting out so much on the end, because you will soon have a regular umbrella. Cut back and it saves that much work. Cut away all surplus wood; let the sunshine in and keep the tree in shape and in bounds. Clear the brush out and burn along with any rubbish; if this is done regularly a man can give a fairly good trim to four trees in ten hours.

As soon as the spring opens up, we try to get the orchard ploughed and worked down. Especially is this needed, if we have a very dry spell the latter part of May as then frequent cultivation tends to hold the moisture. One of the best instruments for cultivation is the spring tooth harrow. In our district we like to plough in April and cultivate until from the middle until the last of June, according to the season. A fairly heavy seeding of buckwheat finishes the season's work.

In spring we try to follow the spray calendar as given by the Department and the Association using the lime sulphur and lead spray entirely. Dormant spray 1 to 8 or 9, and the last two 1 to 27 or 30 with  $2\frac{1}{2}$  pounds lead to 40 gallons. Only once or twice have we used the fourth spray for scab.

Hand thinning comes next. I do not altogether agree with the doctor there. I have regular bearing from the trees, and I believe it is due to hand thinning. It is needed much more on some varieties than others. The Grimes Golden are very heavy setters of fruit and require thinning, more perhaps than any other variety. With a heavy set and little June drop, we try to leave only one apple in a place, and apples about eight inches apart on limbs. From ten trees, Grimes Golden, we packed 17 barrels with more culls than packed apples. The next year with practically the same set and two men, two days thinning, we packed 57 barrels, a gain of 40 barrels for four days' work. The next year the same trees gave a good crop.

The apples are picked and put in barrels or crates, taken to the barn and all packing is done in the barn. There is a gain in the season in this, as the packing can go on during wet mornings and rainy days, and picking done during good weather.

We pack in barrels, two grades: 1st and 2nd, with occasionally a third, or domestics; if the conditions warrant it. The apples are handled by the Association, sold by the Manager and the returns are pro-rated to the members according to the value of the different varieties on the market.

Now for the financial end of the cost:

FINANCIAL STATEMENT.

<i>Cost.</i>		
Five tons manure, spread .....		\$7 00
Scraping, two days .....		5 00
Sixty-five trees, trimming (4 trees per day) .....		40 00
Bush removing and burning .....		10 00
Ploughing .....		5 00
Cultivation (six times) .....		8 00
Spraying—Material, \$18 00		
Time, 15 00 .....		33 00
Interest and taxes .....		40 00
Interest and depreciation on power outfit .....		40 00
<hr/>		
Total yearly cost .....		\$188 00
 <i>Returns.</i> 		
1907.....	64 barrels .....	\$170 00
1908.....	98 " .....	140 00
1909.....	220 " .....	467 00
1910.....	154 " .....	338 00
1911.....	170 " .....	424 00
1912.....	238 " .....	453 00
1913.....	147 " .....	346 00
1914.....	190 " .....	361 00
1915.....	52 " (hail hit) .....	180 00
1916.....	111 " .....	268 00
1917.....	67 " .....	250 00
1918.....	203 " .....	730 00
<hr/>		
	1714	\$4,127 00

This gives a yearly average of 143 barrels or 2.2 per tree per year. The cost of barrels, spray material and manager's commission have been taken out of these amounts but not the cost of picking and packing. This item has grown from 50 cents per barrel in 1907 to practically 80 cents in 1918. The cost items are figured on basis of \$2.50 per day for the man and \$5.00 per day for man and team. The cost of caring for the small orchard is necessarily greater than in the large one, and while I do not advocate the setting out of a small orchard, the returns from it have been such that I set 25 more acres beside it.

PROF. CROW: What is the average price per barrel that you got?

A.—I did not figure that out; 1,714 barrels bringing in \$4,127 for 12 years; the expenses being \$188 per year. I believe it is \$67 an acre.

THE CHAIRMAN: Some of that labor you performed yourself, and you could hire a team on an average cheaper, and there must be some profit in the labor which you received. You did not put the labor at actual cost?

MR. SHEARER: No, not actual cost. We have done practically all the labor ourselves.

THE CHAIRMAN: When the dairymen figure up the cost of feeding the animal and payment for your own time and the time of the family, and so forth, there is not very much money in dairying, and the same with the fruit grower. A few years ago the average product from the cow was about 3,500 pounds of milk per year; some people were getting 8,000 pounds from their cows, others must have been getting only 2,000. You will find orchards throughout the country in just about the same position. If the Department of Agriculture and the Agricultural College have brought the average of the cows up to what it is to-day—which is a considerable amount—and there is room to bring it up higher, they can

surely, with the same effort, bring the average of the orchard up very much. We will always have some neglected orchards and some neglected cows; that is a matter that will have to be looked after in a general way. I believe the Department of Agriculture can do a great deal in bringing the average of the orchard up to a much higher standard than it is to-day.

MR. SHEARER: The figures I have given would be about the average. I am paying for my own time at \$2 a day. Our cash outlay would be for the land, spray material and depreciation on spray outfit, because we did practically all the work between the hired man and myself. It seems to me we have to put our farms on business principles; the average consumer does not consider what it costs us to produce. They consider what they have to pay for the produce and they think we get that in return. It seems to me we must teach the public that it costs us a great deal, and we gain but a small profit.

MR. FISHER: Did you allow for depreciation of your trees?

MR. SHEARER: No, I did not. I do not know what that would be. I have a tree that was planted somewhere about in 1797 and it is still bearing apples.

MR. PETRIE: Prof. Crow made the remark that success was almost assured in choosing proper varieties; may I ask the variety?

PROF. CROW: I am glad the question of variety has come up because it is so extremely important. I do not know that I can advise Mr. Petrie what variety grows dollars for sure every year, but at the same time, there is something to say on this matter. One of the things that I want light on at the present time is as to the status of the Baldwin. Are we to continue recommending the Baldwin as our leading commercial variety? The Baldwin has winter killed seriously in practically every County of this Province, even in southern counties it has winter killed, and a large proportion of the Baldwin trees of the Province have been wiped out within the last three or four or five years. Teasdale & Powed planted 2,800 Baldwin trees as part of a 100 acre orchard in Norfolk County, and something like 50 per cent. are gone. I also know of a orchard in Wellington County planted in 1911 by Mr. Cockburn, of Guelph, which included some 1,500 Baldwins, and 800 of these trees went out in the winter of 1913-14, and quite a number of them have died since, so that there are probably not more than five or six hundred Baldwin trees left. These may be extreme cases, and yet I do not know that they are too extreme, because young Baldwin trees have winter killed very seriously.

I have here a map. Some years ago I tried to show the various climatic districts of the Province of Ontario, because it is time we got it into our minds that the Province of Ontario is not all alike. Ontario is approximately 700 miles from north to south, prior to the large acreage at the north being taken in, and is 1,000 miles from east to west, and we have an elevation of 2,041 feet in some sections of the Province. Our fruit districts all lie in the vicinity of the Great Lakes or in the lower altitudes, because it is in them we have the milder climates and the longer seasons.

On this map, I tried first of all to draw a line indicating where peaches are grown. This includes from Hamilton to the Niagara River, a little section along Lake Huron which includes Forest and a narrow strip of country. Then there are isolated places in the Windsor section where peaches are grown. I call that District No. 1. There are a few other spots where peaches are grown, a couple in Welland County and one or two in Lambton County in District No. 2, but it is so limited in area that we may say District No. 2 does not grow peaches.

Q.—Has not this last severe winter proved that the Niagara District is the only peach growing district?

PROF. CROW: I do not know that that is absolutely established. In some of these other localities where proper conditions are taken into consideration, peaches can be grown.

Q.—The Leamington people I understand have lost a very large percentage of their peach trees this last winter?

A.—Yes, I understand they did. I do not wish you to get the impression that peaches grow all throughout this section marked No. 1. It is only in certain districts where the soil is right and where the aspect of the land is satisfactory. I do not think you will find peaches grow anywhere on a south slope. Where you find peaches growing successfully, it is likely to be northerly or easterly in aspect; they do not thrive in the warm, sunny southern exposures.

MR. BAKER: Yes, they do at Cedar Springs?

PROF. CROW: Mr. Baker brings up the only instance in North America where they grow on a southern exposure. There is a section of country at Cedar Springs, a gravel ridge running easterly and westerly, and there is a spot near the lake where my remarks do not count.

I did not start out to talk peaches, but I want to show how this district is delimited. The Baldwin apple has been grown all through this section of country very successfully, and in District No. 2. At the time I drew this map, four or five years ago, I drew a line between Districts No. 2 and 3 to indicate approximately the northern limit of the safe cultivation of the Baldwin. This line follows as you see, the elevation of the country. This line represents the northern limit of the Northern Spy, which is established by the length of season, not by the hardiness of the tree, for the reason it is quite hardy and will grow in the colder climates. I have seen the Spy bearing fruit in Algoma so it will stand a cold temperature, but the northerly limit of the Spy is established by the length of season where the fruit will ripen.

The northerly limit of the Baldwin is determined by the susceptibility of the tree winter killing which takes various forms. I am doubtful as to where the Baldwin can be grown successfully. Formerly I would place it in Districts No. 1 and 2. At the present time the Baldwin has suffered very seriously in Elgin and Kent, and even in Essex.

MR. HARKNESS: Do you know of any instance where Baldwins have been killed when planted on heavier soil? Is it not on the light soils where they have been killed, in Norfolk County and other places?

PROF. CROW: That was not my impression.

MR. HARKNESS: My observation throughout the Niagara District is that the Baldwin on a heavy clay soil, well drained, is reasonably safe, and I would not be afraid to plant it myself.

PROF. CROW: Can anybody give us an example where the Baldwin has been winter killed on clay loam or moderate clay, well drained?

MR. GIBSON: I do not know of many Baldwins killed outright in our district, but a great many have dead limbs. In my own orchard; there are probably half a dozen killed outright and 200 or 300 with dead limbs.

PROF. CROW: Your locality I have marked here in District No. 2. Would you say that Baldwins have winter killed more on light lands in your locality than on the heavier or medium loams?

MR. GIBSON: There is so little light land that I could not say.

MR. LICK: Prof. Crow has raised a question of great importance. To the south of me on heavy clay land, where the cultivation has been extended away into August, an orchard with a large portion of Baldwins practically went out a year ago, but it was weakened by a heavy crop of apples. The fact remains, however, in our section of country, on the lighter soil, the Baldwin is a short lived tree. On the heavier clay it lives in many cases to 50 or 60 years of age. That may be explained by this fact: that on our heavy clay soil a little rain won't start the grass to grow, but on the lighter soils it does. With the young Baldwin trees, we have winter killing caused by black heart on the lighter lands, and often the real damage is done by the late cultivation of the young Baldwin orchard.

MR. PATTISON: With reference to Baldwins in Niagara District, in my own large Baldwin orchard, for 20 years, that orchard which is 50 years old, has not lost a single tree. I know of two others that have lost only a few trees in their time. They are on heavy soil, and I think the Baldwin does much better on heavy soil than on light soil in that locality.

A MEMBER: I remember some Baldwin trees on a sandy loam that had reached a diameter of about 30 to 40 inches, and within 30 rods of them Baldwins were winter killed right straight along on clay.

PROF. MACOUN: According to the evidence here, you can find Baldwins killed on any kind of soil. I fancy if it was root killing, they would kill more on the light land, but otherwise, they would kill more on the clay lands. It may be that the clay lands are the low lands, and the temperature would be lower in these particular places in a very severe winter, and sometimes that would kill on clay. We find a great difference in the elevation.

THE CHAIRMAN: I have an orchard about 70 years of age; most of them are gone, although I have a few left, and I think I killed them by letting them bear themselves to death. Very few would kill until in the neighborhood of 50 or 60 years of age, and with a heavy crop and a cold winter after that crop, they would not survive. They would weaken and die off. I think they can be killed on any land by overbearing.

A MEMBER: Don't you think the sub-soil has a good deal to do with it?

PROF. CROW: Not a great deal; there is no reason why Baldwins should suffer any more from root killing than any other tree, because they are all on practically the same root in the nursery, so that the behavior of the Baldwin with respect to winter killing is probably not a matter of root killing. It is a matter of top killing. What are the conditions where you will get more top killing in the Baldwin? Does it occur more frequently on heavy land or on lighter land?

MR. WAIT: I have some Baldwin trees that are still fairly hardy, but I find a number of young Baldwin trees in that same orchard are dying off from year to year.

PROF. CROW: We can duplicate that experience in Ontario where young Baldwin trees under 15 years of age have winter killed very seriously, and the old trees have lived through. Perhaps it is safe to say that the rate of growth with the Baldwin is the important thing, and the Baldwin that grows very fast is likely to winter kill, while the tree that for the first early years did not bear many apples, and grew slowly, is likely to live a long time.

THE CHAIRMAN: Why do the Baldwins hold the leaves longer than any other variety of apple?

PROF. CROW: The answer to that is probably because the tree grows later than others.

A MEMBER: Most of the Baldwin trees that died in the district a year ago were trees that bore very heavily. I lost 17 Baldwins and I just had 17 that bore heavily. I had 70 or 80 that did not bear and they were not touched. There is another fact: Baldwin trees years ago stood the test better than those at the present time, and I have heard that the root grafting is done by nurserymen on an inferior root than years ago.

PROF. CROW: So far as I know it has been the practice of nurserymen since apple trees were grown in nurseries to use French seedling stock, and they are the ones used to-day. I believe some this year and last year are being grafted on to American grown seedlings, but that is because the French stock has not been available.

PROF. CAESAR: In travelling around the country, I find one thing is certainly correct: that the Baldwin is about the most delicate of all our fall varieties of apples.

PROF. CROW: Can you give us any information on the type of soil which is best suited to Baldwins?

PROF. CAESAR: I do not know that I can exactly, but I have seen large orchards in Norfolk County in which Baldwins were nearly all killed, and they were not on sandy loam, so far as I recollect, but on clay loam. There is one orchard at Delhi, 800 trees, and nearly all practically killed in the winter of 1913-14. Yet up in Middlesex and Wardville, the Baldwin trees are the very hardiest, and around Ingersoll they are quite hardy too, so it is a difficult problem to solve. Any man can settle this thing pretty well for himself by examining the various orchards in his own district. My warning would be to be very careful in setting out Baldwins except in districts which are known, from last year's experience, to be good districts.

MR. CHAMBERLAIN: In deciding on which is the best variety to grow, why not take into consideration the market value of the apples?

PROF. CAESAR: That does come into consideration. The Baldwin cannot compare with the Golden Russet. The Golden Russet is now the highest priced apple in our exports.

PROF. CROW: I quite appreciate Mr. Chamberlain's point, with reference to Baldwins, but at the same time are we safe in planting it at all?

MR. LICK: I am firmly convinced the Baldwin is the most delicate tree you can plant. I have seen more injury to the Baldwin trees than any other variety of apples I know. The Baldwin is not a variety to deal with unless you know what you are doing. If you find the leaves hanging green in November or late October, make up your mind, if a cold winter follows, you are going to suffer a loss which will take three or four years to get over, and then the damage exists until the trees go to pieces. I have made more money out of Baldwins than any other apple. I would not mind what the surface soil was if there was good, solid clay beneath.

PROF. CROW: There is one condition which may be pointed out with respect to Baldwins and the lighter soil. Beneath some land which appears to be pure sand, when you go down three or four feet you find a layer of hard pan perhaps four or five inches deep, but that may be enough to shut off the drainage, and that I think is responsible for quite a number of cases of winter killing that have occurred in that type of land. Would you recommend Baldwins to be planted in your county, Mr. Johnson?



MR. JOHNSON: I have been trying to hide behind this post because about fifteen years ago I recommended the Baldwin entirely. I was one of the apple growers at that time that knew all about apple growing. I would not recommend the planting of Baldwins now. Of course there are good points both ways. In Norfolk County I have picked Baldwins off sandy land from Mr. Schuyler's orchard. The Baldwins were very nice and he had practically no winter killing two years ago. I know of other orchards in the county that were entirely wiped out. There is a reason for that. Very often a good many of these orchards are on hard pan bottoms, and these trees have wet feet; they do not get the proper drainage. I would advise anyone who wants to speculate to grow Baldwin apple trees.

Q.—Were the orchards that died that winter cultivated during the summer?

A.—For the past few years they have been. My experience has been the Baldwin is the best yielder we have, and we make more money out of it, but I have seen so many orchards turn out badly, that I do not care to recommend it.

MR. PRITCHARD: Prof. Caesar says he does not cultivate at all, and it is easy to get things mixed up a little. I have seen trees that were not cultivated at all that did not winter kill.

A MEMBER: He uses a lot of manure and does not cultivate.

MR. FISHER: I have been congratulating myself that all the fruit growers of Ontario have got cold feet with Baldwins, and I was going to start in planting them.

MR. WATSON: About 45 years ago I planted 80 trees, and these trees are bearing full yet. They are on clay loam soil.

PROF. CROW: There is one question that we all want information on, and that is with respect to fertilizers for fruit trees. We know, as has been abundantly brought out here, that a tree which exhausts itself in overbearing is a weakened tree and likely to suffer from winter killing. We know also from results that have been secured, that our apple trees suffer more for lack of phosphoric acid than any other element, and the potash that has been used in orchard and fruit farms generally has not given results. There is some strong evidence to show that phosphoric acid is important in the nutrition of the fruit tree. Is it not just possible that the proper feeding of an apple tree may have something to do with lessening winter killing which follows exhaustion of the tree? An apple tree that is supplied with phosphoric acid is likely to suffer less from this type of winter killing which follows the heavy crop than the apple tree under the same conditions on soil deficient in phosphoric acid.

In regard to this discussion with respect to Baldwins, I would bring out this statement. A number of fruit growers have told me of recent years that from their experience the Baldwin is not the best money making variety. A number of growers have told me the Rhode Island Greening is more profitable than the Baldwin; that is to say, the Rhode Island Greening is a more regular bearer, a hardier tree than the Baldwin, and while it does sell at a discount for lack of color it bears so much more regularly, and is a good bearer, that the growers put it ahead of the Baldwin for a money making variety.

That point may be worth bringing out in this connection because we are trying to get at the most profitable variety. I think on the average, the Rhode Island Greening will make more money than the Northern Spy, because the Spy is such a difficult apple to grow and handle.

In addition to the Rhode Island Greening, the varieties I would list as most profitable—that can be banked on with greatest certainty are: The Duchess,

particularly for the southern districts. There is a wonderful opening for the planting of apples in the southern part of Ontario. Look at the map and figure where we are with reference to the balance of Canada and to our markets. Apples can be grown there and put on the market earlier than from any other part. Then there is the Alexander; the Wealthy is also an excellent money maker when properly grown. The best single money making variety in my opinion is the old Snow Apple. The Snow will bear more apples and sell for more money than anything else that can be grown. The McIntosh is being planted everywhere in every important apple districts, and the Northern Spy. The Snow apple is not being planted anywhere extensively; it is a heavy bearer and fairly regular bearer. The McIntosh is said to bear more regularly, though I am not sure as to that, but the Snow has one great merit which the McIntosh lacks, that is, it sticks to the tree and does not fall.

Q.—You have not touched on any winter varieties except the Spy and the Greening?

PROF. CROW: If I went any further I would probably say the Ben Davis, and somebody would shoot me.

PROF. MACOUN: The Rome Beauty is one of the few commercial apples.

Q.—Is it any better than the Ben Davis?

A.—Yes, a great deal better.

Q.—Has the Rome Beauty fruited at Ottawa?

A.—Yes: it was killed last winter but it has fruited for several years. It is a very good size.

MR. DEMPSEY: We have grown the Rome Beauty a very good size.

A MEMBER: Are any new Western varieties growing and producing in Ontario?

PROF. CROW: I suppose that means the Jonathan and Winesap and Delicious, and so on. I do not know of those varieties being grown in any large way in Ontario. Perhaps someone from Essex or Kent may know something about them.

MR. MAYCOCK, Wentworth: I would like to say in regard to the question of Rome Beauty, there were several hundred brought from the Coast and planted in Ontario, but as yet they have not fruited, and the same applies to the Winesap. It is the most vigorous grower I have. They are four years old.

MR. JOHNSON: I know a few Jonathan trees and a few Winesap trees. Mr. Maycock is right that the Winesap will show vigorous growth, but when you come to harvest it you will find the texture of the apple very solid and it is small in size. In the West you will find the Winesap an especially nice sized apple. I notice that also in our own section with regard to the Ben Davis. The Ben Davis is grown West to far better finish than what we have here.

You will find that you will not get the same quality in the Western apples when grown here. I have handled apples in the West, and I have seen them growing in the East, and I believe there will be some disappointment.

We planted a few Scarlet Pippin in the County of Norfolk, and they started into bearing nicely this year, and from my observation of them, I believe they will be a profitable apple to plant. Of course I may change my opinion of them in a few years, but they are a beautiful apple and equal in color to any grown on the Pacific Coast.

I also want to join with Prof. Crow in the varieties which he recommends. Our apple orchard has 10 acres of Greenings, 20 of Baldwins, 5 of Spies and 17 trees of Alexanders. Our Alexanders only bear every other year. Our Greenings have been the most profitable apple in our orchard. Our ten acres of Greenings

will yield more profit per acre than either the Spy or the Baldwin. Some of you might say the West does not want them, and there is little or no market for them, but you will find a keen market for the Greening. We have shipped large quantities of apples to Winnipeg, and we have compelled them to take as high as 35 per cent. of Greenings in our cars. I want to go further: We have yet to receive any complaint on a barrel of Greenings, and I cannot say that of Spies.

MR. DEMPSEY: As to the Winesap all that I have seen grown in the County of Northumberland have been too small. We get the quality and the color but not the size.

PROF. CROW: I think the only place they can be grown with any satisfaction is in the southern counties where the summer is long enough to give them size. The same thing will apply to the Delicious. The Delicious tree seems to be about as hardy as the Spy, but it is a long season apple.

MR. MAYCOCK: I understand that Mr. Graham has one or two Delicious trees that have been producing very excellent fruit.

MR. GIBSON: The Stark tree is a vigorous growing tree, and the packers will put up more barrels in a day than any other variety. The apple is in demand in certain markets—in Scotland, Quebec and Montreal.

PROF. MACOUN: This discussion just shows how short we are of good varieties of apples in Ontario, and it shows how necessary it is that our stations should go on originating new varieties of fruit. We have named over 100 varieties of apples, but there is not a single one of these that we have boomed. We are having them tested out by the colleges and private individuals, and it may be 10 or 15 years before they come to the surface. I feel sure we have among these many good summer and fall apples. We believe we have apples that will out any summer or fall apples that we have at the present time, but we do not know enough about them to boom them. For winter supplies, I have about 25 seedlings of Northern Spy: they look like Spies and taste like Spies, but some have a different season and some have the same season as the Spy. So we have a lot of new things going on, and I believe the time is coming when we will have a lot of new, good apples. The difficulty in the past has been that we have had to depend on varieties from countries of a different climate from our own, but I hope 25 years from now, all the apples we grow will be of Canadian origin.

PROF. CROW: I have a sample here that Mr. Smith brought to my attention this afternoon, grown in Prince Edward County under the name of 20th Century. I would like to know its right name. It is a long keeping apple of fair quality, much better than the Stark or Ben Davis, and of fair color. Its productiveness is good, and it is something we have been looking for. If this variety has a proper name we ought to know it: if it is a new thing we ought to know that also.

Q.—What flavor has it?

A.—A little of the flavor of the Spitzenburg. It is not a rich flavor at all.

Q.—What about the Gravenstein?

A.—I like it very well, but it has winter killed more than I expected. It bears every year.

MR. MAYCOCK: Do you know the Peerless?

PROF. CROW: I know the apple, but I do not know much about it. The season is about the same as the Wealthy, and it will keep just as long. I had a letter from a leading Ontario nurseryman about a month or so ago on varieties and he put it this way: I am interested in knowing what you Government fellows are going to recommend, because one of these days you may go to work and upset

some scheme of varieties that the nurserymen have been growing for five years. And he ended up by saying, "That is the reason there are so few good Christians among nurserymen."

Q.—What about the Blenheim Orange?

A.—I would like to know more about it. It takes a long time to come into bearing.

MR. CASTON, Craighurst: In regard to the Peerless apple it is said to be a seedling of the Duchess, but it is a larger apple, and a very fine, well colored apple, and I think it is without equal almost, among all the fall apples. Like the Duchess it does not make very much wood growth, but it bears every year. It is a tree that will stand a very great deal of manure and is very hardy. Last year did not make any difference to it at all. The Blenheim Orange were all killed in our country. With regard to the Baldwins, I have a few for a good number of years, but last winter knocked them out: the same way with the King. The best showing from last winter was the top-grafted Spy. I do not go back on the Spy, because it is an apple everyone wants; it is the king of apples. Up in our section of the country it does not get ripe or mellow until April. I think the Spy is our best winter apple.

PROF. CAESAR: There are a lot of people here to-night who want to know what variety would be recommended for their districts. I think it would be a good plan if one of the best men in each district would state what apple would be best suited for that district. Prof. Macoun might start with the Ottawa District. Take up the districts represented by the Fruit Growers Association, or take the districts as they are on the map.

PROF. MACOUN: For our District, No. 5, we recommend the Duchess, the Wealthy, Fameuse, McIntosh and Snow. The Scarlet Pippin which grows down near Brockville and Kingston won't keep with us at all. It was killed out last winter and in the winter of 1903-04.

THE CHAIRMAN: You could not plant any later varieties?

PROF. MACOUN: No, the season is not quite long enough. We fruited the Northern Spy, but the season is not quite long enough.

MR. DEMPSEY: In our section there are about 30 varieties that succeed, and which are good paying varieties in the different soils they are put on. In my own orchard I would start off with Duchess. I would have some Astrachan, Wealthy, Fameuse, McIntosh, Greening, and there are certain sections where the Baldwin is doing exceedingly well. The Seek-no-further is doing well. Ontario, up to last winter, was doing remarkably well in several places, particularly my own orchard. Last winter it killed out. The Spy, Ben Davis, Stark have all been money apples.

MR. GIBSON, Newcastle: My list is much the same as Mr. Dempsey's, but I would like to add one or two varieties so as to extend the picking season. Starting with the Duchess, I would have two or three pickings of them. Then the Bartlett pears would be ready to pick, followed by Alexander apples, and Wealthies. The Gravenstein we tried, but it failed last winter. I would recommend the Blenheim, Ribston, and to fill in between fall apples and early winter apples, I would like Greenings, Fameuse, Snows, and McIntosh. Snows should be thinned early to get size and color.

THE CHAIRMAN: In planting an ordinary orchard of about 10 acres, you would not put so many varieties in, would you?

MR. GIBSON: Perhaps not so many varieties unless one wished to keep a little gang of pickers going steadily all the time. For winter apples, Baldwins are

good and Spies, Starks, Ben Davis and Golden Russets. I believe the Golden Russet and the Spy are the last varieties to pick. Let them both have time to develop, and they are the apples that will bring the top of the market.

MR. WAIT, Cobourg: I think that list covers everything in our locality. My experience with the Golden Russet is that it succeeds well on low ground. The Ben Davis is our money maker. There is another variety that has probably given me more money, and that is the Tolman Sweet; there is a bigger demand every year for them, and they command the same price as the Spy. They are practically all No. 1's, and very hardy.

MR. LICK, Oshawa: The list of varieties given by Mr. Dempsey are just about on the right lines. Of course if you are going to plant an orchard, there are three or four things you have to take into consideration: whether you are going to plant varieties that have heavy crops and require thinning, or whether you are going to that trouble. The man who does not want to thin has no business planting quite a few varieties named here to-night. The Snow and the McIntosh must be thinned. The Tolman Sweet was named and after all is said and done, there ought to be quite a few thousand Tolman Sweet trees that would come into bearing at the present time because the need of them is very great. What we can get for No. 1 Spies, we can get for No. 1 Tolman Sweets, and that is a dollar a barrel higher than for Baldwins. There is a possibility of planting inferior quality apples for the next few years; the Ben Davis and the Stark are in the same line almost, and we must if we are to look to the future aim for a higher quality apple. There are several varieties of apples that can be grown successfully, but for the ordinary man to put the Wagner on good land and expect to get any satisfaction out of it is impossible.

Q.—What are the six best money makers in your country?

A.—For the next few years the man that has good thrifty, healthy Baldwin trees will make as much money off them as anything else. The Snow and the McIntosh are good.

Q.—What about the Spy?

A.—The Spy certainly, but of course the Spy must be planted on a thinner soil than what the Baldwin requires.

Q.—Rock bottom?

A.—I do not know your rock bottom.

Q.—You mean even if it is well drained clay soil?

A.—I do not think under average conditions you will get them colored sufficiently to suit. That is especially so nearer the lake.

If I were sure that I had right at my hand a cold storage plant to take the Greenings within 24 hours of the time they were picked, I would say Greenings with all my heart, but without it, I would not feel justified to put Greenings in that list.

Q.—What about the Wealthy?

A.—If a man is going to grow Wealthies he has got to thin or lose.

Q.—What about the Duchess?

A.—My impression of the Duchess has always been you could not pick a car load of them within ten miles square, and there would not be any use planting them unless there was a great deal of co-operative effort made. The Alexander is a better money maker than the Duchess.

Q.—What about the City market business for the Duchess?

A.—I am looking for an entire change in our work for marketing apples;

it is coming with the motor truck. Toronto is not a good market for anything but the highest class of apples. There is another factor coming into this country, and that is the Jewish element. They work cheaper than the rest of us Canadians, and they get a lot of work done in an awkward way, but they seem to know exactly what they are doing, and it is a pity how cheaply they get these apples and bring them to the city. Right in Oshawa they have developed a market for apples that we could not sell at all, as we used to a few years ago, like the Bellflower. The Jewish element is doing better than any co-operative association could do and that is going to be a bigger factor as time rolls on.

The prospects of what the market will be for the future is largely the determining factor of what we should plant to-day. With Snow and McIntosh and Spy, we can command a market on the other side of the line that is worth while, and that is one reason we should look for high quality, but we have not a real high quality, long-keeping apple that we can put on the market for March, April, May and June, that will stand out like the Western fruit we are getting. We have a couple of apples in our orchard that are going to be successful; one is called the American Blush; the trees are only beginning to bear nicely but we get repeat orders for these apples.

It is a slow job to get what we want. If we could have somebody who would tell the people of this country what to plant with the same wisdom that the men exercised who planted orchards where I lived 40 or 45 years ago, and who knew what would pay best for the future, that man would be worth the biggest salary of any man in the country. The haphazard way of planting varieties of apples in our section of country is simply disastrous.

Q.—Don't you think there is a limited demand for the Tolman Sweet?

A.—The West is asking for it.

PROF. CAESAR: It is very healthy and will stand very much better than the Greening or even the Spy, and it does not scab.

MR. FISHER: There are one or two features about orchard planting that have not been dealt with and which should be kept in mind, and that is the question of planting certain varieties of apples as fillers in an orchard of standard trees. For fillers I would plant some of the varieties named: the Duchess, the Wagner and the Ontario, and I have been planting some Wealthies, but I do not expect they will ever make very much money because in the average year they run too small. I would place these varieties in the ranks of the fillers.

Then I would also have in view, varieties extending over the season so we could keep our help employed, as Mr. Gibson says. Starting with the Duchess, then Bartlett pears, and Ribston Pippins, which succeed remarkably well in our district, and then Alexanders and Wolfe Rivers, we come to the early winter apples. We grow a few Kings, but I do not know that they are very profitable, except to have a few apples to sell; then we grow some Snows and McIntosh. I would never recommend anybody to plant trees, but I am telling you what we do. We plant Snows and McIntosh, then Baldwins, Stark and Spy. The Ben Davis does not do as well in our district as in a good many districts. I would not plant Greenings. We grow Golden Russets, but if anybody came in to-night and took 25 or 30 of these trees away, I would not ask who took them, because they do not produce enough fruit, and they run up into the air. The Tolman Sweet can be easily over-produced. It has a faculty of dropping, and it is so very thin-skinned and delicate in color that the finger marks of the picker will show on it.

Q.—What kind of stub do you use for top grafting?

A.—Any good sound tree that is thrifty I think would answer that purpose. We have been brought up with the idea that the Tolman Sweet is the thing to graft any kind of apple to, but I am inclined to think that the only reason for that is that there is such a good union between the boughs and the trunk, but there are other varieties of apples that will do equally as well.

Mr. SADDLER, Middlesex: My list would be Spies, Baldwins, Greenings, Tolman Sweets, Seeks, Snows, Wealthy, McIntosh and King.

Mr. JOHNSON: About ten or twelve years ago, I began to set out apple trees in Norfolk County. The first orchard I planted out was Snows and McIntosh, alternate. The next orchard planted was Baldwins; the next Hyslop and Nonsuch. Another man planted out about 15 acres of Snows and Baldwins. As to the varieties which I would recommend; I find that the Hubbardston Nonsuch to be a good apple—a good hardy tree, and early bearing. I would plant Yellow Transparent and Duchess, and the Wealthy and Alexander—there is an apple well worth planting; we have 17 trees that have netted us on an average of \$22.50 per tree after paying all expenses of picking and packing. The Snow apple I would underline several times. That is about the best apple to plant; it is wanted on every market; there is an unlimited demand for the Snow. All our Snows went this year to the United States. I would also recommend the Greening, Tolman Sweet, some Baldwins provided you can get good air drainage and good soil drainage. I have learned a great deal about air drainage by spending several winters in Florida, and it is one of the very important things in growing fruit trees. And I would recommend the Spy. I would not prune a Baldwin from the time it comes into the orchard; Mr. Rep of Glasgow, New Jersey is the best grower of apples in the eastern part of the States, and he has made a success of putting out his trees and not pruning them at all.

Prof. Crow: I would like to point out to you one variety that has appeared in all these lists, and that is the Snow. The next in order is the McIntosh, then the Wealthy, Alexander and Duchess. Are we getting near a list of varieties that can be banked on anywhere in the Province of Ontario?

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## CO-OPERATIVE EFFORTS AT BUYING AND SELLING.

JAS. JOHNSON, SIMCOE.

I may say that, at heart, there is no one more interested in co-operation than I am, but my trouble is to get it out of my heart and give it to the public. Our organization at Simcoe, that is, the Norfolk Fruit Growers' Association, has been going along very nicely since 1916. Our aim was to build up a quality organization, both quality in members and quality in fruit. You may wonder what I mean by quality in members. In order to have unity in an association you must in some way extract out of them selfishness and indifference, and you cannot have a successful organization unless you can get rid of these. The membership must necessarily be made up of honest men. I can say this, that in nearly every instance if there has been a knocker in the Norfolk Fruit Growers' Association, I can trace dishonesty. The very men that will go on the street and complain about the organization, while they were there to get all the benefits of the organization, will be the men that will put up a crooked barrel of apples.

Therefore it has always been the aim of our organization to try to build up quality of men and quality of fruit. (Applause.)

MR. LICK: I certainly want to emphasize what Mr. Johnson has told you, that it is the character of the men that will make a co-operative association a success and nothing else can or will.

I notice what he said as to the dishonest packing of apples. Their method differs from ours; we pack all our apples in the fruit house. Our kickers are the men that bring to us everything that grows on the trees or falls on the ground, and grumble because they do not get as many No. 1's or 2's as the others who bring to us nothing that drops on the ground while they are picking.

I want to deal with the wider phase of this question. A number of years ago there was organized for the betterment of the apple industry, particularly of this Province, the Co-operative Fruit Growers of Ontario. That organization has done no great big thing, and under the existing conditions of the last two or three years, it is perhaps just as well that no big thing was attempted or done by it. But it seems to me that the time has come when the apple end of fruit growing of the Province of Ontario must come largely under the control of a co-operative organization—a central organization. The future of the orchards of Ontario will depend very largely on the co-operative associations, and the larger growers co-operating together through our organization or re-organization or arranged in any way that seems best to make a live factor for the development of markets, setting of reasonable prices, advertising of fruits and for the general control of the packing and distribution of our fruit to the very best advantage.

There was great uncertainty and doubt in regard to the opening of the British market, and I have discovered through my correspondent in London with whom we did certain business, the real reason why we did not get more definite information that those who were dealing in fruit in England did not know exactly where they were standing themselves, and a very peculiar situation has arisen. This firm wrote under the date of October 25th to this effect:

"If you can get better prices for the larger and finer apples in your country, send us the lower grades, because they will bring a minimum price of 70s. if they land in good condition."

That means that somewhere around \$11 or \$12 would come back to this country for these apples.

With these facts in mind, I know and fear that the future of our apple industry may be discounted on the low average quality of fruit that is going to the English market under existing conditions. I tremble for our future if we are not in a position to do some advertising on our own account.

It does not advantage us when the price to the final consumer gets too high, because the demand lessens, and cuts down our prospect of having a market in the future. We as fruit growers are vitally interested in the fruit until it reaches the hands of the consumer. If they are not satisfied, other people are going to supply the market. All you have to do to prove that is to go down the street and see the imported apples that are being shown in the windows. We have got to waken up. What are we going to do?

Last January we called a meeting of those specially interested in the Co-operative Fruit Growers. We discussed the situation, and we decided that the time had come when we would invite all co-operative associations and all the larger growers to plan together and re-organize, and have a wider and deeper



and broader aim so far as the central Co-operative Organization is concerned. I believe it is in the interest of the Province of Ontario. (Applause.)

PROF. CROW: I understand the State of Michigan has sent a man to England to work up the market for the Michigan apples. One of their principal apples is the Northern Spy (one of the few points outside of Ontario where the Spy is grown extensively) and they are already on their way to find a market for these apples.

MR. TERRY: Our Association has done nothing co-operatively in regard to selling. All we have done is in the buying line. We purchase probably \$20,000 worth of crates, baskets, berry boxes, etc., a year, and have effected a considerable saving in money.

MR. GIBSON, Newcastle: Our Association is one of the oldest in the Province of Ontario, yet it is one of the very smallest. We started with a membership of seven, and for quite a number of years it was still, "We are seven." We have now grown to ten members. We have been fortunate in having a fair crop of apples year after year. Our lightest crop was two years ago when we packed 11,000 boxes. It has varied between that quantity and 8,000 barrels. This year we had 6,000 barrels, and 5,000 or 6,000 boxes. All the members pick their apples, and bring them to the fruit house, and we employ the best packers we can get. We like the box packing very much, and our packers have learned to put up a good box package. I heard Newcastle apples in boxes were being sold as Washington apples, which I took as quite a compliment. I should like to see the Washington apples not commanding all the best trade of this country; we should hold a share of it, and we are going to try.

Q.—How do you draw the apples from the orchard to the packing house?

A.—Usually in barrels on a spring waggon.

MR. CHAPIN: There have been some remarks already made which are in line with what I said three years ago when I nearly started a riot by the remarks I made at a meeting of this kind. I prophesied that unless some change were made in the packing of Ontario apples, that the box apples would take the Toronto market from us, and from Mr. Lick's remarks that seems to have come true.

I think co-operation is a good thing for the fruit growers, and I cannot see any argument against it if it is properly carried on. The main thing is to grow better fruit and pack it in an attractive way and raise the price.

With regard to the export business, in which I am more directly interested, I do not like the letter that the London firm sent Mr. Lick. I think that is bad advice, to tell us to keep our good apples home and ship inferior ones to England. The market there this year is an unusual market, and No. 3's have been selling at the same price as No. 1's and 2's, but we need not expect that to last very long. I honestly believe that prices in England from this out will be higher for apples than in the past for this reason: that the masses of England are going to receive better wages than in the past, and they will have more money with which to buy apples. People have got used to paying good prices for everything during the war, and I hope prices will stay up. The English market has not lowered a shilling yet, and the apples are practically all shipped.

MR. HODGETTS: In connection with these co-operative associations, the officers, especially the managers, seem to be a modest set of fellows. I know the history of a good many of these associations, and during the extreme conditions of the past three years, a number of them have been carried on under the systems adopted before the war. Some associations have made money for their members

by buying heavily of packages of all kinds. Other associations are both buying and selling co-operatively. In the Niagara District they have made a great success of it, and we are very anxious at the present time that any new associations starting in or any older associations that have been up against it during the last three or four years, should receive every encouragement from the success of these other associations. For that reason we put the subject on the programme. There is no doubt about it, there are quite a number of successful associations in the Province both in buying supplies or selling their fruit, or both, and for any association that is being organized, if they start properly with the quality of men Mr. Johnson mentions, there is a great future for them, just as for these associations that have been working under the extreme conditions of the last few years.

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### RECENT AMENDMENTS TO THE INSPECTION AND SALES ACT.

C. W. BAXTER, DOMINION FRUIT COMMISSIONER, OTTAWA.

This is the first opportunity I have had to meet with the fruit growers of Ontario since I received the appointment to the position of Fruit Commissioner, and I would like to take advantage of this opportunity to thank all my many friends among you who have seen fit to give expression to your confidence in me to care for your interests consistent with the duties of the Fruit Commissioner. It has been my great privilege to be very closely connected with the late Mr. Johnson since he took office at Ottawa, and I can assure you that it was one of the brightest spots in my life. What Mr. Johnson has accomplished was referred to in the report of the Historical Committee, and I do not think I can add anything to it more than to say that many things which he planned he was unable to bring into being on account of the war, and it will be my great pleasure to bring these into being so far as is consistent with our changed times.

I would also like to refer briefly to the policy of the Fruit Branch at Ottawa during the past and at the present. When the Fruit Branch was first formed, there was no definite policy along educational lines, but the Fruit Branch endeavored to couple with its duties of the enforcement of the Fruit Marks Act as it was known then, a certain amount of educational work. This was continued on for some years until the passing of the Agricultural Instruction Act, and the agricultural grant which placed the educational work in the hands of the Provincial Departments and our Experimental Farms and Experimental Stations.

For the future we hope to continue our supplementary work. We can only speak of it as supplementary work because we, having a considerable staff moving about the country, are able to do a good deal of missionary work, and we will be glad to continue that. But the special work of the Fruit Branch at Ottawa will be marketing and distribution; coupled of course with that is transportation. You cannot separate transportation from marketing and distribution.

The Secretary has asked me to discuss with you the recent amendments to the Inspection and Sales Act as a result of the conference held in Ottawa last spring. I have prepared a little summary here in printed form, which may be of some value, but I think our mutual interest can be served best by just referring to the amendments.

AMENDMENTS.—In drawing up the amendments we aimed to put these in terms which would be easily understood, but notwithstanding this, I realize that

to many the practical interpretation is not altogether clear, and I have distributed copies of these amendments which I shall be glad if you will refer to as we take them up in the order in which they come.

**CULLS.**—In Section 319 no change has been made except in the definition of culls. The former definition was very indefinite, inasmuch as culls were described as having defects which rendered them unmerchantable. This was very unsatisfactory because it was difficult to say at what stage the apple was unmerchantable prior to that of absolute decay. In the present definition this has been eliminated and the defects are specifically stated, namely, “not more than 15 per cent. of the surface of the apple may be affected by scab, insects, cuts, bruises, or any other causes, or that the skin is broken so as to expose the tissue beneath.”

**IMMATURE FRUIT.**—There has been added to this clause, however, a section dealing with immature fruit. During the past few years there has been a marked increase in the quantity of fruit shipped which was immature. I refer specially to grapes and plums. So marked has this been in the case of grapes, that consumers turned from the Canadian product to imported fruit from California. Some of the excellent varieties from this State come on our markets about the time the Canadian crop is being offered. Some shippers have had the mistaken idea that it is an advantage financially to have their grapes on the market very early in the season. This, of course, would hold good provided the fruit was properly matured.

In dealing with this matter at the recent conference of Fruit Growers called to discuss the proposed amendments, it was pointed out that it was desirable, for some purposes, to ship certain kinds of fruit at a stage which might be called immature, and provision has been made for this by the insertion of a clause which provides that the package must be plainly marked with the words “immature fruit” before it is taken from the premises where it is packed.

You will note that immature fruit is described as “not ripe enough for dessert purposes and which will not attain such condition after being picked.” This is not to be interpreted to mean that fruit is to be at its best for what is commonly known as dessert purposes, but it is intended to eliminate fruit which is so immature that it never becomes edible as it usually shrivels and dries up. In many cases the flesh becomes tough and the fruit cannot be used for the purpose for which it is commonly purchased.

**MARKING OF FRUIT.**—Section 320 deals with the marking of fruit. Considerable changes have been made in this connection. You will note that the designation of grades are the same in number, but the Fancy grade mark has been dropped and Domestic substituted.

With regard to the elimination of the grade mark, Fancy, this was inserted in the amendments of 1912 to meet the wishes of the growers in British Columbia who at that time were competing almost entirely with fruit grown and packed in the Northwestern States and branded with the grade Fancy. Experience, however, has demonstrated to the British Columbia grower that the requirements for No. 1 grade, if adhered to, ensures a package of fruit which compares very favorably with fruit marked Fancy by their competitors to the south and, in fact, compares most favorably with their highest grade Extra Fancy.

There has been very little attempt to pack the Fancy grade in Canada, because the requirements for this grade were that the fruit should be 100 per cent. perfect; and while we have been producing a small percentage of fruit which

would meet with these requirements, it was found that by removing this small percentage of perfect fruit, the quality of No. 1—although perhaps meeting the requirements of the Inspection and Sales Act—greatly detracted from the appearance of the package as a whole. For these reasons the designation Fancy was dropped.

I shall not stop to discuss the new grade mark Domestic as that can be dealt with under grading.

In the matter of re-packing fruit, this is a common practice among dealers, and in many cases has reflected upon the original packer if his name appeared on the package. When it is necessary to re-pack fruit either in a closed or open package, the person re-packing—if he is not the original packer—must completely remove all original marks and conform to the requirements of Section 320 of the Act as though he were the original packer, and as such is responsible for the grading.

With regard to open packages. Prior to the amendments it was not necessary for the packer to place his name and address on the package, but the advisability of doing so has been a matter which has received considerable attention for some time. In the administration of the Fruit Marks Act, the Fruit Branch has experienced a great deal of difficulty with open packages when there was no mark to designate the actual packer; and while we are pleased to state that the overfacing of closed packages has been almost entirely eliminated, this is not the case with open packages. In fact, the last few years have shown a marked increase in the overfacing of these.

Some objection was raised to placing the name on the package, the reason being that certain dealers would be advertising the products of others, and the matter was considered by the Conference of sufficient importance to recommend that provision be made whereby any co-operative association or wholesale dealer may have the package marked with his name although he is not the actual packer; but it is required that the package must also be marked with a number or some other mark approved by the Minister of Agriculture which would designate who the original packer is.

There have been no changes made in the regulations dealing with the importation of fruit into Canada.

**DEFINITION OF GRADES.**—This was perhaps one of the most important matters that came before the Conference. As we have already stated, the grade mark Fancy has been eliminated. No change has been made in the definition of No. 1 grade. It is worthy of note that this definition, adopted many years ago, has proved so satisfactory that no change was deemed necessary.

It is difficult to deal with the definition of No. 2 grade without incorporating the new grade Domestic. A few years ago at the annual meeting of your association, the question arose as to what we should do with our fruit of large size which was slightly affected with scab or injured from some other cause. On account of the indefiniteness of the requirements for No. 2, and our No. 3 grade being undefined, there was a tendency to include this fruit in the No. 1 grade, which resulted in a violation of the Act. Because of the unsatisfactory definitions of Nos. 2 and 3, it was found that in order to receive a fair return another means of marketing this class of fruit was necessary, and the crate which is an open package and at that time did not have to be marked, offered a solution of the difficulty.

Prior to the amendments, the great difficulty with the No. 2 was that the defects were described: "Such as will cause material waste." Here the question

of fungus came up and no interpretation of this seemed to be satisfactory. In fact, so unsatisfactory was our No. 2 grade that it was difficult to sell it. The new grade known as Domestic shall include apples of No. 1 size for the variety, sound, and not less than 80 per cent. free from worm holes, but may be slightly affected with scab and other defects. It has been intimated that there is a slight difference of opinion as to just what the proper interpretation is and what might be meant by "slightly affected with scab and other minor defects." The definition states that apples packed under this grade "must not include any culls," and as the definition for culls states that "not more than 15 per cent. of the surface may be affected by all kinds of defects," therefore "slightly" could be interpreted to mean a very great reduction in the defects from that noted in the definition of culls. The example given in support of the new grade Domestic, was that of an apple which was No. 1 in size, with or without color, but which had one or two small scabs, healed stings, or some other very minor defects which disqualified it for No. 1.

The term Domestic used to designate this quality of fruit is suggestive of the place it should fill in our home markets, and if the definition is properly adhered to, should prove to be one of the most popular grades. There is no doubt that the wording of the Act does provide for some slight variation and to a great extent the popularity of this grade lies in the hands of the packers.

With the changes made in the definition of No. 2 which eliminates scab and other defects except the total tolerance allowance of 15 per cent., we have two grades, Nos. 1 and 2, which may be safely considered as fruit which can be stored with a reasonable assurance of it keeping the full commercial life of the variety. This should inspire confidence in Canadian packed fruit on our export markets.

The amendments now define No. 3 grade which must not include culls; and as culls are defined, this will eliminate rubbish which has been so frequently marketed under this grade.

In the matter of violations. In the past it was only possible for the inspector when he found packages overfaced, to mark them "Falsely Packed", and if he found them below the grade mark on the package, "Falsely Marked". In many cases this conveyed very little to the purchaser but the amendments now provide that where a package is found to be fraudulently filled, or where the face does not give a fair representation of the contents of the package, the inspector may mark the package "Overfaced;" also, where the fruit is found to be packed not in accordance with the grade mark, he may mark it "Below Grade," or erase the grade mark and place thereon the proper grade mark; that is to say, where an inspector finds a barrel of apples graded No. 1, and the fruit is not up to the quality of No. 1, he may erase No. 1 and mark it No. 2, Domestic or No. 3. This is of considerable importance as it affords protection to the purchaser and to the packer. Cases are not infrequent where fruit marked No. 1 has not been up to the requirements of that grade, and if the inspector simply marked the words "Falsely Marked" advantage was taken of this, but under the amendments the fruit is sold on its merits.

**STANDARDIZATION OF PACKAGES.**—Many changes have been made in our fruit packages. Some of these will interest fruit growers in Ontario very little inasmuch as they are seldom used here but are the popular packages on the Pacific Coast. The changes of greatest interest to Ontario fruit growers are in the apple barrel, apple box and crate. When the barrel was first defined, a minimum capacity of 96 quarts only was required. Ontario at that time was using a barrel of larger capacity. We therefore had practically only two sizes in use in Canada, the 96 quart barrel in

Nova Scotia and a larger one in Ontario. N. S. has, up to the present, held to the 96 quart barrels with very little variation, but in Ontario during the past few years, there has been a number of varying sizes due largely to the lessening of the bilge.

**BARRELS.**—The question of the adoption of the standard barrel for Canada, has been a matter for discussion at the various fruit conferences, but N. S. was reluctant to agree to any change until the United States adopted a standard barrel, and because some of the States do not permit apples to be sold in any other size. Another reason why N. S. did not desire a change was that growers and shippers had established a reputation in the London, Eng., market, and they considered that exclusiveness of package was of some advantage. If such ever existed, it disappeared during the past few years as the returns have shown and N. S. fruit growers were the first to recommend the adoption and standardization of the so-called American barrel of about 100 qts. capacity.

The use of the standard barrel becomes effective on June 1st, next. There is no doubt a number of barrels of the old style are still in the hands of growers, and we hope before the packing season opens to provide for the use of these as it is the wish of the Department that we shall adopt the standard barrel without loss. This may result in the identity of the source of the fruit becoming unknown owing to the fact that all apples hereafter packed in barrels, whether grown in Canada or the United States, will be in the same sized package. In order that we shall preserve our standing in the markets of the United Kingdom, I would recommend that in addition to the marks required by the Inspection and Sale Act, the words "Canadian apples" should appear very prominently on our barrels and boxes.

**BOXES.**—In Ontario, a comparatively small portion of the crop has been packed in boxes although the number is on the increase. Heretofore our apple box, like our barrel, was of minimum dimensions and applied to export shipments only, although it was generally recognized to be a standard box for both home and export markets.

The question of the standardization of the apple box has been a very live question in B. C. for a number of years, due to the fact that our box was larger and came into competition with fruit packed in what is known as the Oregon box which is slightly smaller. So contentious a point has this been that at the Dominion Fruit Conference held at Grimsby, Ont., in 1914, the B. C. delegates agreed among themselves that they would not introduce this subject. However, all objections to the change from the Canadian box to that of the Oregon box, were apparently overcome, as the delegates to the Conference at Ottawa last March, were unanimous for its adoption. As this box is the accepted standard in all the States of the Union, we now have in addition to a standard barrel, a standard box. Here again we realize the necessity for maintaining the identity of Canadian grown fruit on the export market, by having our boxes plainly marked with the words "Canadian Apples."

In describing the dimensions of the various fruit packages, there was one thought kept in mind, namely, to have all of equal length to facilitate loading of cars. Therefore, as the standard apple box was 18 inches in length it was necessary that the apple crate be the same. I have already referred to the reason for the adoption of the apple crate, and although it may have its place, yet with the domestic grade, we no doubt will not find so much use for it as is cannot be considered a very sanitary package because of the width between the slats.

**PEAR BOX.**—Another package which has been standardized, is the pear box

which is also to be used for the shipment of crabapples. The Ontario fruit growers are not so much concerned in the use of this as are the growers in B. C., but it is just a question as to whether the growers in Ontario should not give a little more attention to the possibilities of shipping crabapples in boxes to the Prairie markets. This has been proven to be remunerative to the fruit growers there.

**PEACH AND PLUM BOXES.**—Peach and plum boxes have also been standardized, and while varying in depth are the same length as apple boxes. The cherry box described in the Act is commonly known as the lug box in the west, and I do not think has ever been used in the east. Another package used in the west is the four basket crate but this is seldom used here.

**BERRY BOXES.**—Another live question at the recent Conference was that of berry boxes, but no change has been made in these except that the provision for marking the word "Short" on boxes which did not hold two-fifths of a quart or four-fifths of a quart was eliminated. In order that the British Columbia small fruit growers could successfully compete with growers in the United States on our Western Canada markets, it was deemed advisable to include a pint box, the dimensions of which have been clearly defined. You will note that in the case of four-fifths of a quart and two-fifths of a quart, there are no dimensions given, the only provision being that they shall hold the specified quantities.

**CLIMAX BASKETS.**—In the matter of climax baskets, there has been very little difference of opinion with regard to the 6-qt. basket; but the 11-pt. basket has been under consideration by the growers in the Niagara Peninsula for a number of years, and was as we hoped finally decided upon at the recent Conference. The objective of the fruit growers was that the basket should be of certain dimensions which would provide for the packing of three layers of No. 1 fruit, assuming that a basket which would meet these requirements would be satisfactory for the marketing of all other kinds of fruit. In some unaccountable manner a slight error was made in the specifications, and those now embodied in the Act do not work out as desired. Several meetings have been held recently to endeavor to decide upon the correct specifications and the question of the future manufacture of these by machinery was very prominently brought out, with the result that it was necessary to investigate the machine possibilities. To this end the Fruit Branch had a representative who was accompanied by a representative of the basket manufacturers, visit the machine manufacturers at St. Joseph, Mich., and we hope to have the matter finally decided in the course of a few days.

In the meantime, provision has been made whereby the baskets of the old style and material for the manufacture of these, may be used up to December 31st, 1919; after this date it will not be legal to use these packages and it will be necessary for growers when ordering their supplies, to purchase only what they believe will be required to market their 1919 crop.

In the discussion of the wood veneer baskets at the Conference, the question of the 16 and 20 quart baskets, which are used for marketing melons, was overlooked, and as these appear to be the popular packages for marketing melons in Ontario, we hope to have it incorporated in our Act during the coming Session of Parliament.

**ROUGH HANDLING AND PILFERING.**—For many years the Fruit Branch has received numerous reports of great damage done to fruit in transit through careless handling and through pilfering. A clause has now been inserted in the Inspection and Sale Act which makes it an offence for any person who carelessly handles, wilfully destroys or pilfers any fruit packed in any of the standard packages.

This, I think, is a most important measure and will be enforced by the Fruit Branch.

USE OF SECOND HAND PACKAGES.—Provision has been made in the amendments to prevent fruit packages being used the second time. Those who have not the privilege of visiting the larger marketing centres will perhaps not appreciate the importance of this provision. There are some packages which are seldom used the second time for marketing fruit, but apple barrels, for instance, are used as long as they hold together. Some fruit growers, living in close proximity to the larger cities, make a practice of securing all the barrels they require, by going around to the various retail stores. While this may be unintentional, nevertheless, we frequently find apples offered for sale with the original packer's name, address, variety and grade mark still on the barrel. The measure recently embodied in the amendments should safeguard the reputation of reliable shippers.

MR. MAYCOCK: Would you consider a package built on the same principle as the 27-quart berry case on the other side, an open or closed package. It has a hinge lid, if you remember?

MR. BAXTER: That is the 27 or 32 crate?

MR. MAYCOCK: Yes, or 56. I am speaking of the apple box; do you consider it is a closed or open package?

MR. BAXTER: In the interest of the domestic shipper we are building a package with slats at least three-quarters of an inch apart. Now the understanding with regard to an open package is that it shall be a slatted package, but it is not stated how many slats. We are trying to standardize the crate as to the number of slats which will be used. The definition of a closed package is given in the foot notes. In this way, that the contents cannot be seen when the package is closed.

MR. MAYCOCK: There is a new box out on the other side which is used for short distances. It is a knocked down box, with the two ends and four sides folded. I have been trying to get one and had hoped to bring one over here to-day, but it has not arrived.

MR. BAXTER: We consider the 27 and 32-quart crate are open packages, but I think it would be to our advantage to standardize the number of slats.

Q.—May we use the old style of box at the present time for the shipments of apples?

MR. BAXTER: There is a clause dealing with baskets, but the provision has been made whereby the Minister may authorize the use of any other package than the standard. But unfortunately it was not so in the case of boxes, but it is the wish of the Department that you shall adopt the standard packages without loss, and as provision has not been made for that, we can say this: that we would take no official notice of the use of these packages during the coming season for the marketing of the next season's crop. We cannot say in the face of existing law that you can violate that law, but we will take no official notice this year.

MR. MCKAY: What is your opinion in regard to that Lug box for cherries?

MR. BAXTER: It is a box that was brought out after I left the Prairies, and judging from the size of it I do not think it is a very desirable box. However, they seem to find use for it and they thought it necessary to standardize it.

MR. FLEMING: In regard to covers for baskets, the clause says they are to be made of sound well seasoned wood, would that make it illegal to use the Leno Cover?

MR. BAXTER: The Leno is used, of course, and I do not think it could be interpreted to exclude the Leno covers, but it was intended to insure the cover of



the basket being sufficient to support and provide for piling up the baskets. It does not say specifically but it was not intended to exclude the leno covers.

Q.—Would you define the slight change you are going to make in the 11-quart basket?

A.—I have not got the specifications here, but it will take in three layers of No. 1 peaches. We have viewed the matter from the standpoint of the machine manufacturers, and we find it is possible. The manufacturers tell us that in order to be able to compete in giving the growers a basket at reasonable prices, it will be necessary for them to manufacture baskets by machinery. There are only four of these machines in Canada to-day, but there is no doubt there will be more. We hope to specify the block. The block is our insurance of uniformity, and we will specify the top of the block and the top of the basket.

Q.—The size will be practically the same?

A.—Yes.

Q.—Are they not deeper?

A.—When you are referring to the size being the same, I presume you mean the basket we are aiming for. As compared with the old one it is deeper.

We have received several communications from the cargo inspectors in Great Britain in regard to the condition in which our fruit is arriving there. I am sorry to say, notwithstanding the fact that people over there have been paying maximum prices for No. 3 irrespective of variety, that there has been some very inferior quality shipped across. Some have marked them culls which is a violation, although not a serious violation. But it is the damage that we have done to our reputation that I wish to bring to your attention. The British Ministry of Food were most considerate in the fixing of the price of apples, and very considerate of the Canadian grower and shipper. They figured the crop was light in Canada and by the removal of the embargo, the price in Canada would naturally increase, and they fixed the price and made it most liberal, but I am sorry to say some men have gone to a pile of culls and shipped them over, but I am very glad to say too, that there were comparatively few shippers who did. But it just shows how carefully we must guard our reputation over there.

MR. MCKAY: Would it be possible for the Department to obtain from the Commission in the Old Country, the quantities of fruit going over from the United States and landing there week by week, so that the information could be reported in the bulletin?

MR. BAXTER: Yes, I think that would be possible. There is just one other thing I would like to say, and that is that prior to the war, our representatives over there intimated in a letter that the dealers there would be pleased to buy Canadian apples, f.o.b., cash against documents, provided that they had some guarantee that the quality was in accordance with the grade marks. I think we are all interested in selling whatever we have f.o.b. I just threw that intimation out to the Nova Scotia Fruit Growers' annual meeting, and they were quite interested in it. I do not see any reason why we could not adopt the same system here as they have in the Wheat Inspection, Saskatchewan, and be able to give a guarantee at the present time. We may inspect 15 or 20 car loads of apples, and we state that we have found them correct, but we only vouch for the actual number of packages inspected. While that may be sufficient in Canada, I think as far as the export market is concerned, if we could give them an absolute guarantee that every package is right, it would be of some value to our Canadian apple industry. I have not given the thing very much thought as to the detail, but I cannot see

any reason against it. Of course it would not be expected that we could inspect every carload of apples, but where there was a sufficient tonnage, we would be able to place somebody in the fruit house to examine every package. I simply throw out the suggestion because it seems a means of safeguarding our already estimable position over there.

## GROWING STRAWBERRIES FOR THE FACTORY.

JAS. E. JOHNSON, SIMCOE.

The success of strawberry growing depends on the liking and experience the grower has towards this particular line of horticulture. I will endeavor to outline my way of growing strawberries for the canning factory as concisely as possible as in the interests of the general farmer or gardener and will make my remarks short so we will have considerable time to devote to the discussion. I feel that we all have a great deal to learn about strawberry growing at the present time. I am finding it far harder to grow strawberries during the last three years than it was ten or fifteen years ago, owing to the costs of production and unfavorable climatic conditions. The old cry that the strawberry industry is being overdone is not founded on facts, as the local markets for the past two years have been very high for first-class well-packed berries.

**SELECTION OF SITE.**—It is desirable to choose a piece of ground just loamy enough for good drainage, situated at a fairly high elevation, which location is warm and not subject to late frosts in blooming time. Good air drainage is important in the growing of strawberries, while you may make a success certain years in growing strawberries on low lands you are also taking a great risk of frost at blooming time except close to large bodies of water.

**SOIL.**—The ideal soil is a good rich humus-containing loam, which is well drained with clay subsoil. The one condition of soil on which it is never advisable to plant strawberries is fresh-ploughed old sod. I prefer to follow strawberries after a good crop of corn or beans which has had the best of clean cultivation.

**MANURING AND FITTING.** After the selection of the best available site for the strawberry bed has been made comes the immediate work of preparing the land for planting and as strawberries are heavy feeders on the soil they require from 30 to 40 ton of manure to the acre to be applied just before ploughing. I prefer ploughing the manure under rather than top dressing and working in with discs owing to the fact that the strawberry plants have long roots, the feeders of which will soon feed the plant from the manure besides where the fertility in the soil is located, there is where the roots go, and by having the fertility fairly deep in the soil the roots will naturally go there for their supply of nourishment for the plant. If you top dress and work in the soil the roots will naturally work nearer the top of the soil for their nourishment and the plant will not stand dry weather as well as if the roots were deep in the soil.

**PLOUGHING.**—On heavy loamy soils I would prefer to plough in the fall of the year but on sand loam soils I would just as soon plough in the Spring after the top dressing with manure in the winter time, and in either case I would begin cultivation by harrowing and discing as early in the spring as possible and continue until planting. I use a float in place of a roller for the levelling and pulverizing of the ground before marking.

**MARKING.**—I have my marker made so that my rows will be 42 inches apart planting in the row from 24 to 30 inches apart.

**DIGGING THE PLANTS.**—This is done with the 5 or 6 tined fork digging the whole row from your last year's set bed having in the field plenty of wet sacks to cover the plants to keep them from drying out before being cleaned. It is policy to dig the plants just a short time before you are ready to clean them.

**CLEANING AND SELECTING PLANTS** should be done very carefully, discarding small and dark-rooted plants and removing all old lateral and dead leaves. The roots are of a light yellow color. There has been a great deal of money lost by the strawberry growers in not being more particular in their selection of plants.

**PLANTING.**—The time to set plants depends on your location. In Norfolk County I prefer to plant the first week in May keeping the tops of the plants wet from the time they are cleaned until planted. Having in mind to get your plants dug and planted the same day if possible. There are many methods in use for planting of strawberries, spade, dibble, ploughing a furrow, and the planter. I have used both the spade and the planter and will say that if the spade is to be used it has to be used by those experienced in the planting with a spade. The trouble is that a great many planters leave an air space at the bottom of the plant when the spade is used. The planter is especially good in dry weather as the plants are watered which helps to pack the soil around each plant. The dibble I know has been very successful with a good many planters especially in light loamy soil. It is necessary to exercise considerable care in planting and have the plants set so that the top part of the crown is level with the top of the ground. If planted too deep the tender leaves cannot push their way through the ground and the plant is either stunted or dies and again if set too high the roots dry out and the plant dies.

**CULTIVATION.**—This should begin as soon as planting is completed, with a cultivator having small teeth that will keep your ground level, also working close to the plant without covering it taking care not to cultivate too deep, bearing in mind that a dust mulch is what is required. Cultivate often enough so that the weeds are killed before they come through the ground and as soon as the runners start only cultivate in one direction and narrow your cultivator until the matted rows are 15 inches wide. Then place the runner cutters on your cultivator and keep the rows 15 inches wide and cultivate until frosts.

**PICKING OFF BLOSSOMS.**—It will be necessary to go over your newly planted field twice to keep all the blossoms removed as the young plants cannot grow to be strong healthy plants and produce both laterals and fruit.

**HOEING** should be done carefully about five times during the summer to keep all weeds away from the plant and at the same time placing the runners keeping in mind that you want an even matted row 15 inches wide.

**MULCHING.**—I believe in the protecting of the plant for the winter by using 4 to 5 loads of straw to the acre, spreading on top of the row which is left on the plants until the next spring, which remove when the plants begin to turn white between the rows. This straw serves to conserve the moisture, keeps down the weeds and is a great comfort to the pickers. It is generally necessary to go through the patch before the bearing season and pull up what weeds may appear.

**PICKING** for the canning factory should not start until the berries are thoroughly ripe, going over your patch twice each week under normal weather conditions, in the strawberry season. The pickers are furnished with a tray each holding 6 empty baskets and as soon as the 6 baskets are filled it is taken up by

one of our men. He in return will give the picker another empty tray containing 6 baskets also a ticket for the 6 baskets of berries picked. This enables the pickers to be continually employed in the picking of berries, and thus are not nearly so apt to miss picking some of the berries in the row as they would be if they carried their own trays to the packing house. I could enumerate here the many advantages in keeping the strawberry pickers constantly employed in the picking of berries. We pay once a week, retaining  $1\frac{1}{2}c.$  per basket as an assurance that the pickers will stick to the work for the whole season. It is always easy to get pickers when the berries are at the best, but towards the last of the season when the berries begin to get small some pickers get a strong mind and a weak back and feel that they have earned such good money while the picking was good that they will not pick any more berries that season. Therefore I have found this plan of settlement has worked out both to the mutual interests of myself and the pickers. I have always worked co-operatively with my pickers, bearing in mind that berry-picking is hard work, and paying them a price per box so they could make a good wage. I always have had lots of pickers. The berries are all carried by our men to the packing houses and packed in crates, being careful to see all boxes are well-filled. If I were growing berries for shipment the packing house is the place where I should try to build up a great trade in the packing of the berries and my instructions to the packers would be that every box of berries must be *good to the bottom*, giving the most exacting consuming trade honestly packed berries. Picking should be done every day, leaving a stem  $\frac{3}{4}$  inch long. I believe there is a great future for us in the strawberry business if we would pay more attention to the picking and packing of our berries for the consuming public, and with the great cost at the present time in the production of berries we have to look for markets to place a part of our berries at a higher price, than the canning factory has been paying us. This has been proven quite clearly to us the last 3 years as strawberries have been in big demand by the consuming public, but the growers like myself who contracted early did not get a big price, and have not made the same profit as those who sold on the open market.

VARIETIES.—Parson's Beauty, few each of Sample, Kellog's Prize and Senator Dunlop.

As soon as picking is completed if the patch is in good condition I start the mowing machine, and as soon as dry rake off the straw and begin cultivation with a 2-horse corn cultivator narrowing the rows to 12 inches, then I harrow twice cross-wise and follow out by hoeing and keep cultivation up until frost then mulch and care same as first year. It will pay well to clean up old patch as long as you can have good matted rows.

The cost of growing strawberries at the present time is far more than it was a few years ago. My approximate cost to grow an acre of strawberries during the years 1918 and 1919 is as follows:

#### COST TO PRODUCE ONE ACRE.

For the first year.

40 tons manure at \$2.15 .....	\$86 00
Hauling and spreading manure .....	12 00
Ploughing .....	3 50
Preparing to plant .....	5 00
6,000 plants at \$6 .....	36 00
Planting .....	8 00
Cultivating .....	10 00
Hoeing, placing runners, etc. ....	40 00

Straw and spreading .....	30 00
Taking off straw .....	2 50
Management .....	10 00
Interest on investment .....	10 00
Rent of land (two years) .....	40 00

\$293 00

Average yield I had last three years 4,000 baskets to the acre. Cost of picking, including breakage, baskets, and building packing sheds, averages 2 $\frac{3}{4}$ c. per box.....

110 00

\$403 00 or about  
10c. box 1st yr.

For the second year.

25 tons manure .....	53 75
Hauling and spreading manure .....	7 50
Mowing and moving straw .....	5 00
Cultivating .....	5 00
Hoing .....	15 00
Straw and spreading .....	30 00
Taking off straw .....	2 50
Management .....	10 00
Interest on investment .....	6 00
Rent (one year) .....	20 00

\$154 75

Average yield I had last three years 4,000 baskets to the acre. Cost of picking, including breakage, baskets, and building packing sheds, averages 2 $\frac{3}{4}$ c. per box.....

110 00

\$264 75 or about  
6 $\frac{3}{4}$ c. a box for  
2nd yr.

I have been able to save a well-cared-for patch at times, four years, but in order to do this you have got to give your strawberry patch the very best of attention. but you can readily see that the cost of production is cut down considerably after the first year. During the past three years strawberry growing in Norfolk County has been unprofitable to the careless growers as they have lost many dollars in trying to produce a crop of strawberries.

A MEMBER: I think we are indebted to Mr. Johnson for giving us facts about strawberry growing that are quite definite. You mentioned an idea that is worth while and we should have it repeated. and that is as to educating the consuming public as to the cost of production. The public believes the growers are making a mint of money when they have to pay from 12 to 25 cents a box for strawberries. but we should let the public know that the growing of strawberries costs from 6 to 10 cents a box. The public are just as anxious to know the facts as anyone else, and the sooner they know the real facts the better.

MR. JOHNSON: I believe the day is coming when the consumer and the producer will be thinking more alike and walking hand in hand instead of being separated.

## THE LARGE SPECIALTY FARM FOR THE FRUIT GROWER.

W. H. GIBSON, NEWCASTLE.

The subject on which I am to speak a few words is "The Large Specialty Farm for the Fruit Grower," and as my home is in the County of Durham on the north shore of Lake Ontario which is too far north for tender fruits but quite suitable for the production of apples, will change the wording of my subject to The Large Specialty Farm for the Production of Apples. Indeed the locality in which I am located, situated between Newcastle and Bowmanville, and extending back from the Lake about 5 miles, is probably as well adapted for the production of apples as any other location in Ontario. The soil is rich clay loam and climatic conditions are so favorable that at least a fair crop of apples can be obtained every year. The farmers have been encouraged to plant large apple orchards, and on nearly every farm in this locality there is a promising young orchard of 10, 20, 30, or 50 acres, and on several farms as much as 100 to 125 acres of orchard, quite a proportion of which is now of bearing age.

This condition prevails in the Lake Ontario apple belt and the county of Northumberland has a large acreage of apple orchards.

A farm with an apple orchard of 20 acres or more in bearing should be considered a farm the specialty of which is apple growing, and the orchard if properly cared for will give more profit to the owner than the rest of his farm devoted to mixed farming.

The results of the past few years have been discouraging to most of the large apple growers. Because of the high prices of all farm products, with grain and live stock bringing war prices, and the great need of production in those lines we have endeavored to grow all food stuffs possible, and because of scarcity of help and uncertainty of a market for apples if the crop was large most of us have neglected our orchards to some extent.

If an apple orchard is quite neglected, and pruning, cultivating, and what is of more importance, spraying, is omitted, the fruit is very poor and unsatisfactory to pack and is usually shaken down and taken to the Evaporator.

If the orchard is partly cared for with perhaps pruning and cultivation done as usual but spraying not sufficiently done then the apples are hard to grade and while there are some good apples in the pack yet the proportion of No 3's is so large that the results are unsatisfactory to the grower, the packers and the dealer who buys the apples.

If, however, sufficient help can be secured and the annual pruning, cultivation and spraying thoroughly done and where certain varieties are properly thinned then we can feel certain that a fair crop of apples of excellent quality can be obtained.

Many of our orchardists are quite discouraged and feeling that they have more trees than they can take care of, express the wish that their orchards were only a part of the present size. Several wish that they had not a tree, others don't want to hear apples mentioned.

One of our growers with a promising young orchard is sorry that he was not sick in bed the spring he planted, in which case the orchard would never have been started.

There is a fine young orchard of 12 acres, 25 years old, now in its prime,

B. Davis, Stark and Baldwin equal parts, which the owner because of ill health is trying to sell. He is asking \$200 per acre and is unable to find a purchaser. Another orchard of 10 acres, Greenings, Spies and B. Davis is being cut by the owner for firewood and will soon be destroyed. Another orchard of Greenings, Spies, and Russets is offered to anyone for firewood, the owner stating that the land is more valuable to him than the orchard.

The growers are uncertain which course to take, would like encouragement and advice as to which road to follow.

These owners of large orchards need to be shown the right road; they don't want any Spavin Cure, but if assured that their fine orchards are the most valuable part of their farms then with renewed confidence that splendid profits can be obtained, and looking to the future with optimism will do their best with these promising orchards. They are shrewd practical men, not afraid of hard work, and will make up their minds to play the game and play it hard. The result would be a community of Orchard Specialists who would produce annually a large quantity of choice apples which would be in demand in the market.

Buyers would be glad to come to a locality like that, and the community of successful orchard men could sell their product either individually or organized as an association for good prices.

Now what to do. Each farmer who is making a specialty of his orchard should obtain plenty of help. This is difficult to do, and wages are high, but will it pay us best to lose the crop through neglect or partly care for it and have only indifferent results or pay the price for labor, get the best help available and grow good apples.

This is a question for each orchardist to decide for himself, but unless the orchard is cared for, better make it into firewood and use the land for other farm crops. Why not pasture more cattle, etc.

There is a patriotic reason, and it is our duty as Canadians to take care of our orchards.

Nearly all of us have had young men whom we employed enlist in the Canadian army. I can count the names of over 40 young men who formerly assisted me in growing or picking fruit who have gone overseas. Some of you are fathers who have sons overseas. Many of these young men went in at the first and have served in the war for over four years. They went over the top facing death at Vimy Ridge and Passchendaele, they held the line and saved the situation at that first gas attack in April 1915. Many of them will never return; others are maimed for life. Then more of our boys were sent over as reinforcements. The four Canadian divisions were kept up to full strength. Our Canadian Corps because of the initiative of the men and their splendid discipline was said to be the most formidable single fighting unit on the Western Front. We are proud of them. Only a few months ago they broke through the Hindenberg line, they broke through the Switch line, they went over the Canal Nord, the Canadian Light Cavalry were the first troops into Cambrai, they fought their way into Mons, they marched to the Rhine, and now those who are left, thank God, are coming home. They have made us proud of our Country, Canada the land of the Maple Leaf, the land of bright promise. Each of us can stand up and say I am not ashamed to be a Canadian. And the boys are coming home, they will need work and good wages. Our large Specialty Farms for apple growing is an industry which requires a lot of help. Shall we nail up the gates, neglect the orchard, put up the bars, make firewood because the wages are high, or shall we do our duty to

our country? Carry on the orchard. Play the game. Play it hard. Open the gates. Open the doors. Welcome them back in that happy time when our brave men come home.

Will not describe our method of pruning, cultivation and spraying, except to state that the grass strip under each row of bearing trees is a great saving of labor, both in cultivation and pruning. This strip of grass extending 5 feet on each side of the row of trees needs no care except cutting the long grass with a mower in midsummer, and it protects the tree to some extent from winter injury. The apples color earlier and the tree ripens its wood better in the fall than if the whole surface was cultivated.

An advantage can be obtained in annual pruning by allowing the lower tier of limbs to droop over the ten ft. strip and at the same time shorten back the high leading branches, this keeps the tree down to the desired height, makes spraying and picking easier, and as large and well colored apples are grown on the lower branches close to the ground as on the top of the tree.

In regard to varieties in a large orchard, it is nice to have a selection extending the picking season which makes it easier to obtain sufficient help for picking. Starting with the Duchess, I would like enough of this variety to make up several car lots, and by making 2 or 3 pickings could leave green apples to develop and obtain a large per cent. of No. 1's of good color. Would like a quantity of Bartlett pears for the picking gang to be employed with after the Duchess, also some Alexander apples which are quickly harvested, then a good lot of Wealthies, which like the Duchess, should be thinned early in the season and at least two pickings made in harvesting. This will give choice No. 1 apples suitable for boxing which will bring good prices. No. 2 and No. 3 small and green Wealthies are unsatisfactory for growers and buyer. Would advise a few St. Lawrence, but no Gravenstein as our climate is too severe for that fine variety. Wolf River is reliable, quickly gathered, and in good demand. Would advise some Blenheim and Ribston to fill in the season between the fall and early winter varieties. Would have a few Greenings and Fallwaters, but not many, as both kinds are not very reliable in the Lake Ontario district. Would prefer a good lot of Snows and McIntosh which should be ready to pick during first week of October. Snows should be carefully thinned early in the season to obtain size and color, and with the McIntosh receive an extra thorough spraying in July. Following these in order of gathering I would take some Hubbardston, then pick the Starks, this variety has been planted very extensively, and next to the Ben Davis is our most productive winter apple.

In some orchards Stark is a disappointment, as when in large blocks and some distance from other varieties which blossom at the same date, the blossoms fail to fertilize and drop off leaving a scattering crop of defective apples. I would advise grafting early blossoming kinds among the Starks when in large blocks, also placing a few hives of bees in that part of the orchard. This is worth trying as it is a pleasure to harvest a good crop of Starks and a gang can pick and pack more barrels of this variety in a day than any other kind.

The Baldwin is a disappointment, has produced very little fruit during the past three years and has suffered severe winter injury.

Ben Davis is our most productive variety, it will yield good and very profitable crops in years when most other kinds are light. Have found the Ben Davis my most profitable sort during the first twenty-five years of the orchard's life.

Golden Russet is fairly reliable on good soil, but would not advise many as



they are tedious to pick. Would leave the Spy and Golden Russet as last varieties in the orchard to harvest, as both sorts need the full season to develop.

A well matured and good colored Northern Spy is the very best fruit on earth bar none. It is a pity that it is so slow in bearing. Have Spy trees 25 years old, fine large trees 20 ft. high which have not produced yet, but trust they will make good during the second 25 years of their life. I would not advise the whole farm to be planted with apples, probably three-quarters to half would be sufficient and all that the owner could take care of.

There is the question of fertility to be considered. If the orchard is sown with cover crops to be plowed under annually, and the rest of the farm produces all the clover and live stock possible, then the orchard can be kept in a good state of fertility. In a year when apples are only a medium crop, or when the price is low, then the farmer instead of having his eggs all in one basket would have other farm products to dispose of, which shows that mixed farming is best for the Ontario farmer. It is tiresome to have too much of one thing and a change of work gives variety which means much in life.

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## HOW CAN WE SECURE ANNUAL CROPS OF APPLES AND WHAT IS THE OUTLOOK FOR THE ONTARIO APPLE GROWER?

J. C. HARRIS, INGERSOLL.

To be successful in growing fine apples with few off years, we must apply intensive management, must have genuine enthusiasm and a love for doing good work. We must be prepared to give attention, rigid attention, to every detail connected with the business, and have the knack of getting things done. Intensive orcharding is a fascinating occupation. One must acquire an intimate acquaintance and love for his trees as individuals. The same as the born dairyman or poultryman cultivates the acquaintance and friendship of his pets.

It is quite wonderful how an apple tree, though neglected, will brace up under good care. No one of us, be he ever so much a master orchardist, has learned the whole story. The fruit grower must be ready at a moment's notice to meet his enemies. It is never in any case as in the old days when the markets were less critical and any sort of an apple would do. The man who now comes out winner by producing a crop of nearly perfect apples must have a marvellous amount of nature's assistance, or he must be a fighter.

To get annual crops of fair-sized well-colored apples, I think all will agree the ground under the trees must be kept in a moist condition during June and July, not only to benefit the growing crop of apples but to enable the blossom buds (which form during these months) to get strong and well matured for the following crop the next year, otherwise the trees may blossom out the next spring and most of the blossoms fall to the ground because not fully matured. To conserve this moisture necessary some favor cultivation to July 1st, then a cover crop, others sod mulch. Cultivation, I believe, will give rather more apples than sod mulch usually of only medium or poor color. Sod mulch gives a crop of medium sized apples, with high color, suitable for barrel or box packing, which will bring more money in the best markets than those from the cultivated orchards. In my experience with sod mulch, trees will ripen up their wood better

than with cultivation, therefore less winter injury. Again with sod the orchard can be sprayed, apples picked and packed to better advantage than where the orchard is cultivated. Summing up the whole situation, on clay loam or sand loam I prefer sod mulch to cultivation, more especially for the small farm orchard of five acres or less.

In many cases it would be a difficult proposition to get sufficient mulch for large commercial plantations. In this case cultivation would be necessary, if we are to get annual crops of apples. I have no experience with light sandy soil.

**PRUNING.**—The young orchard left unpruned or nearly so will grow faster and bear apples much sooner than where the trees have been pruned annually. I am not sure these trees which were left unpruned up to nearly bearing age will be as profitable as if they had been pruned earlier. In commencing to prune a neglected apple tree, one should take at least two or more years for the operation. A few general principles should always be before the operator:—

1st. Heavy pruning is a severe shock to a tree, and should not be done to excess in any one season. Study your tree well when lowering or dehorning it. Never cut a limb unless you know why you are doing it. An old orchard severely pruned may give you a crop for one or two seasons after the pruning, but in the long run one will have to pay for it by going without a crop for several seasons while the orchard is recuperating.

A tree once in shape should be gone over annually cutting out any dead or cross limbs and a little thinning from the outside occasionally. An orchard well pruned and cared for will be a pleasure and a profit to its owner the rest of his days. To get annual crops of apples excessive pruning in any one year is out of the question.

In raising apples as in raising wheat, it is the seeds or grain, which exhaust the tree, and draw plant food from the soil. The flesh of an apple is nearly all water. Therefore it costs the tree practically the same to grow a small apple as a large one. The large one is worth money, the small one very little. Hence if we thin off small and inferior apples, we are giving the tree a chance to grow more No. 1 grade fruit as well as leaving it with plenty of vigor preparing for next year's crop. I believe the cost of thinning will be nearly saved at picking time in the fall, as the work will be much less when few specimens have to be thrown in the cull heap, and the tree will not be in an exhausted condition by producing so many seeds as would have been the case had all the apples, good, bad and indifferent been left to mature.

In summing up, the tree must not be overdone in any one year if we are to get annual crops of apples. Thinning (especially some varieties) is most necessary to attain results.

**SPRAYING.**—I do not suppose anyone here doubts the necessity of spraying in order to make our orchards profitable. In fact, I believe an apple orchard left unsprayed, will not give the return per acre the land would were it devoted to some other farm crop. On the other hand I am convinced an acre of apple orchard of the best varieties well cared for, will give a net return equal to ten acres devoted to an ordinary farm crop.

Many people are getting poor results from spraying, often not enough to pay the expense and trouble. The reason for this could always be easily learned if one were present to see how and when the work was done. The time to spray is very important, for instance, if we wait ten days after blossoms fall we cannot hope to control the codling moth, and the same will apply to the apple seab. I cannot

too strongly urge that the work be done thoroughly and well. An orchardist may have his orchard in the best possible shape, as regards pruning, cultivating and fertilizing, all of which is most necessary, but if he falls down with the spraying, he will come far short of the satisfaction and profit that would have been his from the most careful work. One thing is well, and often very necessary to remember, a tree when the leaves are the size of a ten cent piece will stand a very strong spray, without injury. This same spray applied say two weeks after blossoms fall, might in some seasons, ruin the crop of apples, for that and also the succeeding year.

The spray before blossoms open with lime-sulphur, can be applied, I think, safely 1010 Sp. G. or stronger, but I think each succeeding spray, should be weakened at least two points. Be very careful to have exact strength of your spray material. A little too strong a mixture may, in some seasons, severely injure two crops of apples. In other words I think it is an easy matter to spray the apples off our trees with any of the spray mixtures. I believe nearly all our crop failures can be traced to one of four causes, lack of barnyard manure and soil moisture, overbearing, and unintelligent spraying. If our orchards are not lacking in any of these four essentials I am convinced nine years out of every ten we can count on a good crop of apples.

In conclusion I want to say I feel very optimistic as regards the outlook for the Ontario apple grower, with the majority of Ontario orchards neglected for four years past, also the severe winter killing of recent years. With the high cost of labor and materials at present many fairly good orchards will go unsprayed and uncared for, in the future. It seems to me the man who has a good orchard or the young man who will plant one of the best varieties and look well after them, never in the past has had such a bright outlook as he has at the present and is likely to have for many years to come.

Q.—Did you lose any trees last winter?

A.—Yes, I lost one tree in one corner of my orchard. I built a little house for the man to live in, and there was one apple tree in that plot that he has for a garden that is dying.

Q.—Was it a Baldwin?

A.—No, it is not a Baldwin; I did not know what the trunk was; it was grafted to a Nonsuch.

PROF. MACCOUN: What spray are you using now?

MR. HARRIS: I use three or four different sprays; I am not fully convinced which is the best. I use the Bordeaux principally. Last year I used Bordeaux all through, but I do not like to use it after the blossoms fall because of rusting. I never use over three pounds of Bordeaux after the blossoms fall, and less than that for the later spray. I think it is very important to weaken the sprays for the later spray; you injure your fruit for the next year if you don't. I have nothing to say against lime-sulphur, but one thing in favor of Bordeaux is that it will stay on the trees longer than lime-sulphur.

Q.—Is there any real objection to a slight rusting?

A.—For boxed fruit there is an objection, but in my home orchard this year there was very little rusting. I use ten pounds of Beachville lime, three pounds of bluestone and forty gallons of water.

PROF. CROW: Mr. Harris told us at Guelph a couple of weeks ago about his results with the Wealthy variety. It seems to me this will bring out very pointedly the application of his practice to annual bearing. As I understand

his results, he has had remarkable success in getting the Wealthy to bear annually, but I want to ask how many crops he has missed?

Q.—You told us that one year he did not have any at all?

A.—That was in 1895. I have between 30 and 40 Wealthy apple trees, and they produce about the same every year, but the crop is not on the same side of the tree. I do not know whether that is from thinning or what it is.

MR. FOSTER: Is it possible to injure the young fruit by any of the spray materials that we have been using so far, so that it drops, or do weather conditions tend to do that? I think at the New York Convention a month or so ago one of the professors at the University threw that out; he preferred the dust spray instead of the lime-sulphur spray or the Bordeaux.

MR. HARRIS: That touches on rather a tender point. We have professors here and I could only give you my idea.

MR. FOSTER: Your experience is what counts.

MR. HARRIS: I think spraying different trees in a very wet season might cause that, but it may be from some other cause. You have to be mighty careful in using the spray, especially two weeks after the blossoms fall. If you have a man that is not very careful in measuring it out, especially in some seasons, it is dangerous. In 1916 and 1917 we had very wet seasons.

Q.—How strong do you use the lime-sulphur or Bordeaux after the blossoms fall?

A.—I have not decided which is the best to use. I have had the best results in getting apples from the Bordeaux. I use it 3.10.40. Lime-sulphur I would not use over 1.007 to spray after the blossoms fall. By using the very mild spray that I use now, I have much better success than formerly.

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## MAKING THE LAND PAY WHILE THE ORCHARD IS GROWING.

WM. EVERETT, SIMCOE.

Not being an orator myself, and after listening to the able addresses delivered by the previous speakers, it makes me feel that I would be more at home if I were in my young orchard with a pruning saw in my hand. But, as you have asked me to speak a few words on "Making the Land Pay While the Orchard is Growing," I can only give you my own experience.

In 1910, I purchased fifty acres of land. This land was a sand loam with a clay bottom, high and dry, but very low in fertility. I planted 750 apple trees, 300 Spies, 350 Baldwins, 75 McIntosh Reds, and 50 Snows, and about 150 cherries, plums and pears.

This land required fertilizing. Barnyard manure at that time was scarce so I decided to sow a cover crop. After I planted my trees, I plowed the land and kept it well cultivated until June 1st, when I sowed peas. In September, I plowed this crop under and sowed the land to rye and vetch. Thus, you will see there was no profit for me that year, but the following winter I obtained a nice lot of barnyard manure, which I bought in the town, having my hired man put it on the land when his time was of little value. The following spring, I plowed the rye and vetch down and planted the whole orchard to potatoes and beans, which only paid expenses for manure and labor. But, after the second year I was always able to make the land pay a profit while the young trees were growing.

I might say that my orchard covers twenty-four acres, and last year I grew off this land after leaving four feet each side of every tree row:—

90 bushels wheat at \$2.50 .....	\$225 00
12 tons of hay at \$12 per ton .....	144 00
10 bushels clover seed at \$22 .....	220 00
425 bushels of potatoes at \$1 .....	425 00
30 tons of corn at \$5 .....	150 00
300 bushels sugar beets at 30c. ....	90 00
500 bushels turnips at 25c. ....	125 00
Total .....	\$1,379 00

But you will remember that the price of wheat and clover seed this year was very high, but putting the wheat at \$1 per bushel, and the clover seed at \$10, would still leave \$1,124, therefore I contend that by using good land in setting out a young orchard that the land can be made to pay while the young orchard is growing, and, I think, it can be made more profitable by truck gardening and small fruits such as strawberries and raspberries.

Q.—In plowing around your trees the first year, did you bark them or break them at all?

A.—Not at all. I followed the man and elevated the whiffletrees and did not damage them in any way. I might say I have not lost a half dozen trees out of the 750 planted, in the nine years.

Q.—Any Baldwins?

A.—I had 350 Baldwins and they are all right. I think I have the ideal land for an orchard; it is high and dry and well drained.

Q.—How far did you keep the hay and grain away from the tree?

A.—Four feet.

Q.—Were your Baldwins in sod?

A.—They were in sod last year. I had oats on the ground where my Baldwins were a year ago. I had it sodded and that is where I took the hay and clover off.

Q.—You do not think it hurts the ground at all to grow stuff around the tree near the foot?

A.—I would not get too close.

Q.—You do not think you would catch any of the roots when plowing?

A.—No, I do not think so. As your tree gets older and larger, you want to keep farther away.

Q.—How far apart are your trees?

A.—Thirty-five feet.

## THE LABOR SITUATION.

MISS HART, ONTARIO LABOR BUREAU, TORONTO.

By the programme I am asked to speak on "The Labor Situation," but I will speak on the National Service Girls, which is only one part of the labor problem, and the only aspect of the situation which I am able to talk about.

Recently some of you have received a circular letter. This was sent out to all the men who employed the National Service girls last year, asking whether in their opinion the girls were going to be needed on the fruit farms this summer. The general reply has been that they would be needed in the fruit districts, but that probably they would not be needed on the mixed farms.

Last year our employment bureau in Ontario placed about 2,500 girls on the farms. The majority of these were placed from the Toronto office, that is, 1,800. About 250 worked in different canneries, about 200 on mixed farm work, and some 75 to 100 worked entirely in farm houses. The balance, about 1,200, were occupied on the fruit farms of Ontario. These girls did all kinds of work: hoeing and weeding and cultivating, budding, transplanting, packing, picking, spraying and pruning. And they were quite unexperienced when they went out. The majority of these girls were good workers and gave satisfaction to the farmers. Of course there were some who were not satisfactory, but that is to be found in every kind of help.

There is the other side to the question, and that is, were the farmers satisfactory to the girls, and is the pay satisfactory to the girls? The girls have no complaints to make about the way the farmers treated them, but practically all the complaints have been that the girls did not receive high enough wages. Our aim last year was to have all the girls staying a reasonable length of time, earning \$9 a week. Most of the girls lived in camps conducted by the Y.W.C.A. and paid \$4.50 per week for board, and we hoped that they would clear \$4.50 a week. That is only \$18 a month, and is not a very large amount for girls who worked 10 hours a day in the sun.

I said that was our aim. The girls did not get it. The daily records of each girl were turned into the office, and at the end of the season the following results were shown.

Forty-two per cent. earned over \$9 a week.

Fifty-eight per cent. earned less than \$9.

We only took into consideration the girls who were working more than two weeks, and we considered we were taking a fair average of the girls. We had a mass meeting of the girls not long ago, and they are not satisfied with this condition of affairs.

I believe I can get the girls to go out again this year in considerable numbers if an arrangement can be made whereby they will receive better wages than last year. Our camp secretaries had a meeting some time in November, and they drew up a set of resolutions which they thought would improve conditions for the next year. Later on we had a mass meeting of the girls who had been on the farms, from the Toronto District, and they almost unanimously confirmed these resolutions. There were three outstanding points:

1. For a sliding scale of piece work.
2. They say they can do better work if only asked to work nine hours a day.
3. And they want the hour rate increased from 15c. up to 20c. or more.

The sliding scale on piece work is a protection for the girl against the man who does not look after his crop. Take strawberries, for instance. It is not fair that one girl should get 2c. a box in a good patch where she can pick quickly, while another girl would only get the same rate and have to pick from a patch with weeds knee deep, and where you have to look for the strawberries with a magnifying glass. That does not seem fair to us. We have asked in that case that the man shall have to pay more for his pickers. He has saved on his help by not cultivating his berries, and he should have to pay more for his help to pick them.

Then there is the question of the nine hour day. I know everybody works 10 hours a day on the farm, but it is a proven fact in industry that eight hours or nine hours increases the efficiency of the employees and does not decrease

the output. I feel sure the main object is to get the berries picked, and there will be more berries picked in a week of nine hours per day than ten hours per day.

Then there is the increased hour rate. The girls worked for 15c. an hour last year. This is the work that is hardest and they feel they should be paid more.

Q.—What time would the girls like to start in the morning?

A.—It is simply a nine hour day, leaving it to the farmer whether they start at seven and stop at five, and start at eight and stop at six.

Those are the three main points of the resolutions that the girls drew up. Last night a committee of the girls met a committee of the fruit growers, but we did not come to any definite decision. I think we will have to have another meeting before any conclusion is reached as to what should be done.

I have conferred with the Y.W.C.A., and they will establish the camps the same as last year, but they absolutely refuse to take them on on a rush order. They must have time to look over the sites and get house-mothers and workers, so we would be much obliged if the growers who do want girls would let us know early. We can then go out and make much better arrangements than if we had to do it in a rush.

Q.—Is it compulsory to have camps organized under the Y. W. C. A.?

A.—Not at all, but when we get the girls we must be able to assure their parents that they are properly chaperoned. We won't get the type of girls we want, otherwise. If a grower wants to run his own camp, and he assures us that the girls have a suitable house-mother, it will be all right.

DELEGATE FROM PINE GROVE: We had a number of girls with us last year, and we thought so well of them that we want to increase the number this year. They gave good satisfaction, I think, to every grower in that district. Last year was one of the worst for strawberries that the fruit growers ever experienced. We called a meeting and gave the girls \$9 per week guarantee, as we thought that was only fair to the girls, considering the crop they had to pick, but this year we hope that things will be a little more normal, and we figure that \$10 per week guarantee is a fairly good wage to start off with, but in picking strawberries at 2 cents a box for the two best weeks, a girl would be able to make from \$3 to \$4 a day, and we figured that \$10 would cover the first of the strawberries and the end of the strawberries, and so on through the light pickings of the different fruits.

MISS HART: I do not think that the girls idea was that it was to be a \$10 guarantee: it is simply that we want the wages to run so that the girls will average \$10, but we do not ask each man to pay \$10 a week to every girl. It is simply made by piece work.

A MEMBER: I think a great many of both the girls and the growers were laboring under a wrong impression of the guarantee contract last year. A good many growers agreed to that \$1 per day rain or shine, but we did not consider it fair, therefore, we gave them a guarantee of \$9 a week.

MR. FAIRBAIRN: The Department figured that the girls did not make \$9 a week last year on the average. If they worked efficiently every day, they were guaranteed \$1.50 a day, and if their piece work did not come up to that, we had to pay them that anyway.

MISS HART: The fact remains they did not get it in the majority of cases. In a great many cases the men would not come up to the 15c. an hour. A great many girls averaged between \$8 and \$9: some between \$7 and \$8. Their day's

earnings would be perhaps \$1.05, \$1.10 and \$1.25 and \$1.35, and the men would not simply come up to the \$9.

MR. FAIRBAIRN: According to the contract they were to pay them \$1.50 a day if they did not come up to the piece rates. I had a camp and they never came up to \$1.50, but I had to pay it. Not one of the girls made \$1.50 a day on any day during the summer.

MISS HART: They worked on piece rates last year, with the guarantee of \$1 a day on rainy days. They were guaranteed \$1 a day, but we wanted them to average \$1.50 a day. If it rained, and the farmer could not give them work, we asked for a dollar a day guarantee; unless, in the week preceding they had made over their \$9 a week, then we did not ask them to pay this guarantee. That was where more of the misunderstanding arose last year than anywhere else.

MR. RITTENHOUSE: In reference to these averages, I think possibly they may be misleading. In my own case the girls occasionally were off the job, with my consent. That would work against that average, would not it?

MISS HART: Yes.

MR. HARKNESS: I employed a girl from early in May until the 20th of October. This girl was away a few days during the season; I gave her the days. She did not earn the \$9 per week then, would she be taken as an average?

MISS HART: She would not average \$9. Some girls who stayed at the end of the season earned \$50 a month and their board. We counted in all the girls we had placed.

MR. RITTENHOUSE: I think that 42 per cent. is not quite a fair average as to the girls who earned \$9 a week. Had these girls worked the full time, it would have helped to bring up the average. I was more than pleased with the National Service Girls. I had some picking raspberries, and I only had one who did not come up to the \$1.50 a day, during the two weeks of best picking. She ran about \$1.25. I gave her \$9 a week, and the girls who went over \$9 got their extra money. I was well pleased, and I would like the girls on last year's conditions, and I will guarantee to use them right, and I think the whole of Vineland District will use them right.

MR. CARPENTER: It appears to me that the days the girls were absent through indisposition or any other cause, are taken into this 42 per cent. You have a certain percentage of these girls that will be off, and it is not fair to calculate these in to make the 42 per cent.

MISS HART: The number of girls in a camp of ten who would be off, would be practically nil.

MR. CARPENTER: I do not think so.

A MEMBER: I hesitated to give \$1.50 to some of the girls, because we had girls who sat all day and hulled only one crate of strawberries.

MISS HART: You should not have kept them any longer.

A MEMBER: We paid these girls. We were afraid to let them go for fear we could not get others.

MR. RITTENHOUSE: I wish to say in Vineland section we had a meeting and discussed the circular letter, and we all agreed that we wanted the girls again this year, they were so satisfactory last year. We felt we could not get along without them, providing some satisfactory basis of remuneration could be agreed upon, but I do not think there will be any difficulty in that connection when we discuss things thoroughly.

MISS HART: There has got to be compromise on both sides.



A MEMBER: You have a fairly good idea of the situation as regards the girls being required next year. May I suggest a committee of the girls and a committee of the growers meet at some later date, and I think we could arrive at something definite.

MISS HART: I think that would be the most satisfactorily arranged. Mr. Bunting was in charge of the committee last year. I could not come to any definite conclusion until I had all my committee.

THE CHAIRMAN: Possibly Prof. Crow could give us the results of last evening's meeting as to the kinds of apples best suited to the Province.

PROF. CROW: I was very much interested in the discussion last night, and I think perhaps it is safe to base some fairly positive statements on the discussion which took place. A number of speakers listed the varieties of apples they would recommend for their respective districts. Seven speakers gave lists, and some 20 varieties in all were named, but all seven men included Wealthy and Snow in their lists. Six men mentioned Duchess; six, McIntosh; five, Greening; five, Spy; five, Baldwin. Next in order was Alexander, mentioned four times.

It strikes me that the feeling of the meeting could be fairly definitely stated, and that those varieties were certainly highly recommended. The Baldwin has been very much discussed. We did not know exactly what its status was to be in the immediate future in respect to planting it. The matter has been so thoroughly discussed that you will be able to judge for yourself. I should say that the varieties most desirable are certainly those I have named in about this order: Snow, Wealthy, Duchess, McIntosh, Greening, Spy and Baldwin.

Of course it is understood that these varieties are only recommended for the districts where they could be grown satisfactorily. On the other hand, a number of these varieties were mentioned by speakers from every section, and consequently there are a number that are to be recommended for general culture everywhere in the Province of Ontario, notably the Duchess, Wealthy, Snow and McIntosh.

A MEMBER: In connection with the calling of the Fruit Growers' Association; this Association is larger than it was last year; this room is none too large, and there are indications that we will probably have more delegates next year. From the way things have been discussed, I think we might be given just a little more time. An industry that is of so great importance might well have a three day convention.

Then there is another point in connection with that. We come from different parts of the country and we have different fruits that interest us. If the programme was gotten up with a special day for apples, a special day for peaches and a special day for other things, we would have growers come to the meeting they were specially interested in, when they could not attend the whole convention, and a man one day would get as much information on his point as he would by staying the full two or three days. If somebody would formulate a resolution along those lines I think it would be to the advantage of the Association.

THE CHAIRMAN: I think that is a splendid suggestion. I believe we used to have a three day convention a number of years ago, and we might come back to that now that the war is over, and also have our meeting again in the fall with our fruit show. The directors no doubt will discuss this matter now that it has been brought before the meeting, but if you wish to move a resolution I would be glad to put it to the meeting.

MR. FAIRBAIRN: Following up the suggestion made by this gentleman, I would like to express the hope that our next convention, if it is held at the time

of the fruit, flower and honey show, will have some demonstrations of different makes of graders, as many as can be gotten together for that occasion, as well as the various makes of spraying outfits, and things of that kind. There are a great many men contemplating purchasing some of these articles, and it is a costly business to go to Rochester or Toronto or other places to investigate the various makes individually. If they could be collected together at some central place for our convention, it would be the biggest drawing card we could have for this convention.

#### REPORT OF RESOLUTIONS COMMITTEE.

1. Resolved that the members of the Ontario Fruit Growers' Association record their sense of the great loss they have sustained in the death of Mr. Donald Johnson, late Fruit Commissioner for Canada and a former president of this Association.

Successful in business, successful in public life, and successful in making many and true friends, a man of sterling character, and a father devoted to his wife and children, Mr. Johnson combined in his personality the qualities which go to make the highest type of Canadian citizenship. By this resolution his many friends desire to perpetuate the memory of our friend and fellow fruit grower so that when those who knew him will have passed away, his memory will be kept green in the pages of the Annual Report of this Association.

Be it further resolved that, although the Association has met several months after his death, even at this late date, the members desire to express their deep sympathy to Mrs. Johnson and her children in their great loss.

And that the Secretary be requested to send a copy of this resolution to Mrs. Johnson.

2. Resolved that we hereby desire to tender our sincere sympathy to the family of our late colleague and friend, Mr. R. B. Whyte, who has crossed the bar and gone to his reward, since our last annual meeting.

For many years Mr. Whyte has been a familiar figure at our meetings, and by his wise counsels and active co-operation both as a member and district representative of the Association added much to the interest of the gatherings of this Association.

3. Resolved that the Ontario Fruit Growers' Association do hereby desire to commemorate the devotion and patriotism of those fruit growers, their sons and daughters who in the past four years have made the supreme sacrifice in the great war.

In order to suitably preserve the record of their sacrifice, we request that the list of the above be carefully secured and a memorial describing their names and rank be erected and placed permanently in the Parliament Buildings.

And that the directors be requested to take immediate steps to have the spirit of the above resolution carried to a successful conclusion.

4. Resolved that the Department of Agriculture be asked to make a detailed survey of the fruit districts of Ontario to gather data on the entire costs of growing and marketing and the most profitable methods of production.

This survey is to be for the purpose of securing official and accurate information in reference to an industry which is of great importance to the Province.

5. Resolved that we, the members of the Ontario Fruit Growers Association in convention assembled, desire to put on record our unqualified disapproval of

the adoption of the so-called Daylight Saving legislation, since it very materially interferes with our business. To properly handle fruit, it is necessary that they should be picked dry. This it is impossible to do until the sun dries the night dews. Therefore, the setting back of the clock one hour, simply means that our industry loses just that much time.

We, therefore, respectfully pray that this our protest be given every consideration, and that a copy of this Resolution be forwarded to the Federal authorities, and that the Directors be requested to consider the advisability of sending a strong delegation, in co-operation with any other organization who may desire to protest against a renewal of this legislation.

6. Resolved that in the opinion of this meeting, it would be in the interest of the fruit industry of the Province to suggest to the Ontario Government the appointment of a qualified man to be attached to the London Immigration Office; such official to devote his entire energy toward promoting and advertising Ontario's possibilities for fruit culture.

And that a copy of this resolution be sent to the Provincial Minister of Agriculture.

7. Resolved that whereas miscible oils are at present the only substances known to be effective in controlling the Fruit Tree Leaf-roller, a dangerous and destructive Ontario fruit pest, and whereas they are the best remedies for certain city insect pests, especially the European Elm Scale and whereas at present the duty is prohibitive, and whereas these oils are not manufactured in Canada,

Be it resolved that we the Fruit Growers of Ontario in session assembled in Toronto hereby petition the Minister of Agriculture to use his influence to have the duty on miscible oils for insecticidal and spraying purposes removed.

8. Resolved that to stimulate a deeper interest in our Association we would suggest that a pressing invitation be forwarded from our Executive to each and every branch of this Association inviting their members to attend our Annual Convention, irrespective of the delegates who may be chosen for representation. We would also suggest that one of our best speakers visit the different branches at least once a year for the purpose of explaining the benefit and advantages we derive through the existence of the Ontario Fruit Growers' Association, due notice to be given when the speakers will address the various branches.

9. Resolved that this Association request the incoming Directors to take into favorable consideration the renewal during the present year of the Horticultural Exhibition which has been postponed during the course of the war.

I would move, Mr. President, that the above resolutions be received and adopted.

Motion seconded by Mr. Foster, and carried.

MR. SHOOK, Clarkson: The Resolutions Committee thought it was better not to put in the form of a resolution what I wish to present to the meeting, but to bring it before you in this manner: The fruit industry is up against the high cost of labor and a hold-up by the basket manufacturers; the prices are exorbitant; we are also up against the express rates being increased. Our commission men saw fit at one time to add one cent cartage which we believed to be unjust, and a short time ago, they raised the commission  $2\frac{1}{2}$  per cent., and we as fruit growers sit absolutely still. Our pickers come along and tell us what we have to pay them for picking, and we let circumstances control us. I think it is up to the members of the Fruit Growers' Association to get some backbone and put up a regular kick. A resolution brought up in our Association at Clarkson

some time ago was to this effect: That our packages being so expensive, we should therefore charge for our packages.

Other industries charge for their packages. If you buy cement you pay for the bag; if you buy soap you pay for the box. In our Association last year, if I am not mistaken we spent \$16,000 in boxes and baskets. I was told yesterday by some gentleman that they handled \$136,000 worth of these. We as fruit shippers have been throwing that money away year after year. We get absolutely nothing for it, and I think it is time we did. It is possible for us to recover this if we all put our shoulders together and demand some remuneration for our packages; have a schedule of prices fixed by a committee and charge that up when you sell your fruit. If you sell it privately, charge it up with the fruit; if you sell through an agent have him charge it up and remit it with his weekly statement.

You might say it is a big thing, but nothing is too big for such men as are assembled here. When we listen to the intellect of this body of men, we realize nothing is too big for them to attempt.

I would suggest that the Board of Directors, or a committee, be asked to inquire into the possibility of this question. My idea is to get the ball rolling, and show the people of this Province and others that we have a little "come-back" somewhere.

MR. BUNTING: There is one other matter that has perhaps been overlooked. Yesterday morning something was said with reference to the proposed increased express rates and the question of transportation. I have not heard of any stand this Association has taken with reference to the proposed change in the express rates. During the interval since our last convention, a very radical change is proposed by the express companies; this Association was represented here in Toronto by yourself, Mr. Chairman, and a number of other gentlemen in connection with other organizations that appeared before the Railway Commission, but it would seem to me, Sir, that it would be quite in order and very necessary for this Association at its Annual Convention to express their approval or disapproval of the proposed increase in rates. If that has not been done, I would desire, Mr. President, to present a resolution:

That we as a convention of fruit growers of the Province of Ontario strongly protest against the proposed increase in rates as being altogether out of proportion to the service that is rendered, and that a committee from this Association be appointed to follow up the situation until we get a favorable decision in the matter.

MR. CARPENTER: I have pleasure in seconding that motion. I do not think this organization can go too far in regard to this matter as it is of vital importance to the fruit growing industry, so much so that if the express companies are granted their proposed rate, it would mean prohibition, as far as fruit is concerned, in the smaller towns and cities of the country, and therefore would work such a menace to the fruit industry that it would not be worth bothering with.

THE CHAIRMAN: We did discuss this matter, but there was no resolution passed, and I quite agree with you that there should be some expression of opinion from the meeting.

The motion was carried with applause.

THE CHAIRMAN: The way it strikes one is that in selling the fruit, we sell the package and we include the price of the package of the fruit, the same as a

grocer includes the package, and even the paper and string in his prices, and I suppose the general public think they do pay for the package. It would save a lot of bookkeeping just to raise the price in a general way so as to include the package.

MR. SHOOK: Your commissioner takes cognizance of the fact that if he returns the package he gets a rake-off, does he not?

A MEMBER: There are quite a number living in close proximity to the city who make a practice every year of not buying new packages. The packages are sold by the dealers at half price or a little more, and it is just a little jarring to know our packages are used again.

MR. FISHER: I second Mr. Shook's motion with pleasure because I think we have been imposed on by the people in the trade. For the benefit of any man in the fruit commission business who is present, I would like to say that when prices were advanced to double or treble what they were previously, that would increase the amount they collected from every package to that extent, and in addition to that they added  $2\frac{1}{2}$  per cent. extra commission, which gives them probably from two and a half to three times what they got in pre-war days for the same packages of fruit. I think it is time we were looking after ourselves, and I think we have a good case to put before the dealers and the public that we should be paid for these packages.

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#### HONOR ROLL OF FRUIT GROWERS.

MR. HODGETTS: I might state that I have a list of several hundred names of soldiers connected with the fruit industry of the different sections. In the general farming sections, it is pretty difficult to say who were fruit growers or who were not, as many farmers have probably ten acres of an apple orchard, and it was a problem as to whether they would be classed as fruit growers or not. So the secretaries of the Association to whom I wrote sent me the names of the sons and daughters of members of the Association, as well as others in the fruit-growing districts, so we have a list of several hundreds.

MR. FLEMING: I think the resolution was the sons of the members of the Association or members of the Association, but I think it is a very good idea to give the names of those from the whole district, although that was not the resolution.

MR. PEART: Mr. Hodgetts' communication to me was the names of those directly connected with fruit growing—sons and relatives and men connected with fruit growing in a given district. I do not know that we should limit it to sons of members of this Association. The fruit growers throughout the Province who contributed to the war should be recognized. I make a motion to that effect.

MR. FAIRBAIRN: I second that, because I think if we were to limit it to members and their sons, we would have a very small list, as the membership is so small at the present time.

In accordance with the resolution of the Association, the following list of names of those connected with the fruit industry who enlisted for service in the Great War is submitted. It was found very difficult to secure the correct names and branch of the service in all cases. Undoubtedly there are errors and omissions. The secretary will be glad to receive additional names and any corrections to be published in the next report of the Association, so that it may be complete and furnish a slight recognition of the services rendered by these men to our country.

# Honor Roll of Ontario Fruit Growers

Name.	Address.	Rank.	Branch of Service.
*J. Akam	Aldershot	Private	Infantry.
E. G. Barrett	"	Signaller	Engineers.
*John Bell	"	Private	Infantry.
Gordon Bowman	"	"	"
Clare Bray	"	"	"
*Reginald Bullock	"	Flight-Lieut.	R. A. F.
P. Clarke	"	Private	Infantry.
W. A. Clarke	"	Gunner	Artillery.
Clinton Claus	"	Driver	"
*E. D. Crane	"	Private	Infantry.
Clarence Crysler	"	"	"
James Eccles	"	"	"
Fred Emery	"	"	"
V. H. Emery	"	Lieutenant	"
Miss W. B. Emery	"	Nursing Sister	"
T. F. English	"	Private	Infantry.
*John Filman	"	Signaller	Engineers.
Robert Fleming	"	Private	Infantry.
O. F. Fletcher	"	"	"
Harry Green	"	"	"
Chas. Hammond	"	"	"
*Frank Harrod	"	"	"
H. Gordon Horne	"	Signaller	"
Thomas Humphries	"	Private	Infantry.
*William Humphries	"	"	"
Thos. E. Job	"	Cadet	R. A. F.
David Keough	"	Sergeant	Infantry.
Frank Leake	"	Gunner	Artillery.
Geo. Leason	"	Private	Infantry.
J. C. Leckie	"	Sergeant	"
Freeman Lewis	"	Private	"
Albert Loosley	"	"	"
A. G. Lowe	"	"	"
G. Mallett	"	"	"
Alex. Mike	"	"	"
Horace McArthur	"	"	"
David Pearson	"	"	"
A. Riley	"	"	"
J. Robson	"	Corporal	"
E. G. Rowley	"	Flight-Lieut.	R. A. F.
Harper Schofield	"	Corporal	Infantry.
Linn Scott	"	Sapper	Engineers.
Wm. Scott	"	"	"
Joseph Sinclair	"	Private	Infantry.
H. M. Smiley	"	"	"
Kenneth Smiley	"	Lance-Corporal	"
*Arthur Staples	"	Sergeant	"
Geo. Stonefish	"	Corporal	"
Charles Tabrun	"	Private	"
Geo. S. Taylor	"	Sergeant	"
Russell Taylor	"	Private	"
O. L. Thomas	"	Sapper	Engineers.
Alfred Tipler	"	Private	Infantry.
Ernest Todd	"	"	"
K. W. Townsend	"	Driver	"
George Unsworth	"	Private	"
*Ernie Vosper	"	"	"
T. Wainwright	"	"	"
Fred Weiner	"	"	"
Dan. C. McArthur	Appin	Signaller	Artillery.
R. Small	Beamsville	Private	Infantry.

NOTE.—Those men whose names are marked with an asterisk (\*) gave up their lives in defence of their country.

Name.	Address.	Rank.	Branch of Service.
Fred Bragg	Bowmanville	Private	Artillery.
Everett Hoar	"	"	Engineers.
Edwin C. Hoar	"	"	"
Alex. Prout	"	"	Infantry.
Elmer Rundle	"	"	"
Edgar Scott	"	"	"
*Percy Werry	"	"	"
*Tom Heeks	Bronte	"	"
Wm. Heeks	"	"	"
Walter Lawrence	Brooklin	"	"
Ewart Hunt	Burford	"	"
Wm. L. Allan	Burlington	"	"
A. J. Barnett	"	"	"
John N. Blair	"	"	"
Frank Brock	"	"	"
H. Brooker	"	"	"
Maurice C. Burkitt	"	"	"
J. H. Burns	"	"	"
W. J. D. Campbell	"	Seaman	Navy.
A. C. Charles	"	Private	Infantry.
N. W. Clark	"	Driver	Artillery.
G. A. Cline	"	Major	(Sig. Corps) Eng.
Chas. Coleman	"	Gunner	Artillery.
H. C. Cooper	"	Private	Infantry.
John W. Cotter	"	"	"
Allen H. Davidson	"	Driver	Artillery.
John Dryden	"	Private	Infantry.
Osman Duman	"	"	Artillery.
John Dunn	"	Driver	"
Morley Easton	"	Private	Infantry.
Miss Nettie Fields	"	Nursing Sister	C. A. M. C.
Murray W. Fisher	"	Sergeant	Infantry.
Paul A. Fisher	"	Driver	Imperial Army.
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Geo. A. Miller	"	Lieutenant	R. A. F.
R. V. Mitchell	"	Driver	C. A. S. C.
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Elvyn Middleton	"	Private	Infantry.
Ed. Mundy	"	Corporal	Artillery.
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Harry Rylie	"	Captain	Engineers.
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Orma Sharpe	"	"	Artillery.
Roy Bonetta	Oshawa	Private	Infantry.
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P. O. Adams	Queenston	Private	Infantry.
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*Wright Lowrey	"	"	"
S. Wing	"	Sergeant	"
Cecil Woodruff	"	Sergeant	"
George Woodruff	"	"	"
Wilfred Woodruff	"	Private	"
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*Ernest Boden	Stoney Creek	"	"
*Charles Cairns	"	"	"
John Cairns	"	Sergeant	"
*Wm. Cairns	"	Private	"
Harry Church	"	Sergeant	"
Ernest Clark	"	Private	"
C. Clucas	"	"	"
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Arnold Thomas	" "	Sergeant	Infantry.
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Frank Timins	" "	Private	"
T. C. Glaspel	Taunton	"	"
Wm. Farrell	Tyrone	Lieut.-Col.	"
John Hills	"	Private	"
L. T. McLaughlin	"	Lieut.-Col.	"
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James Platts	"	Corporal	Artillery.
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Miss V. Rittenhouse	"	Nursing Sister	American Red Cross.
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Windson Johnstone	Vittoria	"	"
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Fred G. Oakes	"	"	"
Clarence Staley	"	"	"
James Baisley	Winona	"	"
Ernest Baker	"	"	"
Sam Cameron	"	"	"
Francis Carpenter	"	Lieutenant	"
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Charles Hamm .....	" .....	Sapper .....	Engineers.
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# Ontario Department of Agriculture

REPORT

OF THE

# Horticultural Experiment Station

VINELAND STATION

1918

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PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



TORONTO :

Printed by A. T. WILGRESS, Printer to the King's Most Excellent Majesty

1919

# ONTARIO HORTICULTURAL EXPERIMENT STATION

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*To His Honour* SIR JOHN STRATHEARN HENDRIE, C.V.O., a Lieutenant-Colonel  
in the Militia of Canada, etc., etc., etc.

*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

The undersigned begs to present for the consideration of Your Honour the  
Report of the Horticultural Experiment Station at Vineland Station for 1918.

Respectfully submitted,

GEO. S. HENRY,

*Minister of Agriculture.*

TORONTO, 1919.

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REPORT  
OF THE  
Horticultural Experiment Station  
1918

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Good progress in the development of the Experiment Station was made during 1918. The increased facilities provided by new and up-to-date greenhouses and additional land, made possible a comprehensive treatment of the various experimental and plant breeding projects.

The two new greenhouses, each 30 ft. wide x 75 ft. long, with a connecting house 16 ft. x 56 ft., have been occupied since mid-summer. One of the large houses is being used as a general propagation house to provide material for bedding out and for ornamental work in the spring and for raising tomato, cabbage, cauliflower plants, etc., for the experimental and breeding work in vegetables. The other large house has been partitioned off into two parts, one-half to be used for experimental and seed production work with vegetables and the other for fruit breeding work. For this latter work there has already been secured a considerable number of dwarf fruit trees of the varieties desired. These will be handled in large pots. New breeding work with strawberries under greenhouse conditions is already well under way.

The rental of fifty acres and purchase of an additional seven acres of land suited to fruit work, was mentioned in the annual report for 1916-17. Heretofore, the plant breeding work particularly has been greatly handicapped by a lack of suitable land or, in fact, of land of any kind. The rented property (and also the seven acres purchased outright) across the road from the Experimental Station and a little south of it, is close enough to insure economical working.

While the type of soil on this property is all that could be desired, yet as regards the fertility and condition of the land a great deal of work and considerable expense has been necessary to put it in suitable shape. Twenty-five acres of the total fifty-seven was taken over in the spring of 1917. Twenty acres of this was scrub peach orchard and five acres hay. The whole was full of twitch grass and generally poorly surface drained owing to careless plowing and neglect.

The peach orchard was removed in the spring of 1917 and the land plowed three times within a period of about six weeks, or whenever the land was sufficiently dry enough to permit of plowing. It will be remembered that 1917 was an exceptionally wet spring. After the third plowing the land was thoroughly disced and sowed to buckwheat. The three plowings and the subsequent sowing of buckwheat almost entirely smothered out the twitch grass. The second twenty-five acres was given somewhat similar treatment for the twitch grass during the season of 1918.

Due to the lack of drainage and continuous working for many years without liming, the land was found to be quite acid. The whole property was underdrained in the spring of 1918. In addition, ground limestone at the rate of about two tons to the acre was applied in the fall.

The killing out of the twitch grass, underdraining the land, liming, and the application of twenty carloads of manure, part applied in 1917 and part in 1918, has put the soil in very fair condition for our work. Annual crops of various kinds have of course been grown and considerable permanent planting also done while the various steps were being taken to put the land in good condition. Four thousand five hundred peach seedlings and hybrids were planted during the spring of 1918 in rows ten feet apart and trees seven feet apart in rows. This allows the seedlings sufficient room to develop and fruit for one or two years when the inferior seedlings, probably ninety per cent., will be removed and the whole space given over to the selected seedlings for a further year or two when the final selection will be made. There have also been planted out 150 apricot seedlings, 155 pear seedlings, two acres of selected strawberry hybrids and a further acre of various varieties of strawberries.

Of annual crops, there were grown during 1918, chiefly for increased production purposes, four acres of beans and four acres of corn for the local canning factory, two acres of field pea beans, two acres of tomatoes and about three and one-half acres of potatoes, including the potatoes in the selection work.

A nursery for the young fruit seedlings has also been started on this property. Thirty-three thousand grape hybrids and twenty-three thousand gooseberry seedlings were planted out in nursery rows in the spring. These will be transplanted to permanent fruiting quarters in the spring of 1919.

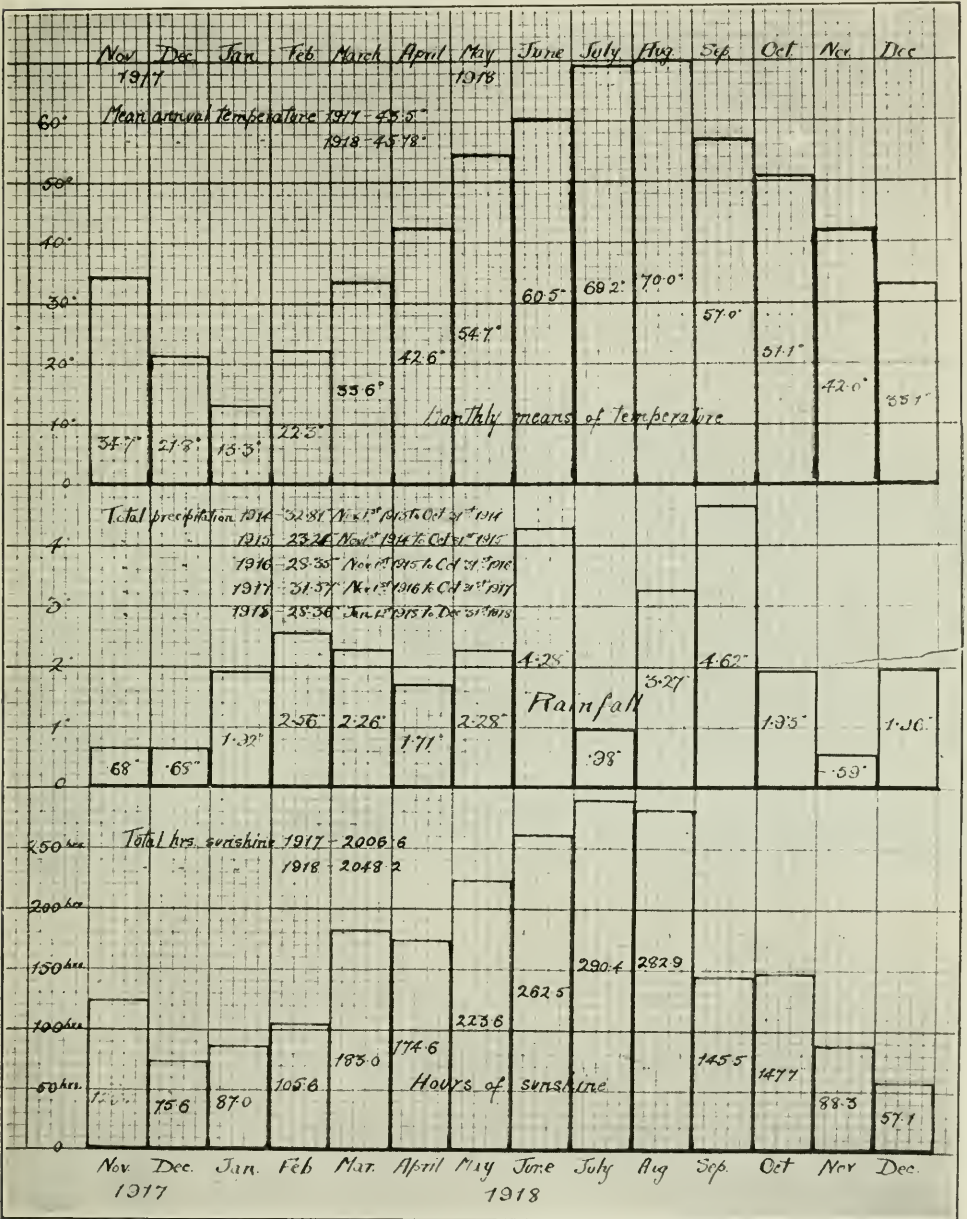
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#### CHARACTER OF THE SEASON OF 1918.

The Winter of 1917-18 was characterized by the earliness with which it set in and its severity. After the excessive wet of the latter half of October, the weather was fair and dry for the first three weeks of November. This was followed by a period of winter weather with a minimum of seventeen degrees of frost before December 1st. It was somewhat milder after this although still cold, with a return to colder weather on December 9th, with a temperature of five degrees above zero and 4 in. of snow. From that time until February 11th, there was steady winter weather with much snow and very low temperatures. The minimum reached during the winter was 16 deg. below zero, on February 5th. During the period from December 9th to February 5th, the thermometer registered below zero on sixteen different days and from December 25th until February 6th, the thermometer did not register above 32 deg. F., except on one occasion when it reached 33 deg. for a few hours.

On February 12th, milder weather set in and the snow disappeared in a few days. February 19th there were thunderstorms and rain with a temperature of 50 deg. F., which was reached again on the 20th, but it dropped to 2 below zero on the 21st. This was followed again by mild spring-like weather with more thunder and rain, until the end of the month. The first part of March gave good indications of early spring. It was all that could be desired for the time of the year. The latter part of the month was somewhat unsettled, but on the whole was satisfactory.

April generally was disappointing. There were many cold east and north-east winds and considerable frost. May also was cool though the weather was fine otherwise. The wind remained persistently in the east. During June, the same conditions prevailed. The first three or four days were normal June weather,



Weather chart.

but from then to the 27th the temperatures were very low for the time of year with the same cold east winds prevailing much of the time. The month ended with a thunderstorm and a rainfall of 2.07 inches. This rainfall, though excessive, was badly needed at the time.

July and the first part of August were warm and dry. The drought was broken by nearly an inch of rainfall on August 8th, this being the first rainfall for six weeks. The remainder of August was warm, with another inch of rain on the 12th. The temperature reached the highest point for the year on the 7th, registering 100 deg. F. on that day, and ranging between 90 deg. and 98 deg. F. on many other days.

September throughout was wet and cold and may be described as a decidedly disappointing month from an agricultural standpoint. There was a 2 in. rainfall on the night of the 4th and a total of 4.62 in. for the month. Light frost which



The New Experiment Station property sown to buckwheat as a "clean up" crop.

did no damage occurred on the night of the 10th, and killing frost occurred on the night of the 30th. October generally, was finer and warmer than September with only a few frosts and much pleasant weather. November too was fine and comparatively warm and a good month for the completion of fall work. There were light snowflurries on the 22nd, and a tendency toward cooler weather at the end of the month. The weather gradually became cooler with a winter period ensuing during the first week of December. From the 7th to the 23rd of December unusually mild conditions prevailed with a good deal of spring-like weather and only light frosts at night. The period from then to the end of the year took on a winter appearance, but the temperatures were comparatively mild and the year closed foggy and damp.

Summarizing, every month of the year 1918 was above or below normal in temperature and several months varied considerably from the mean average in rainfall. January and February were very cold; March erred on the fine side, for

there was much spring-like weather about the middle of the month. April, May and June were cold; July and August were very warm with a forty day drought; September was very cold and wet, and October, November and December, extremely mild. 1918 gave us about our *average* of heat, rainfall, etc. but we would have appreciated a better distribution.

## PLANT BREEDING REPORT.

### BREEDING PROJECTS UNDER WAY.

(1) *Apples*. To secure (a) varieties of the desirability of McIntosh, Fameuse and Greening which are resistant to scab; (b) a red apple of the Greening quality; (c) a good late keeping red winter apple, suitable for export.

(2) *Peaches*. (a) To secure better quality, yellow flesh, early varieties and (b) to secure varieties covering the season but with greater hardiness in bud and in wood than our present commercial varieties.

(3) *Pears*. Breeding with pears to secure, if possible, commercially valuable varieties relatively immune to blight.

(4) *Grapes*. The production of varieties of the Concord type, but of higher quality; also the production of improved quality early varieties.

(5) *Blackberries*. To secure varieties with increased hardiness, rust resistance and thornlessness.

(6) *Currants and Gooseberries*. General improvement with a special effort to secure drought resistance in gooseberries.

(7) *Raspberries*. Improved quality in early varieties; hardiness in cane; improved varieties of black caps.

(8) *Strawberries*. General improvement, particularly for better quality in shipping varieties.

(9) *Vegetables*. Selection and hybridizing work with sweet corn, tomatoes, beans, egg plants, peppers, onions, beets, to secure improved strains and new varieties.

In addition to the projects outlined above, some of which have been carried on since the start of the work in 1913, with the others added from time to time, a certain amount has been done with cherries, plums and certain other vegetables besides those mentioned above. Owing to the unsuitability of any site at our disposal for sweet cherry seedlings, it has been thought advisable to discontinue further breeding, temporarily at least, though the seedlings we have will be raised to fruiting. A certain quantity of seed will also be planted each year as a result of the self-fertility tests being carried on with cherries. It has also been thought advisable to discontinue the breeding work with plums until the actual work of hybridizing can be carried on under glass. The breeding work with plums outdoors has proven very disappointing. In vegetables, the plan from now on is to concentrate the work on a few kinds (especially adapted to southern Ontario conditions) rather than divide the effort too much by trying to carry on improvement work with all the common vegetables. Concentration, therefore, is being made on sweet corn, tomatoes, beans and to a lesser extent on peppers, egg plants, beets and onions.

## BREEDING PROJECTS DISCONTINUED.

(1) Improvement of strawberries by runner selection. Completed. Results negative, agreeing with similar work by other experiment stations.

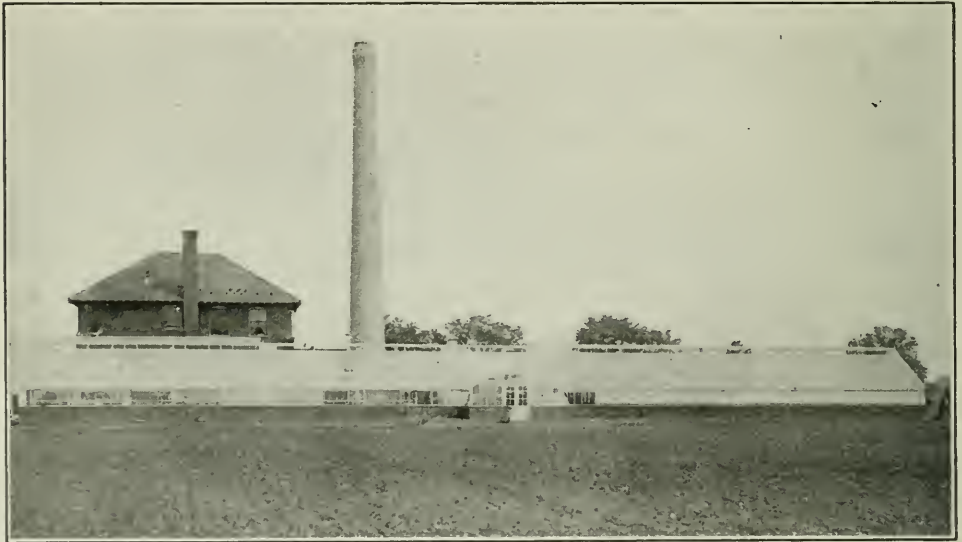
(2) Crossing tomato with *Solanum balbisii* for frost resistance. Discontinued as these two species failed to cross in three years' attempts.

(3) Cherry breeding. Discontinued for reasons noted elsewhere in this report.

(4) Plum breeding. Discontinued for reasons noted elsewhere in this report.

## PROJECTS CONTEMPLATED.

(1) Search for chance seedling fruits. A part of the work undertaken by this Experiment Station consists in the development of improved varieties of



New greenhouses and heating plant. Administration building in left background.

fruits by selection and hybridization. This, however, takes many years, the peach, for example, requiring at least ten years for crossing and testing before any recommendation can be made.

Because of this fact, and the general knowledge that throughout the country exist numbers of seedling and sport fruits, some of which may quite possibly be better than our present commercial varieties, it has been considered that a systematic search for such seedlings would be a very profitable undertaking. It is planned to start this work when funds are available.

## THE WORK IN APPLE BREEDING.

Apple breeding has not been under way long enough as yet for any of the hybrids or seedlings to have fruited. There are some 240 hybrid trees growing with also about 400 seeds secured from the 1918 breeding work. In this breeding work it is worthy of note that for three years the attempt to cross Greening with McIntosh has been unsuccessful.



In addition to the hybrid seed secured from the 1918 work, the following open pollinated seed was secured and planted in the fall:

Baldwin . . . . .	830	seeds	planted.
Duchess . . . . .	2,880	"	"
Fameuse . . . . .	3,700	"	"
Greening . . . . .	900	"	"
McIntosh . . . . .	2,190	"	"
Ontario . . . . .	1,950	"	"
Russet . . . . .	3,515	"	"
Spy . . . . .	3,420	"	"
Wagener . . . . .	3,270	"	"
Wealthy . . . . .	3,920	"	"

In addition to this open pollinated seed a considerable quantity of seed was saved from various apple species obtained through the U. S. Bureau of Plant Introduction. These include: *Malus rivularis*, *M. ringo*, *M. malus*, *M. prunifolia flava*, *M. neidwetzkyana* and *M. malus pendula*.

#### PEACH BREEDING.

With regard to the peach seedlings planted in 1911 there is nothing to add to the information given in the last report (1916 and 1917, page 12). Selfed seed and open pollinated seed of some of the more desirable trees have been secured from which to grow the F<sub>2</sub> generation.

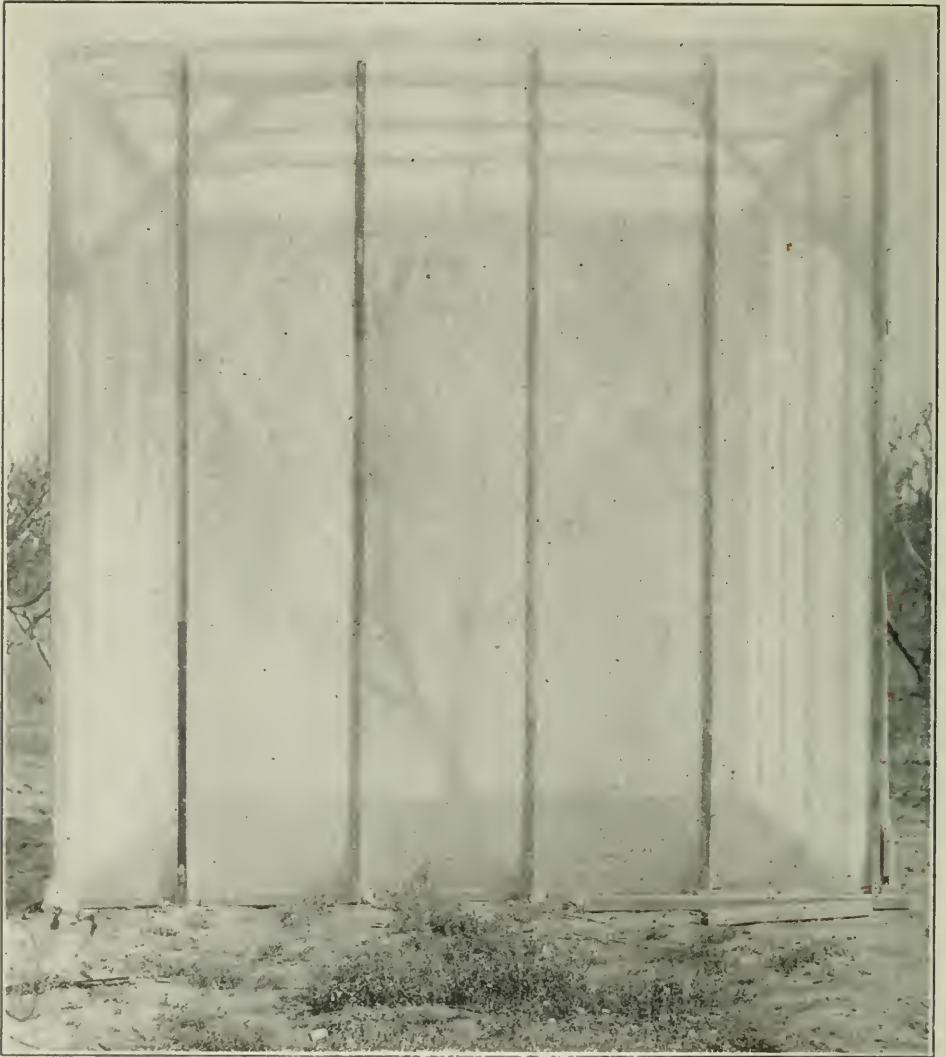
The block of Early Crawford seedlings, of 1913 planting, has proven very disappointing. Each year since 1916 a few trees have borne a few fruits, inferior in size and color and quality. The cause of this may, in part, be due to too close planting. Ever third row has therefore been removed outright so as to give the remaining trees a better chance.

The hybrids and seedlings of 1913 and 1914 breeding are making satisfactory growth but are not fruiting as they should do. In places where the trees, because of deaths and removals, have more space they have fruited reasonably well. It would appear from this and from the experience with the block of Early Crawford seedlings that the seedlings should be planted further apart. The new plantations have therefore been given a distance of 7 ft. x 10 ft. This, of course, requires considerably more land, but appears to be the only solution of the problem.

One particularly promising seedling has resulted from the 1913 breeding work. This is a Leamington self-fertilized seedling. It is a yellow flesh, free stone peach of good appearance and quality, and in season between the St. John and early Crawford. Its greatest promise, however, lies in the fact that it appears to be perfectly hardy in bud and in wood, having borne heavy crops both in 1917 and in 1918. Commercial varieties and other seedlings near it, suffered more or less severely from winter killing of the buds. Another point in favor of this Leamington seedling (which is characteristic of all Leamington seedlings) is the earliness with which it comes into bearing. It fruited first at four years from seed or two years from the time it was taken from the nursery row and set in the permanent plantation.

The hard winter of 1917-18 proved too much for a large number of the seedlings resulting from the 1915 and 1916 breeding work. Out of 4,423 taken from the nursery rows and planted out, only 2,545 grew. The remainder had been too severely injured by the extreme winter.

The 1918 breeding work was confined to three crosses: Early Crawford x Arp Beauty, and Elberta x Early Crawford and Greensboro. The pits secured from this work have been planted and will germinate in the spring of 1919.



Peach hybridizing. Tree covered with cheesecloth tent to exclude bees and other insects.

#### PEAR BREEDING.

In 1918, the following crosses were made, the object being as previously noted to breed for blight resistance:

- Bartlett x Kieffer (220 seeds secured and planted).
- Bartlett x Mt. Vernon (630 seeds secured and planted).

The Mount Vernon is a variety, which, while not of much importance otherwise, has been found to be practically immune to blight.

## PLUM BREEDING.

In this report, as in that of 1917, only slight progress in breeding of plums can be reported. Many obstacles have cropped up to render plum breeding work negative, and therefore, as previously stated, it has been decided to discontinue further breeding work until it can be carried on with dwarf trees under glass. As with cherries, however, there are already a considerable number of seedlings growing and these will be carried on to fruiting and selections made if any show merit.

In addition to the work noted in the last report, the following open fertilized pits were saved in 1918:

Glass .....	380	Shiro .....	225
Hand .....	365	Washington .....	340
Lombard .....	540	Yellow Egg .....	489
Monarch .....	239		

No hybridizing work was done in 1918.

## GRAPE BREEDING.

A further selection of the hybrids resulting from the 1913 breeding work was made during the past season. Practically all of the vines remaining after the 1917 selection fruited, though a considerable number showed an entire lack of vigor, with no fruit. These were destroyed without further description. In all, 147 hybrids have been retained. Thirty-one of these have not yet fruited. The remainder have fruited and have been reserved as showing promising characteristics. Two thousand, seven hundred and fifty-eight were removed as being undesirable.

None of the hybrids or seedlings resulting from subsequent breeding work have as yet fruited. There is therefore nothing further to add to the previous reports other than an account of the 1918 breeding work. Over 2,000 seeds were secured from that season's work, representing various crosses of the following varieties: Campbell, Concord, Niagara, Worden, Agawam, Winchell.

## BLACKBERRY BREEDING.

In the work with the blackberries and dewberries, great difficulty has been experienced in getting the seed to germinate, two years being required before much of the seed grows. There are however a considerable number of plants now growing representing the breeding work for 1916 and 1917. The work in 1918 was confined to crossing the Wilson with Wachusett (thornless) and *Rubus canadensis* (wild dewberry). Some 250 fruits were gathered as a result of this work.

## CURRANT BREEDING.

Very little systematic breeding has as yet been done with currants except to cross them with the gooseberry in an attempt to breed a thornless variety of the latter fruit. There are at the present time a fair number of hybrids of the currant and gooseberry growing. There are also a large number of open pollinated currant seedlings growing. These have not yet fruited in sufficient quantities for descriptions to be made or good seedlings noted, except for about eighteen seedlings. One of these, a red variety, appears promising.

## GOOSEBERRY BREEDING.

Gooseberries have, like currants, received very little attention as far as definite breeding work is concerned, although a large number of open pollinated seedlings are being grown. None of these have as yet fruited. The work for years previous to 1918 has been noted in earlier reports. The work in 1918 represents further crossing of a currant and gooseberry and also several crosses between the English and American varieties of gooseberries. About 240 fruits resulted from this work. The seed secured has been planted in cold frames.

## RASPBERRY BREEDING.

The plantation of raspberry selections made in 1915, and those of 1913 breeding, fruited in sufficient quantity during the past season to permit of self-

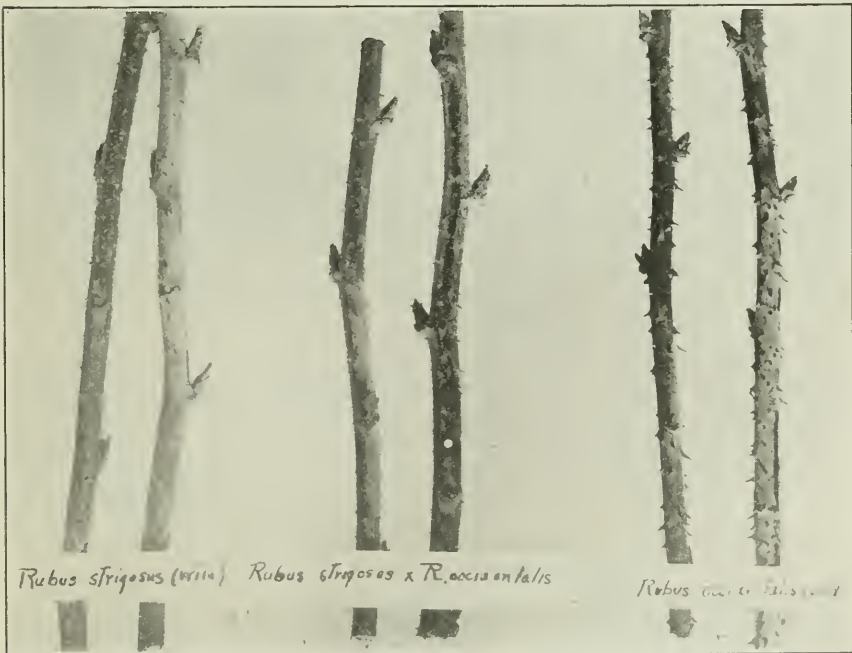


Canes of wild black cap (*Rubus occidentalis*) and wild red raspberry (*Rubus strigosus*).

fertility tests in a further culling of their numbers. Those proving self-sterile have been discarded, and also any showing no superior characteristics which would warrant their retention for further trial and comparison with commercially grown varieties. A new and more extensive plantation from those finally selected has been made on the new property where soil conditions, etc. are more favorable. In spite of unfavorable conditions under which they have so far been growing, several of these seedlings have showed up remarkably well and under the better conditions now provided their commercial value will soon be evident. As noted in the 1917 report, 452 hybrids were retained out of 5,070 hybrids resulting from the 1914 breeding work. During the past season a further selection was made, everything being discarded with the exception of 37 plants which have been re-



Canes of *Rubus occidentalis* crossed with *R. strigosus* (centre), with canes of the parent species on either side.



Canes of *Rubus strigosus* crossed with *R. occidentalis*, with canes of the parent varieties on either side.

tained for further trial. These selections will be propagated and moved to a testing plot with other varieties under commercial conditions. In the 1917 report, mention was made of some seedlings of *Rubus occidentalis* (wild black cap), 18 out of 626 seedlings being retained for further trial. A further selection was made in 1918 and five have been retained to be tested commercially. As far as one can judge from a single plant, these selections, which are simply seedlings of the wild black cap, are fully equal to our cultivated varieties. It is worthy of note here, that the *Rubus occidentalis* seedlings and also seedlings of the Gregg black cap have come so uniform and true from seed and the whole were as nearly equal in quality to the Gregg that it would seem quite feasible to propagate black caps for commercial planting by growing from seed.

Some interesting data has resulted from the raspberry breeding work of 1915. These plants fruited for the first time, in 1918. Four hundred and ten seedlings of *Rubus strigosus* (wild red raspberry) fruited. Fruit was ripe on July 4th, and showed a slight improvement over the wild form due, no doubt, to cultivation. The bushes were all alike with only slight differences in size and quality of fruit, being almost identical with the wild in its native habitat. There were no yellow fruits which appear almost invariably in seedlings of our cultivated red varieties. A few plants were noted with a tendency to fruit on the current year's canes. A slight variation in thorns existed as shown in the accompanying illustration where all grades of thorniness found are included. Three selections were made, two for an improved berry with general prolificacy, and one for its tendency to fruit on the new canes.

One hundred and forty plants of *Rubus occidentalis* (wild black) x *Rubus strigosus* (wild red) fruited. The growth and foliage indicated a compromise in that the tips of the new growth were the same color as wild red canes and darker than the wild black, and were more upright and less thorny than the wild black. In the accompanying illustration the centre group of canes shows the extremes of variation in the hybrids, and it will be noted that, while the thorns are still numerous enough, they are fewer in number than the wild red and less formidable than the wild black. The fruit was all of the purple cane type and inferior in quality, size and appearance. The canes were not purple but a greenish white. Two were selected to be selfed and for a continuation of the breeding.

Of a cross of *Rubus strigosus* x *Rubus occidentalis* (reciprocal cross of the above) 130 plants fruited. The foliage was the same as the wild red raspberry. The fruit was all red, slightly drier and firmer than the wild red. The canes were thornier than the wild red but were all of the red raspberry type as will be seen in the accompanying illustration.

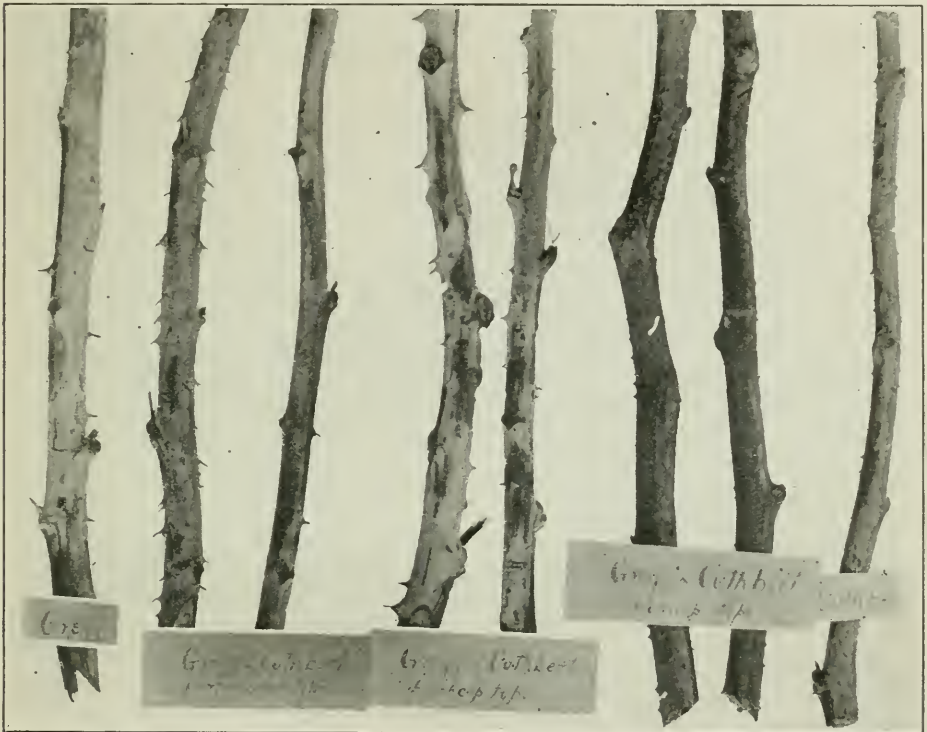
From a cross of Gregg x Cuthbert, 152 plants fruited. Of this number, 117 bore a purple cane type of fruit with intermediate type of cane foliage. Twenty-eight were, to all appearances, black caps and seven red raspberry. This is an approximate ratio of 1 red to 4 blacks to 16 purple canes. The accompanying illustration shows that the purple canes of this cross vary in thorniness, from very thorny with thorns of the same type as Gregg to almost smooth. The red raspberries of this cross were all similar in thorniness to the Cuthbert and the black caps similar to the Gregg, the other parent. -

Cuthbert x Gregg gave all red raspberries.

From the foregoing, it will be seen that wild red x wild black and also a cultivated red x black gave nothing but red raspberries in the resulting progeny, whereas, the reciprocal cross gave entirely different results. The wild black x wild

red gave all purple cane type of fruit and the cultivated black x red (Gregg x Cuthbert) gave a population which broke up in the ratio of 1 red to 4 black to 16 purple canes. The wild black and the cultivated black both seem to come fairly true to type from self-fertilized seed, only minor differences such as may be expected to appear, *i.e.*, the variation in thorns and perhaps a slight improvement in fruit. The wild red seedlings showed the same adherence to type with minor differences and slight variations.

Breeding work with raspberries in 1918 consisted of self-fertilizing 36 hybrids of known parentage and also an effort to cross the Cuthbert raspberry with the blackberry and the loganberry with the raspberry. A large number of seeds have



Various types of canes resulting from a cross of Gregg black cap with Cuthbert red raspberry.

been secured from the selfed hybrids. The attempt to cross Cuthbert with the blackberry was fairly successful, 77 fruits being gathered, though many of these fruits were mere nubbins with only two or three drupelets developed. From the loganberry x raspberry cross 10 fruits were gathered. The raspberry used in this case was one of the hybrids, No. 111.

#### STRAWBERRY BREEDING.

The selected hybrid strawberries of 1913 breeding have been transferred to the new property where they will be given a fair trial under more suitable soil conditions than they have had so far. Two hundred and ninety-one selections were

transplanted, twenty-eight of these being selected especially for earliness. Sixteen of the original selections were lost owing to poor soil conditions of the old plantation.

Owing to the very unfavorable weather conditions of the spring of 1917, it was impossible to make selections of the strawberry hybrids resulting from the 1914 and 1915 breeding. However, during the fruiting season of 1918, the plot was carefully scrutinized two or three times and plants showing promising characteristics were selected. The remainder were discarded without any attempt being made to make individual descriptions. Fourteen hybrids were retained from the 1914 breeding and seventeen from the 1915 breeding. These also have been propagated and transferred to the strawberry test plots on the new property. The following list gives the parentage of the selected plants:

Parson's Beauty x Michael's Early .....	2 selections
Parson's Beauty x Williams .....	1 "
Williams x Early Ozark .....	1 "
Williams x Michael's Early .....	2 "
Williams x Brandywine .....	2 "
Early Ozark x Williams .....	2 "
Early Ozark x Michael's Early .....	2 "
Michael's Early x Williams .....	2 "
Williams x Brandywine selfed (F <sub>2</sub> ) .....	1 "
Joe x Williams .....	3 "
Williams x Joe .....	2 "
Williams x Brandywine .....	9 "
Williams x Parson's Beauty .....	1 "
Brandywine x Williams selfed (F <sub>2</sub> ) .....	1 "

No strawberry breeding work was done in 1916. Plants resulting from the 1917 work are still in the cold frames, from where they will be transplanted to the field in the spring of 1919.

The crossing work done with strawberries during the season of 1918 is shown in the following table:

TABLE I.—STRAWBERRY BREEDING, 1918.

Cross.	No. Poll.	No. Fruits Gathered.
Admiral x 1563 .....	14	27
Joe x 482 .....	60	39
Parson's x 812 .....	130	51
Wild White x Dunlap .....	143	70
Williams x 2641 .....	170	47
Williams x 3688 .....	29	0
Williams x 5715 .....	67	24
482 x Wild White .....	3	0
2209 x 2208 .....	46	19
3390 x Williams .....	109	30
3540 x Brandywine .....	13	4
3741 x Dunlap .....	61	25

The numbers given, such as 1563, represent one of the selected hybrids which has not been given any definite name but which we are using in the further breeding work because of desirable characteristics possessed by it.

The wild white strawberry used for the first time in breeding this year is a white form of the native species *Fragaria americana*. The fruits are small in size, color somewhat creamy yellow outside, and flesh of the same color. It is slightly bitter to tasteless in quality, but it has the very desirable characteristic from a



canning standpoint of the fruit being easily picked. The berries practically "shell off" leaving the calyx attached to the stem and it is this character which it is being sought to incorporate in commercial varieties for canning purposes.

#### CORN BREEDING.

Selection work in corn was started in 1914 with Golden Bantam and the Central Experimental Farm strain of Early Malcolm. Other varieties have been added from time to time until in 1918 the following were grown in addition to selections of the two varieties mentioned above:

*Indian Corn* from Wills Seed Co., Montana; a flint corn, dwarf and very early, various colors. Its only value is its earliness which factor will be considered in breeding work. A few desirable ears have been retained, one of a small yellow color, one of a dark red and a few good white ones.



Wild White Strawberry (*Fragaria americana*) in the pot on the right. This species is being used in the breeding work for a special character which it possesses.

*Early June* from Wills Seed Co. Very similar to Early Malcolm. Apparently not quite as uniform nor quite as early. No seed retained for further testing.

*Golden Bantam* from Charles Young, Richard's Landing. Ears inclined to be ten and twelve rowed, good quality; matures much later than Early Malcolm. Good color.

*Charlevoit* from G. S. Peart, Burlington. (Seed originally from D. M. Ferry Seed Co., Windsor.) Resembles Bantam very much in quality and color, but ears are larger and on the average better filled. It is also later in season.

*Cook's Special*. Seed received from G. S. Peart, Burlington. Variety originated with a market gardener at Kingston, Ontario. This is a white sweet corn, deep kernels, eight to ten rows. Matures as early or a little earlier than Early Malcolm. Ears of larger size and well filled at tip and base. Considered a promising variety for the market gardener.

Beginning with the season of 1919, it is planned to considerably extend the breeding and selection work with sweet corn. With this in view the best selections

of the common varieties of sweet corn have been secured from various seedsmen. In all, seed of fourteen varieties has been secured to add to the work already under way. The immediate objects of this work are:

1. To secure a more uniform and otherwise improved strain of *Golden Bantam*; a longer edible season particularly is desirable and from a market standpoint a somewhat larger cob.
2. To secure a corn of the Bantam type of earlier season.
3. To secure an improved strain of Charlevoit (which appears to be a late Golden Bantam corn.) It excels Bantam in having a longer edible season.

#### CUCUMBER BREEDING.

As mentioned in the 1917 report, practically all of the work done in cucumbers was lost due to unfavorable weather conditions in that year. The purpose of this work had been to develop a forcing cucumber of the white spine type, which would set its fruit without fertilization. It is now planned to carry on this work almost altogether in the greenhouse where conditions will be controlled though necessarily the amount of the work will be more limited. We have been fortunate in securing some hybrid seeds of the right cross and selected for several years from the Department of Horticulture, Ontario Agricultural College, thus saving three or four years of preliminary breeding work.

#### EGG PLANT AND PEPPER IMPROVEMENT.

Seed of varieties promising for southern Ontario has been secured with which to commence a study of these varieties and their adaptability to Ontario conditions. It is recognized that varieties which are most profitable in the Southern States will not mature in our climate. We are confined to the very early maturing varieties in which there is considerable room for improvement in various ways.

#### GARDEN PEA BREEDING.

Selection work was continued again in 1918 using only the most promising selections. One hundred and twenty-six individual selections were planted out of the varieties Stratagem, Gregory Surprise, Gradus, Abundance, Telephone, Horford's Market, Alaska, MacLean's Little Gem and Champion of England. Forty-one only of these were retained at harvesting time to be further tried out in 1919. In addition, several new varieties specially recommended are being added to the work.

It is just doubtful as to how far the pea selection should be carried, as conditions in the Niagara Peninsula are not by any means ideal for garden peas and breeding work is therefore greatly handicapped. We are too subject to hot, dry weather and the soil gets too warm also. An attempt is made to overcome these unfavorable conditions to some extent by planting close to the lake where the temperature is more moderate and the air likely to be moister.

#### POTATO BREEDING.

The potato selection work as outlined in previous reports was carried on again during 1918. Owing, however, to the unsuitability of our conditions for potato breeding work, it has been considered advisable to drop this line altogether in future. In the experimental work of course the test of Northern vs. Southern grown seed, etc., will continue to be made as will also the experimental work with potato diseases being carried on under the direction of the Dominion Department of Agriculture.

### TOMATO BREEDING.

The selection work as outlined in the first report of the Station (1915) is being continued, and commencing with the 1919 season will be considerably extended. Some eighty varieties and selections of varieties are being added to the work mainly for a variety study for a year or two when those considered of likely value for our conditions will be retained, the remainder discarded altogether. Special attention is of course being given to production of a smoother early type of tomato than those we now have and to the production of varieties desirable from a canning factory standpoint. Our season is often cut so short by backward spring weather and early fall frosts that a variety which will mature the bulk of its crop in a very short period is required. The long-season, heavy yielding varieties, grown in the Southern States are of little value for our conditions.

### BREEDING WORK WITH OTHER VEGETABLES.

The selection work with carrots, beets and onions has been continued, but it is the intention in future to devote most time and attention to the crops particularly adapted to Niagara Peninsula conditions. It is difficult if not impossible, to breed up an improved variety of vegetable when local conditions are not at least fairly suitable for that vegetable.

## REPORT OF EXPERIMENTS IN POMOLOGY

### EXPERIMENTAL PROJECTS UNDER WAY.

- (1) Variety tests of apples, apricots, cherries, nectarines, peaches, pears, plums, quinces, grapes, currants, gooseberries and strawberries.
- (2) Spring *vs.* fall plowing of various cover crops.
- (3) Summer *vs.* winter pruning of apple trees *vs.* no pruning.
- (4) Spring and fall planting of pears and plums in dug and dynamited holes.
- (5) Self-fertility tests of varieties of pears.
- (6) Grapes: Correlation between the number of buds left in pruning and the vigor, productiveness and longevity of the vine.
- (7) Self-fertility tests of varieties of grapes.
- (8) Value of certain self-fertile varieties of grapes as pollenizers for self-sterile varieties.

### EXPERIMENTAL WORK DISCONTINUED OR COMPLETED.

- (1) Lime sulphur *vs.* soluble sulphur for scab control. Discontinued for reason that it was needlessly duplicating similar work being carried on by the Fruit Branch, Toronto; Ontario Agricultural College, Guelph; and the Dominion Entomological Laboratory, Vineland Station.
- (2) Stocks for Spy for early bearing. Discontinued for reason that experimental work which will answer this question, is being carried on very extensively by at least one of the Experiment Stations in the United States. The Vineland experiment was very limited in number of trees.
- (3) Low *vs.* high headed trees. Discontinued for reason that experiment was on too small a scale; also the low headed trees were not really low headed, and the high headed trees were extreme.
- (4) Dwarf *vs.* standard stocks for pears. Discontinued owing to the great losses from blight, insufficient trees being left to carry on the work. Some data is available.
- (5) Peaches on heavy clay on peach roots *vs.* plum roots. Discontinued as noted in the 1917 report, page 48. A fuller account of this experiment and the results secured is given in the 1915 report and in the Fruit Branch Circular for January 1916.
- (6) Ringing peach trees. Discontinued as being of doubtful value.
- (7) Storage qualities of various varieties of tree fruits. Discontinued owing to unsuitability of available storage conditions.
- (8) Ringing grape vines. Completed. See page 54, 1917 Report.
- (9) Resistant stock for Vinifera varieties of grapes. Discontinued temporarily owing to war conditions.
- (10) The Honey Bee as a factor in the pollination of the grape. Discontinued temporarily owing to war conditions.
- (11) Overhead irrigation of raspberries. Completed for Experiment Station soil conditions. Further work remains to be done under more suitable soil conditions. For results to date see 1917 Report, page 56.
- (12) Irrigation of strawberries. Completed as for raspberries.
- (13) Shipments of pre-cooled fruits to Winnipeg and Western points. Discontinued as this work is being done on a large scale by the Pre-cooling Plant at Grimsby.

(14) Various systems of cultivation. Discontinued because of its interference with the pruning experiment being carried on with the same trees. The pruning experiment was considered more valuable and was therefore continued. Also unfavorable weather conditions during the spring of 1916 and 1917 seriously interfered with the planting of various cover crops, etc., this in itself, disorganizing the cultivation experiment.

(15) Crown gall on apples. Discontinued as practically no data was available regarding the planting of these trees, variety was unknown, number of trees was extremely limited, and also extensive investigations of this disease are being carried on at other Experiment Stations. While this experiment is therefore being officially discontinued, the trees are being left merely for observation purposes and to verify results of other Experiment Stations as these results are published.



National Service girls' camp, 1918.

#### PROJECTS CONTEMPLATED.

(1) *Extension Testing of Varieties of Strawberries.* It is planned to start as soon as possible an experiment whereby a comprehensive test of new varieties of strawberries may be conducted in each of the larger commercial strawberry districts. A test of this kind is particularly advisable with the strawberry as the varieties of this fruit are, almost without exception, very local in their adaptations, the soil, moisture conditions, site, etc., suitable for one variety being unfavorable for another. Such an experiment will require the co-operation of a commercial strawberry grower in each of the districts in which it is decided to carry on the work.

(2) *Peach Pruning and Soil Fertility Experiment.* The best method of pruning and proper soil fertility of the young peach orchard from the time of planting until it comes into bearing and even after that date are matters of which comparatively little is known. Methods as practised by different peach growers in Ontario and the States are very diverse and oftentimes appear to be directly opposed. The questions of pruning and soil fertility are directly correlated. A well-planned

experiment of sufficient size to make the results secured accurate, should let in a considerable amount of light on these questions and settle in part, at least, the best method of treating the young peach orchard.

#### SEASON AND CROPS.

The winter of 1917 and 1918 was the most severe in years, much damage being done to fruit trees, particularly peaches, in the Niagara Peninsula. Although the thermometer constantly went below zero (on one occasion standing at 16 deg. F. for over twelve hours) out of over 4,000 vines and trees, including 775 named varieties of fruit, only six trees succumbed completely. There was, of course, considerable killing of twigs and branches.

Although the spring was long, cool weather extending well into July, the days were bright and the precipitation ample. As a result the season of 1918 was some ten days ahead of 1917. Conditions for the setting of bloom on all fruits were excellent excepting for the coolness which somewhat checked insect activity.

The drought extending from the middle of June until the 9th of August and accentuated by an excessively hot period threatened to seriously curtail the yield of the trees in the variety test blocks. Heavy rains arrived in time to save the situation. The picking season was considerably delayed and late varieties did not mature well owing to the very cool weather of September.

#### BLOOMING AND RIPENING SEASON OF VARIOUS FRUITS.

In Table II has been brought together a summary of the blooming and ripening dates of the most commonly grown varieties of fruits. The dates given cover generally a period of from three to five years' observations. No attempt is made to give the average date of blossoming or maturity but simply the earliest date of blossoming and fruit maturity in our orchards and the latest date due to unfavorable or delayed weather conditions that the variety has been in blossoming and maturing its fruit. For example, the earliest date that the Yellow Transparent has blossomed with us was May 22nd, while it has been delayed in blossoming another season as late as June 3rd. Date of maturity is of course the date that the fruit was ready to pick.

TABLE II.—BLOSSOMING DATES AND TIME OF MATURITY OF VARIETIES OF FRUITS.

	Date of Full Bloom.	Date of Maturity.	No. of Years Observations.
<i>Apples:</i>			
Yellow Transparent .....	May 22-June 3	Aug. 10-Aug. 15	4
Red Astrachan .....	" 20-May 30	" 15- " 20	2
Duchess .....	" 20-June 5	" 17- " 30	4
Gravenstein .....	" 23- " 9	Sep. 11-Oct. 1	2
Wealthy .....	" 24- " 8	" 12-Sep. 18	4
Jonathan .....	" 22- " 9	Sep. 30-Oct. 18	3
McIntosh .....	" 20- " 5	Oct. 2- " 9	3
Stark .....	" 23- " 8	" 2- " 18	3
Delicious .....	" 25- " 2	" 12- " 18	3
N. W. Greening .....	" 23- " 9	" 15- " 27	4
Fameuse .....	" 20- " 4	" 16	2
Hyslop .....	" 20- " 7	" 18- " 26	3
Ben Davis .....	" 23- " 8	" 18- " 26	3
Baldwin .....	" 23-May 29	" 21- " 31	4
Spy .....	" 25-June 1	.....	2

TABLE II.—BLOSSOMING DATES AND TIME OF MATURITY OF VARIETIES OF FRUITS.—Continued.

	Date of Full Bloom.	Date of Maturity.	No. of Years Observations.
<i>Apricots:</i>			
Shense .....	May 1-May 16	Aug. 2-Aug. 11	3
Gibb .....	" 1- " 19	" 5- " 15	5
Harris .....	" 1- " 21	" 5- " 20	5
Alexis .....	" 1- " 20	" 5- " 20	5
Budd .....	" 1- " 16	" 11- " 20	5
<i>Cherries:</i>			
Gov. Wood .....	May 9-May 25	July 2-July 10	5
Tartarian .....	" 9- " 25	" 4- " 17	5
Republican .....	" 9- " 25	" 14- " 20	5
Pickering .....	" 9- " 25	" 14- " 24	5
Napoleon .....	" 9- " 25	" 17- " 24	5
Windsor .....	" 9- " 25	" 17- " 24	5
Lambert .....	" 9- " 25	" 20- " 28	5
Richmond .....	" 11- " 29	" 2- " 18	6
Dyehouse .....	" 12- " 30	" 5- " 27	6
Montmorency .....	" 12- " 30	" 15- " 25	6
Eng. Morello .....	" 11- " 29	Aug. 5-Aug. 18	4
May Duke .....	" 11- " 30	July 1-July 12	6
Reine Hortense .....	" 11- " 30	" 7- " 23	6
<i>Peaches:</i>			
Mayflower .....	May 17-May 31	July 31-Aug. 4	6
Greensboro .....	" 15- " 30	Aug. 14- " 31	6
Ad. Dewey .....	" 16-June 2	" 15-Sept. 6	6
Arp Beauty .....	" 18-May 31	" 17- " 1	6
Leamington .....	" 17-June 2	Sept. 2- " 17	5
Belle of Georgia .....	" 9-May 28	" 6- " 22	6
E. Crawford .....	" 17-June 2	" 9- " 28	6
St. John .....	" 18- " 4	" 10- " 21	5
Brigdon .....	" 15-June 2	" 15- " 30	6
Elberta .....	" 15-May 31	" 22-Oct. 4	5
Early Elberta (Stark) .....	" 13- " 30	" 27- " 1	3
L. Crawford .....	" 18-June 2	" 29- " 3	3
Lemon Free .....	" 17- " 2	Oct. 8- " 20	6
Smock .....	" 18- " 2	" 16-Nov. 2	5
<i>Pears:</i>			
Giffard .....	May 11-May 26	*Aug. 20	5
Clapp's Favorite .....	" 20- " 29	" 30	3
Bartlett .....	" 10- " 21	Sept. 6	4
Seckel .....	" 11- " 25	Oct. 8	4
Sheldon .....	" 18-June 1	.....	4
Duchess .....	" 9- " 26	Oct. 8	4
Flemish Beauty .....	" 8- " 24	" 8	5
Louise Bonne .....	" 18- " 29	" 8	4
Kieffer .....	" 12- " 30	.....	5
Anjou .....	" 10- " 20	.....	5
<i>Plums:</i>			
Earliest of All .....	May 12-May 25	Aug. 1-Aug. 8	5
Shiro .....	" 12- " 26	" 15- " 30	5
Climax .....	" 10- " 25	" 19- " 27	4
Burbank .....	" 10- " 25	" 25-Sept. 10	5
Bradshaw .....	" 20- " 31	Sept. 1- " 12	4
Lombard .....	" 20- " 31	" 12- " 27	5
Yellow Egg .....	" 19- " 30	" 12- " 27	5
Pond Seedling .....	" 20-June 2	" 19- " 27	5

\* Dates of maturity for pears are for one year only.

TABLE II.—BLOSSOMING DATES AND TIME OF MATURITY OF VARIETIES OF FRUITS.—*Con.*

	Date of Full Bloom.	Date of Maturity.	No. of Years Observations.
Shropshire Damson .....	May 20—May 31	Sept. 19—Oct. 2	4
Coe's Golden Drop .....	" 17— " 30	" 19— " 4	4
Hawkeye .....	" 27—June 6	" 20— " 3	4
Reine Claude .....	" 18—May 30	" 22— " 7	5
German Prune .....	" 20—June 2	" 22— " 13	5
Omaha .....	" 15— " 2	" 23—Sept. 30	4
<i>Grapes:</i>			
Champion .....	July 2—July 13	Sept. 6—Sept. 18	3
Moore Early .....	" 2— " 15	" 13— " 25	3
Winchell .....	" 4— " 15	" 13— " 30	3
Campbell .....	" 2— " 16	" 14— " 29	3
Brighton .....	" 3— " 18	" 21—Oct. 7	3
Worden .....	" 2— " 15	" 22— " 2	3
Diamond .....	" 3— " 18	" 25— " 2	3
Lindley .....	" 1— " 15	" 25— " 7	3
Concord .....	" 2— " 15	" 25— " 7	3
Niagara .....	" 2— " 15	" 27— " 4	3
Agawam .....	" 2— " 14	" 27— " 7	3
Massasoit .....	" 3— " 18	" 27— " 7	3
Salem .....	June 30—July 15	" 29— " 3	3
Vergennes .....	July 1— " 14	Oct. 1— " 6	3
Delaware .....	" 4— " 19	" 1— " 9	3
Isabella .....	" 4— " 15	" 1— " 9	3

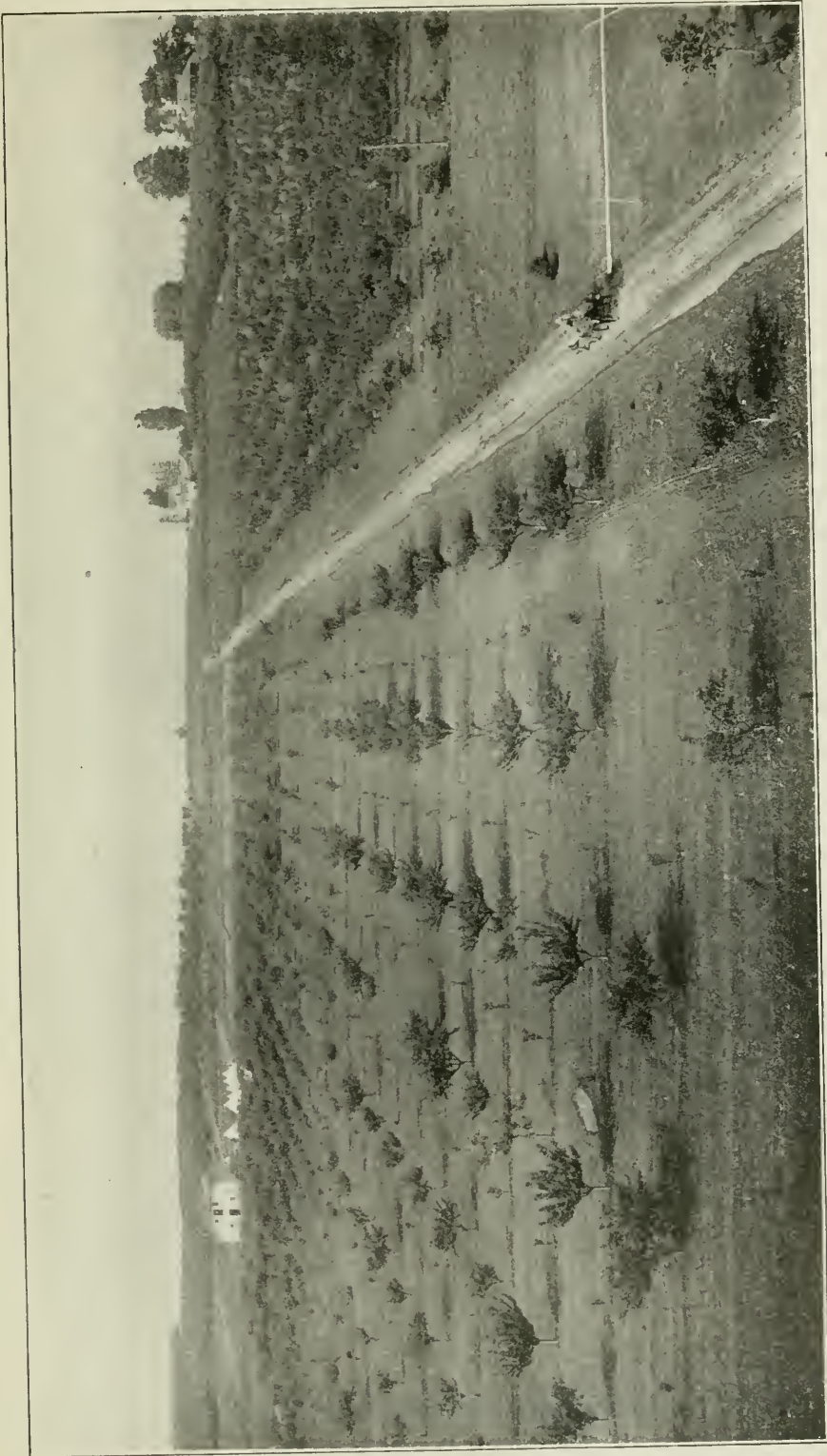
## VARIETIES UNDER TEST.

The lists of varieties growing on the Station grounds have been revised up to 1918. These lists show that there are now 825 varieties of fruit represented, made up as follows:

TABLE III.—NUMBER OF VARIETIES OF FRUITS UNDER TEST.

Fruit.	Number of Varieties.
Apples .....	145
Apricots .....	10
Cherries—Duke .....	7
Sour .....	22
Sweet .....	43
Currants—Black .....	15
Red .....	15
White .....	2
Grapes .....	148
Gooseberries .....	31
Nectarines .....	2
Peaches .....	164
Pears .....	81
Plums .....	135
Quinces .....	5
Total .....	825





General view of Experiment Station orchards. Variety test orchards of apples and plums in the foreground. Lake Ontario in the distance.

Some 175 varieties of new or untested fruits were ordered for 1918 planting from various Canadian and United States nursery men, but owing to transportation difficulties only fifteen varieties arrived in live condition. An attempt will be made to secure the remainder for 1919 planting.

In addition to these new varieties a considerable effort has been made to locate promising seedlings of the district. We have received and grafted on trees in the variety test block the following:

Burbank plum seedling from J. M. Chrysler, St. Catharines.  
 Culp's Sweet Apple and Horning Apple from S. H. Rittenhouse, Jordan Harbor.  
 Rosseau and Rose of Muskoka apples from H. H. Knight, Brackenrig. (Scions apparently dead on receipt, due to cold winter of 1917-18. They failed to grow.)  
 Cook's Blush Apple from E. F. Neff, Simcoe, Ontario.

In addition to these seedlings, which were located as a result of a circular letter sent out from this Station, other seedlings were located, but so far there has been no opportunity to secure scions or cuttings. These include 8 seedling apples, 1 seedling cherry (sweet), 1 seedling pear, and 1 seedling grape (black). It is hoped that funds may soon be available to take up systematically this work of locating promising seedlings. The little that has been done thus far and the incidental knowledge of promising seedlings that has come to hand, points very clearly to the fact that a great deal may be accomplished in this way. A man would need to give his whole time to the work making the necessary arrangements before the fruit season starts, visiting as many orchards as possible and as often as possible during the ripening season for the various fruits, and making definite arrangements to secure scions, etc. of those seedlings discovered which appear worthy of a further trial. Quicker results than from the necessarily slow method of hybridizing may reasonably be looked for.

#### SPRING *vs.* FALL PLOWING OF VARIOUS COVER CROPS.

A full account of the varieties of apples and pears in this experiment, the cover crops used, the general procedure and the questions being studied were given in the 1917 report, page 51, under "Miscellaneous Experiments."

The cover crop sown in 1918 proved disappointing. Plots 1 and 6 sown to rye and vetch made very poor growth of the cover crop planted, though plot 6 had a very luxuriant covering of orchard grass. The other cover crops, buckwheat, oats and clover made good growth. The Dwarf Duchess pears in this orchard produced their first good crop of pears.

#### SUMMER *vs.* WINTER PRUNING OF APPLE TREES *vs.* NO PRUNING.

This experiment was outlined fully in the 1915 report, and further records of the production of fruit and growth with observations were given for later years in the report for 1916 and 1917. The results thus far have fully demonstrated the value of moderate to light pruning for young trees until they come into bearing. Since many of the varieties had reached the bearing stage with the season of 1917, it was considered advisable to make some modifications in the systems of pruning for the season of 1918 and thereafter. The object of the modifications used was to determine the best time to increase the amount of actual pruning for the lightly pruned trees and the time to start pruning those trees which to date had not received any pruning. It was evident of course, that

considerable pruning would have to be given the unpruned trees of the experiment some time after they came into bearing as some of the varieties particularly were growing very thick and bushy, there being many crossing and superfluous branches.

#### SPRING AND FALL PLANTING OF PEARS IN DYNAMITED AND DUG HOLES.

Notes on this experiment as outlined in the 1915 report are being continued. There are no observations to be made at this time other than to repeat those contained in the 1917 report where it was stated that the results generally were in favor of fall planting.

#### SELF-FERTILITY TESTS OF VARIETIES OF PEARS.

This experiment, as started in 1917 and outlined in the report for that year, was continued during 1918. Considerably better weather conditions prevailed during 1918 than during the blossoming period of 1917. In 1917 the conditions were so adverse that practically no fruit set in the open and none in the bagged blossom clusters. For 1918, however, there was a good set of fruit on the open pollinated blossoms where cross pollination was possible, all varieties giving a fair set, particularly Bartlett, Seckel, Clapp's Favorite, Duchess and Giffard. Of eleven varieties bagged for self-sterility tests only one Duchess set fruit from its own pollen. The remaining varieties for the one season's work proved self-sterile. Duchess itself was only partly self-fertile, as five fruits set out of twenty-five blossom clusters bagged, while twenty-four fruits set out of twenty-five blossom clusters where cross pollination was possible.

The importance of determining the degree of self-sterility or self-fertility of our various varieties of fruits is becoming very evident. The work with pears will be continued whenever possible, and also other fruits will be added as time and assistance is available. The scale of the work needs to be considerably enlarged so as to make the results secured more certain.

#### EXPERIMENTAL WORK WITH GRAPES.

The usual notes have been taken for the experiment on the correlation between the number of buds left in pruning and the vigor, productiveness, and longevity of the vine. No data worthy of publication is available as yet.

#### SELF FERTILITY TESTS OF VARIETIES OF GRAPES.

A summary of the results of this experiment for 1915, 1916 and 1917 was given in the 1917 report. The work, as outlined there, has been continued and extended, the aim being to test every variety in the Station vineyard for a five-year period. This would complete the work. The 1918 tests corroborated for the varieties already tested the three years' results noted above.

#### VALUE OF CERTAIN SELF-FERTILE VARIETIES AS POLLENIZERS FOR SELF-STERILE VARIETIES.

The outline of this experiment was given in the 1917 report. The reader is referred to page 54 of that report for results and observations secured. The work was necessarily temporarily discontinued during 1918 owing to war conditions.

## REPORT OF EXPERIMENTAL WORK IN VEGETABLES

### PROJECTS UNDER WAY.

- (1) Variety tests of asparagus.
- (2) Irrigation of asparagus.
- (3) Irrigation and fertilizer experiments with beets (completed with this report).
- (4) Variety tests of celery (including selections received from the Department of Horticulture, Ontario Agricultural College, Guelph).
- (5) Tests of varieties and selections of corn (see plant breeding report for particulars).
- (6) Tests of varieties and selections of peas (see plant breeding report for further particulars).
- (7) Northern *vs.* Southern Ontario grown potatoes as seed tubers.
- (8) Vegetable seed production including beets, cabbage, carrot, cauliflower, celery, lettuce, mangel, onions, parsnips, radish, turnip. (Discontinued with this report).
- (9) Testing of new varieties of vegetables and selections of varieties sent in for test by individuals and seed firms.
- (10) Selection and breeding work with tomatoes (see plant breeding report for particulars).

### VEGETABLE PROJECTS DISCONTINUED OR COMPLETED.

- (1) Asparagus, yield of male *vs.* female plants. Discontinued. (See 1917 report, page 60).
- (2) Selection work with carrots and onions. Discontinued with the object of giving attention to fewer projects and concentrating on those projects.
- (3) Irrigation and fertilizer experiment with early carrots. Discontinued for same reason as selection work with carrots. Results obtained are included in the Station Report for 1917, and in the Fruit Branch Circular for November 1916.

### VARIETY TESTS OF ASPARAGUS.

Eleven varieties are included in this test. The following table gives the yield per plant for 1917 and 1918 and the estimated yield per acre for 1918 (7,000 plants estimated per acre).

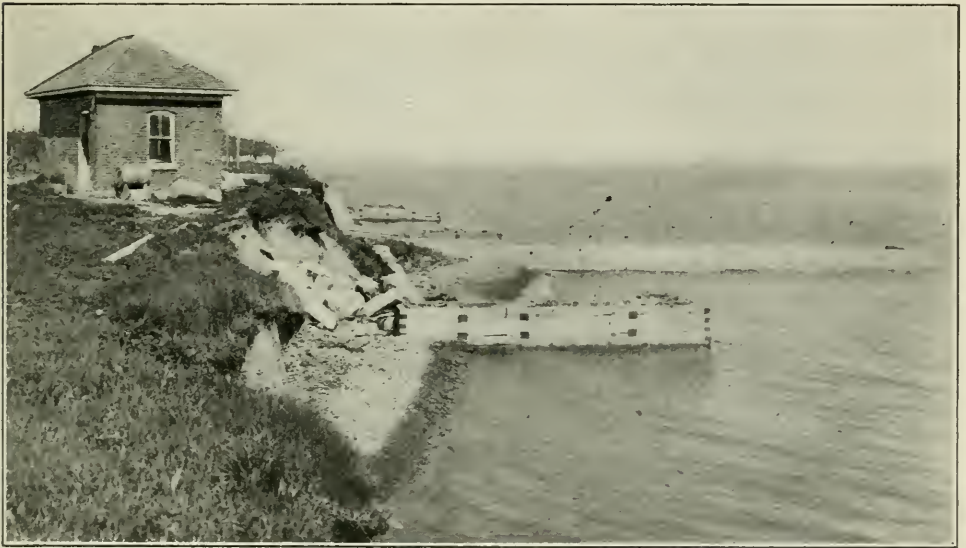
TABLE IV.—VARIETY YIELDS OF ASPARAGUS.

Variety.	Lbs. per Plant, 1917.	Lbs. per Plant, 1918.	Estimated lbs. per acre, 1918.
Giant Argenteuil .....	.115	.386	2,702
Dreer's Argenteuil .....	.117	.476	3,332
Dreer's Conover's Colossal .....	.118	.521	3,647
Conover's Colossal .....	.090	.417	2,919
Palmetto .....	.108	.403	2,821
Lund's Special .....	.100	.506	3,542
Barr's Mammoth .....	.315	.429	3,003
Dreer's Barr's Mammoth .....	.294	.515	3,605
Dreer's Eclipse .....	.402	.564	3,948
Columbian White .....	.567	.421	2,947
Dreer's Columbian White .....	.400	.511	3,577

An addition has been made to the variety plot of the Washington variety recently introduced by the United States Department of Agriculture. This is a new variety bred up by that Department for rust resistance and increased yield. The young plants were set in a permanent bed in the spring of 1918 and so far look very promising indeed.

#### IRRIGATION OF ASPARAGUS.

The experiment was outlined in the 1915 report. Results for the year were included in that report, and for 1916 and 1917 in the 1917 report. The 1918 results were again in favor of irrigation. Both irrigated and non-irrigated plots gave a considerably larger yield than for previous seasons. The irrigated plot gave a yield per plant of .551 lbs. or 3,278 lbs. per acre, estimating 5,950 plants



Pump house and coffer dam on the Lake bank. Storms are rapidly washing the banks away in many places.

to the acre. The unirrigated gave .474 lbs. per plant or 2,820 lbs. per acre. The increase in favor of irrigation was 458 lbs. The average annual gain for the four years 1915-1918 inclusive is 500.4 lbs. The greatest gain in any year was in 1917 when the irrigated gave an increased yield of 843 lbs. per acre.

#### IRRIGATION AND FERTILIZER EXPERIMENTS WITH BEETS.

Results for 1918 again show a substantial gain for the application of nitrate of soda. The increase, however, is not so great as in 1917. A loss is shown on the early plot for irrigation, and only a slight gain is given by irrigation of the late plot.

As this experiment is discontinued, the results to date are summarized in the following tables:

TABLE V.—BEET IRRIGATION AND FERTILIZER EXPERIMENT. RESULTS FOR 1918.

*(Early Plot. Planted April 16. Lifted June 24, 1918.)*

	Bus. per acre, Roots.	Lbs. per acre, Leaves.
Irrigated and fertilized (nitrate of soda).....	254	38,115
Unirrigated and fertilized .....	326	47,916
Irrigated and unfertilized ..	127	14,157
Unirrigated and unfertilized .....	217	26,136
Irrigated and fertilized, once only .....	145	38,115
Unirrigated and fertilized, once only .....	163	25,047

Fertilized gave .....	222 bus. per acre.	
Unfertilized gave .....	172 " "	
	<hr/>	
Gain of .....	50 " "	for fertilizer.
Unirrigated gave .....	235 bus. per acre.	
Irrigated gave .....	175 " "	
	<hr/>	
Gain of .....	60 " "	for unirrigated.

*(Second Plot. Planted May 23. Lifted July 25, 1918.)*

	Bus. per acre, Roots.	Lbs. per acre, Leaves.
Unirrigated and fertilized .....	254	25,047
Irrigated and fertilized .....	254	26,136
Unirrigated and unfertilized .....	181	17,424
Irrigated and unfertilized .....	198	21,780

Fertilized plot gave .....	254 bus. per acre.	
Unfertilized plot gave .....	189 " "	
	<hr/>	
Gain of .....	65 " "	for fertilizer.
Irrigated plot gave .....	226 bus. per acre.	
Unirrigated plot gave .....	217 " "	
	<hr/>	
Gain of .....	9 " "	for irrigation.

The application of nitrate of soda gave an increased yield of 50 bushels per acre on the early plot. The irrigation gave a loss of 60 bushels on the irrigated early plot. As only a small amount of water was applied some of the difference may be due to other factors. However, for early root crops, the overhead application of cold water no doubt checks growth to some extent. If warmer water could be applied different results would likely be obtained.

On the later plot irrigation gave a small increase of nine bushels per acre. Only small amounts of water were applied here also. The fertilized plot again gave an increase, 65 bushels per acre.

Following is a summary of the results obtained for the three years 1916, 1917 and 1917.

TABLE VI.—SUMMARY OF IRRIGATION AND FERTILIZATION OF BEETS.

		Bus. per Acre, Roots.
<i>Fertilizer Alone.</i>		
1916	Gain of fertilized over unfertilized and unirrigated plot.....	140
1917	Gain of fertilized over unfertilized plot .....	82
1918	Gain of fertilized over unfertilized plot .....	57.5
Average annual gain of .....		94.16 bu.
<i>*Irrigation Alone.</i>		
1916	Gain of irrigation over unirrigated .....	40
1917	Gain of irrigation over unirrigated .....	24
1918	Gain of irrigation over unirrigated .....	9
Average annual gain of .....		26.3 bu.
<i>Fertilizer with Irrigation.</i>		
1916	Gain of (irrigated) over (unirrigated)..... (fertilized) (unfertilized)	177
1917	Gain of fertilized over unfertilized.....	60
1918	Gain of fertilized over unfertilized.....	55
Average annual gain of .....		97.3 bu.

\* This data is estimated from second crop only.

*Conclusions.*—The fertilizer when used with irrigation gives the greatest gains but, for the early plot, the irrigation is seldom required. In some seasons, however, the weather conditions may be such that irrigation gives a greatly increased yield. Nitrate of soda alone gave on the average almost as great gains as combined with irrigation. Irrigation alone gives a very low average gain over the non-irrigation, and it varies greatly from year to year depending upon weather conditions. It is profitable to use nitrate of soda only for the early crop. From other observations, early seeding is the most important point. Nitrate of soda will not make up for any delay in seeding. A few light applications of nitrate of soda increase the growth and advance the date of harvesting at a minimum of expense. Reference to the 1917 report, page 61, will give full particulars as to quantity of nitrate of soda applied per acre and the method of application. It is sufficient to say here that the usual amount was at the rate of 800 lbs. per acre of nitrate put on in five light applications.

#### CELERY.

No experimental projects are under way with celery other than variety testing. The work in 1918 consisted of variety tests of White Plume, Paris Golden, Perle le Grande, French Success, O.A.C. No. 216, O.A.C. No. 316, O.A.C. No. 716.

Seed received under the name O.A.C. No. 316 appears to be very promising from one year's observations. It is a very vigorous grower, gives a heavy yield, color green bleaching to white, quality excellent, keeps well in storage. It is a winter variety.

#### CORN.

The work in corn is included in the plant breeding report.

#### PEAS.

The work of peas is included in the plant breeding report.

## NORTHERN vs. SOUTHERN ONTARIO GROWN POTATOES AS SEED TUBERS.

As this work has now been carried on for three years, a summary of the results to date is given herewith. The experiment was started in 1916. Results for 1916 and 1917 will be found in the 1917 report.

The total yields for each year calculated per acre are given in the following table and the average for the three years.

TABLE VII.—YIELD OF NORTHERN VS. SOUTHERN GROWN POTATOES AS SEED TUBERS.

1916	North .....	210 bu. per acre.		
	South .....	119	" "	
	Gain of .....	91	" "	for Northern seed.
1917	North .....	280 bu. per acre.		
	South .....	253	" "	
	Gain of .....	27	" "	for Northern seed.
1918	North .....	102 bu. per acre.		
	South .....	30	" "	
	Gain of .....	72	" "	for Northern seed.
Total average for three years:				
	North .....	197 bu. per acre.		
	South .....	134	" "	
	Gain of .....	63	" "	for Northern seed.

## VEGETABLE SEED PRODUCTION.

As a result of the seed production work during the past season the following quantities of seed were harvested in good condition:

Improved Purple Top Swede Turnip .....	15 lbs.
Chantenay Carrot .....	15 "
Yellow Globe Danvers Onion .....	14 "
Red Globe Onion .....	25 "
Red Weathersfield Onion .....	20 "
Detroit Dark Red Beet .....	10 "
O.A.C. No. 2 Leviathan Mangel .....	12 "
Non Plus Ultra Radish .....	3 "
Grand Rapids Lettuce .....	2 "
Hollow Crown Parsnip .....	15 "

In addition cabbage, cauliflower and celery plants have been moved into the greenhouse where they will seed in the early spring of 1919. It is not planned to continue the commercial production of vegetable seeds in future years, except as necessary in the selection work.

## TOMATOES.

Report under plant breeding.



## BY-PRODUCTS REPORT

The work of the By-Products Department for 1918 may be divided under the following main heads:

- (1) Experimental Work:
  - (a) Drying fruits and vegetables.
  - (b) French crab apples for cider.
  - (c) California canning peaches.
  - (d) Test of asparagus varieties for canning.
- (2) Extension work:
  - (a) Assistance to Community Canning Centres.
- (3) Practical Factory Work:
  - (a) Canning and jam making for Canadian Military Hospitals.

Before proceeding with the report of these projects, mention should be made of two lines of work dropped temporarily. The investigation of maturing of grapes in the Niagara Peninsula was carried on successfully in 1916 and 1917, the annual reports of those years giving full information on the subject (page 72.) Unfortunately, it was impossible in 1918 to obtain the services of the man who had done most of the work previously owing to war conditions, and it was therefore discontinued temporarily.

Then again, it was found advisable to discontinue practically all variety tests of fruits and vegetables for canning purposes. In future years when effort can be concentrated on this line of work it will be continued.

### DRYING FRUITS AND VEGETABLES.

During the summer and fall of 1918 the following materials were dried at the Experiment Station factory:

<i>Fruits—</i>	<i>Vegetables—</i>
Apple	Bean (string)
Cherry (Montmorency).	Beet
Peach	Carrot
Pear	Celery
Plum	Corn
Raspberry (13 varieties).	Onion
	Potato.

Drying was done in a tunnel type evaporator, twelve feet long, having trays 2 ft. x 2 ft. Heat was supplied at the lower end by means of two steam radiators. Unfortunately, the supply of heat was not quite sufficient and hence only a limited portion of the evaporator would do the work at all. In no case were the raw materials bleached.

Beets, carrots, onions, potatoes and apples were all sliced before drying. All vegetables were blanched by steaming in a closed retort for from two to five minutes. The color of apples, peaches and pears was kept more natural by keeping these fruits in a weak salt solution during the time they were being prepared for the evaporator.

All of the dried products were examined and tested on Jan. 6, 1919. All were soaked for twenty-four hours. The fruits were boiled with sugar and the vegetables seasoned with salt during boiling.

## RESULTS OF TESTING.

*Apple*: Light brown color, rather flat flavor, make fair pies.

*Cherry* (Montmorency): Look like raisins, would make good pies, no use for dessert purposes.

*Peach*: Dark color, flavor gone, poor article.

*Pear*: Kieffer poor, no flavor, woody and granular; Duchess excellent, sweet and appetizing, would do as a sweetmeat in dried condition.

*Plum*: Too dry; when soaked recovered well, rich flavor, superior to imported prune.

*Raspberry*: Black varieties, such as Cumberland, Black Diamond and Kansas Black Cap, retained most flavor, rather seedy.

The Cardinal was next best.

Cuthbert, Columbian, Golden Queen, Gregg, Herbert, Marlboro, St. Regis, Superlative and Shaffer were all lacking in flavor and pale in color.

*Bean*: Was easily dried and came back well to original flavor.

*Beet*: Retained color and much of flavor, though lacking somewhat in the latter.

*Carrot*: Similar to beet, lost more of flavor.

*Celery*: Very promising, easily dried, would do well for soup flavoring.

*Corn*: Not a success, flavor cooked, texture woody.

*Onion*: Excellent, color and texture fully recovered, flavor pleasantly milder.

*Potato*: Poor, color dark and flavor unappetizing.

In drawing conclusions from the drying tests it may be stated that even operating under unfavorable conditions several satisfactory foods were successfully preserved and in no case was there loss from mold or fermentation. No insect trouble was experienced. The package used for storage was the oyster can, a round paraffined cardboard container with a non-sealing cover.

Without having any actual figures upon which to base opinions it seems as if economy in drying depends upon the distance the finished product is to be shipped. The greater the distance the greater saving on carrying charges. For domestic trade the dried vegetable will likely have the greatest chance to succeed. That is because the cost of canning vegetables is greater than fruits and loss of flavor is not as noticeable in drying vegetables. With fruits it seems unlikely that for domestic trade canning and jam making can be displaced by drying.

## FRENCH CRAB APPLES FOR CIDER.

In the spring of 1917 the following varieties of French Crab apples were top grafted upon five year old apple trees: Martin Fessard, Blanc Mollet, Frequin Rouge, Bramtot, Grise Dieppoise and Amered Bertheourt.

Every scion established itself well and in 1918 strong growth was made. An examination in December 1918 indicated prospects for fruit in 1919.

In the meantime, the future for cider has been seriously affected by temperance legislation. In England, cider meant fermented apple juice containing 4-6 per cent. alcohol by volume. Such a beverage is illegal here. There is of course a possibility of making a pleasing, popular "sweet" cider at a reasonable price. Other uses for French Crabs may possibly be found, uses where such apples would be superior to any we now have.

## CALIFORNIA CANNING PEACHES.

Since the spring of 1916 efforts have been made to produce fruit of nine varieties of California canning peaches. These varieties are: Foster, Heath Cling, Lovell, Libby Cling, McDevitt Cling, Phillip Cling, Peak Cling, Runyon Cling and Tuscan Cling.

The original trees in the Experiment Station orchard are the oldest and most advanced. The McDevitt and Heath Cling have one or two trees well established. These two varieties seem to have been the strongest growers; Lovell and Foster are weak. The remaining varieties have done fairly well.

Stock which was budded in 1916 did not winter well when heeled in over the winter of 1917-18. For that reason the distribution of stock was less than hoped for. However, we now have some trees at Fonthill and some on a privately owned farm at Vineland.

It is to be hoped that fruit will be produced either in 1919 or 1920. When the fruit is produced we shall be in a position to form preliminary conclusions as to the prospects for improving our canned peaches by the use of California varieties.

#### TEST OF ASPARAGUS VARIETIES FOR CANNING.

On May 18, 1918, the following varieties of asparagus were canned:

- |                                 |                       |
|---------------------------------|-----------------------|
| (1) Barr's Mammoth.             | (6) Dreer's Eclipse.  |
| (2) Columbia White.             | (7) Giant Argenteuil. |
| (3) Conover's Colossal.         | (8) Lund's Special.   |
| (4) Dreer's Conover's Colossal. | (9) Palmetto.         |
| (5) Dreer's Giant Argenteuil.   |                       |

Canning was done by washing and trimming the raw stalks, blanching for nine minutes in boiling water, packing in No. 2 sanitary tins, covering with hot 2 per cent. brine, sealing and cooking for fifteen minutes at 240 deg. F.

Samples of these varieties were opened and examined on Feb. 12, 1919. Outside of numbers (2) and (6) very little difference could be found in the varieties. Numbers (2) and (6), however, were yellowish in color and shrunken in appearance. Varieties (4) and (9) seemed to have a slightly superior flavor to the other varieties. The difference was so slight that it would scarcely influence a commercial enterprise.

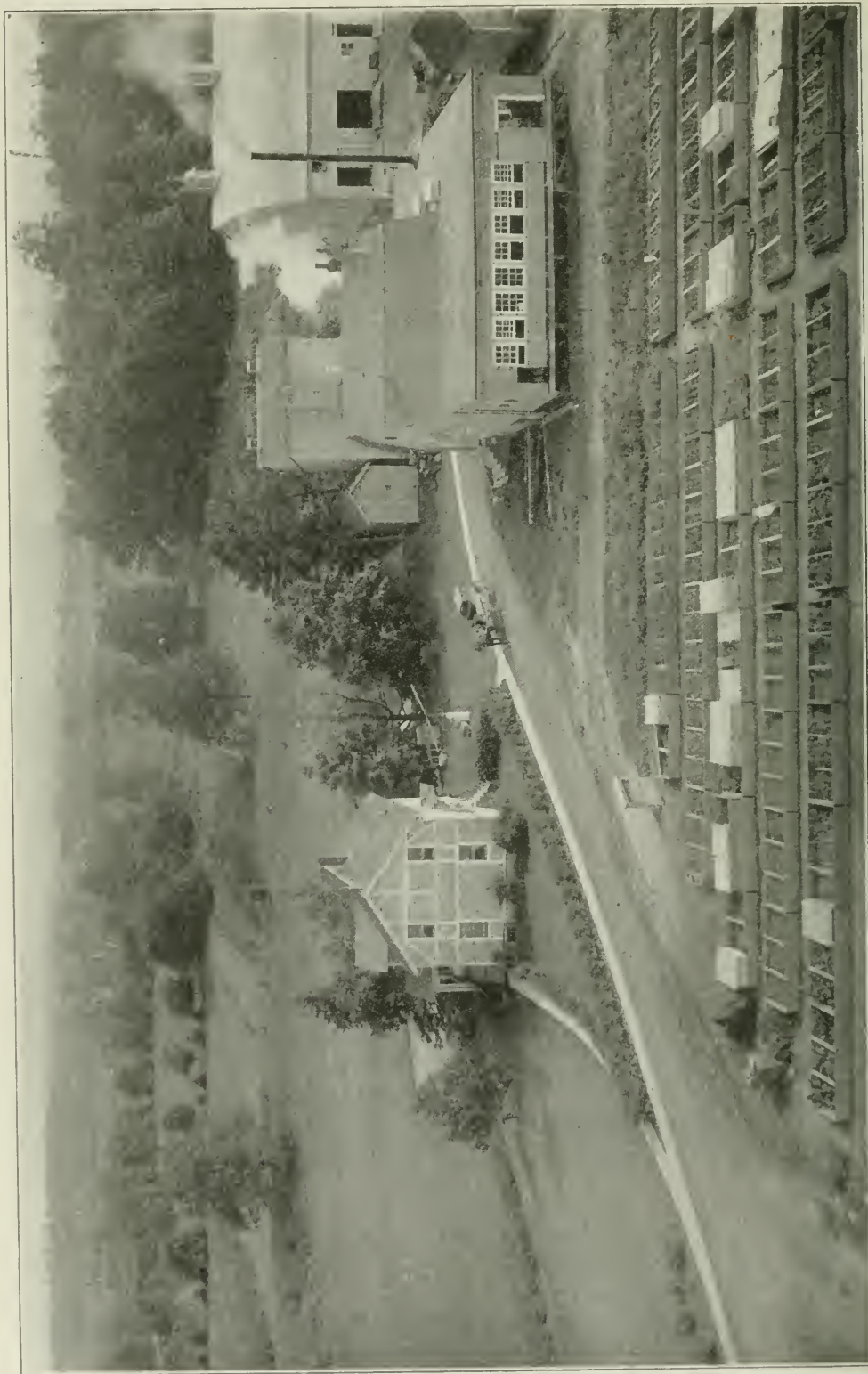
#### ASSISTANCE TO COMMUNITY CANNING CENTRES.

The community canning centre idea which struggled into existence at Parkhill in 1917, grew during 1918 into much larger proportions. At public gatherings and conventions the mention of community canning centres attracts keen attention. If only people can be shown the best way of organizing and operating such institutions it seems as if they will be tried in many places.

In 1918 the original centre at Parkhill was enlarged and remodelled. At Stratford, Guelph, Barrie, Mapleton, Niagara-on-the-Lake, and Echo Place similar centres were equipped and operated. A standard line of equipment was established and maintained in each place. This equipment consisted mainly of:

- 1 twelve-horsepower boiler.
- 1 twenty-gallon tilting copper-jacketed kettle.
- 2 wooden vats, 30 in. x 42 in. x 18 in. inside.
- 2 closed retorts, 18 in x 18 in. (each holding 30 No. 3 cans).
- 1 pulping machine.
- 1 set scales.
- 1 sink.
- 1 set jelly bags on rack.
- 2 chemical Fahrenheit thermometers.
- 1½ doz. wire baskets for scalding and blanching.
- 1 sugar bin.
- 1 H.O. closing machine, power driven.

Work tables, paring knives, granite dish pans, stock pots, pails, colanders sugar scoops, brooms, clock, wrenches, hammer, oil cans, date stamp, measures, sieves, skimmers, record books, and some other miscellaneous articles.



General view of boarding house, cold storage, barns and canning factory. Cold frames for germinating fruit seedlings in foreground.

This equipment installed cost on an average about \$1,400 per place or \$9,800 in all. It cost \$3,000 to pay the salaries and travelling expenses of the demonstrators placed in charge at each centre.

The estimated value of shipments made through the Red Cross Society was \$31,413.73. Thus it will be seen that in spite of a season cut short by the inroads of the influenza epidemic the venture may be considered a financial success.

Much credit is due the Fruit Branch of the Canadian Red Cross Society. This organization delivered cans, cases, sugar, kegs and spices to the centres. Great aid was also given by purchasing much of the equipment at very reasonable costs.

It will be of interest to note that a carload of canned goods containing shipments from each canning centre as well as the Red Cross Fruit Kitchen and this Experiment Station was successfully forwarded to the Canadian force in Siberia. This shipment consisted mainly of jellied chicken, but also contained some jams and jellies.

The extension of the canning centres in 1918, as well as their establishment in 1917, was closely connected with this institution. P. E. Culverhouse, in charge of By-Products Investigations, prepared the proposition, which was put to the communities in the spring of 1918. Then each place was visited, F. W. Macbeth, of the Red Cross, Hamilton, co-operating. This visit was to explain the idea, and point the way to organization and actual operation. Up till late August Mr. Culverhouse took full charge of actually installing the equipment. This was a considerable task. The procuring of a building often almost caused the local people to give up. The buildings all being different and local workmen all being unfamiliar with the operation of the plant, each centre, it might be said, presented an equally difficult problem, in spite of the fact that the equipment itself was practically identical in each case. However in August the situation was greatly relieved by securing the services of J. A. Black. Mr. Black had had much experience in canning, and soon learned the work. The success of the canning centres was doubly assured by the frequent visits of such an experienced man.

The signing of the armistice on November 11, 1918, had an immediate effect on the canning centres. The Red Cross stated that with the conclusion of the 1918 season their offer of cans, cases, sugar, kegs and spices would cease. The incentive for giving material, labor and money therefore no longer existed.

CANNING AND JAM MAKING FOR CANADIAN MILITARY HOSPITALS.

Following is a statement of shipments made from the Horticultural Experiment Station canning factory:

1915.....	20,000	gallon	(No. 10)	cans	peaches.
1916.....	50,000	"	"	"	fruits and jams.
1917.....	120,000	"	"	"	" " "
1918.....	45,000	"	"	"	" " "

Total.....235,000, containing 7 lbs. net per can=1,645,000 lbs.

In 1917, 20,000 cans consisted of apple jelly packed during the winter months expressly for the Canadian Red Cross Society, Fruit Branch.

The season of 1918 was one of retrenchment, made advisable by the difficulty in securing shipping space. This reduction made an ideal season. The factory was worked within its capacity and not beyond it as in 1917. That meant improved quality in the output. Also it meant a great saving in fuel. Labor, always difficult to procure and house, was in 1918 comparatively easy to handle. The National

Service Girls introduced a steady element into the labor problem which actually held the labor cost right to the 1917 figures. No considerable expenditures were necessary for factory building, equipment or water supply. The advantages of 1917 expenditures were shared by 1918. Lastly, fruits were scarce and costly. That in itself made a reduced pack highly desirable from the Government's point of view.

It was again deemed advisable to turn over some of our products to the Soldiers' Civil Re-Establishment Commission. This Department placed our goods in nine different sanatoria and hospitals. The bulk of the pack, however, went overseas through the Canadian Red Cross Society.

The cost of production for 1918 was \$50,061.45. The cost was unfavorably affected because large quantities of surplus materials, such as cases and pectin, were disposed of at the close of the season at a price considerably below that paid for them. This loss, was of course, absorbed and increased the cost of production by almost one thousand dollars.

TABLE VIII.—SHIPMENT OF CANNED GOODS, 1918.

Material	Cases to Europe	Cases to Siberia	Cases in Canada	Total	Rate	Value
Apple Butter.....	1	229		230	\$6 00	\$1,380 00
Apples in Syrup.....	777			777	5 40	4,195 80
Apples in Syrup (Crab).....	52			52	6 00	312 00
Apple Jelly (Crab).....		41		41	8 64	354 24
Beets.....	20			20	1 80	36 00
Blueberries.....	13		17	30	6 00	180 00
Blackcurrent Jam.....		10	83	93	10 08	937 44
Black Currant in Syrup.....	16			16	6 00	96 00
Blackberry Jam.....		5	49	54	11 52	622 08
Blackberries in Syrup ..	29			29	9 00	261 00
Cherries.....	195		66	261	6 00	1,566 00
Cherry Jelly.....	2			2	8 64	17 28
Grape Jam.....	79			79	8 64	682 56
Plums.....	314		25	339	6 00	2,034 00
Plum Jam.....		7	8	15	8 64	129 60
Pears.....	677		116	793	6 25	4,957 15
Peaches.....	3,449		132	3,581	6 00	21,486 00
Peach Jam.....		54	49	103	8 64	889 92
Peach Butter.....		223		223	7 68	1,712 64
Raspberry Jam.....	77	81	84	242	12 00	2,904 00
Raspberries in Syrup....	130		16	146	6 00	876 00
Strawberry Jam.....	291		117	408	12 00	4,896 00
Strawberry Jelly.....	49			49	8 64	423 36
Tomatoes.....	55			55	5 00	275 00
*Tomato Ketchup.....			24	24	12 00	288 00
Total.....	6,226	650	762	7,638	.....	51,512 07

\* Not included in total. Case consists of four one-gallon jugs. Other cases consist of six one-gallon, or number ten, tins.

# Ontario Department of Agriculture

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## ANNUAL REPORT

OF THE

# STATISTICS BRANCH

(Continuing the Reports issued by the former Bureau of Industries)

## 1918

PART I.—AGRICULTURAL STATISTICS

PART II.—CHATTEL MORTGAGES

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PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



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*To His Honour* SIR JOHN STRATHEARN HENDRIE, C.V.O., a Lieutenant-Colonel  
in the Militia of Canada, etc., etc., etc.

*Lieutenant-Governor of the Province of Ontario, etc., etc.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to present herewith for your consideration the report of  
the Statistics Branch of the Ontario Department of Agriculture for the year 1918.

Respectfully yours,

GEO. S. HENRY.

*Minister of Agriculture.*

TORONTO, 1919.



# Statistics Branch of Agriculture

## PART I.—AGRICULTURAL STATISTICS

### THE WEATHER.

TEMPERATURE.—The following table gives the temperature of the Province for each month during the last five years, together with the mean annual temperature, also the mean temperature for the six months April-September—practically the growing season—together with the average for the five years 1914-18, and the thirty-seven years, 1882-1918:

Month.	1918	1917	1916	1915	1914	1914-1918	1882-1918
January .....	8.5	17.8	24.9	18.7	20.9	18.2	17.9
February .....	16.5	12.3	15.1	22.7	10.7	15.5	17.0
March .....	31.1	29.6	21.6	27.3	27.4	27.4	26.8
April .....	42.7	40.2	43.1	48.6	39.7	42.9	41.8
May .....	57.2	48.2	53.2	50.9	57.0	53.3	53.7
June .....	61.2	60.7	60.1	61.0	63.1	61.2	63.2
July .....	68.2	69.5	74.0	66.9	67.5	69.2	68.2
August .....	69.4	66.4	70.1	64.2	65.9	67.2	65.6
September .....	54.3	57.3	59.5	61.5	58.8	58.3	59.1
October .....	49.9	42.5	47.4	50.0	50.8	48.1	47.3
November .....	39.3	32.0	34.9	39.1	34.5	36.0	35.3
December .....	27.7	14.8	22.1	23.9	21.3	22.0	23.5
Annual mean .....	43.8	40.9	43.8	44.6	43.1	43.3	43.3
Mean for 6 months, April to September.....	58.8	57.1	60.0	58.8	58.7	58.7	58.6

The mean temperature for 1918 was 43.8 degrees, being 2.9 degrees higher than the preceding year, and 0.5 degrees higher than the normal for the thirty-seven years, 1882-1918.

The mean temperature for the six months, April-September, was 1.7 degrees higher than the preceding year and 0.2 degrees above the thirty-seven year normal. March was the warmest month relatively, being 4.3 degrees above average, while January was the coldest, being 9.4 degrees lower than its normal.

NOTE.—The statistics of "The Weather" are furnished by the Meteorological Office. The figures differ slightly from those given in the preliminary crop bulletins, for the reason that complete returns are not available for the latter, and ten stations have been selected for the sake of uniform comparison in this report.

SUNSHINE.—In the following table the averages of sunshine are, as usual, derived from the records of the weather stations at Woodstock, Toronto, Lindsay, Kingston and Ottawa:

Month.	Sun above horizon.	1918	1917	1916	1915	1914	1914- 1918	1882- 1918
	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.
January .....	285.7	106.8	73.9	71.8	73.1	66.0	78.3	75.8
February .....	291.4	96.1	121.9	96.6	92.7	148.8	111.2	104.4
March .....	369.9	182.7	154.3	158.4	197.0	128.9	164.3	146.0
April .....	406.4	194.7	157.7	154.1	186.9	137.6	166.2	182.8
May .....	461.1	208.3	183.4	206.7	222.4	263.0	216.8	210.4
June .....	465.7	261.6	205.3	192.0	267.4	262.1	237.7	246.0
July .....	470.9	272.2	240.7	309.8	236.1	266.0	265.0	267.3
August .....	434.5	260.3	233.0	275.1	194.4	223.7	237.3	240.5
September .....	376.3	144.3	197.7	167.6	195.3	210.8	183.1	185.1
October .....	340.2	134.3	91.4	154.9	146.9	137.5	133.0	138.5
November .....	286.9	84.3	115.6	101.7	92.6	83.9	95.6	80.6
December .....	274.3	64.7	98.4	72.8	64.3	66.1	73.2	62.2
Total for the year..	4,463.3	2,010.3	1,873.3	1,961.5	1,969.1	1,994.4	1,961.7	1,939.6
Total for six months, April to September.	2,614.9	1,341.4	1,217.8	1,305.3	1,302.5	1,363.2	1,306.1	1,332.1

The year 1918 had 2,010.3 hours of sunshine, or 70.7 hours more than the average for the last thirty-seven years. The six growing months, April-September, had 1,341.4 hours of sunshine or 9.3 hours more than the thirty-seven year period. Eight months were in excess and four had a deficiency compared with their respective averages, March with 36.7 hours above and September with 40.8 hours below having the greatest departures.

PRECIPITATION.—The fall of both rain and snow for the five winter months including November 1917, and March 1918, is given in the following table for five years, together with the average for the thirty-seven years 1882-1918. One inch of water is equivalent to ten inches of snow:

Months.	1918	1917	1916	1915	1914	1914- 1918	1882- 1918
November:	in.	in.	in.	in.	in.	in.	in.
Rain .....	0.56	1.49	1.92	1.81	2.78	1.71	1.97
Snow .....	7.0	6.8	4.3	7.7	3.8	5.9	7.4
December:							
Rain .....	0.14	0.85	0.69	0.43	0.23	0.47	1.12
Snow .....	20.4	16.6	18.8	17.2	6.8	16.0	15.3
January:							
Rain .....	0.02	0.66	2.26	0.90	0.56	0.88	0.99
Snow .....	28.9	20.3	14.9	16.3	21.5	20.4	19.5
February:							
Rain .....	1.50	0.35	0.07	1.29	0.24	0.69	0.78
Snow .....	17.2	14.0	19.4	10.7	12.1	14.7	16.1
March:							
Rain .....	0.54	1.12	0.57	0.18	0.88	0.66	1.14
Snow .....	10.6	14.8	17.9	5.1	11.2	11.9	10.8
Five months:							
Rain .....	2.76	4.47	5.51	4.61	4.69	4.41	6.00
Snow .....	84.1	72.5	75.3	57.0	55.4	68.9	69.1

The total amount of rainfall for the five months, November-March, was 2.76 inches or 3.24 inches below the average for the thirty-seven years, 1882-1918:

The total amount of snowfall was 84.1 inches, or 15.0 inches above the average. December, January and February were in excess with 5.1, 9.4 and 1.1 inches, while November and March were each slightly below.

The six months, April-September, however, comprise what is regarded as the growing season for most crops, and the following table gives the rainfall of these months for the last five years, 1914-1918, and for the thirty-seven years, 1882-1918:

Months.	1918	1917	1916	1915	1914	1914-1918	1882-1918
	in.	in.	in.	in.	in.	in.	in.
April.....	1.38	2.23	2.64	1.15	1.93	1.87	1.78
May.....	2.62	2.42	4.51	2.18	1.99	2.74	2.84
June.....	2.69	3.79	3.78	3.06	2.39	3.14	2.78
July.....	2.18	3.49	1.53	3.86	1.41	2.49	2.78
August.....	2.94	2.83	1.99	5.54	3.81	3.42	2.69
September.....	4.31	1.40	2.75	3.39	2.28	2.83	2.63
Total for six months.....	16.12	16.16	17.20	19.18	13.81	16.49	15.50

The rainfall for the six months, April-September, comprising the growing season, was 16.12 inches, practically the same as the previous year, and in comparison with the normal for the thirty-seven years was 0.62 inches in excess. April, May, June and July were below, while August and September were above their respective normals.

#### VEGETATION AND SPRING SOWING.

Vegetation made so early a start that it was expected that the season would be an unusually early one, but later on colder weather prevailed and delayed growth. "At present," said the April bulletin, "growth may be considered as at about an average, judging by fruit blossom and pasture.

"Spring sowing has been most satisfactorily effected. Farmers were able to get upon the land early, and the generally open weather enabled them to do much cultivating and seeding. In fact, the sowing of spring grains was never done within less time. The land also worked up splendidly, and reports are unanimous as to the excellence of the seed-bed. At the time of reporting the newly-sown grain fields were mostly up, and were presenting an unusually even and promising appearance. The weather has been most favorable for farm work generally, and has been comparatively easy upon horses. There will be a largely increased area of spring wheat, and perhaps more oats, barley and peas. It also looks as if there will be more sugar beets and mangels, although labor conditions may tell against the extension of root and other hoed crops."

#### STATISTICS OF FARM CROPS.

The following table gives the acreage, production, and market value of the field crops of Ontario for the year 1918. Detailed tables showing the statistics by counties will be found elsewhere in this report.

## STATISTICS OF FARM CROPS.

Crops.	Acres.	Production.	Yield per acre.	Market Value. (Feb. 1)	
				Total.	Per acre.
		bush.	bush.	\$	\$ c.
Fall Wheat.....	362,616	7,054,845	19.5	14,877,794	41 03
Spring Wheat.....	351,423	8,186,191	23.3	17,076,203	48 59
Barley.....	660,404	24,247,673	36.7	25,112,912	38 03
Oats.....	2,924,468	131,752,601	45.1	98,798,745	33 78
Peas.....	113,862	2,381,937	20.9	5,184,332	45 53
Beans.....	100,082	1,387,834	13.9	6,230,007	62 25
Rye.....	112,726	1,812,909	16.1	2,750,561	24 40
Buckwheat.....	223,662	4,597,990	20.6	6,207,986	27 76
Flax.....	15,925	196,221	12.3	1,224,783	76 91
Corn (in the ear).....	195,310	13,015,072	66.6	13,650,415	69 89
Potatoes.....	166,203	19,375,947	116.6	19,238,431	115 75
Carrots.....	2,706	689,557	255.0	172,389	63 71
Mangels.....	40,714	18,244,453	448.0	4,561,113	112 03
Turnips.....	85,449	42,190,382	494.0	10,547,596	123 44
Sugar Beets.....	22,894	9,398,141	411.0	2,349,535	102 63
Mixed Grains.....	619,389	27,462,374	44.3	28,253,556	45 62
		Tons	Tons		
Corn (for silo) green....	380,946	3,944,313	10.35	17,749,409	46 59
Hay and Clover.....	3,470,036	4,596,854	1.32	83,344,591	24 02
Alfalfa.....	144,010	328,971	2.28	6,579,420	45 69
Totals—					
1918.....	9,992,825	.....	.....	363,909,778	36 42
1917.....	9,718,259	.....	.....	333,353,438	34 30
1916.....	9,548,876	.....	.....	223,748,948	23 43
1915.....	9,762,951	.....	.....	210,674,415	21 58
1914.....	9,621,444	.....	.....	199,152,945	20 70
1913.....	9,541,537	.....	.....	168,455,253	17 65
1912.....	9,574,474	.....	.....	185,790,341	19 40
1911.....	9,718,741	.....	.....	179,974,358	18 52
1910.....	9,725,684	.....	.....	175,115,742	18 01
1909.....	9,578,323	.....	.....	167,966,577	17 54

The acreages devoted to the other crops in 1918 were as follows: Orchards, 265,678; small fruits, 24,596; summer fallow, 248,463; pasture (cleared) 3,561,754.

RATIOS OF AREAS UNDER CROP.—The following table shows the number of acres under the various crops in 1917 and 1918 per 1,000 acres of cleared land together with annual averages for various periods.

Year.	Fall Wheat.	Spring Wheat.	Barley.	Oats.	Peas.	Beans.	Rye.	Buckwheat.	Corn.	Potatoes.	*Roots.	Hay and Clover.	Mixed Grains.
1918.....	24.5	23.8	44.6	197.6	7.7	6.8	7.6	15.1	38.9	11.2	10.3	244.2	41.9
1917.....	39.8	12.4	37.4	187.6	6.1	7.5	9.0	10.4	52.3	10.0	11.4	240.9	35.0
Annual average:													
1912-1918.....	44.5	11.7	40.5	188.7	9.8	5.0	9.1	13.8	47.6	10.9	11.5	235.1	33.4
1902-1911.....	51.3	13.0	50.7	192.8	27.7	3.6	8.0	9.4	40.1	10.9	15.8	219.0	†33.1
1892-1901.....	73.2	28.0	39.2	180.2	60.5	4.1	10.1	10.3	35.5	12.9	15.6	198.2	.....
1882-1891.....	81.6	50.9	67.2	150.4	60.5	2.4	9.4	6.2	17.7	14.0	12.2	207.1	.....
1882-1918.....	62.6	25.4	49.3	178.8	40.1	3.7	9.1	9.8	35.3	12.2	14.7	214.2	‡37.1

\* Mangels, turnips, carrots and sugar beets. † 1907-1911. ‡ 1907-1918.

## THE GRAIN CROPS.

FALL WHEAT.—The following concerning the crop of fall wheat cut in 1918 was contained in the bulletin issued in November of the previous year. It was the expressed intention of many farmers that the area of fall wheat would be enlarged this season, but the very dry condition of the soil at sowing time, the lateness of the harvest, the press of other work, and the scarcity of field help hindered progress in this particular line, and the indications are that the acreage of new wheat now in the ground will be practically the same as that of last fall. While most of the crop was got in during the last three weeks of September, a considerable portion had to be sown during October—some of it very late in that month—and this, with the slow growth generally owing to the cold, raw weather of October, has resulted in many of the fields having only a small top with which to enter the winter. Several correspondents, however, point out that though small in the blade the plant is vigorous, especially where got in on well prepared land. Comparatively little complaint has been made of injury by insects. Dawson's Golden Chaff still leads all other varieties in popularity."

April prospects for the crop were thus described in the April bulletin: "Although most farmers who grow winter wheat had intended to increase their acreages last fall, the late harvest and the scarcity of help kept the area sown to about that of the preceding year. Considerable of the crop had hardly enough top to enter the winter satisfactorily, although otherwise the young plants appeared to be vigorous. After the snow cleared off, the nights continued very cold, and the crop suffered from the alternate freezing and thawing of the unprotected fields. The present appearance of the young wheat is not encouraging, most of the fields being more or less brown and patchy, and all of them standing in need of good spring rains, as the latter part of March and the early days of April were cold and clear with practically no rain, while frequent winds helped to make the ground exceedingly dry for the season. A few good warm showers may yet help the crop to pick up, but the general opinion is that a good deal of drilling in of spring grains will be necessary, and also some plowing up of portions of the fields; in fact, some re-seeding has been done already. In those counties in Eastern Ontario, where fall wheat is raised, it has done better relatively than in the Western counties where the crop is more largely grown.

The fall wheat outlook in May was gloomy as will be seen by the following from the bulletin published in that month: "Fall wheat is a failure. A fair estimate at present would be a prospect for about one-fourth of an average yield per acre sown. A large area has been plowed up, although in many instances the ragged fields have been patched with other grains, chiefly spring wheat and barley, partly to save the grass which has been seeded down with the original crop. The injury was done chiefly in the early spring by alternate thawings and freezings, followed by dry weather and raw winds. Practically no injury from insects has so far been reported."

The April bulletin said: "Winter, or rather spring, killing of fall wheat was so extensive that only in rare cases were fall wheat fields left in a normal condition; in fact, many had to be seeded with spring grains. The yield, therefore, will be light, but the quality of the grain is generally well up to the mark, although there are a few complaints of smut. Harvesting weather was all that could be desired, and was four or five days earlier than last year."

The following appeared in the November bulletin: "This crop was badly injured by the trying weather of the latter part of the winter and the early spring, and the average yield per acre is only about two-thirds of the normal. The quality of the grain, however, is good, the samples in most cases being of full weight or over."

**THE NEW FALL WHEAT.**—The fall wheat to be cut in 1919 was given an excellent start. The November bulletin said: "The splendid October growth brought the newly planted wheat well forward, and even that sown comparatively late is showing a good top with which to enter the winter. Most of the crop was got in during the first two or three weeks of September, although some was sown as early as August 26th and as late as October 1st. The acreage sown will be hardly up to the average, taking the Province over, although an increased area is reported in some districts. While slight mention was made of the presence of the Hessian fly in Kent, Norfolk, Huron and Middlesex, the injury done by insects has been comparatively slight. Dawson's Golden Chaff is the variety most largely grown."

**SPRING WHEAT.**—More attention than usual was paid to spring wheat in the August bulletin, which stated: "This grain has come into greater importance in this Province, as a much larger acreage has been grown owing to the comparative failure of fall wheat this year. On the whole the yield will be most satisfactory, being well above the average, while the acreage has taken a considerable spread compared with that of more recent years. The straw is rather short in length, but is clean, and stood up splendidly when cut. The quality of the grain is good. Harvesting will extend from August 6th to the 20th, or perhaps later. The Marquis and Goose varieties lead in popularity, the former receiving the more favorable word."

The August bulletin also contained the following additional reference to the extent of the revival of spring wheat growing in the Province: "Owing to the failure of the fall wheat crop, which fact became fully apparent only when spring injury was observed, efforts were hurriedly, but more or less effectively, made by the Department to save the wheat situation by extending the gradually shrinking acreage of spring wheat in the Province in the short time remaining for the new seeding. In localities where the crop was still a regular one the area was, in most cases, increased, and in some of what are known as the fall wheat counties a considerable acreage of the spring varieties were sown for the first time in many years, and, as stated elsewhere in this bulletin, this season's experience has been a most encouraging one. It is, however, not safe to draw definite conclusions from one year's experience with a crop, which may have been influenced by favorable weather conditions."

The following very favorable comment regarding spring wheat was contained in the November bulletin: "This grain, owing to the poor condition of fall wheat this year, commanded more than usual attention. Some grew it who had not raised spring wheat for many years. The nearly doubled area gave one of the best average yields per acre on record, and many who tried the crop as a forced alternative this season will grow it on its merits next year, more especially as the quality of the grain was in keeping with its excellent yield. Some correspondents speak of an enlarged acreage next season."

**BARLEY.**—The August bulletin had the following to say of barley: "There will be a big yield of barley, and the sample, as a rule, is of excellent quality, although there are some complaints of smut. Some fields have given yields as high as 65 bushels to the acre. The straw is clean and bright, generally speaking, but was not up to the standard for height. Harvesting was a week earlier than last year."



The final condition of barley was thus summed up in the November bulletin: "This crop had an increased area, and the yield per acre was considerably over the average. The grain was of first-class quality, and the straw, though lacking in length, was as a rule bright, only odd complaints being made of rust or smut."

**OATS.**—Favorable reports concerning oats were made in the August bulletin as follows: "The average yield per acre for this crop registers high. In Essex and Kenora some yields have gone as high as 80 and even 90 bushels to the acre. There is also a yield of first-class straw for the cutting box, although standing, perhaps, a little short in the field. While the general quality of the grain is well up to the standard, the intense heat a week or two before cutting caused some of it to ripen too quickly for best results. The bulk of the crop had already been cut under favorable weather conditions when correspondents reported."

According to the November reports 1918 was one of the best years yet experienced for oats, the acreage being an extended one, the yield much above the average, and the general quality of the grain good. There were a few complaints of smut. Some late fields were caught by rain and frost, and did not do so well. The straw was of good feeding quality.

**RYE.**—This is not a very general crop, and it is grown more for soiling purposes than for grain. Winter rye, like fall wheat, suffered from the trying winter and spring conditions, and the August probabilities were that the yield would be below the average.

The November reports were to the effect that winter rye came through the season somewhat better than fall wheat.

**PEAS.**—"A revival of pea growing is likely to result from the generally satisfactory yields realized from that crop this year," said the August bulletin. "The best results have come from the raising of peas for canning, and for seed rather than for ordinary farm purposes, as late vines suffered from the intense heat and drouth. Little injury from insect pests have been reported."

The November bulletin was equally hopeful of the immediate future of pea raising. It said: "Like spring wheat, peas are likely to regain some measure of popularity as a result of this year's experience with the crop. The increase in acreage was fully justified, the average yield per acre being the best for many years, and the general quality good. Canning factory peas and other early varieties did better than those grown later. The few complaints of weevil were more or less indefinite.

**BUCKWHEAT.**—This crop, which showed an increased acreage over that of 1917, was a disappointment. The drouth affected the fields in the early stages, and later on the frequent rains wrought considerable injury, making harvesting difficult. In some instances the crop was kept so late in the fields that frost added to the damage.

**BEANS.**—The August bulletin said: "This crop gave exceptionally good promise up to the hot, dry spell beginning in the latter part of July and continuing into August. However, the prospects are still good for nearly an average yield per acre, although harvesting will not begin until about the second week of September."

According to November reports field beans, like some of the other crops, suffered from the midsummer drouth, and then from the wet weather following, which in some cases started second growth. Later on rains at harvesting were also trying to the crop. Notwithstanding these drawbacks, the average yield per acre, although below the standard, was much better than that of either of the two years immediately preceding.

CORN.—The following appeared in the August bulletin: "Although given a late start, owing to the rather cold June, the warm weather of the last three weeks has carried the crop along rapidly, and it now gives promise of a fair general yield should the remainder of the season continue favorable. There are some complaints of weedy fields owing to the lack of labor. The height of stalk is a week or two ahead of last season, which was a poor corn year."

The good expectations of this crop expressed in the August bulletin was largely fulfilled, with the exception that while the stalks had made full growth the cobbing was not as free and as full as was hoped for. In this respect what is called "native" corn did much better than the imported Southern varieties. Early planted corn did better than that got in late, some of the latter being caught by wet weather and by frost. While there were complaints of some sappy ensilage corn, on the whole the contents of the silos are satisfactory to the owners, especially as hay this season has been so light in yield.

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#### HAY AND CLOVER.

"Clover has come through better than either wheat or rye," remarked the April bulletin. "While some heaving has been reported, and while looking sick in places, the general appearance of the fields is encouraging, considering the rather unfavorable spring for young crops, wintering over. As correspondents reported, the crop was needing rain in order to receive a good spring start."

The May bulletin said: "Clover is doing fairly well, taking reports as a whole. While some correspondents speak of spotted fields the bulk of the reports are favorable. New meadows have done better than the old ones.

"Reports regarding the condition of alfalfa run all the way from excellent to poor. The crop is not yet a general one."

The following account of the hay crop appeared in the August bulletin: "Like all the wintering crops, clover suffered more or less from the weather, and got a very poor start in the early spring, although doing better than either wheat or rye. With the favorable weather of May it picked up wonderfully, but the comparatively low temperature of the following month kept growth back. Clover has done better relatively than timothy. The yield of hay, which varies greatly, will be barely an average, but it is well cured, as it was cut and got in under most favorable conditions. New seeding turned out better than old meadows. Cutting was early, some starting in the latter part of June. Reports vary greatly as to the prospects for alfalfa seed."

CLOVER SEED.—There was a fair promise of seed from the second growth of red clover, but while the bloom was abundant the threshing results were as a rule disappointing.

ALSIKE SEED.—Alsike did much better relatively than clover, the agricultural representative in Victoria stating that fourteen bushels of seed per acre had been reported in that county.

SWEET CLOVER SEED.—Sweet clover seed is reported from Grey as yielding ten bushels of seed per acre.

## POTATOES AND FIELD ROOTS.

POTATOES.—Reporting on field conditions up to the third week of August the bulletin then issued said: “Up to the middle of July potatoes were very promising, but the last four weeks of more or less very warm and dry weather considerably affected the vines, some of which were dried up prematurely for want of moisture. There are also some reports of blight, tip-burn, leaf curl, black leg, mosaic, and other diseases. On the other hand the tubers are remarkably clean and wholesome looking as a rule, only slight mention being made of scab or rot. The yield per acre will vary much, but it is not likely to be a large one.”

The November bulletin stated that drouth in midsummer told against large yields of potatoes. On the whole those late planted did better than those put in earlier. Owing to the wet fall digging was somewhat later than usual. There were a few complaints of rot and scab.

ROOTS.—All classes of roots were regarded as in most promising condition up to the third week of July, after which very hot weather with more or less of drouth prevailed, checking growth considerably. “At present these, like other crops, are much needing rain,” said the August bulletin. “With favorable weather from now on however, there is still a good chance for a full average yield being realized. Sugar beets especially were a first-class crop until they met the drouth.”

According to the November bulletin, turnips turned out better than was expected earlier in the season. Injury by insects was slight. Some turnips yet remained to be pulled when correspondents wrote. rainy weather and lack of help having delayed the work.

Mangels had also done fairly well, and being a little earlier than turnips were more easily housed.

As a class sugar beets did well. Most of the roots were shipped or pitted when correspondents wrote in November.

Field carrots are not now a general crop, but where grown they did well this year.

## MISCELLANEOUS.

TOBACCO.—“The early part of the season was too cold, and the weather more recently has been too dry for the best growth,” said the August bulletin. “As a consequence most of the plants are rather small in leaf, although there are some favorable references to the crop.”

November reports were more favorable, the bulletin then issued stating: “Taken all together, the tobacco crop may be regarded as an average in yield, notwithstanding its poor start, with the leaf of good general quality. Drouth at one time threatened to dwarf the plants, but later they made a fair growth.”

THRESHING AND MARKETING.—The following appeared in the November bulletin: “Threshing is well forward, being completed in many quarters. Owing to the fine harvest weather more grain than usual was threshed in the field. A Middlesex correspondent quotes the price of threshing at four cents a bushel, and extra for getting out the straw. Marketing has been slow on account of the pressure of general fall work. The wet weather delayed the harvesting of late grains and corn cutting, and there was some plowing still going on as correspondents wrote.

Less fall wheat than usual has been marketed, as the crop has been a light one, but considerable spring wheat has been disposed of. The oat crop was large, and a good deal of it has been marketed. Most of the barley will be fed on the farm, although some growers have been selling more freely. A large quantity of the peas were grown by agreement with the canners, and not for general marketing."

**FALL PLOWING.**—Despite delayed harvesting, satisfactory progress was made with fall plowing. The early autumn rains got the ground in good condition for the work, and the long spell of open weather following enabled farmers, even with the scarcity of skilled help, to plow a much larger acreage than was expected. This increased area augurs well for increased sowings next spring.

**FARM IMPROVEMENTS.**—The scarcity of labor all through the season, and also the very wet weather in the fall, prevented much being done in the way of farm improvements. Considerable repairing of houses and barns was effected, but, with the exception of putting up silos, very few new buildings were erected. The increased cost of material was also a serious item in this connection. A number of ditching machines were at work in Essex and other counties, but the high price of tile, and the scarcity of help kept the needed amount of underdraining from being performed. Less wire fencing than usual was done.

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## FRUIT.

According to April reports the unusually low temperatures during the winter injured some of the buds on tender varieties of peach trees, and froze back a portion of the young wood on some grape vines, but the total amount of damage was not serious. There were complaints of girdling of young fruit trees by field mice and rabbits. The general condition of fruit trees, however, was favorable.

The May bulletin said: "The profusion of blossom in orchards augurs well for good yields should frosts and heavy rains keep off between now and the setting of the fruit. There are some complaints of winter injury to the more tender varieties of peaches and grapes, but the results are not so serious as was feared earlier in the season. Raspberry canes were considerably nipped by frost, but the other bush fruits have been almost untouched. Strawberries, where well mulched, are looking well."

Fruit conditions were thus described in the August bulletin: "The serious effects upon orchards of the recent severe winter were not fully realized until it was observed during the early summer that many of the trees that had started to leaf were evincing lack of vigor, and gradually died. In this respect apple orchards, more especially in the eastern half of the Province, shared losses with the more tender peach trees of the Niagara and Lake Erie fruit belts.

"Winter apples will be small in yield; summer and fall varieties will be from fair to light. The fruit, however, will be cleaner than usual.

"Pears will also be a comparatively light crop, and there are some complaints of blight.

"Plums promise a fair return where they were well sprayed; otherwise the yield will be a poor one.

"Peaches suffered considerably from the low temperatures occurring during the winter, especially among the more tender varieties, and the yield will not be an average one.

“Cherries did not suffer so much from winter-killing, but the general yield was far from an average one. Birds were said to be very troublesome this season.

“Strawberries did not turn out so well in yield as was expected in May, as some of the plants which had blossomed and formed fruit did not mature it, on account of injury received by the plants during the winter and spring.

“Raspberries did much better in this respect, although the berries were stunted by the drouth and great heat toward the end of the season. Other bush fruits did fairly well.

“While grape vines also suffered from the very cold winter, there is every prospect of a fair general yield, barring early frost.

“It is estimated that in Sudbury district alone \$50,000 worth of blueberries have been picked this season. Norfolk also reports that strawberries of the ever-bearing variety are now coming on the market.”

The following was contained in the November bulletin: “A number of peach, apple, plum and other fruit trees died during the spring and summer, evidently from the effects of the unusually severe winter immediately preceding. Summer apples were fair in yield, but the later varieties were rather scarce. Most of the fruit was cleaner than usual. Pears were a comparatively light crop. Peaches ripened too slowly for best flavor, and were below medium in yield. Fruit picking generally was much delayed on account of the scarcity of help. Orchards are still in need of greater care. Some complaints were made of injury by the San José Scale, bark louse, codling moth, tent caterpillar, and other insects.”

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### LIVE STOCK AND THE DAIRY.

Live stock came through the winter well, as will be seen by the following from the April bulletin: “Horses are plentiful, and drivers and undersized general purpose animals are selling cheaply, but heavy working horses are more in demand, and are commanding good prices.

“Cattle are in good general condition, although not so many beef animals are being fed owing to the high price of grain and mill feeds. Many dairy cows are falling off in milk from the same cause, and owners are eager for early grass.

“The swine industry is at high mark. More brood sows are kept than ever before. What is known as “The Hog Campaign” has been pushed widely and vigorously for several months past, and farmers generally are raising all the young pigs they can feed, considering the discouragingly high prices of all classes of feed and the comparative failure of the corn crop. A Wellington County correspondent states: “I have raised already 200 sucking pigs, and could sell 400 more if I had them, at \$7 each.” There will likely be a steady increase in the number of hogs from now on, although animals ready for the bacon market are at present relatively scarce.

“Sheep are increasing in popularity in various sections of the Province. There has been a good lamb drop already, and the prospects for developing this long neglected class of farm animals are brightening.”

Conditions in May were thus described: “Cattle, which came out of winter quarters rather thin, are now doing well on pasture, as the grass has come along fast during the last week or two. Choice beef animals are bringing as high as 16c. a lb., although some cattle sales are quoted as low as 12c. Dairy cows are selling at from \$100 to \$135. Milk production is now well up to the average for the season.

"Hogs are coming to market generally light at from \$19.50 to \$20.50 a cwt. Small pigs from four to six weeks old are in great demand at from \$12 to \$15 a pair.

"Sheep are steadily increasing in favor."

Pastures during the early part of the summer were excellent, and there was a very free flow of milk, but some extremely hot days during dry weather in the latter part of July and early in August burnt the fields to such an extent that the yield of milk has fallen off greatly.

The August bulletin thus referred to live stock: "Cattle, are in good general health, if thin, although many had to be fed to supplement pasture. Prices paid to drovers, butchers and graziers have ranged all the way from 9 to 15 cents a lb., according to locality and the quality of the animal. Good grade dairy cows have been in strong demand all season at prices running from \$100 to \$160:

"Hogs have been marketed steadily at from \$19 to \$19.50 a cwt., while little pigs (weanlings) are now bringing \$12 a pair.

"Sheep were never more in favor, as the price of wool was never so high as it has been this year."

The November bulletin thus summarized conditions: "Pastures were from fair to good during the fall, and most of the live stock entered the stable in good condition. Although there is a sufficiency of fodder for general needs, the price of grain and of mill feeds is rather too high to afford more than a maintenance ration to other than fat stock and dairy cows.

"Marketing conditions of cattle are about as usual, except that more stockers relatively have been disposed of. Two-year steers have been selling at from \$80 to \$95, and steers generally from 9c. to 14c. a lb. Cannery have gone as low as from 5c. to 7c. a lb.

"Sheep are in excellent condition, and are in good demand. Lambs are more numerous than formerly, and have been selling at from 11c. to 16c. a lb. More farmers are going into the raising of this class of live stock.

"Hogs were selling freely at from \$16.50 to \$17.50 a cwt. f.o.b. when correspondents reported, although some old animals brought only \$15. Most of the marketing was done at from 160 to 210 lbs. A fair number of all classes of swine are yet on hand, as marketing proceeds more or less steadily the year round.

"Silos are still gaining in favor, a considerable number having been erected during the year, especially in Western Ontario. The high cost of material has been a deterrent with some farmers.

**DAIRYING.**—The fall flow of milk was about an average one, and the high price of dairy products kept the industry thriving, even though work was somewhat handicapped by the scarcity of labor. November reports showed that every branch of dairying had been active, although cheese factories, with a fixed price for the product, had not done relatively as well as creameries and condenseries, or the town and city milk and cream trade. Butter ranged from 44c. to 55c. a lb. Holstein and Durham grades were chiefly used as dairy cows, in the order named, although the Ayrshires have champions in the St. Lawrence and Ottawa counties.

**POULTRY.**—Farmers continue to be much divided on the question of profit in poultry raising. Some claim that they are the best paying branch of farming, while others say that they only just about pay their way. One correspondent asserts that owing to the high price of grain and other feed the profits on poultry are one-third less than before the war.

On the other hand prices for eggs were never so high, sales during the season running from 35c. to 60c. a dozen, with an average of about 44c. for the laying season. There are some complaints of the poor hatching and raising of chickens. The average number of hens kept on a farm is placed at about sixty, the flocks ranging as a rule from forty to eighty hens. Owing to the high price of other meats more poultry is being consumed on the farm.

FODDER SUPPLIES IN APRIL.—“There has been more than a sufficiency of hay, but there is a danger of too much of it being sold,” said the April bulletin. “There has also been an abundance of straw, much of which is now being fed. The corn crop, on the other hand, was the poorest for years, both for husking and silage. Much of what went into the silo was frosted, making inferior feed, and owing to the early cold weather, considerable standing corn was caught in the field and had to remain out all winter. The cereals are so dear that grain is being very sparingly fed. However, there is a good supply of field roots on hand. The bulk of the reports indicate that most farmers have the necessary supplies on hand to make fairly well balanced rations, but that careful feeding must be the order of the day until pastures are ready.”

FODDER SUPPLIES IN MAY.—The May bulletin said: “Fodder supplies are holding out well generally, although owing to shortage some had to turn their stock too early upon pasture. There is plenty of hay and straw on hand, but grain is scarce with most farmers. Ensilage has been carefully husbanded and was never more appreciated.”

FODDER SUPPLIES IN NOVEMBER.—The bulletin issued in that month thus referred to fodder conditions: “With the exception of fall wheat and rye there is a sufficiency of grain on hand. There is plenty of clean straw, some of which will make up for the deficiency of hay if supplemented by grain or other concentrates. There is also a good supply of corn ensilage on hand, and the root crops have given a fair yield. Hay is selling at from \$18 to \$25 a ton. Mill feeds are very dear and are hard to procure. Shorts are selling at from \$40 to \$44 a ton, bran \$37 to \$40, and oil cake \$65 to \$70. While most of the correspondents state that live stock can be nicely carried over the winter with ordinary care, a few are of opinion that some herds may have to be reduced.”

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## STATISTICS OF LIVE STOCK.

STATISTICS: The following table gives the total number and value of the several classes of live stock and poultry on hand July 1st, 1918, together with live stock sold or slaughtered in the year preceding that date.

Live Stock.	On hand, July 1, 1918.		Sold or slaughtered in year ending June 30, 1918.	
	No.	Value.	No.	Value.
Horses (all ages).....	732,977	\$ 95,710,928	80,984	\$ 11,019,354
Cattle:—				
Milch cows .....	1,097,039	91,662,681	932,691	57,529,269
Other cattle .....	1,770,683	80,596,580		
Sheep and lambs.....	972,341	15,690,055	449,268	5,877,375
Swine (all ages) .....	1,656,386	31,140,181	2,130,060	46,997,183
Poultry (all kinds).....	12,281,105	9,307,051	6,516,460	5,318,857
Totals:				
1918.....		324,107,476		126,742,038
1917.....		289,676,977		114,740,881
1916.....		263,869,539		99,159,081
1915.....		254,982,332		93,762,223
1914.....		250,870,078		93,017,235
1913.....		237,591,885		89,651,016
1912.....		225,848,942		84,982,339

The values for the several classes of horses on hand on June 15th, 1918, were as follows: Stallions, \$1,489,628; mares, \$50,957,807; geldings, \$36,425,141; colts and fillies, \$6,838,352.

The values for the several classes of "other cattle" on hand were as follows: Bulls, \$7,071,202; calves, \$15,611,677; steers, \$18,086,826; all other cattle (except milch cows), \$39,826,875.

The values for the several classes of poultry on hand were as follows: Turkeys, \$697,895; geese \$630,674; ducks, \$302,954; other fowls, \$7,675,528.

## VALUES PER HEAD OF LIVE STOCK AND POULTRY ON HAND.

Live Stock.	1918	1917	1916	1915	1914	1910	1905	1900
Horses (all ages).....	\$ 131	\$ 130	\$ 131	\$ 139	\$ 145	\$ 128	\$ 110	\$ 76
Cattle:—	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Milch cows .....	83 55	75 54	66 35	60 83	57 01	40 76	35 06	31 01
Other cattle .....	45 52	39 55	34 91	32 18	30 81	22 43	21 29	17 93
Sheep and lambs.....	16 14	10 39	8 13	7 05	6 67	5 75	4 68	4 29
Swine (all ages).....	18 80	12 89	10 83	9 93	10 14	8 50	6 44	5 42
Poultry (all kinds)....	76	63	55	54	53	43	34	29

The value per head of the various classes on hand on June 15th, 1918, were as follows:

HORSES: Stallions, \$355; mares, \$141.50; geldings, \$133.03; colts and fillies, \$72.11.

CATTLE: Bulls, \$116.76; calves, \$22.58; steers, \$70.30; all other cattle, \$52.31.

POULTRY: Turkeys, \$1.83; geese, \$1.53; ducks, 77.3c.; other fowls, 69.1c.



## VALUES PER HEAD OF LIVE STOCK AND POULTRY SOLD OR SLAUGHTERED.

Live Stock.	1918	1917	1916	1915	1914	1910	1905	1900
	\$	\$	\$	\$	\$	\$	\$	\$
Horses (all ages) . . . . .	136	138	137	146	154	136	119	79
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Cattle . . . . .	61 68	58 56	53 48	49 90	47 14	37 44	36 23	32 12
Sheep and lambs . . . . .	13 08	9 15	7 55	6 72	6 29	5 36	4 28	3 64
Swine (all ages) . . . . .	22 06	19 46	15 99	14 98	15 26	12 49	9 79	7 69
Poultry (all kinds) . . . . .	82	67	62	62	62	51	39	37

## LABOR, WAGES AND PRODUCTION.

The April bulletin had the following: "A Brant correspondent describes the general attitude of farmers when he says: Most farmers would like to increase their acreage for field production if they could depend upon procuring sufficient labor. However, despite the probable lack of help, an endeavor is being made by many to extend the area of spring crops. A considerable number are about to try spring wheat for the first time, or increase their former acreage. More barley will also be sown. With the unusually dry weather so far prevailing, farmers have been able to get upon the land early, and already a considerable area of spring grains has been put in in the southwestern counties. Complaints are being made as to scarcity of good, well-tested seed corn."

The May bulletin remarked that the favorable weather for operating on land has been a boon to farmers, as it has enabled many of them to overcome in large measure the great scarcity of experienced help.

The demands of the harvest season have been met more fully than was expected, according to the August bulletin. The remarkable open weather of that period was one of the chief factors, while the very general extent to which harvest leave was granted drafted men largely helped towards this end. While farmers' wives and daughters helped heartily in field work as never before, both male and female labor from urban sources also assisted greatly, while the exchange of help by neighbors was quite general. Farm laborers received from \$2 to \$3.50 a day, with board, and from \$40 to as high as \$75 a month, according to experience and the quality of the work done.

"The fall weather was on the whole favorable for work, and consequently the scarcity of farm hands was not so keenly felt," said the November bulletin. "Farmers also did considerable exchanging of labor, and at some time practically every member of the family assisted to some extent in field work. High school boys and what are termed 'farmerettes' also helped out. Tractors assisted materially in extending the acreage of plowed land. Domestic servants are more difficult to procure than ever, the attractions of the towns, and the high rate of wages prevailing there, enticing many girls from the farm."

## TEMPERATURE OF 1918.

TABLE I.—Showing for each month the highest, lowest, mean daily range and mean temperature at the principal stations in Ontario for 1918; also the annual mean for each station:

Months.	Southampton.	Chatham.	London.	Woodstock.	Stoney Creek.	Toronto.	Lindsay.	Gravenhurst.	Ottawa.	Haileybury.
January:	°	°	°	°	°	°	°	°	°	°
Highest.....	31.5	35.0	32.0	30.5	34.0	33.1	28.6	25.0	29.0	22.0
Lowest.....	-13.1	-11.0	-11.0	-10.0	-10.0	-8.0	-15.5	-20.0	-26.0	-36.0
Daily range.....	15.4	13.1	15.5	11.4	14.7	14.4	18.4	19.5	18.2	17.6
Monthly mean.....	9.2	12.3	10.4	8.9	12.4	13.2	5.6	4.8	5.8	2.7
February:										
Highest.....	43.3	55.0	50.0	49.8	52.0	48.8	42.4	44.0	43.5	42.0
Lowest.....	-27.8	-16.0	-21.0	-22.0	-20.0	-20.2	-29.1	-34.0	-26.5	-32.0
Daily range.....	21.9	17.4	21.8	20.1	20.3	19.1	23.0	25.0	23.0	23.6
Monthly mean.....	16.2	22.5	20.8	19.4	22.1	21.2	14.3	12.1	10.0	6.2
March:										
Highest.....	60.0	74.0	73.0	66.0	70.0	67.2	59.1	60.0	55.0	58.0
Lowest.....	4.9	12.0	4.0	4.8	6.0	6.0	-6.9	-4.0	-5.5	-14.0
Daily range.....	16.6	21.1	22.0	18.1	17.0	17.7	19.0	19.6	20.1	25.0
Monthly mean.....	28.9	37.8	35.1	33.6	35.0	33.6	29.0	27.4	26.6	24.1
April:										
Highest.....	64.8	75.0	73.0	68.9	74.0	69.0	77.5	72.0	76.0	76.0
Lowest.....	14.7	22.0	20.0	18.3	25.0	22.7	16.8	13.0	18.5	10.0
Daily range.....	19.0	21.9	22.9	21.1	18.2	18.7	25.6	25.4	24.1	29.3
Monthly mean.....	39.2	45.4	44.0	42.4	42.8	43.7	42.5	41.3	44.0	41.4
May:										
Highest.....	82.6	92.0	88.0	80.8	88.0	82.0	85.0	84.0	86.5	90.0
Lowest.....	26.6	34.0	28.0	28.0	31.0	30.0	27.5	25.0	29.0	24.0
Daily range.....	21.9	26.9	22.5	22.1	22.2	22.9	26.4	22.7	22.8	27.8
Monthly mean.....	53.6	63.4	59.0	58.0	57.1	57.2	56.6	55.0	57.7	54.5
June:										
Highest.....	82.6	91.0	88.0	82.3	88.0	88.8	87.5	84.0	90.0	90.0
Lowest.....	37.6	40.0	36.0	37.0	39.0	39.0	35.2	40.0	37.5	34.0
Daily range.....	20.0	24.8	25.1	20.9	20.4	20.2	24.1	20.7	23.3	25.6
Monthly mean.....	57.7	67.6	63.4	60.7	61.6	61.5	59.9	59.5	61.7	58.7
July:										
Highest.....	89.4	99.0	98.0	90.0	96.0	92.4	96.2	91.0	94.0	96.0
Lowest.....	41.2	43.0	41.0	43.4	42.0	48.0	43.0	46.0	47.5	42.0
Daily range.....	19.1	27.0	27.3	21.6	21.9	21.7	25.7	21.2	21.8	24.1
Monthly mean.....	64.0	71.2	69.1	66.3	69.9	69.7	68.0	67.2	69.7	67.3
August:										
Highest.....	91.1	106.0	106.0	96.0	103.0	102.2	97.0	96.0	93.0	94.0
Lowest.....	42.1	43.0	45.0	45.0	44.0	47.8	41.3	39.0	44.5	36.0
Daily range.....	20.0	22.7	26.1	21.3	23.0	22.1	25.3	22.7	24.2	27.0
Monthly mean.....	67.0	74.0	72.7	69.4	71.5	70.7	67.3	68.0	68.0	65.9
September:										
Highest.....	75.9	84.0	80.0	75.0	80.0	80.6	77.6	79.0	80.0	76.0
Lowest.....	35.1	36.0	34.0	34.8	36.0	38.9	32.8	34.0	30.0	30.0
Daily range.....	14.3	20.1	20.4	16.1	17.0	18.3	19.3	16.7	18.1	17.0
Monthly mean.....	53.1	57.4	55.0	53.1	56.8	56.5	52.4	52.6	54.4	51.5
October:										
Highest.....	70.7	78.0	75.0	71.5	74.0	73.3	69.5	68.0	70.0	70.0
Lowest.....	28.1	32.0	27.0	28.0	29.0	30.0	25.0	27.0	27.5	28.0
Daily range.....	15.7	18.9	21.8	19.2	18.9	17.2	19.9	17.6	18.3	17.2
Monthly mean.....	50.4	53.4	52.1	50.7	50.5	51.4	48.2	48.3	48.1	45.5
November:										
Highest.....	58.8	60.0	64.0	62.0	68.0	65.7	60.8	59.0	54.0	56.0
Lowest.....	16.2	16.0	19.0	17.5	18.0	17.8	10.6	13.0	12.0	6.0
Daily range.....	10.8	13.0	13.9	12.8	12.3	12.9	14.7	13.3	14.1	15.5
Monthly mean.....	40.8	41.6	40.0	39.3	41.9	42.0	38.1	38.2	35.7	35.2
December:										
Highest.....	50.6	54.0	55.0	55.0	56.0	50.8	46.5	45.0	45.5	40.0
Lowest.....	13.0	14.0	16.0	8.5	13.0	13.7	-7.0	-3.0	-4.5	-16.0
Daily range.....	11.0	10.4	12.2	11.9	10.2	11.8	16.9	13.8	14.1	17.0
Monthly mean.....	30.3	34.9	32.4	30.6	32.5	31.3	23.9	24.1	20.5	16.3
Annual mean.....	42.5	48.4	46.2	44.4	46.2	46.0	42.1	41.5	41.8	39.1

AVERAGE TEMPERATURE FOR THIRTY-SEVEN YEARS.

TABLE 11.—Showing for each month the monthly average for the highest, lowest, mean daily range and the mean temperature at the principal stations in Ontario, derived from the thirty-seven years, 1882-1918; also the annual mean at each station for the same period.

Months.	Southampton.	Chatham.	London.	Woodstock.	Stoney Creek.	Toronto.	Lindsay.	Gravenhurst.	Ottawa.	Halleybury.
<b>January:</b>										
Highest.....	44.8	45.9	46.3	46.2	50.3	45.3	41.6	41.2	40.1	38.0
Lowest.....	6.6	8.9	10.1	11.1	4.6	7.2	20.0	27.1	21.3	33.5
Daily range.....	14.6	12.1	15.1	16.3	14.4	14.5	17.7	20.5	17.9	23.6
Monthly mean.....	21.0	21.3	21.3	20.2	24.9	22.3	15.9	14.2	11.3	6.9
<b>February:</b>										
Highest.....	44.0	46.9	46.1	45.2	47.8	44.6	41.7	42.1	40.3	41.1
Lowest.....	12.6	11.2	11.8	12.4	7.0	8.5	18.9	27.9	20.8	34.4
Daily range.....	17.1	14.0	17.0	17.1	16.6	15.4	19.7	22.4	18.7	23.4
Monthly mean.....	18.7	19.9	19.9	18.9	22.3	20.8	15.1	13.3	12.3	9.3
<b>March:</b>										
Highest.....	54.1	58.7	59.0	56.7	60.3	56.6	52.2	51.1	48.6	51.1
Lowest.....	2.7	0.9	0.5	1.1	5.3	4.0	6.5	13.4	8.1	22.8
Daily range.....	17.1	15.0	17.6	17.2	15.3	14.7	18.4	21.3	17.6	25.7
Monthly mean.....	26.8	29.5	29.5	28.0	32.3	29.6	25.2	23.4	23.9	20.4
<b>April:</b>										
Highest.....	72.8	76.7	76.4	74.6	77.1	71.2	74.3	71.4	73.4	73.2
Lowest.....	16.3	18.5	18.6	17.5	23.2	21.3	14.3	11.1	15.4	6.7
Daily range.....	17.8	18.2	20.7	20.3	17.5	16.3	21.1	21.2	19.4	24.2
Monthly mean.....	40.4	43.6	43.3	42.4	44.3	42.7	41.6	39.4	41.3	38.7
<b>May:</b>										
Highest.....	80.2	82.6	82.9	80.7	84.5	79.7	82.4	81.0	82.7	84.2
Lowest.....	28.2	29.3	29.3	29.0	33.1	31.9	28.1	26.6	31.0	24.1
Daily range.....	21.6	20.8	22.7	22.0	20.3	19.1	23.8	23.0	22.0	26.1
Monthly mean.....	51.1	55.2	55.3	53.8	54.9	53.8	53.9	52.1	54.8	51.9
<b>June:</b>										
Highest.....	85.2	88.2	88.3	86.5	91.1	87.2	88.5	86.6	87.5	89.4
Lowest.....	37.3	37.6	37.6	38.2	41.7	42.1	38.5	35.9	41.5	33.7
Daily range.....	20.0	21.7	23.3	22.8	21.5	20.2	24.7	24.2	21.4	26.8
Monthly mean.....	60.4	64.4	64.6	63.1	65.6	63.7	63.4	62.0	64.4	61.5
<b>July:</b>										
Highest.....	87.4	92.5	92.4	90.0	95.2	91.4	91.9	89.4	91.2	91.8
Lowest.....	43.8	43.6	43.8	44.2	48.3	48.6	44.1	42.5	48.0	40.9
Daily range.....	20.2	22.2	23.2	23.1	21.6	20.4	24.5	23.3	20.5	25.3
Monthly mean.....	66.4	69.2	69.3	67.7	71.5	69.1	67.9	66.8	68.9	65.8
<b>August:</b>										
Highest.....	86.3	90.5	90.9	88.7	93.2	88.8	90.1	88.0	88.4	88.4
Lowest.....	41.8	42.4	40.8	41.6	45.9	46.2	40.3	38.3	43.6	37.5
Daily range.....	18.3	21.0	23.6	23.9	21.4	22.1	24.3	23.0	20.5	24.2
Monthly mean.....	64.7	67.0	66.6	65.1	69.2	65.8	65.5	64.3	65.9	62.8
<b>September:</b>										
Highest.....	84.6	86.9	86.7	85.1	89.7	84.9	85.6	83.5	83.9	83.4
Lowest.....	34.4	34.2	31.9	31.7	36.4	36.5	31.5	30.5	33.3	29.3
Daily range.....	18.2	19.8	22.4	22.1	20.7	18.8	22.8	21.9	20.0	23.0
Monthly mean.....	59.0	60.9	60.4	58.9	62.5	60.2	58.1	57.2	58.0	55.4
<b>October:</b>										
Highest.....	74.3	75.8	75.9	74.2	77.4	73.3	74.2	72.2	71.1	73.1
Lowest.....	25.6	25.4	23.7	23.7	26.4	26.6	21.6	21.5	24.6	18.4
Daily range.....	16.3	16.6	20.1	19.2	19.0	16.4	19.6	18.8	17.0	19.6
Monthly mean.....	48.1	49.1	48.3	47.0	50.8	48.0	46.2	45.8	45.8	43.4
<b>November:</b>										
Highest.....	61.1	62.9	62.2	61.4	65.2	60.1	59.3	58.8	57.6	56.0
Lowest.....	14.5	14.0	13.0	11.8	17.3	15.5	6.4	7.0	7.1	0.1
Daily range.....	13.7	12.1	14.9	15.0	14.3	12.9	15.2	14.7	12.1	14.9
Monthly mean.....	36.7	37.3	36.9	35.7	39.5	37.6	33.8	33.4	32.7	29.7
<b>December:</b>										
Highest.....	49.2	49.0	52.8	49.2	53.4	48.4	45.2	44.7	42.6	43.8
Lowest.....	0.5	0.0	2.1	3.0	0.7	0.7	13.4	14.8	15.5	24.7
Daily range.....	12.7	10.7	13.3	16.8	12.8	12.6	15.8	16.8	15.0	19.2
Monthly mean.....	26.8	26.6	26.4	25.1	29.1	27.3	21.2	20.8	17.5	14.2
Annual mean.....	43.5	45.3	45.2	43.8	47.2	45.1	42.3	41.1	41.4	38.3

## RAIN AND SNOW.

TABLE III.—Summary of the total fall of rain and snow, and the number of days on which rain and snow fell in Ontario during 1918, at stations reporting the whole year, and the average for the province.

Stations	Rain.		Snow.		Stations	Rain.		Snow.	
	Inches	Days	Inches	Days		Inches	Days	Inches	Days
ALGOMA:					NORTHUMBERLAND:				
Biscotasing .....	24.29	85	89.3	46	Healy Falls .....	26.01	86	78.2	35
Kapusking .....	23.89	72	42.5	17	ONTARIO:				
Michipicoten Falls ...	28.11	71	84.3	48	Uxbridge .....	21.70	65	72.0	25
BRANT:					OXFORD:				
Paris .....	29.21	68	49.1	23	Woodstock.....	29.65	107	46.1	51
BRUCE:					PARRY SOUND:				
Southampton .....	24.68	107	105.9	64	Emsdale .....	28.98	110	78.3	42
Walkertou .....	24.95	96	199.0	48	Nipissing.....	23.77	69	67.3	29
Warton .....	21.58	64	127.0	31	Parry Sound .....	25.48	93	106.8	38
CARLETON:					PEEL:				
Ottawa.....	29.58	96	112.3	54	Alton .....	25.53	89	59.0	32
DUNDAS:					PERTH:				
Morrisburg .....	32.35	78	129.4	42	Stratford.....	32.21	111	45.3	26
ELGIN:					PETERBOROUGH:				
Port Stanley.....	25.90	134	49.5	45	Peterborough .....	29.15	83	77.3	31
ESSEX:					PRESCOCK:				
Harrow .....	23.16	88	15.9	10	Vankleek Hill.....	31.02	67	80.0	23
Leamington.....	21.38	63	40.0	12	PRINCE EDWARD:				
FRONTENAC:					Bloomfield .....	19.87	62	71.3	24
Kingston .....	28.29	97	47.6	42	Hillier .....	18.55	61	49.0	12
GREY:					Picton.....	27.30	81	156.0	44
Eugenia .....	25.25	86	126.8	49	RAINY RIVER AND				
Meaford .....	20.27	88	108.0	34	KENORA:				
Owen Sound .....	20.04	93	88.0	36	Fort Frances .....	16.31	72	37.8	23
HALTON:					Kenora.....	19.99	52	54.5	21
Georgetown.....	25.36	100	64.1	39	Sioux Lookout.....	22.45	57	68.3	47
HASTINGS:					LENFREW:				
Queensboro' .....	21.08	91	71.0	14	Pembroke .....	24.48	93	100.0	42
Trenton .....	28.28	81	78.5	32	Renfrew.....	21.14	100	81.8	39
HURON:					Stonecliffe.....	21.28	98	63.4	39
Clinton.....	29.19	98	49.8	32	SIMCOE:				
Lucknow .....	33.27	103	68.5	43	Beeton .....	23.29	86	43.8	37
KENT:					THUNDER BAY:				
Chatham .....	18.84	64	37.5	13	Kakabeka Falls .....	21.11	82	60.2	32
Wallaceburg .....	20.93	75	30.8	11	Port Arthur .....	17.85	78	23.9	29
LANARK:					Schieber .....	24.47	75	78.7	48
Almonte.....	24.67	86	86.5	35	VICTORIA:				
LEEDS:					Kinmount .....	22.81	79	77.0	29
Brockville.....	27.49	67	40.0	14	Lindsay .....	24.07	101	76.0	47
Westport .....	25.61	66	66.6	31	WATERLOO:				
LINCOLN:					Kitchener .....	23.64	79	62.4	33
Grantham .....	27.05	83	36.3	29	WELLAND:				
North Grimsby .....	23.46	88	64.0	37	Welland.....	22.63	55	23.5	9
MANITOULIN:					WELLINGTON:				
Gore Bay.....	32.89	90	75.5	35	Elora .....	27.21	95	47.7	25
Providence Bay.....	25.13	60	77.0	25	Guelph .....	28.67	93	52.3	25
MIDDLESEX:					Mount Forest.....	26.95	106	104.8	57
London .....	26.91	89	93.3	50	WENTWORTH:				
Lucan .....	23.10	109	103.3	53	Stoney Creek .....	20.00	71	29.0	17
MUSKOKA:					YORK:				
Beatrice.....	27.32	64	90.0	26	Agincourt .....	27.07	90	67.8	28
NIPISSING:					Aurora .....	18.52	72	59.0	22
Algonquin Park.....	29.31	104	96.6	50	Toronto .....	28.01	114	64.2	45
Cochrane .....	23.05	105	45.3	35					
Iroquois Falls .....	25.15	109	64.5	49					
North Bay.....	23.20	89	77.7	39	Average for the				
Sturgeon Falls.....	20.10	89	63.2	30	Province: 1918..	24.76	83	78.8	34
NORFOLK:					1917..	23.14	80	85.6	43
Port Dover .....	31.03	119	71.8	48	1882-1918..	24.19	84	73.0	40

## RAIN AND SNOW.

TABLE IV.—Monthly summary of inches of rain and snow in precipitation in the several districts in Ontario in 1918, also the average derived from the thirty-seven years, 1882-1918.

Month.	West and South-west.		North and North-west.		Centre.		East and North-east.		The Province.	
	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.
1918	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
January .....	0.04	32.7	.....	29.7	.....	21.3	0.05	32.0	0.02	28.9
February .....	2.33	13.2	0.23	25.3	2.06	10.5	1.37	19.6	1.50	17.2
March .....	1.12	9.7	0.09	12.4	0.80	8.4	0.17	12.0	0.54	10.6
April .....	1.96	1.6	1.00	2.9	1.27	2.0	1.28	1.6	1.38	2.0
May .....	2.63	.....	3.49	1.6	2.12	.....	2.24	.....	2.62	0.4
June .....	2.33	.....	3.04	0.1	2.78	.....	2.61	.....	2.69	.....
July .....	1.16	.....	2.88	.....	1.68	.....	3.01	.....	2.18	.....
August .....	2.75	.....	2.80	.....	3.73	.....	2.50	.....	2.94	.....
September .....	4.34	.....	3.62	0.6	4.46	.....	4.82	.....	4.31	0.2
October .....	2.34	.....	3.66	3.8	2.51	.....	4.24	.....	3.18	1.0
November .....	2.49	2.1	2.51	4.6	1.26	2.1	1.85	3.7	2.03	3.1
December .....	2.03	14.1	0.75	20.5	1.43	12.9	1.29	14.2	1.37	15.4
The Year .....	25.52	73.4	24.07	101.5	24.10	57.2	25.43	83.1	24.76	78.8
1882-1918										
January .....	1.22	16.0	0.67	24.5	1.10	17.2	0.95	20.4	0.99	19.5
February .....	1.15	13.5	0.44	19.5	0.90	14.6	0.63	16.7	0.78	16.1
March .....	1.32	8.7	0.88	13.2	1.27	9.8	1.08	11.3	1.14	10.8
April .....	2.02	1.9	1.54	3.7	1.96	2.7	1.61	3.3	1.78	2.9
May .....	3.19	.....	2.64	0.4	2.82	S	2.70	0.1	2.84	.....
June .....	2.92	.....	2.70	S	2.72	.....	2.78	.....	2.78	.....
July .....	2.63	.....	2.85	.....	2.80	.....	2.85	.....	2.78	.....
August .....	2.80	.....	2.84	.....	2.41	.....	2.69	.....	2.69	.....
September .....	2.58	.....	3.03	S	2.37	.....	2.53	.....	2.63	0.1
October .....	2.71	0.7	2.97	2.1	2.55	0.5	2.50	0.8	2.68	1.0
November .....	2.23	5.1	1.86	11.7	1.99	5.0	1.82	7.2	1.97	7.3
December .....	1.42	12.8	0.82	21.7	1.22	12.2	1.07	14.7	1.13	15.3
The Year .....	26.19	58.7	23.24	96.8	24.11	62.0	23.21	74.5	24.19	73.0

## SUNSHINE.

TABLE V. Monthly summary of bright sunshine at the principal stations in Ontario for 1918, showing the number of hours the sun was above the horizon, the hours of registered sunshine, the total for the year, and the average derived from the thirty-seven years, 1882-1918.

Month.	Sun above Horizon.	Woodstock.	Toronto.	Lindsay.	Kingston.	Ottawa.	Average of five stations.		
							1918	1917	1882- 1918
1918	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.
January .....	285.7	93.0	113.2	92.6	106.5	128.7	106.8	73.9	.....
February .....	291.4	106.8	97.6	85.0	92.2	99.0	96.1	121.9	.....
March .....	369.9	180.7	201.9	164.8	156.5	210.0	182.7	154.3	.....
April .....	406.4	170.2	205.5	164.7	189.2	244.0	194.7	157.7	.....
May .....	461.1	218.6	213.5	177.7	205.5	226.5	208.3	183.4	.....
June .....	465.7	265.7	272.1	219.1	264.1	287.1	261.6	205.3	.....
July .....	470.9	270.0	281.8	245.8	280.0	283.4	272.2	240.7	.....
August .....	434.5	265.2	269.4	217.7	271.4	277.3	260.3	233.0	.....
September .....	376.3	143.8	163.8	132.6	131.5	149.7	144.3	197.7	.....
October .....	340.2	150.7	134.3	115.3	137.0	134.1	134.3	91.4	.....
November .....	286.9	93.1	84.0	66.1	97.9	80.5	84.3	115.6	.....
December .....	274.3	52.8	52.3	56.1	71.2	90.9	64.7	98.4	.....
The Year .....	4,463.3	2,010.6	2,089.4	1,737.5	2,003.0	2,211.2	2,010.3	1,873.3	.....
1882-1918									
January .....		63.2	77.6	74.4	77.1	86.6	.....	.....	75.8
February .....		91.6	107.5	102.0	110.4	110.4	.....	.....	104.4
March .....		126.7	154.0	147.9	148.2	153.1	.....	.....	146.0
April .....		168.6	189.1	183.1	181.8	191.6	.....	.....	182.8
May .....		209.5	221.8	206.8	206.4	207.6	.....	.....	210.4
June .....		248.5	259.9	234.8	250.4	236.3	.....	.....	246.0
July .....		273.1	283.0	252.6	270.9	256.1	.....	.....	267.3
August .....		235.7	250.8	227.3	248.3	240.6	.....	.....	240.5
September .....		175.7	207.4	185.3	185.6	171.7	.....	.....	185.1
October .....		143.0	151.8	128.5	137.6	131.5	.....	.....	138.5
November .....		77.5	85.1	72.6	81.4	86.2	.....	.....	80.6
December .....		55.3	66.2	56.6	68.5	64.3	.....	.....	62.2
The Year .....		1,869.2	2,054.2	1,871.9	1,966.6	1,936.0	.....	.....	1,939.6

## RURAL AREA ASSESSED.

TABLE VI.—Showing by County Municipalities the rural area of Ontario as returned by Municipal assessors for 1918; also the comparative totals for the Province of the five years, 1914-1918 (only townships under municipal organization are included)

Counties and Districts.	Acres of assessed land.	Acres cleared.	Acres of woodland.	Acres of slash land.	Acres of swamp, marsh or waste land.	Per cent. cleared.
Algoma .....	307,170	54,311	203,367	18,964	30,528	17.68
Brant .....	215,700	179,126	9,717	16,895	9,962	83.04
Bruce .....	933,691	575,955	85,999	142,441	129,296	61.69
Carleton .....	563,949	378,492	54,295	90,148	41,014	67.11
Dufferin .....	356,603	280,326	15,873	30,511	29,893	78.61
Dundas .....	237,990	181,878	18,546	32,871	4,695	76.42
Durham .....	370,323	307,359	25,056	8,604	29,304	83.00
Elgin .....	435,548	361,113	46,100	22,684	5,651	82.91
Essex .....	423,492	360,214	22,040	32,749	8,489	85.06
Frontenac .....	701,490	256,089	75,780	160,045	209,576	36.51
Glengarry .....	287,611	199,232	54,987	16,609	16,783	69.27
Grenville .....	272,899	188,300	30,589	19,444	34,566	69.00
Grey .....	1,058,981	700,850	98,675	105,428	154,028	66.18
Haldimand .....	281,965	242,721	29,234	7,579	2,431	86.08
Haliburton .....	587,660	46,410	415,784	53,995	71,471	7.90
Halton .....	224,512	171,444	17,795	26,988	8,285	76.36
Hastings .....	1,078,786	441,534	244,010	212,927	180,315	40.93
Huron .....	798,907	667,964	47,264	32,628	51,051	83.61
Kenora .....	85,804	6,100	20,364	42,151	17,189	7.11
Kent .....	568,581	477,249	29,372	46,063	15,897	83.94
Lambton .....	660,776	514,035	67,784	75,724	3,233	77.79
Lanark .....	672,160	334,228	175,554	41,023	121,355	49.72
Leeds .....	470,510	271,523	101,202	34,397	63,388	57.71
Lennox & Addington ..	444,968	253,411	101,149	44,481	45,927	56.95
Lincoln .....	189,566	163,254	14,038	10,569	1,705	86.12
Manitoulin .....	294,357	50,571	57,164	84,720	101,902	17.18
Middlesex .....	756,126	666,303	60,597	16,248	12,978	88.12
Muskoka .....	566,581	70,244	325,660	78,799	91,878	12.40
Nipissing .....	331,859	61,744	196,279	17,007	56,829	18.61
Norfolk .....	397,520	282,688	60,134	31,771	22,927	71.11
Northumberland .....	436,314	349,936	35,922	17,229	33,227	80.20
Ontario .....	508,403	381,404	23,968	47,138	55,893	75.02
Oxford .....	471,052	401,173	31,381	20,756	17,742	85.17
Parry Sound .....	630,744	88,431	367,981	108,261	66,071	14.02
Peel .....	288,133	264,338	7,575	5,140	11,080	91.74
Perth .....	518,623	454,688	32,649	22,588	8,698	87.67
Peterborough .....	594,477	263,141	150,603	103,877	76,856	44.26
Prescott .....	293,440	213,121	28,706	39,939	11,674	72.63
Prince Edward .....	235,460	199,503	18,005	4,052	13,900	84.73
Rainy River .....	320,196	44,334	162,348	64,768	48,746	13.85
Renfrew .....	1,073,474	350,844	375,453	164,048	153,129	35.48
Russell .....	250,047	157,470	15,820	73,771	2,986	62.98
Simcoe .....	969,156	676,896	92,209	145,472	54,579	69.84
Stormont .....	247,642	158,603	33,652	44,190	11,197	64.05
Sudbury .....	389,606	61,731	144,701	41,477	141,697	15.84
Thunder Bay .....	480,355	35,541	305,586	61,507	77,721	7.40
Timiskaming .....	313,256	40,694	225,324	35,202	12,036	12.99
Victoria .....	598,423	288,125	63,109	141,696	105,493	48.15
Waterloo .....	306,122	252,626	31,926	5,778	15,792	82.52
Welland .....	223,382	183,886	14,980	13,772	10,744	82.32
Wellington .....	626,414	502,668	32,026	16,652	75,068	80.25
Wentworth .....	270,289	214,858	14,483	12,923	28,025	79.49
York .....	536,700	440,014	24,625	27,401	48,660	81.99
The Province.						
1918 .....	25,157,793	14,798,693	4,937,440	2,772,100	2,649,560	58.82
1917 .....	25,045,029	14,728,014	4,835,474	2,751,208	2,730,333	58.81
1916 .....	25,088,035	14,698,648	4,830,938	2,794,701	2,763,748	58.59
1915 .....	25,014,335	14,620,739	4,950,554	2,686,242	2,756,800	58.45
1914 .....	24,935,350	14,595,068	5,066,783	2,487,396	2,786,103	58.53

Statistics from Municipal Assessors are furnished by the Bureau of Municipal Affairs.

## FALL WHEAT AND SPRING WHEAT.

TABLE VII.—Showing by County Municipalities of Ontario the area, produce and market value of Fall Wheat and Spring Wheat for the year 1918, together with the comparative totals for the Province for 1917, and the annual average for various periods.

Counties and Districts.	Fall Wheat.				Spring Wheat.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				\$				\$
Algonia.....	293	6,886	23.5	14,612	2,302	51,104	22.2	107,421
Brant.....	4,554	46,451	10.2	98,708	1,118	24,149	21.6	50,665
Bruce.....	19,226	319,152	16.6	668,623	6,729	149,384	22.2	307,134
Carleton.....	163	2,771	17.0	5,838	11,246	280,025	24.9	588,613
Dufferin.....	887	13,434	17.4	27,849	10,502	238,395	22.7	484,657
Dundas.....	410	8,446	20.6	17,897	3,707	97,123	26.2	204,444
Durham.....	1,379	29,786	21.6	63,295	16,153	373,134	23.1	784,701
Elgin.....	26,030	486,761	18.7	1,028,039	814	18,396	22.6	38,576
Essex.....	25,545	653,952	25.6	1,376,569	1,729	45,646	26.4	94,852
Frontenac.....	660	12,342	18.7	26,313	3,273	66,442	20.3	139,661
Glengarry.....	108	2,322	21.5	4,818	5,801	133,423	23.0	272,049
Grenville.....	104	2,309	22.2	4,930	1,469	34,375	23.4	72,772
Grey.....	13,755	250,341	18.2	525,215	14,621	321,662	22.0	668,735
Haldimand.....	13,930	123,977	8.9	261,467	2,258	47,192	20.9	98,490
Haliburton.....	28	700	25.0	1,475	767	16,184	21.1	33,307
Halton.....	4,379	68,750	15.7	145,613	5,262	127,340	24.2	265,886
Hastings.....	3,120	61,776	19.8	129,544	6,867	153,821	22.4	320,563
Huron.....	13,050	238,815	18.3	503,422	8,862	223,322	25.2	464,956
Kent.....	30,469	734,303	24.1	1,543,505	5,683	158,556	27.9	326,784
Lambton.....	34,668	915,235	26.4	1,927,485	1,756	44,076	25.1	92,956
Lanark.....	1,035	20,597	19.9	43,048	9,438	229,343	24.3	486,437
Leeds.....	1,060	18,020	17.0	38,455	3,206	71,814	22.4	152,677
Lennox and Add..	1,604	23,900	14.9	50,811	5,520	125,856	22.8	264,549
Lincoln.....	10,606	154,848	14.6	325,645	1,897	43,441	22.9	91,139
Manitoulin.....	129	2,361	18.3	4,887	2,918	68,573	23.5	137,146
Middlesex.....	43,730	1,032,028	23.6	2,180,675	3,937	94,882	24.1	197,829
Muskoka.....	25	500	20.0	1,039	1,138	24,126	21.2	50,303
Nipissing.....	38	798	21.0	1,696	2,996	68,608	22.9	145,449
Norfolk.....	20,733	217,697	10.5	456,511	876	16,732	19.1	34,685
Northumberland..	3,917	84,216	21.5	178,875	12,862	288,109	22.4	602,724
Ontario.....	1,813	42,062	23.2	88,919	19,659	501,305	25.5	1,051,738
Oxford.....	12,666	200,123	15.8	423,460	2,632	61,062	23.2	127,864
Parry Sound.....	29	508	17.5	1,092	2,506	48,616	19.4	103,066
Peel.....	1,455	30,992	21.3	65,424	8,560	210,576	24.6	431,891
Perth.....	6,368	117,171	18.4	246,176	6,505	164,577	25.3	341,826
Peterborough.....	4,047	95,509	23.6	203,912	10,572	230,470	21.8	479,839
Prescott.....	80	1,360	17.0	2,856	5,204	112,927	21.7	233,646
Prince Edward.....	1,920	37,440	19.5	78,886	4,876	104,346	21.4	217,666
Rainy R. & Kenora	96	2,323	24.2	4,702	3,813	99,901	26.2	201,001
Renfrew.....	558	10,825	19.4	22,678	42,611	843,698	19.8	1,785,265
Russell.....	173	2,941	17.0	6,323	4,066	96,771	23.8	203,316
Simcoe.....	18,515	372,152	20.1	788,218	19,965	447,216	22.4	931,998
Stormont.....	53	1,060	20.0	2,237	3,086	67,275	21.8	140,672
Sudbury.....	26	624	24.0	1,298	3,486	84,361	24.2	176,483
Thunder Bay.....	28	560	20.0	1,120	1,579	39,317	24.9	79,814
Timiskaming.....	30	474	15.8	995	2,474	55,170	22.3	108,906
Victoria.....	1,267	28,127	22.2	59,151	13,716	307,238	22.4	636,904
Waterloo.....	7,622	115,092	15.1	245,031	2,919	71,807	24.6	149,502
Wendland.....	17,242	263,803	15.3	558,999	1,362	26,287	19.3	55,071
Wellington.....	2,143	36,217	16.9	75,802	9,851	254,156	25.8	526,357
Wentworth.....	7,051	76,151	10.8	161,897	2,563	59,974	23.4	124,986
York.....	3,799	85,857	22.6	181,759	23,711	663,908	28.0	1,388,232
The Province:								
1918.....	362,616	7,054,845	19.5	14,877,794	351,423	8,186,191	23.3	17,076,203
1917.....	585,946	13,384,207	22.8	28,078,738	182,957	3,679,516	20.1	7,716,693
Annual Averages								
1912-1918.....	650,961	15,062,463	23.1	19,152,438	171,299	3,437,190	20.1	5,429,859
1902-1911.....	720,272	16,912,017	23.5	14,142,444	182,335	2,269,976	17.9	2,655,591
1892-1901.....	930,794	18,688,313	20.1	12,650,091	356,355	5,405,846	15.2	3,650,840
1882-1891.....	902,846	18,059,235	20.0	16,250,884	563,547	8,882,998	15.8	7,959,306
1882-1918.....	813,401	17,346,835	21.3	15,296,791	330,310	5,395,907	16.3	4,882,875



## BARLEY AND OATS.

TABLE VIII.—Showing by County Municipalities of Ontario the area, produce and market value of Barley and Oats for the year 1918, together with the comparative totals for the Province for 1917, and the annual averages for various periods.

Counties and Districts.	Barley.				Oats.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				\$				\$
Algoma.....	1,596	49,955	31.3	60,496	10,236	409,440	40.0	352,937
Braut.....	12,343	503,594	40.8	512,155	36,122	1,827,773	50.6	1,356,208
Bruce.....	24,737	927,638	37.5	941,553	117,089	5,222,169	44.6	3,791,295
Carleton.....	7,569	266,429	35.2	310,123	91,478	4,336,657	47.4	3,520,878
Dufferin.....	15,995	537,432	33.6	522,384	70,983	2,981,286	42.0	2,063,050
Dundas.....	4,330	158,478	36.6	207,923	26,284	1,151,239	43.8	1,030,359
Durham.....	8,928	298,195	33.4	304,755	51,734	2,064,187	39.9	1,486,215
Elgin.....	7,882	321,586	40.8	330,269	56,764	2,963,081	52.2	2,180,828
Essex.....	20,826	880,940	42.3	940,844	86,135	4,685,744	54.4	3,429,965
Frontenac.....	5,579	167,928	30.1	195,468	39,428	1,514,035	38.4	1,302,070
Glengarry.....	4,093	135,069	33.0	166,945	42,785	1,694,286	39.6	1,346,957
Grenville.....	1,757	59,387	33.8	70,374	35,367	1,351,019	38.2	1,137,558
Grey.....	33,287	1,138,415	34.2	1,076,941	164,369	6,689,818	40.7	4,575,836
Haldimand.....	10,042	345,445	34.4	363,754	42,397	1,848,509	43.6	1,362,351
Haliburton.....	855	25,736	30.1	28,490	9,349	337,499	36.1	292,612
Halton.....	10,846	395,879	36.5	404,588	31,301	1,458,627	46.6	1,123,143
Hastings.....	22,229	733,557	33.0	832,587	86,346	3,367,494	39.0	2,731,038
Huron.....	32,969	1,282,494	38.9	1,267,104	141,272	6,795,183	48.1	4,987,664
Kent.....	26,416	1,159,662	43.9	1,218,805	92,447	5,694,735	61.6	3,997,704
Lambton.....	20,965	811,346	38.7	850,291	87,754	4,335,048	49.4	3,151,580
Lenark.....	5,182	174,633	33.7	193,668	45,429	1,967,076	43.3	1,573,661
Leeds.....	4,809	160,621	33.4	189,372	46,001	1,738,838	37.8	1,479,751
Lennox and Add..	8,724	282,658	32.4	319,686	37,738	1,501,972	39.8	1,150,511
Lincoln.....	3,318	107,835	32.5	110,962	25,353	1,125,673	44.4	874,648
Manitoulin.....	2,088	70,157	33.6	73,665	6,549	280,952	42.9	209,871
Middlesex.....	18,844	753,760	40.0	781,649	111,374	5,668,937	50.9	4,109,979
Muskoka.....	1,097	30,058	27.4	33,905	13,893	479,309	34.5	413,164
Nipissing.....	1,308	41,725	31.9	52,240	16,151	600,817	37.2	505,287
Norfolk.....	5,967	219,586	36.8	230,126	44,319	1,945,604	43.9	1,449,475
Northumberland..	12,588	433,027	34.4	453,379	59,692	2,375,742	39.8	1,781,807
Ontario.....	19,618	718,019	36.6	752,484	76,571	3,621,808	47.3	2,680,138
Oxford.....	14,983	617,300	41.2	641,375	78,903	4,102,956	52.0	3,011,570
Parry Sound.....	1,680	45,024	26.8	56,460	18,983	643,524	33.9	570,162
Peel.....	28,017	997,405	35.6	1,008,376	56,668	2,493,392	44.0	1,862,564
Perth.....	32,206	1,381,637	42.9	1,336,043	109,311	5,432,757	49.7	3,938,749
Peterborough.....	9,599	348,444	36.3	358,897	52,540	2,280,236	43.4	1,662,292
Prescott.....	5,170	164,406	31.8	208,302	46,540	1,880,216	40.4	1,472,209
Prince Edward....	9,754	294,571	30.2	312,834	26,368	1,025,715	38.9	794,929
Rainy R'r. & Kenora	1,919	69,660	36.3	78,507	8,734	405,258	46.4	336,364
Renfrew.....	4,549	129,192	28.4	140,561	67,437	2,549,119	37.8	1,922,656
Russell.....	4,197	148,574	35.4	178,289	33,533	1,475,452	44.0	1,156,754
Simcoe.....	71,727	2,460,236	34.3	2,433,173	153,227	6,297,630	41.1	4,565,782
Stormont.....	3,031	96,689	31.9	129,177	27,745	1,084,830	39.1	986,110
Sudbury.....	977	28,235	28.9	36,226	12,877	504,778	39.2	459,853
Thunder Bay.....	1,529	53,974	35.3	57,212	7,002	277,279	39.6	231,805
Timiskaming.....	1,622	50,282	31.0	61,847	5,766	209,882	36.4	190,993
Victoria.....	15,492	487,998	31.5	518,254	69,018	2,836,640	41.1	2,019,688
Waterloo.....	15,037	610,502	40.6	609,891	61,896	2,983,387	48.2	2,231,573
Welland.....	2,556	82,559	32.3	87,347	27,558	1,140,901	41.4	871,648
Wellington.....	24,458	914,729	37.4	913,814	111,146	4,990,455	44.9	3,618,080
Wentworth.....	9,086	344,359	37.9	361,577	43,198	1,969,829	45.6	1,483,281
York.....	46,028	1,730,653	37.6	1,787,765	103,308	5,134,408	49.7	3,963,763
The Province:								
1918.....	660,404	24,247,673	36.7	25,112,912	2,924,468	131,752,601	45.1	98,798,745
1917.....	551,298	18,387,741	33.4	23,118,166	2,763,355	111,232,817	40.3	86,640,057
Annual Average								
1912-1918.....	591,774	18,643,214	31.5	15,008,334	2,761,060	104,990,990	38.0	57,933,843
1902-1911.....	711,199	21,709,056	30.5	10,870,736	2,703,900	98,968,442	36.6	36,309,289
1892-1901.....	498,932	13,100,823	26.3	5,637,346	2,291,902	79,229,462	34.6	22,119,649
1882-1891.....	743,245	19,349,351	26.0	10,547,091	1,663,265	58,410,603	35.1	21,017,492
1882-1918.....	639,897	18,164,724	28.4	9,989,461	2,322,094	83,811,405	36.1	32,432,465

## PEAS AND BEANS.

TABLE IX.--Showing by County Municipalities of Ontario the area, produce and market value of Peas and Beans for the year 1918, together with the comparative totals for the Province for 1917, and the annual averages for various periods.

Counties and Districts.	Peas.				Beans.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				\$				\$
Algoma .....	759	16,015	21.1	37,827	21	336	16.0	1,680
Brant .....	197	3,960	20.1	8,684	1,490	19,668	13.2	92,243
Bruce .....	5,820	117,564	20.2	234,658	800	14,160	17.7	72,499
Carleton .....	1,766	40,265	22.8	88,865	3,407	57,238	16.8	239,255
Dufferin .....	1,827	33,982	18.6	65,313	194	2,425	12.5	9,700
Dundas .....	446	9,411	21.1	22,351	3,423	65,722	19.2	276,690
Durham .....	8,760	196,224	22.4	467,013	2,161	29,174	13.5	127,782
Elgin .....	836	16,469	19.7	35,507	9,839	129,875	13.2	596,126
Essex .....	159	3,180	20.0	6,360	1,538	20,917	13.6	100,611
Frontenac .....	416	7,488	18.0	16,399	878	12,643	14.4	61,445
Glengarry .....	777	14,763	19.0	34,442	1,149	24,359	21.2	97,923
Grenville .....	220	4,422	20.1	9,950	1,877	26,653	14.2	113,275
Grey .....	7,454	146,844	19.7	282,234	677	7,312	10.8	31,149
Haldimand .....	354	6,372	18.0	13,834	491	6,138	12.5	30,506
Haliburton .....	347	6,732	19.4	16,561	45	720	16.0	4,320
Halton .....	566	10,584	18.7	22,290	390	5,577	14.3	29,279
Hastings .....	1,690	31,603	18.7	70,664	1,500	24,600	16.4	114,882
Huron .....	2,458	49,897	20.3	104,135	14,548	180,395	12.4	824,405
Kent .....	612	12,424	20.3	26,177	22,651	278,607	12.3	1,198,010
Lambton .....	693	14,484	20.9	30,750	1,616	23,270	14.4	101,457
Lanark .....	1,731	38,082	22.0	87,322	1,021	14,498	14.2	62,051
Leeds .....	263	5,549	21.1	11,714	872	13,342	15.3	67,377
Lennox and Add'ton	1,074	23,950	22.3	56,618	948	13,556	14.3	61,951
Lincoln .....	286	5,205	18.2	11,092	424	5,936	14.0	30,392
Manitoulin .....	1,253	24,058	19.2	46,673	37	740	20.0	4,440
Middlesex .....	408	8,650	21.2	18,433	2,512	36,926	14.7	162,844
Muskoka .....	564	9,870	17.5	24,389	57	855	15.0	3,497
Nipissing .....	1,149	22,176	19.3	55,351	37	333	9.0	1,998
Norfolk .....	2,202	44,260	20.1	92,282	2,440	37,820	15.5	183,427
Northumberland ..	3,927	92,285	23.5	218,254	3,672	55,080	15.0	228,031
Ontario .....	3,681	80,614	21.9	181,382	1,169	16,366	14.0	74,629
Oxford .....	566	11,829	20.9	25,693	761	12,633	16.6	63,165
Parry Sound .....	1,491	27,882	18.7	67,642	30	450	15.0	2,250
Peel .....	1,079	20,609	19.1	44,186	218	3,270	15.0	15,631
Perth .....	1,393	30,785	22.1	66,834	665	9,510	14.3	47,550
Peterborough .....	6,249	133,729	21.4	288,186	592	10,182	17.2	47,652
Prescott .....	381	8,115	21.3	19,890	1,009	18,364	18.2	78,965
Prince Edward .....	6,858	158,420	23.1	407,298	2,330	31,222	13.4	136,752
Rainy Riv. & Kenora	120	2,568	21.4	7,704	12	60	5.0	300
Renfrew .....	15,812	317,821	20.1	641,045	1,055	14,348	13.6	61,696
Russell .....	1,460	29,346	20.1	73,981	1,179	18,392	15.6	77,062
Simcoe .....	8,089	165,825	20.5	321,535	2,464	31,539	12.8	152,018
Stormont .....	390	7,020	18.0	16,616	1,340	18,492	13.8	75,262
Sudbury .....	1,011	16,378	16.2	43,303	7	105	15.0	525
Thunder Bay .....	222	4,662	21.0	13,986				
Timiskaming .....	2,542	58,212	22.9	123,701	3	45	15.0	225
Victoria .....	5,569	121,404	21.8	268,060	506	7,641	15.1	32,474
Waterloo .....	1,053	21,376	20.3	45,210	587	7,866	13.4	40,903
Welland .....	152	2,766	18.2	5,706	2,637	35,336	13.4	171,380
Wellington .....	2,877	61,568	21.4	130,647	548	6,138	11.2	29,217
Wentworth .....	376	7,746	20.6	16,019	691	11,194	16.2	58,657
York .....	3,477	76,494	22.0	159,566	1,564	25,806	16.5	134,449
The Province:								
1918 .....	113,862	2,381,937	20.9	5,184,332	100,082	1,387,834	13.9	6,230,007
1917 .....	90,322	1,512,567	16.7	4,855,888	110,680	1,078,510	9.7	7,446,626
Annual average								
1912-1918 .....	143,336	2,366,626	16.5	3,814,642	73,588	995,934	13.5	3,630,190
1902-1911 .....	389,104	7,056,642	18.1	5,275,196	50,006	854,999	17.1	1,263,012
1892-1901 .....	789,819	14,242,404	18.5	7,613,480	51,654	875,597	17.0	818,381
1882-1891 .....	668,962	13,908,658	20.8	8,573,501	26,201	469,393	17.9	545,087
1882-1918 .....	521,140	9,963,336	19.1	6,522,277	48,479	783,011	16.2	1,396,652

## RYE AND BUCKWHEAT.

TABLE X.—Showing by County Municipalities of Ontario the area, produce and market value of Rye and Buckwheat for the year 1918, together with the comparative totals for the Province for 1917, and the annual averages for various periods.

Counties and Districts.	Rye.				Buckwheat.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				\$				\$
Algonia .....	122	2,269	18.6	3,177	170	3,468	20.4	4,855
Brant .....	2,707	46,019	17.0	72,250	2,649	51,656	19.5	73,145
Bruce .....	365	7,118	19.5	10,606	4,936	92,303	18.7	139,931
Carleton .....	1,119	20,813	18.6	31,261	6,099	140,887	23.1	205,131
Dufferin .....	4,729	71,881	15.2	99,268	3,745	83,139	22.2	97,439
Dundas .....	640	10,944	17.1	16,525	3,045	66,990	22.0	94,188
Durham .....	11,327	151,782	13.4	226,155	9,273	180,824	19.5	243,200
Elgin .....	1,819	32,014	17.6	49,846	3,615	53,141	14.7	75,567
Essex .....	1,044	23,699	22.7	39,269	1,341	18,506	13.8	28,222
Frontenac .....	1,195	19,837	16.6	28,982	2,920	65,992	22.6	88,561
Glengarry .....	14	224	16.0	349	1,729	31,987	18.5	42,479
Grenville .....	798	14,125	17.7	21,696	7,030	138,491	19.7	195,272
Grey .....	454	7,309	16.1	11,132	6,608	140,750	21.3	159,188
Haldimand .....	195	3,062	15.7	4,725	3,196	55,610	17.4	77,854
Haliburton .....	212	3,477	16.4	5,028	643	13,246	20.6	17,366
Halton .....	357	5,498	15.4	8,340	1,258	22,015	17.5	30,909
Hastings .....	4,513	78,978	17.5	116,966	9,935	210,622	21.2	295,292
Huron .....	209	3,407	16.3	5,196	7,508	134,393	17.9	174,980
Kent .....	1,343	30,486	22.7	54,235	2,308	50,084	21.7	76,528
Lambton .....	206	3,687	17.9	5,936	544	9,792	18.0	13,464
Lanark .....	1,145	20,496	17.9	31,933	6,698	119,894	17.9	170,849
Leeds .....	693	13,028	18.8	19,542	4,626	89,282	19.3	120,799
Lennox & Addington .....	1,679	26,528	15.8	40,561	7,712	157,325	20.4	225,919
Lincoln .....	363	6,679	18.4	10,686	723	12,725	17.6	18,604
Manitoulin .....	88	1,382	15.7	1,866	87	2,088	24.0	2,923
Middlesex .....	848	17,045	20.1	26,897	1,490	28,459	19.1	39,672
Muskoka .....	136	2,543	18.7	3,942	285	4,703	16.5	6,735
Nipissing .....	258	5,212	20.2	8,829	167	3,340	20.0	4,903
Norfolk .....	13,750	209,000	15.2	321,024	12,139	202,721	16.7	289,688
Northumberland .....	10,475	143,508	13.7	217,702	15,295	344,138	22.5	459,768
Ontario .....	6,106	105,634	17.3	162,676	12,143	290,218	23.9	376,123
Oxford .....	1,689	30,402	18.0	48,066	2,502	43,285	17.3	59,560
Parry Sound .....	293	4,835	16.5	7,470	179	3,938	22.0	5,907
Peel .....	3,982	64,110	16.1	93,921	3,071	63,877	20.8	85,659
Perth .....	119	2,404	20.2	3,606	1,806	40,093	22.2	54,085
Peterborough .....	2,220	38,850	17.5	57,576	5,402	129,648	24.0	172,432
Prescott .....	114	2,109	18.5	3,254	1,677	37,062	22.1	52,294
Prince Edward .....	3,952	61,651	15.6	90,689	10,401	205,940	19.8	280,696
Rainy R' & Kenora .....	53	1,389	26.2	2,167	14	280	20.0	378
Renfrew .....	6,812	100,818	14.8	153,243	2,993	58,364	19.5	74,706
Russell .....	19	399	21.0	618	2,130	48,138	22.6	69,415
Simcoe .....	15,435	256,221	16.6	384,844	17,933	362,247	20.0	463,676
Sturmont .....	124	2,641	21.3	4,199	3,070	61,093	19.9	87,058
Sudbury .....	13	325	25.0	488	188	3,760	20.0	5,302
Thunder Bay .....	148	2,930	19.8	4,395	12	240	20.0	336
Timiskaming .....	22	330	15.0	495	21	420	20.0	588
Victoria .....	1,184	19,299	16.3	27,752	7,438	181,487	24.4	229,400
Waterloo .....	1,778	31,826	17.9	50,922	2,974	51,450	17.3	67,914
Welland .....	388	5,587	14.4	8,202	1,823	28,986	15.9	40,870
Wellington .....	500	8,400	16.8	12,726	5,151	111,777	21.7	141,621
Wentworth .....	917	15,681	17.1	24,776	2,607	51,879	19.9	68,843
York .....	4,055	75,018	18.5	114,552	12,353	295,237	23.9	397,684
The Province:								
1918 .....	112,726	1,812,909	16.1	2,750,561	223,662	4,597,990	20.6	6,207,986
1917 .....	133,077	2,222,325	16.7	3,614,591	153,457	2,992,391	19.5	4,278,256
Annual Average ..								
1912-1918 .....	133,081	2,247,877	16.9	2,322,504	201,603	4,115,610	20.4	3,662,900
1902-1911 .....	112,424	1,877,432	16.7	1,129,754	131,168	2,871,668	21.9	1,503,428
1892-1901 .....	129,188	2,088,786	16.2	937,885	131,005	2,450,389	18.7	949,189
1882-1891 .....	103,636	1,683,211	16.2	1,010,057	69,230	1,413,900	20.4	586,472
8 2-1918 .....	118,488	1,952,147	16.5	1,271,203	127,709	2,599,158	20.4	1,514,556

## FLAX—MIXED GRAINS.

TABLE XI.—Showing by County Municipalities of Ontario the area, produce, and market value of Flax and Mixed Grains for the year 1918, together with the comparative totals for the Province for 1917, and the annual averages for various periods.

Counties and Districts.	Flax.				Mixed Grains.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre	Market Value.
				\$				\$
Algonia.....	26	130	5.0	811	903	37,384	41.4	44,861
Brant.....	14	108	7.7	674	11,732	559,616	47.7	539,470
Bruce.....	514	5,551	10.8	34,649	21,197	930,548	43.9	984,520
Carleton.....	276	2,677	9.7	16,709	10,080	461,664	45.8	492,134
Dufferin.....	243	3,353	13.8	20,929	19,083	786,220	41.2	765,778
Dundas.....	35	700	20.0	4,369	13,010	552,925	42.5	671,251
Durham.....	203	2,538	12.5	15,842	25,791	980,058	38.0	1,041,802
Elgin.....	152	1,900	12.5	11,860	11,041	539,905	48.9	511,290
Essex.....	301	3,612	12.0	22,546	9,269	469,011	50.6	476,515
Frontenac.....	37	481	13.0	3,002	4,235	152,460	36.0	173,042
Glengarry.....	25	250	10.0	1,560	1,911	73,191	38.3	85,853
Grenville.....	90	882	9.8	5,505	4,477	175,051	39.1	194,307
Grey.....	708	6,655	9.4	41,540	28,583	1,149,037	40.2	1,170,869
Haldimand.....	326	4,727	14.5	29,505	7,089	304,827	43.0	293,548
Haliburton.....	4	44	11.0	275	459	16,065	35.0	17,270
Halton.....	33	528	16.0	3,296	10,203	462,196	45.3	490,390
Hastings.....	82	820	10.0	5,118	7,281	270,833	37.2	303,085
Huron.....	2,623	30,165	11.5	188,285	31,964	1,527,879	47.8	1,498,849
Kent.....	379	5,799	15.3	36,196	19,326	1,095,784	56.7	1,084,326
Lambton.....	1,817	26,347	14.5	164,454	13,855	642,872	46.4	655,729
Lanark.....	134	1,273	9.5	7,946	6,970	289,952	41.6	318,947
Leeds.....	61	610	10.0	3,808	4,731	178,359	37.7	199,049
Lennox & Addington ..	38	266	7.0	1,660	6,430	226,336	35.2	234,937
Lincoln.....	385	5,775	15.0	36,047	2,662	116,596	43.8	119,511
Manitoulin.....	44	616	14.0	3,845	1,192	53,282	44.7	55,946
Middlesex.....	1,037	12,444	12.0	77,674	16,261	814,676	50.1	846,448
Muskoka.....	13	78	6.0	487	746	25,662	34.4	27,843
Nipissing.....	21	105	5.0	655	885	35,843	40.5	42,402
Norfolk.....	627	7,900	12.6	49,311	7,778	336,787	43.3	312,202
Northumberland.....	210	3,150	15.0	19,662	17,419	670,632	38.5	737,025
Ontario.....	136	1,224	9.0	7,640	33,141	1,448,262	43.7	1,559,778
Oxford.....	68	1,054	15.5	6,579	30,087	1,582,576	52.6	1,642,714
Parry Sound.....	21	126	6.0	786	818	26,503	32.4	29,577
Peel.....	181	2,534	14.0	15,817	10,813	457,390	42.3	458,305
Perth.....	1,277	16,473	12.9	102,822	24,963	1,233,172	49.4	1,193,710
Peterborough.....	35	368	10.5	2,297	5,591	224,758	40.2	229,703
Prescott.....	33	528	16.0	3,296	1,590	59,625	37.5	69,225
Prince Edward.....	23	276	12.0	1,723	4,074	135,257	33.2	144,454
Rainy River & Kenora.	41	549	13.4	3,427	276	11,675	42.3	11,582
Renfrew.....	197	1,970	10.0	12,296	3,719	127,934	34.4	142,135
Russell.....	87	783	9.0	4,887	3,509	151,940	43.3	168,198
Simcoe.....	289	3,179	11.0	19,843	29,786	1,188,461	39.9	1,259,769
Stormont.....	34	680	20.0	4,244	5,106	204,751	40.1	257,372
Sudbury.....	61	610	10.0	3,808	967	40,131	41.5	50,164
Thunder Bay.....	4	20	5.0	125	328	13,120	40.0	12,989
Timiskaming.....	5	25	5.0	156	661	23,532	35.6	26,803
Victoria.....	118	1,475	12.5	9,207	13,181	498,242	37.8	498,242
Waterloo.....	372	4,464	12.0	27,864	32,317	1,480,119	45.8	1,480,119
Welland.....	62	744	12.0	4,644	3,786	145,761	38.5	148,676
Wellington.....	2,098	25,176	12.0	157,145	56,740	2,604,366	45.9	2,552,279
Wentworth.....	58	394	6.8	2,459	15,617	715,259	45.8	739,578
York.....	267	4,085	15.3	25,498	25,756	1,153,869	44.8	1,188,485
The Province:								
1918.....	15,925	196,221	12.3	*1,224,783	619,389	27,462,374	44.3	28,253,556
1917.....	7,372				515,593	20,102,421	39.0	20,876,501
		No estimates of yields were made previous to 1918.						
Annual Averages:								
1912-1918.....	8,160				488,037	18,381,993	37.7	14,131,416
1907-1911.....	10,652				471,545	15,772,739	33.4	8,674,687
1907-1918.....	9,196				481,165	17,294,803	35.9	11,857,779

\*Including seed of fibre variety commandeered and shipped to Ireland to the value of \$930,769.

## CORN.\*

TABLE XII.—Showing by County Municipalities of Ontario, the area, produce and market value of Corn for husking and for fodder for the year 1918, together with the comparative totals for the Province for 1917 and the annual averages for various periods.

Counties and Districts.	Corn for husking.				Corn for Silo.			
	Acres.	Bushels. (in the ear)	Per acre.	Market Value. \$	Acres.	Tons green.	Per acre.	Market value. \$
Algoma .....	19	570	30.0	570	73	511	7.00	2,300
Brant .....	1,533	119,421	77.9	124,556	8,556	92,661	10.83	416,975
Bruce .....	356	26,700	75.0	28,035	7,158	63,849	8.92	287,321
Carleton .....	748	37,400	50.0	37,400	16,647	166,470	10.00	749,115
Dufferin .....	62	3,100	50.0	3,286	984	7,646	7.77	34,407
Dundas .....	981	58,860	60.0	66,688	12,435	136,785	11.00	615,533
Durham .....	847	50,820	60.0	57,173	8,432	77,406	9.18	348,327
Elgin .....	15,001	1,018,568	67.9	1,022,642	14,556	137,118	9.42	617,031
Essex .....	62,202	4,179,974	67.2	4,188,334	4,652	31,866	6.85	143,397
Frontenac .....	1,464	82,570	56.4	92,561	4,710	41,448	8.80	186,516
Glengarry .....	581	26,145	45.0	29,126	7,039	81,793	11.62	368,069
Grenville .....	1,065	52,185	49.0	55,681	7,653	66,964	8.75	301,338
Grey .....	196	9,800	50.0	9,829	9,191	78,583	8.55	353,624
Haldimand .....	1,610	119,140	74.0	116,042	3,275	30,851	9.42	138,829
Haliburton .....	102	3,060	30.0	3,418	120	1,332	11.10	5,994
Halton .....	220	8,800	40.0	9,970	3,838	44,751	11.66	201,380
Hastings .....	3,013	157,580	52.3	177,750	11,060	88,480	8.00	398,160
Huron .....	717	35,850	50.0	36,137	11,347	118,349	10.43	532,570
Kent .....	44,913	3,296,614	73.4	3,606,496	7,451	66,239	8.89	298,076
Lambton .....	13,159	839,544	63.8	852,977	14,163	144,746	10.22	651,357
Lanark .....	831	37,395	45.0	39,713	8,204	94,920	11.57	427,140
Leeds .....	2,431	145,860	60.0	165,405	9,088	97,878	10.77	440,451
Lennox & Addingt'n.	1,876	108,058	57.6	111,948	4,198	37,530	8.94	168,885
Lincoln .....	3,503	195,467	55.8	199,767	3,320	24,767	7.46	111,452
Manitoulin .....	34	1,105	32.5	1,105	164	1,733	10.57	7,799
Middlesex .....	6,243	445,126	71.3	510,560	23,430	263,353	11.24	1,185,088
Muskoka .....	84	4,200	50.0	4,200	169	1,183	7.00	5,324
Nipissing .....	17	510	30.0	510	29	290	10.00	1,305
Norfolk .....	10,631	755,864	71.1	772,493	10,613	104,007	9.80	468,031
Northumberland ..	2,312	124,386	53.8	138,193	8,871	85,783	9.67	386,023
Ontario .....	503	32,343	64.3	33,410	13,254	151,493	11.43	681,719
Oxford .....	1,824	117,466	64.4	129,095	30,293	357,154	11.79	1,607,193
Parry Sound .....	41	2,050	50.0	2,050	72	756	10.50	3,402
Peel .....	427	17,080	40.0	19,779	5,835	67,744	11.61	304,848
Perth .....	140	7,000	50.0	7,287	12,296	148,782	12.10	669,519
Peterborough .....	332	13,280	40.0	13,639	7,142	74,991	10.50	337,459
Prescott .....	2,029	91,102	44.9	107,318	7,926	80,132	10.11	360,594
Prince Edward .....	4,188	250,024	59.7	285,027	4,463	38,739	8.68	174,325
Rainy R'r & Kenora ..	8	240	30.0	240	9	45	5.00	203
Renfrew .....	490	19,600	40.0	22,050	4,530	44,122	9.74	198,549
Russell .....	611	24,440	40.0	24,440	6,587	73,643	11.18	331,393
Simcoe .....	562	28,100	50.0	28,100	10,785	127,479	11.82	573,655
Stormont .....	908	51,120	56.3	57,101	7,605	84,263	11.08	379,183
Sudbury .....	21	630	30.0	630	128	768	6.00	3,456
Thunder Bay .....								
Timiskaming .....	4	120	30.0	120	7	56	8.00	252
Victoria .....	219	10,950	50.0	10,950	6,838	69,064	10.10	310,788
Waterloo .....	236	14,160	60.0	14,868	10,383	113,902	10.97	512,559
Welland .....	4,426	293,886	66.4	326,213	4,453	40,478	9.09	182,151
Wellington .....	172	8,600	50.0	9,632	7,361	82,002	11.14	369,009
Wentworth .....	1,043	65,709	63.0	69,126	7,167	60,561	8.45	272,524
York .....	375	22,500	60.0	26,775	12,386	138,847	11.21	624,811
The Province:								
1918 .....	195,310	13,015,072	66.6	13,650,415	380,946	3,944,312	10.35	17,749,409
1917 .....	258,935	11,513,512	44.5	14,278,407	511,329	4,587,176	8.97	18,348,704
Annual Averages:								
1912-1918 .....	273,456	18,060,285	66.0	10,798,676	422,807	4,208,888	9.95	12,983,154
1902-1911 .....	325,515	22,988,755	70.6	8,780,681	236,330	2,731,936	11.56	5,652,083
1892-1901 .....	294,076	21,218,057	72.2	5,314,705	157,611	1,777,533	11.28	3,555,065
1892-1918 .....	300,378	21,055,189	70.1	8,020,170	255,520	2,761,367	10.81	6,776,058

\* The combined average for corn for the ten years 1882-1891 is 195,878 acres, the average value of the produce for the same period being \$3,704,614. The combined average for corn for the thirty-seven years 1882-1918 is 458,595 acres, the average value of the produce for the same period being \$11,798,491.

## POTATOES AND TURNIPS.

TABLE XIII.—Showing by County Municipalities of Ontario, the area, produce and market value of Potatoes and Turnips for the year 1918, together with the comparative totals for the Province for 1917, and the annual averages for various periods.

Counties and Districts.	Potatoes				Turnips.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				\$				\$
Algoma .....	1,331	270,992	203.6	267,740	497	212,219	427	53,055
Brant .....	2,377	262,896	110.6	295,232	2,051	1,128,050	550	282,013
Bruce .....	4,129	470,293	113.9	409,625	3,125	1,587,500	508	396,875
Carleton .....	5,073	666,085	131.3	767,996	1,379	568,148	412	142,037
Dufferin .....	4,543	673,273	148.2	412,716	2,313	1,260,585	545	315,146
Dundas .....	2,084	230,490	110.6	234,869	190	70,680	372	17,670
Durham .....	3,237	413,041	127.6	414,693	2,914	1,550,248	532	387,526
Elgin .....	3,289	279,565	85.0	333,241	334	109,552	328	27,388
Essex .....	2,833	294,868	103.9	365,931	79	21,725	275	5,431
Frontenac .....	3,658	308,004	842.0	347,121	408	119,136	292	29,784
Glengarry .....	2,295	311,891	135.9	289,123	301	105,350	350	26,338
Grenville .....	2,971	350,578	118.0	354,785	268	98,892	369	24,723
Grey .....	6,191	703,917	113.7	559,614	4,461	2,029,755	455	507,439
Haldimand .....	1,319	149,838	113.6	168,568	112	36,288	324	9,072
Haliburton .....	670	79,730	119.0	75,425	208	62,400	300	15,600
Halton .....	1,569	176,356	112.4	185,174	957	492,855	515	123,214
Hastings .....	5,810	661,178	113.8	703,493	1,464	594,384	406	148,596
Huron .....	4,182	425,728	101.8	389,541	4,228	2,232,384	528	558,996
Kent .....	3,857	436,998	113.3	531,390	159	47,700	300	11,925
Lambton .....	3,378	354,014	104.8	415,258	257	72,731	283	18,183
Lanark .....	2,660	294,196	110.6	319,791	733	258,016	352	64,504
Leeds .....	2,869	286,900	100.0	313,008	750	280,500	374	70,125
Lennox & Addingt'n.	3,113	293,245	94.2	311,719	326	113,448	348	28,362
Lincoln .....	1,759	185,223	105.3	209,858	149	43,806	294	10,951
Manitoulin .....	561	113,939	203.1	85,340	250	131,500	526	32,875
Middlesex .....	6,508	798,532	112.7	853,631	1,569	724,878	462	181,219
Muskoka .....	1,282	137,943	107.6	152,151	603	238,185	395	59,546
Nipissing .....	1,405	210,213	142.5	215,889	444	194,916	439	48,729
Norfolk .....	3,393	364,408	107.4	384,450	975	479,700	492	119,925
Northumberland ...	4,198	442,469	105.4	465,920	3,270	1,628,460	498	407,115
Ontario .....	5,166	634,385	122.8	608,375	7,618	3,908,034	513	977,009
Oxford .....	2,753	284,385	103.3	314,814	4,195	2,382,760	568	596,690
Parry Sound .....	1,668	195,990	117.5	227,348	769	306,062	398	76,516
Peel .....	4,198	458,841	109.3	413,875	1,366	599,674	439	149,918
Perth .....	3,190	367,807	115.3	388,772	3,412	1,552,460	455	338,115
Peterborough .....	2,560	300,800	117.5	307,418	1,889	791,491	419	197,873
Prescott .....	2,828	345,299	122.1	331,487	367	144,231	393	36,058
Prince Edward .....	2,017	171,647	85.1	180,744	162	61,884	382	15,471
Rainy R'r & Kenora ..	907	199,812	220.3	144,664	206	92,288	448	23,072
Renfrew .....	4,608	564,941	122.6	534,999	665	234,745	353	58,686
Russell .....	1,698	206,307	121.5	237,047	525	228,375	435	57,094
Simcoe .....	11,449	1,383,039	120.8	1,017,917	5,043	2,571,930	510	642,982
Stormont .....	1,829	184,729	101.0	203,571	140	41,300	290	10,325
Sudbury .....	1,508	256,963	170.4	286,000	539	245,784	456	61,446
Thunder Bay .....	1,695	271,200	160.0	252,487	477	225,144	472	56,286
Timiskaming .....	738	99,187	134.4	113,272	365	128,480	352	32,120
Victoria .....	2,332	263,749	113.1	235,528	3,057	1,311,453	429	327,863
Waterloo .....	3,095	382,542	123.6	424,239	4,087	2,010,804	492	502,701
Welland .....	2,193	199,563	91.0	256,039	131	52,400	400	13,100
Wellington .....	4,578	581,406	127.0	505,242	8,110	4,768,680	588	1,192,170
Wentworth .....	4,558	532,374	116.8	556,863	2,294	1,204,350	525	301,087
York .....	8,086	844,178	104.4	864,438	5,258	2,834,062	539	708,516
The Province:								
1918 .....	166,203	19,375,947	116.6	19,238,431	85,449	42,190,382	494	10,547,596
1917 .....	146,481	18,291,735	124.9	22,530,291	93,034	39,989,556	430	7,997,911
Annual Averages:								
1912-1918 .....	158,897	17,918,747	112.8	14,246,286	94,582	41,519,237	439	5,764,812
1902-1911 .....	153,092	17,355,152	113.4	8,928,246	123,855	54,987,697	444	5,498,770
1892-1901 .....	164,451	18,304,638	111.3	6,150,629	147,080	63,424,431	431	6,342,443
1882-1891 .....	155,449	18,840,683	121.2	8,476,165	104,943	42,981,280	410	4,298,128
1882-1918 .....	157,897	18,119,891	114.8	9,061,470	119,482	51,474,831	431	5,452,624

MANGELS AND SUGAR BEETS.

TABLE XIV. Showing by County Municipalities of Ontario the area, produce and market value of Mangels and Sugar Beets for the year 1918, together with the comparative totals for the Province for 1917, and the annual averages for various periods.

Counties and Districts.	Mangels.				Sugar Beets.			
	Acres.	Bushels.	Per Acre.	Market value.	Acres.	Bushels.	Per Acre.	Market value.
				\$				\$
Algoma .....	38	13,148	346	3,287	20	5,000	250	1,250
Brant .....	745	369,520	496	92,380	90	34,920	388	8,730
Bruce .....	2,305	951,965	413	237,991	120	50,400	420	12,600
Carleton .....	534	198,114	371	49,528	271	83,197	307	20,799
Dufferin .....	495	222,750	450	55,688	138	59,616	432	14,904
Dundas .....	153	50,337	329	12,584	109	39,567	363	9,892
Durham .....	1,098	525,942	479	131,485	93	37,200	400	9,300
Elgin .....	483	212,037	439	53,009	215	93,525	435	23,381
Essex .....	837	383,346	458	95,837	1,622	637,446	393	159,361
Frontenac .....	163	61,125	375	15,281	174	65,250	375	16,313
Glengarry .....	108	35,100	325	8,775	60	12,000	200	3,000
Grenville .....	111	38,628	348	9,657	66	18,480	280	4,620
Grey .....	2,139	896,241	419	224,060	275	79,750	290	19,938
Haldimand .....	248	112,840	455	28,210	44	16,720	380	4,180
Haliburton .....	23	8,050	350	2,013	27	8,100	300	2,025
Halton .....	935	461,890	494	115,473	80	30,400	380	7,600
Hastings .....	314	86,350	275	21,588	156	31,200	200	7,800
Huron .....	3,186	1,424,142	447	356,035	211	84,822	402	21,206
Kent .....	626	285,456	456	71,364	11,089	4,990,050	450	1,247,513
Lambton .....	757	321,725	425	80,431	2,541	1,102,794	434	275,698
Lanark .....	239	78,631	329	19,658	114	35,910	315	8,978
Leeds .....	183	67,893	371	16,973	132	41,448	314	10,362
Lennox & Addington .....	112	26,432	236	6,608	107	20,350	190	5,083
Lincoln .....	345	94,875	275	23,719	222	61,716	278	15,429
Manitowlin .....	82	34,030	415	8,508	11	3,300	300	825
Middlesex .....	1,129	493,373	437	123,343	781	257,730	330	64,432
Muskoka .....	67	18,961	283	4,740	40	11,000	275	2,750
Nipissing .....	23	6,693	291	1,672	20	5,000	250	1,250
Norfolk .....	359	172,679	481	43,170	143	65,208	456	16,302
Northumberland .....	698	231,648	331	57,912	133	66,500	500	16,625
Ontario .....	2,424	1,287,144	531	321,786	259	113,960	440	28,490
Oxford .....	1,788	970,884	543	242,721	205	85,280	416	21,320
Parry Sound .....	71	21,300	300	5,325	25	5,000	200	1,250
Peel .....	771	300,690	390	75,173	127	45,466	358	11,366
Perth .....	2,824	1,221,454	431	305,364	326	80,848	248	20,212
Peterborough .....	523	204,493	391	51,123	25	6,125	245	1,531
Prescott .....	111	48,063	433	12,016	68	20,400	300	5,100
Prince Edward .....	122	48,860	400	12,200	72	32,400	450	8,100
Rainy R'r & Kenora .....	50	15,150	303	3,788	20	9,000	450	2,250
Renfrew .....	296	105,672	357	26,418	134	43,550	325	10,887
Russell .....	161	69,069	429	17,267	60	27,000	450	6,750
Simcoe .....	2,549	1,078,227	423	269,557	400	158,000	395	39,500
Stormont .....	135	38,880	288	9,720	73	14,600	200	3,650
Sudbury .....	68	27,200	400	6,800	24	9,600	400	2,400
Thunder Bay .....	60	27,000	450	6,750	20	6,000	300	1,500
Timiskaming .....	35	13,125	375	3,281	12	4,800	400	1,200
Victoria .....	765	285,345	373	71,336	74	20,350	275	5,088
Waterloo .....	2,151	931,383	433	232,846	1,205	414,520	344	103,630
Welland .....	192	94,656	493	23,664	91	43,225	475	10,806
Wellington .....	2,591	1,246,271	481	311,568	172	73,788	429	18,447
Wentworth .....	1,290	625,650	485	156,412	148	44,400	300	11,100
York .....	3,282	1,700,076	518	425,019	250	91,250	365	22,812
The Province:								
1918 .....	40,714	18,244,453	448	4,561,113	22,894	9,398,141	411	2,349,535
1917 .....	49,148	19,492,626	397	3,898,525	22,039	6,781,113	308	1,356,223
Annual average:								
1912-1918 .....	49,827	21,127,985	424	2,551,101	21,282	7,503,219	353	1,191,289
1902-1911 .....	70,809	33,245,680	470	2,659,654	*21,132	8,484,719	402	1,027,108
1892-1901 .....	39,984	17,864,726	447	1,429,178				
1882-1891 .....	19,546	8,538,096	437	683,048				
1882-1918 .....	44,654	20,118,403	451	1,772,338	†21,220	7,912,177	373	1,122,880

\*1907-1911 †1907-1918

## ALFALFA AND HAY AND CLOVER.

TABLE XV.—Showing by County Municipalities of Ontario the area, produce and market value of Alfalfa, Hay and Clover for the year 1918, together with the comparative totals for the Province for 1917, and the annual average for various periods.

Counties and Districts.	Alfalfa.				Hay and Clover.			
	Acres.	Tons.	Per acre.	Market value.	Acres.	Tons.	Per acre.	Market value.
				\$				\$
Algoma.....	39	78	2.00	1,560	22,564	28,882	1.28	671,795
Brant.....	5,139	12,385	2.41	247,700	38,080	59,024	1.55	1,057,710
Bruce.....	12,295	21,639	1.76	432,780	135,026	170,133	1.26	2,490,747
Carleton.....	1,079	2,568	2.38	51,360	99,479	136,286	1.37	2,646,674
Dufferin.....	333	656	1.97	13,120	65,911	62,615	.95	1,099,519
Dundas.....	448	986	2.20	19,720	52,220	81,463	1.56	1,346,583
Durham.....	447	831	1.86	16,620	56,851	71,064	1.25	1,465,340
Elgin.....	886	1,861	2.10	37,220	77,538	127,162	1.64	1,983,727
Essex.....	1,759	3,747	2.13	74,940	65,045	83,908	1.29	1,672,286
Frontenac.....	1,027	1,951	1.90	39,020	86,588	116,894	1.35	2,252,547
Glengarry.....	294	735	2.50	14,700	64,006	80,648	1.26	1,348,435
Grenville.....	281	582	2.07	11,640	51,243	59,954	1.17	1,098,957
Grey.....	13,457	23,281	1.73	465,620	167,668	179,405	1.07	2,911,743
Haldimand.....	17,198	37,492	2.18	749,840	66,792	96,180	1.44	1,460,012
Haliburton.....	21	42	2.00	840	14,346	13,772	.96	313,726
Halton.....	4,201	9,788	2.33	195,760	40,508	48,610	1.20	969,770
Hastings.....	7,364	15,612	2.12	312,240	103,148	138,218	1.34	2,845,909
Huron.....	9,358	19,745	2.11	394,900	137,708	179,020	1.30	2,699,622
Kent.....	2,687	6,610	2.46	132,200	81,993	142,668	1.74	2,518,090
Lambton.....	8,187	19,321	2.36	386,420	106,379	169,143	1.59	2,760,414
Lanark.....	899	1,978	2.20	39,560	76,519	100,240	1.31	2,148,143
Leeds.....	333	766	2.30	15,320	75,073	114,862	1.53	2,111,164
Lennox and Add..	1,867	4,107	2.20	82,140	72,347	82,476	1.14	1,469,722
Lincoln.....	8,765	21,562	2.46	431,240	45,785	58,605	1.28	1,144,556
Manitoulin.....	239	695	2.91	13,900	20,756	33,210	1.60	431,730
Middlesex.....	2,760	6,431	2.33	128,620	127,382	215,276	1.69	3,448,722
Muskoka.....	9	9	1.00	180	28,722	35,615	1.24	810,241
Nipissing.....	30	45	1.50	900	23,903	36,333	1.52	765,900
Norfolk.....	1,188	2,994	2.52	59,880	61,680	90,053	1.46	1,356,198
Northumberland..	2,769	5,704	2.06	114,080	69,172	85,773	1.24	1,730,041
Ontario.....	881	1,788	2.03	35,760	72,817	79,371	1.09	1,589,007
Oxford.....	1,652	3,965	2.40	79,300	87,220	143,913	1.65	2,270,947
Parry Sound.....	38	44	1.17	880	33,753	39,491	1.17	856,955
Peel.....	5,382	12,486	2.32	249,720	53,033	50,912	.96	1,024,859
Perth.....	1,230	2,617	2.29	52,340	107,048	156,290	1.46	2,250,576
Peterborough.....	1,184	24,272	2.05	485,440	50,662	62,821	1.24	1,372,011
Prescott.....	168	311	1.85	6,220	73,330	96,796	1.32	1,731,680
Prince Edward..	4,166	8,869	2.16	177,330	44,220	71,636	1.62	1,291,597
Rainy R. & Kenora	73	120	1.65	2,400	22,465	27,183	1.21	686,099
Renfrew.....	535	995	1.86	19,900	98,146	95,202	.97	2,121,101
Russell.....	285	587	2.06	11,740	52,607	74,702	1.42	1,369,288
Simcoe.....	2,338	4,629	1.98	92,580	114,813	142,368	1.24	2,835,971
Stormont.....	275	699	2.54	13,980	46,485	61,360	1.32	1,152,954
Sudbury.....	13	28	2.13	560	25,475	32,608	1.28	732,376
Thunder Bay.....	71	102	1.44	2,040	14,574	19,383	1.33	477,403
Timiskaming.....	53	95	1.80	1,900	13,657	20,759	1.52	404,801
Victoria.....	823	1,827	2.22	36,540	56,478	70,033	1.24	1,415,367
Waterloo.....	1,978	3,877	1.96	77,540	54,231	83,516	1.54	1,423,113
Welland.....	4,565	11,047	2.42	220,940	55,773	78,640	1.41	1,566,509
Wellington.....	1,723	2,636	1.53	52,720	124,458	116,991	.94	2,027,454
Wentworth.....	5,971	12,897	2.16	257,940	52,129	75,066	1.44	1,566,627
York.....	5,307	10,879	2.05	217,580	82,230	100,321	1.22	2,147,873
The Province:								
1918.....	144,010	328,971	2.28	6,579,420	3,470,036	4,596,854	1.32	83,344,591
1917.....	189,109	462,956	2.45	5,460,205	3,358,579	6,156,340	1.83	72,705,998
Annual average:								
1912-1918.....	171,046	413,574	2.42	5,533,650	3,268,550	4,727,392	1.45	62,293,615
1902-1911.....					* 3,072,288	4,722,662	1.54	47,093,908
1892-1901.....					* 2,520,783	3,650,840	1.45	29,085,813
1882-1891.....					* 2,290,495	3,102,733	1.35	32,086,445
1882-1918.....					* 2,781,428	4,074,300	1.46	42,093,311

\*Including Alfalfa.



## CARROTS—ALL FIELD CROPS.

TABLE XVI.—Showing by County Municipalities of Ontario, the area, produce and market value of Carrots, and all field crops enumerated in Tables VII to XVI for the year 1918, together with the comparative totals for the Province for 1917, and the annual averages for the various periods.

Counties and Districts.	Carrots.				All Field Crops.		
	Acres.	Bushels.	Per acre.	Value.	Acres.	Value.	Per acre.
				\$		\$	\$ c.
Algoma .....	44	12,100	275	3,025	41,053	1,633,259	39 78
Brant .....	45	16,785	373	4,196	131,542	5,333,694	40 50
Bruce .....	53	16,483	311	4,121	365,980	11,485,563	31 31
Carleton .....	222	49,950	225	12,488	258,635	9,976,204	38 57
Dufferin .....	20	4,000	200	1,000	202,987	6,106,153	30 08
Dundas .....	24	4,320	180	1,080	123,974	4,870,616	39 22
Durham .....	40	12,000	300	3,000	209,668	7,594,268	36 22
Elgin .....	29	8,120	280	2,030	231,123	8,957,577	38 76
Essex .....	101	36,663	363	9,166	287,022	13,230,436	46 09
Frontenac .....	67	11,725	175	2,931	156,880	5,017,017	31 91
Glengarry .....	60	10,500	175	2,625	133,136	4,143,566	31 12
Grenville .....	70	19,600	280	4,900	116,917	3,691,940	31 58
Grey .....	80	14,400	180	3,600	474,174	13,598,306	28 68
Haldimand .....	10	3,160	316	790	170,886	5,211,577	30 50
Haliburton .....	30	3,750	125	938	28,256	836,683	29 61
Halton .....	90	30,600	340	7,650	116,993	4,339,725	37 09
Hastings .....	80	12,000	150	3,000	275,972	9,538,275	34 51
Huron .....	21	5,061	241	1,265	426,421	15,008,368	35 20
Kent .....	30	11,190	373	2,797	354,439	17,982,621	50 74
Lambton .....	44	8,800	200	2,200	312,739	12,437,040	39 77
Lanark .....	25	5,625	225	1,406	169,007	6,044,755	35 77
Leeds .....	32	6,400	200	1,600	157,213	5,426,952	34 52
Lennox & Addington .....	73	10,950	150	2,737	155,486	4,594,407	29 55
Lincoln .....	64	11,200	175	2,800	109,929	3,778,498	34 37
Manitowlin .....	23	6,900	300	1,725	36,505	1,125,069	38 20
Middlesex .....	50	12,500	250	3,125	370,293	14,940,840	40 35
Muskoka .....	64	14,080	220	3,520	48,994	1,607,956	32 82
Nipissing .....	30	6,000	200	1,500	48,911	1,856,465	37 96
Norfolk .....	57	18,867	331	4,717	199,870	6,643,897	33 22
Northumberland .....	64	12,800	200	3,200	231,454	8,216,336	35 50
Ontario .....	25	5,000	200	1,250	276,984	11,212,313	40 48
Oxford .....	30	9,300	310	2,325	274,817	11,313,451	41 17
Parry Sound .....	42	8,400	200	2,100	62,509	2,020,238	32 32
Peel .....	95	20,960	220	5,225	185,278	6,336,537	34 20
Perth .....	25	6,625	265	1,656	315,114	11,415,242	36 23
Peterborough .....	24	3,600	150	900	161,188	6,270,180	38 90
Prescott .....	34	9,180	270	2,295	148,659	4,736,705	31 12
Prince Edward .....	34	10,200	300	2,550	129,940	4,613,321	35 42
Rainy R'r & Kenora .....	29	8,700	300	2,175	38,845	1,511,023	38 90
Renfrew .....	66	19,800	300	4,950	255,213	7,953,201	31 16
Russell .....	42	14,700	350	3,675	112,929	3,997,537	35 40
Simcoe .....	104	25,376	244	6,344	485,473	16,827,462	34 66
Stormont .....	32	6,400	200	1,600	101,461	3,535,031	34 84
Sudbury .....	79	23,700	300	5,925	47,468	1,877,043	39 54
Thunder Bay .....	53	13,250	250	3,312	27,802	1,201,560	43 22
Timiskaming .....	30	8,250	275	2,065	28,047	1,073,718	38 28
Victoria .....	28	4,200	150	1,050	198,103	6,713,642	33 89
Waterloo .....	24	6,408	267	1,602	203,945	8,242,027	40 41
Welland .....	47	18,095	385	4,524	129,437	4,556,489	35 22
Wellington .....	47	11,750	250	2,938	364,724	12,646,868	34 68
Wentworth .....	53	21,200	400	5,300	156,817	6,239,052	39 79
York .....	121	37,994	314	9,498	341,613	14,389,075	42 12
The Province:							
1918 .....	2,706	689,557	255	172,389	*9,992,825	363,909,778	36 42
1917 .....	2,920	758,292	260	151,658	9,718,259	333,353,438	34 30
Annual Averages .....							
1912-1918 .....	2,578	652,943	253	102,765	9,680,052	240,774,749	24 87
1902-1911 .....	5,243	1,688,002	322	211,000	9,233,879	156,824,689	16 98
1892-1901 .....	11,163	3,880,538	348	485,068	8,494,796	106,139,762	12 49
1882-1891 .....	10,243	3,659,347	351	457,417	7,517,606	116,195,708	15 48
1882-1918 .....	7,739	2,617,553	338	331,195	8,654,680	148,018,560	17 10

\*Including Flax in 1918 only.

## PASTURE, FALLOW, ORCHARD, SMALL FRUITS.

TABLE XVII.—Showing by County Municipalities the area in Cleared Pasture, Summer Fallow, Orchards and Small Fruits in 1918, together with totals for the Province for the past five years.

Counties and Districts.	Cleared Pastures.	Summer-fallow.	Orchard.	Small Fruits.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.
Algoma .....	8,342	956	450	90	9,838
Brant.....	30,018	3,458	4,374	533	38,383
Bruce.....	159,432	15,648	8,078	410	183,568
Carleton.....	98,364	2,025	2,082	201	102,672
Dufferin .....	61,150	5,459	2,415	99	69,123
Dundas .....	45,268	1,735	2,224	140	49,367
Durham.....	69,400	5,648	9,117	355	84,520
Elgin.....	95,902	6,232	8,569	808	111,511
Essex.....	52,343	3,352	6,482	1,542	63,719
Frontenac .....	83,246	1,569	2,057	216	87,088
Glengarry.....	52,393	92	1,294	80	53,859
Grenville .....	57,288	1,111	1,492	87	59,978
Grey.....	172,581	12,319	11,738	367	197,005
Haldimand .....	41,216	10,420	5,312	376	57,324
Haliburton.....	15,026	408	149	18	15,601
Halton.....	32,187	4,673	6,980	1,230	45,070
Hastings .....	128,341	3,092	8,707	416	140,556
Huron.....	191,015	7,823	12,718	506	212,062
Kent.....	98,756	5,814	5,676	902	111,148
Lambton.....	155,468	6,412	12,698	753	175,331
Lanark.....	132,841	1,371	1,500	103	135,815
Leeds.....	93,083	661	1,916	151	95,811
Lennox and Addington.....	78,340	2,593	3,622	376	84,931
Lincoln.....	22,910	4,398	15,366	3,004	45,678
Manitoulin.....	10,604	329	245	32	11,210
Middlesex.....	244,761	9,871	12,111	958	267,701
Muskoka.....	17,000	656	190	71	17,917
Nipissing.....	10,553	320	30	22	10,925
Norfolk.....	47,118	8,857	9,457	1,913	67,345
Northumberland.....	79,300	5,606	17,386	577	102,869
Ontario.....	75,498	4,078	6,401	551	86,528
Oxford.....	93,853	3,701	8,472	644	106,670
Parry Sound .....	19,483	1,176	157	53	20,869
Peel.....	58,521	7,956	5,489	679	72,645
Perth.....	112,183	7,738	5,983	283	126,187
Peterborough.....	75,380	4,592	2,574	220	82,766
Prescott.....	51,920	461	1,140	143	53,664
Prince Edward.....	45,676	1,674	9,860	621	57,831
Rainy River and Kenora .....	6,746	598	7	18	7,369
Renfrew.....	96,364	4,142	1,072	117	101,695
Russell.....	34,506	484	634	63	35,687
Simcoe.....	117,237	34,660	9,577	678	162,152
Stormont.....	47,684	430	1,432	67	49,613
Sudbury.....	9,791	1,020	22	25	10,858
Thunder Bay.....	4,425	482	12	38	4,957
Timiskaming.....	4,534	554	18	16	5,122
Victoria.....	65,249	2,684	2,377	199	70,509
Waterloo.....	33,419	5,474	4,495	372	43,760
Welland.....	28,806	8,249	7,361	1,048	45,464
Wellington.....	99,823	7,506	5,761	290	113,380
Wentworth.....	33,325	5,093	10,192	1,484	50,094
York.....	63,085	12,803	8,207	651	84,746
The Province:					
1918.....	3,561,754	248,463	265,678	24,596	4,100,491
1917.....	3,509,945	232,679	280,326	21,964	4,044,914
1916.....	3,409,581	331,736	280,653	22,817	4,044,787
1915.....	3,350,420	226,217	288,825	23,443	3,888,905
1914.....	3,302,503	268,714	298,627	23,863	3,893,707

MARKET PRICES.

TABLE XVIII.—The following table shows by counties the average prices of agricultural products for 1918, together with the average price for 1917, and the annual averages for various periods.

Counties and Districts.	Fall Wheat,	Spring	Barley,	Oats,	Peas,	Beans,	Rye,	Buckwheat,	Corn (in ear)	Hay,	Potatoes,
	per bush.	Wheat, per bush.	per bush.	per bush.	per bush.	per bush.	per bush.	per bush.	per bush.	per ton.	per bush.
	cts.	cts.	cts.	cts.	cts.	\$ c.	cts.	cts.	cts. \$ c.	\$ c.	cts.
Algoma.....	212.2	210.2	121.1	86.2	236.2	5 00	140.0	140.0	100.0 23 26	98.8	
Brant.....	212.5	209.8	101.7	74.2	219.3	4 69	157.0	141.6	104.3 17 92	112.3	
Bruce.....	209.5	205.6	101.5	72.6	199.6	5 12	149.0	151.6	105.0 14 64	87.1	
Carleton.....	210.7	210.2	116.4	81.2	220.7	4 18	150.2	145.6	100.0 19 42	115.3	
Dufferin.....	207.3	203.3	97.2	69.2	192.2	4 00	138.1	117.2	106.0 17 56	61.3	
Dundas.....	211.9	210.5	131.2	89.5	237.5	4 21	151.0	140.6	113.3 16 53	101.9	
Durham.....	212.5	210.3	102.2	72.0	238.0	4 38	149.0	154.5	112.5 20 62	100.4	
Elgin.....	211.2	209.7	102.7	73.6	215.6	4 59	155.7	142.2	100.4 15 60	119.2	
Essex.....	210.5	207.8	106.8	73.2	200.0	4 81	165.7	152.5	100.2 19 93	124.1	
Frontenac.....	213.2	210.2	116.4	86.0	219.0	4 86	146.1	134.2	112.1 19 27	112.7	
Glenarry.....	207.5	203.9	123.6	79.5	233.3	4 02	156.0	132.8	111.4 16 72	92.7	
Grenville.....	213.5	211.7	118.5	84.2	225.0	4 25	153.6	141.0	106.7 18 33	101.2	
Grey.....	209.8	207.9	94.6	68.4	192.2	4 26	152.3	113.1	100.3 16 23	79.5	
Haldimand.....	210.9	208.7	105.3	73.7	217.1	4 97	154.3	140.0	97.4 15 18	112.5	
Haliburton.....	210.7	205.8	110.7	86.7	246.0	6 00	144.6	131.1	111.7 22 78	94.6	
Halton.....	211.8	208.8	102.2	77.0	210.6	5 25	151.7	140.4	113.3 19 95	105.0	
Hastings.....	209.7	208.4	113.5	81.1	223.6	4 67	148.1	140.2	112.8 20 59	106.4	
Huron.....	210.8	208.2	98.8	73.4	208.7	4 57	152.5	130.2	100.8 15 08	91.5	
Kent.....	210.2	206.1	105.1	70.2	210.7	4 30	177.9	152.8	109.4 17 65	121.6	
Lambton.....	210.6	210.9	104.8	72.7	212.3	4 36	161.0	137.5	101.6 16 32	117.3	
Lanark.....	209.0	212.1	110.9	80.0	229.3	4 28	155.8	142.5	106.2 21 43	108.7	
Leeds.....	213.4	212.6	117.9	85.1	211.1	5 05	150.0	135.3	113.4 18 38	109.1	
Lennox & Addington.....	212.6	210.2	113.1	76.6	236.4	4 57	152.9	143.6	103.6 17 82	106.3	
Lincoln.....	210.3	209.8	102.9	77.7	213.1	5 12	160.0	146.2	102.2 19 53	113.3	
Manitoulin.....	207.0	200.0	105.0	74.7	194.0	6 00	135.0	140.0	100.0 13 00	74.9	
Middlesex.....	211.3	208.5	103.7	72.5	213.4	4 31	157.8	139.4	114.7 16 02	106.9	
Muskoka.....	207.8	208.5	112.8	86.2	247.1	4 09	155.0	143.2	100.0 22 75	110.3	
Nipissing.....	212.5	212.0	125.2	84.1	249.6	6 00	169.4	146.8	100.0 21 08	102.7	
Norfolk.....	209.7	207.3	104.8	74.5	208.5	4 85	153.6	142.9	102.2 15 06	105.5	
Northumberland.....	212.4	209.2	104.7	75.0	236.5	4 14	151.7	133.6	111.1 20 17	105.3	
Ontario.....	211.4	209.8	104.8	74.0	225.0	4 56	154.0	129.6	103.3 20 02	95.9	
Oxford.....	211.6	209.4	103.9	73.4	217.2	5 00	158.1	137.6	109.9 15 78	110.7	
Parry Sound.....	215.0	212.0	125.4	88.6	242.6	5 00	154.5	150.0	100.0 21 70	116.0	
Peel.....	211.1	205.1	101.1	74.7	214.4	4 78	146.5	134.1	115.8 20 13	90.2	
Perth.....	210.1	207.7	96.7	72.5	217.1	5 00	150.0	134.9	104.1 14 40	105.7	
Peterborough.....	213.5	208.2	103.0	72.9	215.0	4 68	148.2	133.0	102.7 21 84	102.2	
Prescott.....	210.0	206.9	126.7	78.3	245.1	4 30	154.3	141.1	117.8 17 89	96.0	
Prince Edward.....	210.7	208.6	106.2	77.5	257.1	4 38	147.1	136.3	114.0 18 03	105.3	
Rainy R. & Kenora.....	202.4	201.2	112.7	83.0	300.0	5 00	156.0	135.0	100.0 25 24	72.4	
Renfrew.....	209.5	211.6	108.8	75.4	211.7	4 30	152.0	128.0	112.5 22 28	94.7	
Russell.....	215.0	210.1	120.0	78.4	252.1	4 19	155.0	144.2	100.0 18 33	114.9	
Simcoe.....	211.8	208.4	98.9	72.5	193.9	4 82	150.2	128.0	100.0 19 92	73.6	
Stormont.....	211.0	209.1	133.6	90.9	236.7	4 07	159.0	142.5	111.7 18 79	110.2	
Sudbury.....	208.0	209.2	128.3	91.1	264.4	5 00	150.0	141.0	100.0 22 46	111.3	
Thunder Bay.....	200.0	203.0	106.0	83.6	300.0	.....	150.0	140.0	..... 24 63	93.1	
Timiskaming.....	210.0	197.4	123.0	91.0	212.5	5 00	150.0	140.0	100.0 19 50	114.2	
Victoria.....	210.3	207.3	106.2	71.2	220.8	4 25	143.8	126.4	100.0 20 21	89.3	
Waterloo.....	212.9	208.2	99.9	74.8	211.5	5 20	160.0	132.0	100.0 17 04	110.9	
Welland.....	211.9	209.5	105.8	76.4	206.3	4 85	146.8	141.0	111.0 19 92	128.3	
Wellington.....	209.3	207.1	99.9	72.5	212.2	4 76	151.5	126.7	112.0 17 33	86.9	
Wentworth.....	212.6	208.4	105.0	75.3	206.8	5 24	158.0	132.7	105.2 20 87	104.6	
York.....	211.7	209.1	103.3	77.2	208.6	5 21	152.7	134.7	119.0 21 41	102.4	
The Province:											
1918.....	210.9	208.6	103.6	75.0	217.7	4 49	151.7	135.0	104.9 18 13	99.3	
1917.....	209.8	209.7	125.7	77.9	321.0	6 91	162.6	142.9	124.0 11 81	123.2	
Annual Averages:											
1912-1918.....	127.2	158.0	80.5	55.2	161.2	3 65	103.3	89.0	59.8 13 18	79.5	
1902-1911.....	83.6	81.2	50.1	36.7	74.8	1 48	60.2	52.4	38.2 9 97	51.4	
1892-1901.....	67.8	67.5	38.5	27.9	53.5	93	44.9	38.7	25.0 7 97	33.6	
1882-1891.....	90.0	89.6	54.5	34.3	61.6	1 16	60.0	41.5	..... 10 34	45.0	
1882-1918.....	88.2	90.5	55.0	38.7	65.5	1 78	65.1	58.3	*38.1	33	50.0

\*Average for 27 years. 1892-1918.

## HORSES AND

TABLE XIX.—Showing by County Municipalities the number and value of Horses and the year ending June 15th, 1918, together with

Counties and Districts.	Horses all ages.				Cattle.	
	Number on hand.	Value.	Horses sold.		Milch cows on Hand.	
			Number.	Value.	Number.	Value.
		\$		\$		\$
Algoma .....	3,174	431,664	318	41,022	4,803	377,180
Brant .....	9,894	1,302,927	776	106,457	13,905	1,329,874
Bruce .....	26,809	3,458,361	3,833	528,954	31,444	2,779,650
Carleton .....	18,400	2,465,600	1,768	240,448	36,814	3,014,698
Dufferin .....	12,440	1,617,200	1,735	241,165	14,995	1,375,341
Dundas .....	9,200	1,131,600	855	103,455	26,949	2,112,802
Durham .....	14,651	1,919,281	1,633	220,455	16,654	1,434,576
Elgin .....	18,572	2,284,356	2,335	303,667	28,138	2,629,215
E sex .....	22,933	2,958,357	2,211	296,274	19,086	1,658,192
Frontenac .....	10,334	1,225,909	806	95,914	25,950	1,840,374
Glengarry .....	9,924	1,180,956	1,243	155,375	26,049	1,957,582
Grenville .....	8,074	1,033,472	752	98,512	18,598	1,475,937
Grey .....	31,417	4,178,461	3,934	554,694	39,930	3,553,406
Haldimand .....	12,739	1,745,243	1,332	199,800	15,253	1,419,444
Haliburton .....	1,836	227,664	193	22,581	3,111	232,174
Halton .....	8,955	1,150,009	847	114,345	11,760	1,100,266
Hastings .....	18,921	2,346,204	1,732	209,572	41,446	3,002,348
Huron .....	33,194	4,414,802	4,581	645,921	36,024	3,419,398
Kent .....	27,938	3,715,754	2,958	411,162	23,228	2,088,429
Lambton .....	25,026	3,328,458	3,430	487,696	30,625	2,813,825
Lanark .....	11,505	1,449,630	1,192	153,768	23,202	1,723,909
Leeds .....	11,377	1,387,994	803	95,557	33,534	2,453,683
Lennox & Addington.....	10,658	1,278,960	927	112,167	21,867	1,629,092
Lincoln .....	9,027	1,182,537	759	99,429	9,573	901,777
Manitoulin .....	2,525	320,675	296	38,184	4,063	314,679
Middlesex .....	34,320	4,598,880	4,657	665,951	48,076	4,503,760
Muskoka .....	3,489	482,092	269	36,046	5,685	432,060
Nipissing .....	2,732	407,068	285	40,063	5,118	395,826
Norfolk .....	14,988	1,963,428	1,401	193,338	19,630	1,818,523
Northumberland .....	17,235	2,223,315	1,875	241,875	25,555	2,060,244
Ontario .....	21,397	2,796,528	2,574	355,212	24,036	2,227,656
Oxford .....	20,372	2,648,360	2,244	305,184	47,836	4,459,750
Parry Sound .....	4,086	576,126	324	42,768	6,691	527,117
Peel .....	13,695	1,737,396	1,791	245,367	19,021	1,764,578
Perth .....	24,910	3,387,760	3,108	447,552	34,454	3,232,130
Peterborough .....	12,132	1,540,764	1,254	159,258	19,235	1,514,179
Prescott .....	8,692	1,112,576	1,021	134,772	24,288	1,773,024
Prince Edward .....	9,354	1,129,645	722	88,806	15,366	1,176,421
Rainy River & Kenora....	2,458	403,112	246	42,312	2,916	243,457
Renfrew .....	14,941	2,046,917	1,515	206,040	25,881	1,859,550
Russell .....	7,854	1,013,166	850	113,050	18,523	1,389,225
Simcoe .....	35,567	4,645,335	3,660	501,420	39,865	3,358,626
Stormont .....	7,689	938,058	814	100,936	24,089	1,811,077
Sudbury .....	2,892	422,232	302	41,978	4,919	392,979
Thunder Bay .....	1,660	270,580	116	16,936	2,685	233,595
Timiskaming .....	1,762	278,396	154	23,254	1,988	160,471
Victoria .....	13,690	1,709,575	1,586	210,938	18,496	1,565,316
Waterloo .....	14,010	1,779,270	1,382	178,278	18,552	1,723,481
Welland .....	9,837	1,288,647	780	100,620	11,845	1,093,294
Wellington .....	25,331	3,394,354	2,957	405,109	28,960	2,637,098
Wentworth .....	12,413	1,651,294	1,042	138,847	15,590	1,437,554
York .....	26,148	3,529,980	2,806	406,870	30,738	2,883,839
The Province:						
1918 .....	732,977	95,710,928	80,984	11,019,354	1,097,039	91,662,681
1917 .....	765,873	99,439,558	83,194	11,442,831	1,069,338	80,774,341
1916 .....	775,732	101,434,391	78,119	10,684,992	1,045,029	69,337,793
1915 .....	779,131	107,982,037	75,527	11,003,822	1,022,518	62,156,964
1914 .....	774,544	112,576,793	80,372	12,480,960	1,006,703	57,396,788

## CATTLE.

Cattle on hand June 15, 1918, and the number and value of those sold or slaughtered in the totals for the Province for the past five years.

Cattle.						Counties and Districts.
Other cattle on hand.		Total on hand.		Sold or slaughtered.		
Number.	Value.	Number.	Value	Number.	Value.	
	\$		\$		\$	
7,507	282,789	12,310	659,969	3,479	185,257	Algoma.
20,253	999,486	34,158	2,329,360	12,538	835,407	Brant.
79,882	4,204,190	111,326	6,983,840	34,955	2,614,634	Bruce.
50,414	1,789,697	87,228	4,804,395	26,620	1,305,977	Carleton.
34,908	1,654,639	49,903	3,029,980	14,178	983,386	Dufferin.
18,327	673,151	45,276	2,785,953	12,179	548,542	Dundas.
34,258	1,625,542	50,912	3,060,118	16,552	1,157,647	Durham.
41,534	2,039,319	69,672	4,668,534	28,176	1,835,383	Elgin.
26,910	1,155,246	45,996	2,813,438	17,613	981,397	Essex.
27,914	976,720	53,864	2,817,094	15,798	665,509	Frontenac.
20,568	764,307	46,617	2,721,889	13,489	565,998	Glengarry.
16,148	620,815	34,746	2,096,752	10,871	484,182	Grenville.
91,429	4,493,735	131,359	8,027,141	39,730	2,914,990	Grey.
24,889	1,263,117	40,142	2,682,561	14,632	1,008,876	Haldimand.
5,937	208,329	9,048	440,503	2,565	119,914	Haliburton.
23,263	1,165,476	35,023	2,265,742	11,805	837,211	Halton.
49,725	1,761,260	91,171	4,763,608	28,421	1,228,071	Hastings.
93,583	4,784,899	129,607	8,204,297	41,944	3,106,373	Huron.
53,173	2,725,116	76,401	4,813,545	27,630	1,927,480	Kent.
74,510	4,045,893	105,135	6,859,718	34,775	2,551,094	Lambton.
44,355	1,673,958	67,557	3,397,867	19,388	1,023,880	Lanark.
29,141	939,506	62,675	3,393,189	18,515	793,553	Leeds.
28,363	1,116,651	50,230	2,745,743	15,260	720,425	Lennox & Addington.
11,665	531,341	21,238	1,433,118	7,960	462,179	Lincoln.
8,902	338,454	12,965	653,133	3,726	217,896	Manitoulin.
98,898	5,436,423	146,974	9,940,183	52,698	3,627,730	Middlesex.
9,853	363,386	15,538	800,446	4,194	205,716	Muskoka.
9,052	309,307	14,170	705,133	3,313	173,104	Nipissing.
22,814	1,043,741	42,444	2,862,264	16,496	1,918,002	Norfolk.
37,852	1,607,196	63,407	3,667,440	21,386	1,197,391	Northumberland.
53,390	2,669,500	77,426	4,897,156	25,785	1,927,171	Ontario.
44,843	2,178,025	92,679	6,637,775	32,366	1,968,500	Oxford.
13,513	534,574	20,204	1,061,691	5,310	301,502	Parry Sound.
31,184	1,546,415	50,205	3,310,993	17,759	1,200,153	Peel.
66,340	3,220,144	100,794	6,452,274	32,736	2,169,116	Perth.
34,455	1,283,104	53,690	2,797,283	15,900	821,235	Peterborough.
21,339	653,614	45,627	2,426,638	13,088	508,731	Prescott.
13,435	528,667	28,801	1,705,088	10,418	452,350	Prince Edward.
5,110	210,890	8,026	454,347	2,423	139,080	Rainy River & Kenora.
52,290	1,850,020	78,171	3,709,570	21,706	1,125,673	Renfrew.
18,698	629,749	37,221	2,018,974	11,950	511,221	Russell.
83,038	3,931,849	122,903	7,290,475	34,363	2,364,862	Simcoe.
15,276	576,506	39,365	757,583	11,645	484,898	Stormont.
8,012	265,357	12,931	658,336	3,435	179,754	Sudbury.
3,506	142,940	6,191	376,535	1,784	84,116	Thunder Bay.
2,899	109,030	4,887	269,501	1,306	77,909	Timiskaming.
43,466	1,877,297	61,962	3,442,613	18,000	1,110,960	Victoria.
27,533	1,202,917	46,085	2,926,398	20,363	1,471,227	Waterloo.
15,108	695,174	26,953	1,788,468	10,480	576,190	Welland.
63,015	3,014,007	91,975	5,651,105	32,884	2,454,791	Wellington.
20,262	953,732	35,852	2,391,286	14,212	804,968	Wentworth.
37,944	1,924,380	68,682	4,808,219	23,892	1,597,658	York.
						The Province:
1,770,683	80,596,580	2,867,722	172,259,261	932,691	57,529,269	1918.
1,758,271	69,535,487	2,827,609	150,309,828	903,184	52,893,613	1917.
1,689,738	58,986,733	2,734,767	128,324,526	878,540	46,987,563	1916.
1,652,228	53,166,372	2,674,746	115,363,336	875,394	43,678,233	1915.
1,597,925	49,238,360	2,604,628	106,635,148	911,794	42,978,531	1914.

## SHEEP, SWINE

TABLE XX.—Showing by County Municipalities the number and value of Sheep, Swine slaughtered in the year ending June 15, 1918, together

Counties and Districts.	Sheep and Lambs.				Swine.	
	Number on hand.	Value.	Sold or slaughtered.		Number on hand.	Value.
			Number.	Value.		
		\$		\$		\$
Algoma .....	10,724	160,860	4,223	46,875	3,788	75,760
Brant .....	9,517	173,590	4,492	64,460	21,244	415,533
Bruce .....	40,587	611,646	18,798	236,855	56,285	1,044,087
Carleton .....	27,308	436,928	12,607	164,143	30,324	581,614
Dufferin .....	26,119	456,299	11,346	163,836	31,124	600,693
Dundas .....	5,460	84,466	2,539	31,890	24,382	418,395
Durham .....	27,120	448,022	11,395	169,558	28,248	561,813
Elgin .....	20,627	356,435	10,986	146,334	47,304	958,852
Essex .....	23,523	399,656	10,383	134,771	92,414	1,738,307
Frontenac .....	16,922	260,260	8,986	111,876	21,417	378,438
Glengarry .....	8,508	127,620	3,850	46,932	17,131	325,489
Grenville .....	10,954	166,585	5,580	69,694	17,531	317,311
Grey .....	60,591	1,028,229	30,125	414,821	69,874	1,249,347
Haldimand .....	16,618	269,876	7,872	112,884	22,940	451,000
Haliburton .....	5,856	87,840	2,435	28,757	2,142	36,414
Halton .....	12,466	209,055	5,453	77,596	19,040	367,091
Hastings .....	32,693	490,395	15,291	180,434	46,682	853,814
Huron .....	25,662	450,625	12,278	173,979	70,594	1,394,232
Kent .....	25,743	438,661	12,073	164,314	92,494	1,522,451
Lambton .....	26,984	461,157	12,646	174,388	58,902	1,077,907
Lanark .....	34,485	517,275	16,440	202,048	22,163	387,853
Leeds .....	14,102	198,274	7,178	80,465	26,176	453,368
Lennox & Addington....	12,525	187,875	5,954	69,602	22,697	404,234
Lincoln .....	7,150	114,400	3,982	54,314	13,749	271,405
Manitoulin .....	20,411	306,165	8,742	104,205	5,053	101,060
Middlesex .....	24,203	480,188	11,897	187,259	59,003	1,110,436
Muskoka .....	10,953	159,914	4,980	56,274	3,145	63,781
Nipissing .....	8,890	120,015	3,671	39,573	5,992	105,339
Norfolk .....	14,130	260,416	6,796	94,464	31,044	549,479
Northumberland .....	17,069	277,542	7,755	101,203	35,467	710,759
Ontario .....	33,724	588,147	16,202	229,582	50,624	993,749
Oxford .....	8,874	142,694	4,715	61,861	50,069	993,870
Parry Sound .....	18,789	257,034	8,392	90,550	6,296	122,268
Peel .....	15,562	263,932	6,423	86,582	30,083	597,448
Perth .....	13,073	247,341	6,511	94,605	65,285	1,339,648
Peterborough .....	15,540	243,512	6,568	84,070	21,897	389,767
Prescott .....	4,858	74,376	2,995	37,497	16,723	334,460
Prince Edward .....	10,331	168,085	4,838	61,588	16,786	318,934
Rainy River & Kenora....	2,159	32,385	1,036	12,722	2,779	55,580
Renfrew .....	57,698	822,197	25,315	297,958	25,025	500,500
Russell .....	5,429	81,435	2,467	31,084	17,002	306,036
Simcoe .....	59,332	829,461	25,444	302,275	85,681	1,459,147
Stormont .....	4,444	67,771	2,280	27,132	18,863	320,671
Sudbury .....	6,521	97,815	2,136	25,846	5,505	110,100
Thunder Bay .....	635	9,525	261	3,067	3,113	62,260
Timiskaming .....	1,622	24,330	455	5,688	2,404	48,080
Victoria .....	26,661	437,774	11,266	140,374	33,198	650,017
Waterloo .....	7,775	133,886	3,733	50,918	42,559	797,556
Welland .....	7,777	116,655	4,267	51,716	14,032	266,084
Wellington .....	37,059	690,780	16,751	248,417	67,508	1,293,453
Wentworth .....	10,682	180,419	5,354	73,778	23,512	496,573
York .....	25,896	440,232	11,106	156,261	59,093	1,167,678
The Province:						
1918 .....	972,341	15,690,055	449,268	5,877,375	1,656,386	31,140,181
1917 .....	956,986	9,946,030	463,576	4,240,803	1,664,639	21,464,366
1916 .....	908,066	7,386,710	475,406	3,588,522	1,735,254	18,790,755
1915 .....	908,095	6,403,907	489,320	3,289,701	1,769,295	17,562,726
1914 .....	922,375	6,155,451	512,066	3,219,409	1,770,533	17,951,288

## AND POULTRY.

and Poultry on hand on June 15, 1918, and the number and value of those sold or with the totals for the Province for the past five years.

Swine.		Poultry of all classes.				Counties and Districts.
Sold or slaughtered.		Number on hand.	Value.	Sold or slaughtered.		
Number.	Value.			Number.	Value.	
	\$		\$		\$	
5,477	120,494	51,861	40,140	29,294	24,080	Algonia.
29,662	675,107	140,798	105,176	80,585	65,435	Brant.
78,146	1,787,980	421,387	293,707	217,590	172,331	Bruce.
35,663	780,306	301,711	250,722	179,578	163,057	Carleton.
37,583	848,624	169,844	130,780	86,695	73,344	Dufferin.
27,878	557,560	199,141	150,351	96,785	80,428	Dundas.
40,900	934,974	253,026	195,842	127,291	106,797	Durham.
64,570	1,479,944	342,046	240,800	184,260	137,274	Elgin.
106,404	2,427,075	583,698	400,417	277,929	206,779	Essex.
25,028	520,833	156,914	129,925	103,032	88,298	Frontenac.
18,808	382,743	157,303	123,483	91,319	77,165	Glengarry.
21,064	421,280	150,868	117,375	82,364	69,186	Grenville.
90,004	2,073,692	476,682	349,885	240,896	190,549	Grey.
32,311	688,871	211,656	164,668	124,182	102,609	Haldimand.
3,411	66,310	24,371	18,181	12,349	9,323	Haliburton.
24,958	556,064	140,056	114,146	93,733	80,423	Halton.
59,483	1,304,462	308,584	236,993	150,352	123,589	Hastings.
99,791	2,274,237	606,962	454,008	282,475	222,590	Huron.
106,350	2,281,208	548,925	371,073	273,197	201,619	Kent.
72,460	1,534,703	500,856	385,158	260,592	220,461	Lambton.
26,135	548,835	178,901	137,038	87,360	72,509	Lanark.
31,813	611,446	181,991	135,219	98,046	78,535	Leeds.
30,642	646,853	179,896	140,139	100,458	83,481	Lennox & Addington.
21,765	457,065	164,317	126,524	114,280	93,481	Lincoln.
5,486	120,692	35,916	27,655	19,028	15,584	Manitoulin.
83,674	1,771,379	629,424	484,656	319,494	262,624	Middlesex.
5,404	113,484	55,721	40,565	33,261	25,345	Muskoka.
5,858	113,469	46,057	32,654	29,110	22,182	Nipissing.
44,693	964,475	265,256	191,780	141,428	106,212	Northumberland.
50,326	1,150,452	299,624	235,804	146,370	122,951	Northumberland.
65,953	1,530,769	315,912	259,680	175,121	152,355	Ontario.
68,311	1,604,625	359,322	263,024	170,053	129,580	Oxford.
8,403	168,060	59,281	45,409	33,034	25,667	Parry Sound.
36,252	812,045	211,827	183,866	140,775	130,921	Peel.
88,288	2,058,876	426,462	308,758	193,329	150,217	Perth.
32,255	676,387	196,029	152,511	100,507	82,818	Peterborough.
16,257	373,911	148,665	118,337	91,760	75,335	Prescott.
22,939	473,002	139,713	106,880	72,215	58,927	Prince Edward.
3,873	81,333	41,840	30,920	24,089	19,705	Rainy River & Kenora.
23,837	511,780	207,179	158,699	105,506	84,827	Renfrew.
18,079	361,580	113,027	86,466	70,942	57,108	Russell.
102,610	2,259,472	514,901	391,325	251,764	210,726	Simcoe.
23,121	482,555	152,349	114,871	79,527	64,357	Stormont.
5,346	120,018	47,755	35,673	33,570	25,782	Sudbury.
4,855	101,955	34,491	25,420	18,602	14,435	Thunder Bay.
3,181	66,801	28,299	20,771	15,618	12,135	Timiskaming.
44,895	965,243	212,293	168,561	103,845	87,230	Victoria.
53,327	1,238,253	212,288	156,032	100,232	78,181	Waterloo.
20,467	429,807	177,393	140,673	115,799	97,155	Welland.
89,720	1,973,840	340,672	256,867	183,441	151,522	Wellington.
32,930	726,107	185,665	143,890	114,988	95,325	Wentworth.
79,414	1,766,167	371,950	313,554	238,410	216,238	York.
						The Province:
2,130,060	46,997,183	12,281,105	9,307,051	6,516,460	5,318,857	1918.
2,137,999	41,609,181	13,606,292	8,517,195	6,806,531	4,554,451	1917.
2,105,621	33,671,966	14,377,844	7,933,157	6,774,884	4,226,038	1916.
2,110,936	31,628,772	14,273,091	7,670,326	6,764,069	4,161,695	1915.
1,984,105	30,275,538	14,175,214	7,551,428	6,575,434	4,062,797	1914.

## LIVE STOCK AND

TABLE XXI. Showing by County Municipalities the total value of live stock and poultry numbers of the various classes on hand with

Counties and Districts.	Total value of Live Stock sold or killed.	Horses on hand.				Cattle on other than	
		Stallions, 2 yrs. old and over.	Mares 2 yrs. old and over.	Geldings 2 yrs. old and over.	Colts and Fillies under 2 years.	Bulls for breeding	Calves under 1 year.
	\$						
Algoma .....	417,728	41	1,547	1,198	388	208	3,252
Brant .....	1,746,866	48	4,665	4,165	1,016	701	8,387
Bruce .....	5,340,754	127	13,416	8,853	4,413	1,313	26,253
Carleton .....	2,653,931	166	8,672	6,852	2,710	2,012	20,029
Dufferin .....	2,310,355	57	6,251	4,362	1,770	760	12,128
Dundas .....	1,321,875	60	4,351	3,802	987	1,766	8,607
Durham .....	2,589,431	62	7,303	5,349	1,937	744	12,531
Elgin .....	3,902,602	71	8,933	7,422	2,146	1,614	16,438
Essex .....	4,046,296	118	11,997	8,371	2,447	1,080	11,902
Frontenac .....	1,482,430	47	5,069	4,061	1,157	1,765	13,164
Glengarry .....	1,228,213	102	4,976	3,400	1,446	1,851	8,993
Grenville .....	1,142,854	47	4,309	3,020	698	1,314	7,253
Grey .....	6,148,746	183	15,838	11,004	4,392	1,626	32,118
Haldimand .....	2,113,130	57	6,200	4,844	1,638	764	10,769
Haliburton .....	246,885	12	863	704	257	164	2,564
Halton .....	1,665,639	30	4,423	3,356	1,146	645	8,465
Hastings .....	3,046,128	159	8,962	7,794	2,006	2,778	23,500
Huron .....	6,423,100	135	16,242	11,547	5,270	1,572	31,048
Kent .....	4,985,783	104	13,560	10,686	3,588	1,140	17,619
Lambton .....	4,968,342	104	12,621	8,494	3,807	1,394	25,138
Lanark .....	2,001,040	96	5,808	4,104	1,497	1,230	16,869
Leeds .....	1,659,556	54	5,472	4,653	1,198	2,214	12,827
Lennox & Addington .....	1,632,528	59	5,058	4,419	1,122	1,360	12,504
Lincoln .....	1,166,468	40	4,515	3,808	664	502	5,425
Manitoulin .....	496,561	24	1,274	926	301	175	3,403
Middlesex .....	6,514,943	169	17,241	11,978	4,932	2,261	32,579
Muskoka .....	436,865	33	1,616	1,424	416	254	4,242
Nipissing .....	388,391	58	1,341	977	356	345	4,071
Norfolk .....	2,276,491	60	7,275	6,200	1,453	1,173	10,802
Northumberland .....	2,813,872	80	8,386	6,910	1,859	1,582	16,756
Ontario .....	4,195,089	119	10,616	7,628	2,834	1,301	18,433
Oxford .....	4,069,750	116	10,018	8,138	2,100	2,528	18,467
Parry Sound .....	628,547	38	1,954	1,607	487	316	5,466
Peel .....	2,475,068	50	6,813	4,684	2,148	1,083	11,857
Perth .....	4,920,366	119	12,112	8,820	3,859	1,803	25,706
Peterborough .....	1,823,768	81	5,746	4,770	1,535	1,108	13,911
Prescott .....	1,130,246	57	4,269	3,336	1,030	1,715	10,298
Prince Edward .....	1,134,673	26	4,460	3,957	911	1,005	6,505
Rainy River & Kenora .....	295,152	33	1,132	901	392	137	2,360
Renfrew .....	2,226,278	162	7,342	5,253	2,184	1,772	20,782
Russell .....	1,074,043	95	3,821	2,840	1,098	1,299	8,173
Simcoe .....	5,638,755	208	17,730	12,894	4,735	1,807	30,573
Stormont .....	1,159,838	35	3,816	3,012	826	1,542	6,846
Sudbury .....	393,378	59	1,311	1,134	388	299	3,828
Thunder Bay .....	220,509	45	690	754	171	175	1,711
Timiskaming .....	185,787	25	809	757	171	87	1,479
Victoria .....	2,514,745	72	6,819	4,798	2,001	799	15,425
Waterloo .....	3,016,857	84	6,841	5,330	1,755	920	13,751
Welland .....	1,255,488	45	4,780	4,123	889	658	7,004
Wellington .....	5,233,679	114	12,399	9,319	3,499	1,378	24,396
Wentworth .....	1,839,025	53	5,967	5,158	1,235	756	8,835
York .....	4,143,194	162	12,490	9,924	3,572	1,768	15,999
The Province							
1918 .....	126,742,038	4,201	360,119	273,820	94,837	60,563	691,441
1917 .....	114,740,881						
1916 .....	99,159,081						
1915 .....	93,762,233						
1914 .....	93,017,235						



POULTRY ON HAND.

on hand in 1918, together with totals for the Province for the past five years, also the comparative totals for poultry for five years.

hand Milch cows.		Poultry on hand.				Counties and Districts.
Steers 2 years old and over.	All other cattie.	Turkeys.	Geese.	Ducks.	Other fowls.	
783	3,264	2,357	963	710	47,831	Algoma
2,255	8,910	793	4,069	3,788	132,148	Brant
16,452	35,864	13,317	16,786	19,364	371,920	Bruce
7,453	20,920	11,438	14,185	8,318	267,770	Carleton
6,966	15,054	2,001	13,873	5,566	148,404	Dufferin
205	7,749	10,793	6,000	3,970	178,378	Dundas
5,405	15,578	4,606	11,044	8,969	228,407	Durham
6,623	16,859	14,087	8,732	8,847	310,380	Elgin
2,925	11,003	10,512	18,174	20,385	534,627	Essex
1,754	11,231	15,308	4,062	4,227	133,317	Frontenac
243	9,481	11,970	2,751	2,382	140,200	Glengarry
214	7,367	8,451	4,409	2,643	135,365	Grenville
16,987	40,698	13,669	21,613	20,065	421,335	Grey
3,125	10,231	6,292	5,502	7,956	191,906	Haldimand
805	2,404	1,499	465	377	22,030	Haliburton
4,613	9,540	2,803	6,571	5,044	125,638	Halton
3,426	20,021	13,473	7,384	5,904	281,823	Hastings
19,140	41,823	13,851	21,078	29,630	542,403	Huron
12,262	22,152	9,694	16,026	17,785	505,420	Kent
16,906	31,072	26,661	16,355	17,252	440,588	Lambton
6,182	20,074	8,698	4,037	2,940	163,226	Lanark
987	13,113	8,510	2,757	3,937	166,787	Leeds
2,796	11,703	8,706	2,948	4,460	163,782	Lennox & Addington
956	4,782	3,542	2,853	4,765	153,157	Lincoln
1,314	4,010	2,537	1,341	944	31,094	Manitoulin
20,836	43,222	27,932	17,097	25,991	558,404	Middlesex
1,031	4,326	986	460	1,093	53,132	Muskoka
929	3,707	724	998	1,260	43,075	Nipissing
1,129	9,710	6,671	5,652	8,128	241,805	Norfolk
3,545	15,969	10,460	6,621	5,882	276,661	Northumberland
8,154	25,502	4,542	15,294	11,248	284,828	Ontario
5,018	18,830	2,651	8,097	11,032	337,542	Oxford
2,008	5,723	2,467	1,396	1,014	54,404	Parry Sound
5,616	12,628	5,579	11,859	9,146	185,243	Peel
9,548	29,283	4,307	16,665	18,127	387,363	Perth
4,590	14,846	10,425	6,580	4,984	174,040	Peterborough
380	8,946	9,035	4,128	2,172	133,330	Prescott
476	5,449	5,632	2,534	3,801	127,746	Prince Edward
563	2,050	1,340	922	632	38,946	Rainy River&Kenora
8,588	21,148	7,607	7,892	3,303	188,377	Renfrew
678	8,548	2,742	4,186	3,702	102,397	Russell
14,309	36,349	17,077	25,229	14,820	457,775	Simcoe
281	6,607	8,394	2,427	2,633	138,895	Stromont
756	3,129	1,407	1,039	579	44,730	Sudbury
167	1,453	880	365	698	32,548	Thunder Bay
205	1,128	340	341	329	27,289	Timiskaming
7,769	19,473	6,088	11,741	6,540	187,924	Victoria
2,066	10,796	697	5,296	4,818	201,477	Waterloo
1,316	6,130	2,565	2,536	6,294	165,998	Welland
10,263	26,978	2,995	17,822	11,552	308,303	Wellington
1,980	8,691	1,143	5,009	5,668	173,845	Wentworth
4,294	15,883	6,355	16,050	16,327	333,218	York
257,272	761,407	376,609	412,214	392,001	11,100,281	1918
.....	.....	439,215	389,659	480,263	12,297,155	1917
.....	.....	557,929	408,046	586,705	12,825,164	1916
.....	.....	674,494	416,414	545,813	12,636,370	1915
.....	.....	744,096	425,300	586,654	12,419,164	1914

LIVE STOCK AND POULTRY

TABLE XXII. Showing by County Municipalities the numbers of the various classes of Live

Counties and Districts.	Horses sold.				Cattle sold		
	Stallions 2 yrs. old and over.	Mares 2 yrs. old and over.	Geldings 2 yrs. old and over.	Colts and Fillies un- der 2 yrs.	Bulls for breeding.	Milch Cows.	Calves under 1 year.
Algoma .....	2	139	139	38	60	745	826
Brant .....	16	391	323	46	363	2,454	3,519
Bruce .....	4	1,968	1,522	339	659	4,253	2,297
Carleton .....	9	893	756	110	932	4,992	9,038
Dufferin .....	7	894	723	111	359	1,940	886
Dundas .....		421	356	78	578	2,963	7,500
Durham .....		831	645	157	415	2,310	2,292
Elgin .....	29	1,148	964	194	862	6,175	7,385
Essex .....	43	1,200	820	148	522	3,811	4,968
Frontenac .....		386	319	101	728	3,423	6,667
Glengarry .....	5	692	481	65	583	2,960	8,024
Grenville .....	4	397	279	72	586	3,060	5,780
Grey .....	5	2,075	1,479	375	846	5,348	2,705
Haldimand .....	8	665	529	130	538	2,635	2,955
Haliburton .....		95	66	32	57	357	404
Halton .....	4	472	324	47	370	2,400	2,174
Hastings .....	5	896	646	185	1,315	5,834	11,563
Huron .....	7	2,299	1,855	420	713	5,145	3,169
Kent .....	42	1,444	1,269	203	540	4,681	3,589
Lambton .....	46	1,772	1,343	269	664	4,692	3,449
Lanark .....		649	449	94	550	2,727	3,916
Leeds .....	7	423	290	83	897	4,591	9,336
Lennox & Addington.	2	508	342	75	638	3,006	5,094
Lincoln .....		483	233	43	264	1,732	2,705
Manitoulin .....	5	129	136	26	70	575	166
Middlesex .....	11	2,340	1,849	457	1,126	8,067	9,669
Muskoka .....		137	105	27	78	781	802
Nipissing .....		143	113	29	139	722	529
Norfolk .....	25	703	581	92	588	4,282	6,639
Northumberland .....		1,012	776	87	901	4,477	6,766
Ontario .....		1,323	1,043	208	913	4,146	3,329
Oxford .....	2	1,032	1,010	200	1,160	7,370	12,730
Parry Sound .....	2	156	133	33	126	859	661
Peel .....		958	695	138	591	3,849	4,707
Perth .....	11	1,534	1,306	257	953	5,380	6,238
Peterborough .....		691	463	100	498	2,790	3,655
Prescott .....		551	411	59	589	2,719	6,816
Prince Edward .....	11	383	271	57	461	1,999	5,455
Rainy River & Kenora.	3	118	106	19	54	666	279
Renfrew .....	2	705	539	269	661	3,073	2,090
Russell .....		434	368	48	496	2,974	5,738
Simcoe .....	5	1,832	1,576	247	847	5,645	3,461
Stormont .....	2	389	350	73	434	2,504	7,237
Sudbury .....		127	175	.....	197	778	716
Thunder Bay .....		45	64	7	61	484	737
Timiskaming .....		84	63	7	36	387	228
Victoria .....	5	837	619	125	400	2,294	1,542
Waterloo .....		650	635	97	471	3,141	3,257
Welland .....	6	398	320	56	272	2,152	3,325
Wellington .....	6	1,526	1,157	268	858	4,382	3,132
Wentworth .....	3	536	405	98	486	3,042	4,700
York .....	3	1,438	1,145	220	924	5,191	7,733
The Province ...	347	41,352	32,566	6,719	28,429	166,963	222,578

## SOLD OR SLAUGHTERED.

Stock and Poultry sold or slaughtered in the year 1918. (Not previously estimated by classes.)

or slaughtered.		Poultry sold or killed.				Counties and Districts.
Steers 2 yrs. old and over.	All other cattle.	Turkeys.	Geese.	Ducks.	Otherfowl.	
967	881	1,942	1,222	1,058	25,072	Algoma
3,132	3,070	963	5,628	4,282	69,712	Brant
16,607	11,139	14,463	18,022	22,554	162,551	Bruce
6,766	4,892	10,998	16,693	11,238	140,649	Carleton
6,899	4,094	1,495	13,631	7,568	64,001	Dufferin
86	1,052	10,338	6,861	4,609	74,977	Dundas
6,100	5,435	3,471	12,202	12,637	98,981	Durham
7,044	6,710	11,152	9,282	13,844	149,982	Elgin
4,123	4,189	10,348	19,956	22,080	225,545	Essex
1,741	3,239	14,456	4,026	5,316	79,234	Frontenac
195	1,727	13,926	2,466	2,251	72,676	Glengarry
141	1,304	7,735	5,253	3,774	65,602	Grenville
18,389	12,442	12,531	22,210	27,661	178,494	Grey
4,401	4,103	6,296	5,819	8,849	103,218	Haldimand
813	934	817	335	307	10,890	Haliburton
3,722	3,139	2,577	7,712	7,228	76,216	Halton
2,843	6,866	12,138	8,874	7,329	122,011	Hastings
19,314	13,603	9,930	21,748	38,795	212,002	Huron
11,430	7,390	9,565	18,890	25,706	219,036	Kent
14,099	11,871	23,938	30,431	23,022	183,201	Lambton
6,780	5,415	6,802	4,875	5,104	70,579	Lanark
1,005	2,686	9,288	3,715	4,471	80,572	Leeds
2,858	3,664	9,197	3,532	6,536	81,193	Lennox & Addington
1,293	1,966	3,884	3,638	6,338	100,420	Lincoln
1,959	956	2,810	1,403	1,897	12,918	Manitoulin
17,431	16,405	24,172	20,730	33,907	240,685	Middlesex
1,204	1,329	1,354	812	1,285	29,810	Muskoka
1,016	907	214	1,593	1,604	25,699	Nipissing
1,736	3,251	5,204	5,261	5,982	124,981	Norfolk
3,825	5,417	10,196	7,009	10,494	118,671	Northumberland
10,264	7,133	4,327	15,064	15,526	140,204	Ontario
5,039	6,067	2,016	9,131	13,787	145,119	Oxford
2,085	1,579	1,418	1,165	1,236	29,215	Parry Sound
4,506	4,106	4,670	15,143	14,488	106,474	Peel
10,771	9,394	1,612	18,853	23,573	149,291	Perth
4,471	4,486	7,689	7,522	5,144	80,152	Peterborough
344	2,620	9,874	3,774	3,808	74,304	Prescott
414	2,089	5,622	2,709	4,314	59,570	Prince Edward
685	739	2,163	915	697	20,314	Rainy River&Kenora
10,690	5,192	6,742	8,307	3,017	87,440	Renfrew
878	1,864	2,245	3,842	3,120	61,735	Russell
13,874	10,536	17,319	17,982	18,194	198,269	Simcoe
309	1,161	8,107	3,349	3,260	64,811	Stormont
653	1,091	1,761	755	185	30,869	Sudbury
157	345	326	643	1,444	16,189	Thunder Bay
288	367	175	579	695	14,169	Timiskaming
7,601	6,163	5,373	11,418	7,724	79,330	Victoria
7,683	5,811	720	5,513	6,352	87,647	Waterloo
1,978	2,753	2,558	3,197	7,435	102,609	Welland
14,209	10,303	2,644	20,369	17,177	143,251	Wellington
3,300	2,684	1,025	5,775	7,503	100,685	Wentworth
5,557	4,487	4,187	20,079	27,720	186,424	York
273,675	241,046	344,773	459,913	514,125	5,197,649	The Province

## FARM PROPERTY, IMPLEMENTS AND LIVE STOCK.

TABLE XXIII.—Showing by County Municipalities of Ontario the value of farm lands, buildings, implements and live stock for the year 1918, together with the totals for the Province for the past five years.

Counties and Districts.	Land.	Buildings.	Implements.	Live Stock on hand.	Total.
	\$	\$	\$	\$	\$
Algoma .....	3,743,682	1,367,488	503,750	1,368,393	6,983,313
Brant .....	10,937,625	6,173,905	1,679,109	4,326,586	23,117,225
Bruce .....	27,276,667	12,590,122	3,411,444	12,391,641	55,669,874
Carleton .....	23,147,053	9,384,968	2,987,336	8,539,259	44,058,616
Dufferin .....	11,524,587	5,926,097	1,568,376	5,834,952	24,854,012
Dundas .....	10,891,171	5,399,910	1,739,637	4,570,765	22,601,483
Durham .....	12,863,191	7,298,138	1,865,022	6,185,116	28,211,467
Elgin .....	21,214,110	10,602,776	3,113,581	8,508,977	43,439,444
Essex .....	33,538,331	12,481,808	3,697,558	8,310,175	58,027,872
Frontenac .....	10,857,032	5,022,634	1,582,735	4,811,626	22,274,027
Glengarry .....	11,651,815	5,471,975	1,670,610	4,479,437	23,273,837
Grenville .....	7,266,444	3,813,638	1,227,117	3,731,495	16,038,694
Grey .....	27,523,576	15,370,034	4,343,133	14,833,063	62,069,806
Haldimand .....	11,462,034	6,604,832	2,037,157	5,313,348	25,417,371
Haliburton .....	1,605,475	607,427	238,496	810,602	3,262,000
Halton .....	14,196,894	5,493,146	1,488,861	4,106,043	25,284,944
Hastings .....	20,125,563	9,216,296	3,170,187	8,691,014	41,203,060
Huron .....	30,567,259	16,163,352	4,303,116	14,917,964	65,951,691
Kent .....	37,233,504	14,187,535	4,576,219	10,861,484	66,858,742
Lambton .....	28,145,154	12,119,848	3,666,040	12,112,398	56,043,440
Lanark .....	12,444,152	5,359,637	1,577,841	5,889,663	25,271,293
Leeds .....	12,373,275	6,179,672	1,932,780	5,568,044	26,053,771
Lennox & Addington .....	10,187,824	5,234,463	1,701,107	4,756,951	21,880,345
Lincoln .....	19,110,745	7,422,155	1,765,575	3,127,984	31,426,459
Manitoulin .....	1,949,369	777,047	302,975	1,408,688	4,438,079
Middlesex .....	38,729,343	17,982,761	4,910,727	16,614,343	78,237,174
Muskoka .....	3,531,029	1,592,369	551,613	1,546,798	7,221,809
Nipissing .....	3,315,310	1,072,644	541,432	1,370,209	6,299,595
Norfolk .....	15,252,446	7,701,018	2,311,681	5,827,367	31,092,512
Northumberland .....	15,329,959	8,646,220	2,395,630	7,114,860	33,486,669
Ontario .....	21,705,074	10,318,480	2,712,777	9,535,260	44,271,591
Oxford .....	24,949,720	12,826,029	3,862,213	10,685,723	52,323,685
Parry Sound .....	3,404,627	1,541,876	605,823	2,062,528	7,614,854
Peel .....	15,613,799	7,883,171	1,845,174	6,093,635	31,435,779
Perth .....	23,965,651	13,455,384	3,586,805	11,735,781	52,743,621
Peterborough .....	13,745,488	5,697,532	1,560,540	5,123,837	26,127,397
Prescott .....	12,654,032	5,221,163	1,668,890	4,066,387	23,610,472
Prince Edward .....	8,358,934	5,038,088	1,678,173	3,428,632	18,503,827
Rainy River & Kenora .....	3,106,936	820,125	339,794	976,344	5,243,199
Renfrew .....	18,674,544	6,842,440	2,266,269	7,237,883	35,021,136
Russell .....	11,131,442	4,249,578	1,465,848	3,506,077	20,352,945
Simcoe .....	32,942,380	16,350,152	4,596,868	14,615,743	68,505,143
Stormont .....	8,827,082	4,348,765	1,416,220	2,198,954	16,791,021
Sudbury .....	3,713,051	1,142,393	569,345	1,324,156	6,748,945
Thunder Bay .....	4,425,695	926,661	394,198	744,320	6,490,874
Timiskaming .....	3,274,093	712,609	384,450	641,078	5,012,230
Victoria .....	14,747,858	5,754,261	1,784,970	6,408,540	28,695,629
Waterloo .....	14,978,004	7,820,012	2,013,768	5,793,142	30,604,926
Welland .....	12,498,599	5,969,597	1,666,229	3,590,527	23,724,952
Wellington .....	23,346,555	13,189,077	3,180,646	11,286,559	51,002,837
Wentworth .....	20,978,724	8,226,622	2,155,252	4,863,462	36,224,060
York .....	34,127,391	14,646,950	3,281,777	10,259,663	62,315,781
The Province:					
1918 .....	819,164,298	380,244,880	109,896,874	324,107,476	1,633,413,528
1917 .....	807,426,986	370,384,055	104,581,053	289,676,977	1,572,069,071
1916 .....	794,676,866	357,313,850	98,020,295	263,869,539	1,513,880,550
1915 .....	794,393,564	352,628,031	95,049,350	254,982,332	1,497,053,277
1914 .....	790,538,706	347,348,643	91,703,876	250,870,078	1,480,461,303

## PART II.—CHATTEL MORTGAGES.

Table showing by County Municipalities of Ontario the total number and amount of Chattel Mortgages on record and undischarged on December 31st, 1918, against (1) all occupations; (2) farmers; together with totals for the Province for the past five years.

Counties and Districts.	Chattel mortgages against all occupations.				Chattel mortgages against farmers.			
	To secure existing debt.		For future indorsation.		To secure existing debt.		For future indorsation	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount
		\$		\$		\$		\$
Algoma .....	131	118,611			71	27,080		
Brant .....	117	*1,624,044			47	39,434		
Bruce .....	167	90,034	9	6,679	91	42,428	9	6,679
Carleton .....	218	448,238	2	375	35	34,315		
Dufferin .....	45	35,085			29	21,088		
Elgin .....	229	244,159			118	66,793		
Essex .....	204	133,625	2	4,225	100	43,510		
Frontenac .....	373	289,750			127	73,175		
Grey .....	287	162,360	1	3,000	183	86,682		
Haldimand .....	78	105,658			40	18,570		
Haliburton .....	40	11,496			34	6,601		
Halton .....	33	57,207			17	24,494		
Hastings .....	320	179,247			167	79,361		
Huron .....	131	307,991	1	10,000	66	111,005		
Kenora .....	42	89,701	2	(a)1,999,997	12	6,405		
Kent.....	283	270,024			194	140,267		
Lambton .....	168	114,050			77	62,982		
Lanark .....	102	105,477			54	52,987		
Leeds & Grenville....	205	138,925	1	45	145	92,625		
Lennox & Addington.	94	47,059			56	21,756		
Lincoln .....	92	78,501	2	57,500	24	15,875		
Manitoulin .....	74	21,141			67	16,630		
Middlesex .....	162	125,170			70	43,156		
Muskoka .....	107	60,346			80	37,673		
Nipissing .....	222	171,160			130	53,563		
Norfolk .....	113	60,321			78	41,681		
Northumberland & Dur	198	148,722			101	76,494		
Ontario .....	124	178,229			72	49,360		
Oxford .....	137	99,166			73	39,855		
Parry Sound .....	119	357,764			65	19,887		
Peel .....	35	24,475			24	15,595		
Perth .....	87	122,080			31	32,452		
Peterborough .....	117	135,796			52	23,748		
Prescott & Russell ..	130	143,946			83	84,608		
Prince Edward .....	88	52,071			66	41,602		
Rainy River .....	68	46,184			33	15,318		
Renfrew .....	100	174,826			47	34,980		
Simcoe .....	271	272,902			128	95,776		
Stormont, Dun. & Glen.	174	149,050	13	5,038	119	94,481	8	3,250
Sudbury .....	356	306,322	1	1,000	236	82,239		
Thunder Bay .....	131	352,696	1	1,500	58	22,939		
Timiskaming .....	388	397,750	3	(b) 781,678	228	137,178		
Victoria .....	36	26,361	1	5,500	28	14,020		
Waterloo .....	130	†8,210,877			24	28,071		
Welland .....	80	361,277			10	5,787		
Wellington .....	128	134,186			60	55,194		
Wentworth .....	294	3,909,572			60	46,132		
York .....	944	2,548,221	5	11,169	63	34,544		
The Province:								
1918 .....	8,172	23,241,853	44	2,887,706	3,773	2,310,396	17	9,929
1917 .....	9,252	24,978,609	43	296,116	4,265	2,321,701	17	7,290
1916 .....	11,087	18,266,080	50	1,085,226	5,043	2,512,346	18	8,793
1915 .....	12,010	12,432,780	49	699,942	5,178	2,579,303	14	4,056
1914 .....	10,881	28,164,771	60	6,365,509	4,791	2,444,406	16	17,627

\* Including 1 Incorporated Co. for \$1,500,000 †Including 1 Consolidated Rubber Co. for \$8,000,000.  
(a) 2 Pulp and Paper Co.'s for \$1,999,997. (b) Including 2 merchants for \$781,399.







Mr. D. Stewart, Earleton. 100-acre field of oats in stook, September, 1918.



SEVENTEENTH ANNUAL REPORT

OF THE

# Temiskaming and Northern Ontario Railway Commission

ONTARIO GOVERNMENT RAILWAY  
SIR WILLIAM H. HEARST, PREMIER

For Year Ended October 31st

1918

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PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO

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TORONTO :

Printed and Published by A. T. WILGRESS, Printer to the King's Most Excellent Majesty

1919

Printed by  
WILLIAM BRIGGS,  
Corner Queen and John Streets,  
TORONTO.

To His Honour SIR JOHN STRATHEARN HENDRIE, C.V.O., a Lieutenant-Colonel in  
the Militia of Canada,

*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present to your Honour the Seventeenth  
Annual Report of the Temiskaming and Northern Ontario Railway Commission  
for the fiscal year ended October 31st, 1918.

Respectfully submitted,

F. G. MACDIARMID,

*Minister of Public Works and Highways.*

Department of Public Works, Ontario.



HON. FINDLAY MACDIARMID,

*Minister of Public Works and Highways,*

*Toronto.*

SIR,—I have the honour, by direction, to submit to the Legislature the Seventeenth Annual Report of the Temiskaming and Northern Ontario Railway Commission for the fiscal year ended October 31st, 1918.

I have the honour to be, Sir,

Your obedient servant,

W. H. MAUND,

*Secretary-Treasurer.*

# Temiskaming and Northern Ontario Railway Commission.

J. L. ENGLEHART..... *Chairman* ..... Petrolia.  
 GEO. W. LEE..... *Commissioner and General Agent*..... North Bay.  
 HON. DR. R. F. PRESTON.. *Commissioner and Land Agent* ..... Carleton Place.

## CHIEF OFFICERS.

W. H. MAUND..... *Secretary-Treasurer* ..... Toronto.  
 S. B. CLEMENT ..... *Chief Engineer and Supt. of Maintenance*..... North Bay.  
 W. A. GRIFFIN ..... *Superintendent of Traffic* ..... North Bay.  
 A. J. PARR ..... *General Freight and Passenger Agent*..... North Bay.  
 W. A. GRAHAM ..... *Purchasing Agent and Storekeeper*..... North Bay.  
 T. J. GRACEY ..... *Auditor of Disbursements and Accountant*..... Toronto.  
 W. J. KELLY ..... *Supt. Telegraphs and Telephones*..... North Bay.  
 C. L. FERGUSON ..... *Paymaster* ..... North Bay.  
 H. W. TESKEY ..... *Auditor of Receipts and Claims and Car  
Accountant* ..... North Bay.  
 T. ROSS ..... *Master Mechanic* ..... North Bay.  
 H. L. RODGERS ..... *Mechanical Engineer* ..... North Bay.  
 C. BATTLE ..... *Air-Brake Inspector* ..... North Bay.  
 R. L. LAMB ..... *Chief Train Despatcher* ..... North Bay.  
 WM. YOUNG ..... *Roadmaster—District No. 1*..... North Bay.  
 W. SWITZER ..... *Assistant Roadmaster—District No. 1*..... North Bay.  
 J. DRINKWATER ..... *Roadmaster—District No. 2*..... Cochrane.  
 ADAM EDWARDS ..... *Assistant Roadmaster—District No. 2*..... Cochrane.  
 W. J. OLDHAM ..... *Bridge and Building Master* ..... North Bay.  
 N. McMILLAN ..... *Road Foreman, Locomotives* ..... North Bay.  
 ARTHUR A. COLE ..... *Mining Engineer* ..... Cobalt.  
 J. G. G. KERRY..... *Consulting Engineer* ..... Toronto

# TEMISKAMING AND NORTHERN ONTARIO RAILWAY COMMISSION

## General Remarks

Accounts and statistics for fiscal year October 31st, 1918, herewith:—

MILEAGE IN OPERATION ON OCTOBER 31ST, 1918.

	Miles.	Miles.
<b>Main Line—</b>		
North Bay to Cochrane.....		252.29
<b>Branch Lines—</b>		
Charlton Branch.....	7.60	
Porcupine (includes Iroquois Falls Branch).....	40.11	
Elk Lake Branch.....	28.50	
		76.21
Nipissing Junction Spur (leased to Grand Trunk Ry.).....		2.10
<b>Yards and Sidings—</b>		
Main line and branches.....	112.77	
Liskeard Spur.....	1.12	
		113.89
Double Track—North Cobalt to Haileybury.....		1.70
<b>Leased to Nipissing Central Railway—</b>		
Main Track.....	10.45	
Yard, Tracks and Sidings .....	1.65	
Private Sidings .....	1.06	
		13.16
<b>Total mileage .....</b>		<b>459.35</b>

Following is a condensed statement of revenue account for fiscal year ended October 31st, 1918, compared with 1916 and 1917.

Fiscal Year	1916	1917	1918
	\$ c.	\$	\$ c.
Revenue from transportation .....	2,045,498 23	2,220,892 22	2,688,658 36
Revenue other than transportation.....	92,623 72	111,013 57	123,652 26
<b>Total operating revenue .....</b>	<b>2,138,121 95</b>	<b>2,331,905 79</b>	<b>2,812,310 62</b>
Operating expenses .....	1,594,177 46	1,881,296 29	2,390,202 60
<b>Net operating revenue.....</b>	<b>543,944 49</b>	<b>450,609 50</b>	<b>422,108 02</b>
Ore royalties.....	49,877 62	119,576 04	96,579 78
Rent from joint facilities .....	18,620 45	12,849 94	14,118 11
Rent from lease of road .....	13,347 04	13,624 15	12,802 18
Interest .....	1,736 36	Dr. 5,649 48	Dr. 3,459 15
Miscellaneous income.....	1,029 78	9,417 21	8,931 73
	628,555 74	600,427 36	551,080 67
<b>Deductions from income .....</b>	<b>99,850 28</b>	<b>83,726 80</b>	<b>121,661 03</b>
<b>Net earnings .....</b>	<b>528,705 46</b>	<b>516,700 56</b>	<b>429,419 64</b>

Rates of operating expenses and net earnings to gross earnings for three comparative fiscal years are as follows:—

- 1916—Operating expenses, 74.6; net earnings, 25.4.
- 1917—Operating expenses, 80.7; net earnings, 19.3.
- 1918—Operating expenses, 85.; net earnings, 15.

[7]

## RECEIPTS.

	1916	1917	1918
	\$ c.	\$ c.	\$ c.
Revenue from transportation.....	2,048,498 23	2,220,892 22	2,688,658 36
Revenue other than transportation.....	92,623 72	111,013 57	124,352 42
Total.....	2,138,121 95	2,331,905 79	2,812,310 62
Increase 1918 over 1917.....		480,404 83—	20.6%
“ “ “ “ “ 1916.....		674,188 67—	31.5%

## EXPENDITURES.

	1916	1917	1918
	\$ c.	\$ c.	\$ c.
Maintenance W. & S.....	349,024 48	419,266 84	462,526 51
“ “ Equipment.....	248,702 04	305,286 86	485,057 18
Traffic expenses.....	22,465 69	17,676 10	19,376 52
Transportation expenses.....	842,058 75	985,452 19	1,260,079 90
Miscellaneous operations.....	42,562 89	47,824 69	52,651 27
General expenses.....	91,317 74	107,255 05	111,097 85
Transportation for investment.....Cr.	1,954 13	1,465 44	586 63
	1,594,177 46	1,881,296 29	2,390,202 60
Net operating revenue.....	545,944 49	450,609 50	422,108 02
Revenue per mile of road.....	6,508 74	7,098 65	8,561 07
Expenditure per mile of road.....	4,852 90	5,726 93	7,276 11
Net revenue per mile of road.....	1,655 84	1,371 72	1,284 96
Miles operated.....	328.5	328.5	328.5

1918 decreased \$370.88 in net revenue per mile of road as compared with 1916, and decreased \$86.76 over 1917.

## MAINTENANCE OF WAY AND STRUCTURES.

Renewal of rails, ties, ballast, etc., is dealt with in report of Chief Engineer and Superintendent of Maintenance. The following statement affords distribution of the amount expended fiscal year 1918 as compared with year 1916-1917.

	1916	1917	1918
	\$ c.	\$ c.	\$ c.
Ballast.....	5,935 63	1,189 02	713 33
Ties.....	32,643 42	24,932 46	20,680 21
Rails.....	4,732 84	24,802 61	35,008 06
Track materials.....	12,817 12	22,347 48	24,818 56
Roadway maintenance and repairs.....	176,661 89	174,342 32	200,460 13
Removal snow and ice.....	36,473 71	40,477 71	60,133 82
Bridges, trestles and culverts.....	9,099 40	10,858 91	15,563 51
Crossings, fences and signs.....	3,322 63	4,970 28	5,753 44
Railway Telegraph and telephones.....	5,681 91	4,545 30	3,667 61
Buildings, fixtures and grounds.....	29,670 93	80,314 60	63,665 18
Roadway tools and supplies.....	3,868 46	4,705 63	5,134 97
Miscellaneous expenses.....	28,116 54	25,780 52	26,927 69
Totals.....	349,024 48	419,266 84	462,526 51



## MAINTENANCE OF EQUIPMENT.

In accordance with the Commission's policy in relation to maintenance of equipment, rolling stock in 1918 was kept up to highest standard of efficiency. Also to provide for depreciation values on rolling stock a sum of \$51,278.28 has been added to reserve fund for this purpose.

## EQUIPMENT REPAIRS

—	1916	1917	1918
	\$ c.	\$ c.	\$ c.
Locomotive—repairs .....	93,935 90	121,216 07	215,082 56
Passenger train cars—repairs .....	61,449 35	52,586 18	83,855 25
Freight “ “ .....	34,778 69	5,383 46	65,333 17
Work equipment “ “ .....	Cr. 8,876 79	34,807 03	25,826 93
Total .....	181,287 15	213,992 74	390,097 91

## EQUIPMENT DEPRECIATION

—	1916	1917	1918
	\$ c.	\$ c.	\$ c.
Locomotive—depreciation .....	15,034 59	19,008 09	19,068 00
Passenger train cars—depreciation .....	13,373 40	15,022 44	14,939 64
Freight train cars “ “ .....	12,462 60	12,436 92	12,446 28
Work equipment “ “ .....	4,060 92	4,879 32	4,824 36
Total .....	44,931 51	51,346 77	51,278 28

## EQUIPMENT RETIREMENTS

—	1916	1917	1918
	\$ c.	\$ c.	\$ c.
Locomotive—retirement .....			
Passenger train cars—retirement .....		2,195 20	
Freight train cars “ “ .....	418 72	9,896 08	6,671 21
Work equipment “ “ .....		1,420 00	
Total .....	418 72	13,511 28	6,671 21

## SUMMARY.

—	1916	1917	1918
	\$ c.	\$ c.	\$ c.
Equipment repairs .....	181,287 15	213,992 74	390,097 91
“ depreciation .....	44,931 51	51,346 77	51,278 28
“ retirements .....	418 72	13,511 28	6,671 21
Total .....	226,637 38	278,850 79	448,047 40

## TEMISKAMING AND NORTHERN ONTARIO RAILWAY COMMISSION'S COMPARATIVE OPERATIONS FOR FISCAL YEARS 1917 AND 1918.

Attached comparative statement of Commission's operations for twelve (12) months from November 1st to October 31st, fiscal years 1917 and 1918 respec-

tively, show that the gross earnings for current year exceed those of 1917 by \$458,075.43, or 18.4 per cent., while expenses increased (1918), \$545,356.35, or 27.7 per cent., or an expenditure excess (1918) of \$87,280.92, or 19.06 per cent.

The *net* operations for the period show an earning of \$429,419.64 for 1918, as compared with \$516,700.56 for 1917, a decrease—in 1918—of \$87,280.92, or 19.6 per cent., or in other words the increase in volume of business in 1918 was overwhelmed and exceeded by the attendant increased expenses, so that the gain of \$458,075.43 was done at a cost of \$545,356.35, or an advance over 1917 expenditure of 29 per cent. to attain the same net earning ratio.

#### CHRONOLOGY—ACCUMULATIVE YEAR 1918.

November .....	Net Earnings .....	\$16,235 02
November-December ...	" " .....	23,163 94
November-January ...	" " .....	14,042 99
November-February ....	Loss .....	9,231 16
November-March .....	Earnings .....	2,166 34
November-April .....	" " .....	117,689 07
November-May .....	" " .....	203,842 29
November-June .....	" " .....	266,943 59
November-July .....	" " .....	302,646 77
November-August .....	" " .....	335,660 94
November-September ...	" " .....	383,126 74
November-October .....	" " .....	429,419 64

#### STATEMENT

Relative to Earnings and Expenses for Fiscal Year, Nov. 1st, 1917, to Oct. 31st, 1918 inclusive

Earnings.	1918.		1917.	
	\$	c.	\$	c.
(a) Transportation.				
Freight .....	1,937,054	80	1,459,459	93
Passenger .....	647,162	91	655,127	58
Mails and Express.....	90,415	45	89,503	56
Switching.....	8,699	89	10,199	07
Miscellaneous .....	5,325	31	6,602	08
	2,688,658	36	2,220,892	22
(b) Incidentals.				
Station privileges .....	8,029	08	6,349	98
Storage .....	1,705	79	1,917	90
Demurrage.....	19,764	05	21,126	75
Telegraph and Telephones .....	61,802	56	60,267	50
Dining and Buffet .....	17,450	97	12,163	66
Rents—Miscellaneous.....	15,599	97	9,869	25
Joint Facility .....	700	16	681	47
	123,652	26	111,013	57
(c) Other Income.				
Ore Royalties .....	96,579	78	119,576	04
Rent, Joint Facilities .....	14,118	11	12,849	94
Rent, Lease of Road .....	12,802	18	13,624	15
Rental, Locomotives .....	4,703	27	8,255	06
Rental, Passenger Cars .....	2,639	97	Dr. 860	89
Rental, Work Equipment.....	691	61	1,162	15
Miscellaneous Income.....	896	88	2,345	08
Interest.....	3,459	15	Dr. 5,649	48
	128,972	65	151,302	05
Earnings, all sources .....	2,941,283	27	2,483,207	84
(d) Deductions from Income.				
Hire of Freight Cars.....	121,661	03	85,210	99
Gross earnings.....	2,819,622	24	2,397,996	85

Summary of Earnings.	Decrease.		Increase.			
	\$	c.	%	\$	c.	%
(a) Transportation.						
Freight .....				477,594	87	32
Passenger.....	7,964	67	1.2			
Mails, Express .....				911	89	1
Switching .....	1,499	18	14.7			
Miscellaneous .....	1,276	77	20			
	10,740	62		478,506	76	
Transportation, net increase 1918 .....				467,766	14	21.07
(b) Incidentals.						
Station Privileges .....				1,679	10	26.5
Storage .....	212	11	11			
Demurrage.....	1,362	70	6.4			
Telegraph and Telephones .....				1,535	06	2.5
Dining, Buffet .....				5,287	31	43.7
Rents, Miscellaneous .....				5,730	72	57.1
Joint Facilities .....				Dr. 18	69	
	1,574	81		14,213	50	
Incidentals, net increase 1918 .....				12,638	69	11.4
(c) Other Income.						
Ore Royalties .....	22,996	26	2			
Rental, Joint Facilities .....				1,268	17	
Rent, Lease of Road.....	821	97				
Rental, Locomotives .....	3,551	79	43			
Rental, Passenger Cars .....				3,560	86	
Rental, Work Equipment.....	470	54	40.6			
Miscellaneous, Income.....	1,448	20	61.9			
Interest..... Dr.	2,190	33	38.9			
	27,098	43		4,769	03	
Other Income, net decrease 1918 .....	22,329	40	14.7			

## ANALYSIS OF EARNINGS.—

(a) Transportation increased \$467,766.14—21.07%

(b) Incidentals increased 12,638.69—11.4%

(c) Other income decreased 22,329.40—14.7%

\$458,075.43

Aggregate increase in 1918, \$458,075.43 or 18.4%

Expenditures.	1918.		1917.	
	\$	c.	\$	c.
(e) Maintenance of W. & S. ....	462,526	51	419,266	84
"    Equipment.....	485,057	18	305,286	86
Traffic .....	19,376	52	17,676	10
Transportation .....	1,260,079	27	985,452	19
Miscellaneous Operations.....	52,651	90	47,824	69
General.....	111,097	85	107,255	05
Transportation for Investment.Cr.	586	63	1,465	44
	2,390,202	60	1,881,296	29
Expenditure increase 1918 .....	508,906	31		
(f) Deductions from Income.				
Hire of Freight Cars .....	121,661	03	85,210	99
Deductions increased 1918.....	36,450	04		
Gross Expenditures and Deductions.....	2,511,863	63	1,966,507	28
Expenditure and Deduction increase 1918 .....	545,356	35		

Summary of Expenditures, Year 1918	Increase.	Decrease.
Maintenance of W. & S. ....	\$ 43,259	\$
"    Equipment.....	179,770	c. 32
Traffic .....	1,700	c. 42
Transportation .....	274,627	08
Miscellaneous Operations.....	4,827	21
General .....	3,842	80
Transportation for Investment.Cr. ....		878 81
	508,027 50	878 81

Expenditures, increase year 1918, \$508,906.31 or 27.06%.

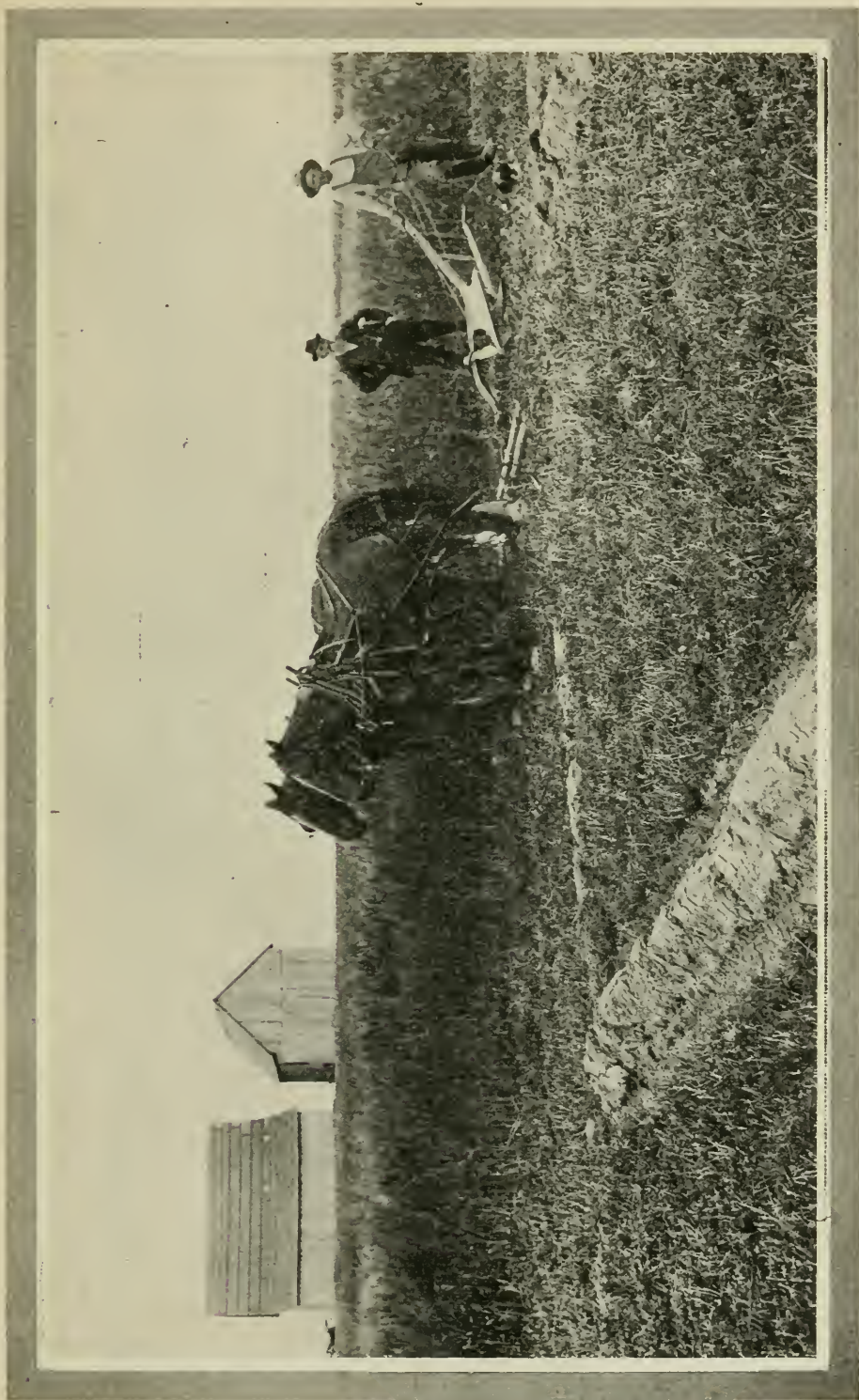
Expenditures and deductions, increase year 1918, \$545,356.35 or 27.7%.

#### ANALYSIS OF EXPENDITURES.

During comparative period, Fiscal year, accounts under heading of (e) Expenditures increased \$508,906.31 or 27.06%. (f) Deductions increased \$36,450.04 or 43%. Gross increase in expenses \$545,356.35 or 27.7%.

#### DIGEST.

Earnings from transportation and other revenue accounts increased in 1918, \$458,075.43, or 18.4 per cent., while expenditures in operation and expenses and deductions from income, same period, increased \$545,356.35, or 27.7 per cent.



J. Allen's farm, Heaslip.

## PURCHASING AND STORES DEPARTMENT

Statement relating to comparative costs of certain materials used in connection with rolling stock, track and general supplies—Fiscal Years, 1915-16-17-18.

Material.	1915		1916		1917		1918	
	\$	c.	\$	c.	\$	c.	\$	c.
Castings, Brass .....	3,564	00	5,300	00	7,900	00	7,900	00
“ Grey Iron.....	2,043	00	2,043	00	2,250	00	2,632	50
“ Steel .....	257	00	304	50	550	00	1,512	50
“ Malleable .....	310	80	327	60	495	00	1,138	50
Cement .....	4,000	00	4,000	00	5,300	00	5,936	00
Felt, tarred.....	180	00	230	40	276	00	289	80
Gaskets, Steam Hose .....	165	00	167	50	226	45	317	03
Duck .....	600	00	850	00	1,090	00	1,776	70
Dry Batteries .....	337	50	412	50	420	00	457	80
Bluestone .....	408	00	720	00	720	00	720	00
Zinc .....	246	00	450	00	450	00	450	00
No. 16 B. Wire .....	357	00	436	25	1,014	50	1,014	50
Tyres.....	2,500	00	5,000	00	6,250	00	7,968	75
Nails .....	765	00	1,089	00	1,650	00	1,732	50
Harris Metal.....	450	00	450	00	566	00	599	96
Pig Lead.....	337	50	425	00	625	00	625	00
Babbit Metal .....	364	00	480	00	612	00	612	00
Car Brasses.....	5,346	00	8,700	00	11,700	00	11,700	00
Paint and Varnishes.....	3,500	00	4,000	00	4,240	00	5,300	00
Turpentine.....	241	50	269	50	269	50	323	40
White Lead .....	221	25	321	25	397	75	397	75
Glass.....	908	65	915	45	1,120	00	1,590	40
Couplers .....	1,122	00	1,170	00	1,920	00	2,496	00
Iron Pipe, sundries .....	186	76	213	55	300	56	420	78
Hose, sundries.....	1,811	50	1,928	15	2,158	00	3,021	20
Lumber, sundry .....	3,025	00	3,300	00	3,850	00	4,966	50
Ice .....	2,360	00	2,560	00	3,600	00	4,608	00
Ties.....	24,000	00	24,000	00	26,250	00	27,562	50
Frogs, etc. ....	5,646	30	6,969	90	8,785	00	12,035	45
Miscellaneous .....	14,000	00	16,000	00	23,000	00	32,200	00
	79,253	76	93,043	55	117,985	76	142,305	52

The above table of comparative costs discloses that purchases of articles, based on same quantities and amounts in each year, cost in 1918 upwards of 78 per cent. more than 1915, 51 per cent. more than 1916, and 21 per cent. more than 1917.

## PER DIEM CHARGES—FISCAL YEAR, 1918

Date	Average No. days Foreign Cars on line	Per Diem paid Foreign Roads	Per Diem earned T.N.O. Cars on Foreign Roads	Per Diem Balance Debit
November, 1917.....	5.365	\$9,523 83	\$5,147 05	\$4,376 78
December .....	6.597	10,664 55	5,895 10	4,769 45
January, 1918.....	7.134	13,564 11	6,871 90	6,692 21
February .....	6.573	13,495 09	6,292 95	7,202 14
March .....	8.963	28,455 78	8,527 50	19,928 28
April .....	6.244	30,756 91	5,070 60	25,686 31
May .....	6.485	25,931 89	8,436 85	17,495 04
June .....	6.200	21,347 98	7,555 05	13,792 84
July .....	5.090	16,098 32	8,496 89	7,601 43
August .....	4.968	14,516 09	7,255 80	7,260 29
September .....	5.184	13,627 39	7,282 35	6,345 04
October .....	5.969	15,554 73	6,709 20	8,845 53

RELATING TO FOREST PRODUCTS ORIGINATING ON T. & N. O. RAILWAY; ALSO  
EX-CANADIAN GOVERNMENT RAILWAYS, FROM NOV. 1, 1917, TO OCT. 31, 1918.

<i>Pulpwood—</i>			
T. & N. O. Railway .....	5,935 cars.	91,862 cords .....	183,724 tons.
C. G. Railway .....	3,065 "	47,904 " .....	95,808 "
<i>Paper—</i>			
T. & N. O. Railway .....	2,821 "	.....	67,773 "
C. G. Railway .....	14 "	.....	424 "
<i>Lumber—</i>			
T. & N. O. Railway .....	1,341 "	16,002 av. ft. per car	41,465 "
C. G. Railway .....	1,432 "	20,029 " "	41,979 "
<i>Poles and Posts—</i>			
T. & N. O. Railway .....	172 "	.....	5,188 "
C. G. Railway .....	.....	.....	.....
<i>Ties—</i>			
T. & N. O. Railway .....	441 "	409 per car ....	11,839 "
C. G. Railway .....	65 "	446 per car ....	1,872 "
<i>Stovewood, Slabwood, etc.—</i>			
T. & N. O. Railway .....	731 "	.....	20,972 "
C. G. Railway .....	77 "	.....	1,982 "
<i>Sulphite—</i>			
T. & N. O. Railway .....	837 "	.....	30,364 "
C. G. Railway .....	15 "	.....	516 "
<i>Woodpulp—</i>			
T. & N. O. Railway .....	886 "	.....	31,071 "
C. G. Railway .....	339 "	.....	10,818 "
<i>Logs—</i>			
T. & N. O. Railway .....	1,031 "	.....	29,379 "
C. G. Railway .....	18 "	.....	600 "
<i>Timber—</i>			
T. & N. O. Railway .....	125 "	.....	3,994 "
C. G. Railway .....	.....	.....	.....

## SUMMARY.

T. & N. O. Railway .....	14,320 cars.....	425,769 tons.
C. G. Railway .....	5,025 " .....	153,999 "
	<u>19,345 "</u>	<u>579,768 "</u>

## GENERAL.

For fiscal year under review as compared with 1916 and 1917, the percentage of operating expenses to operating revenues are as follows:—

1918.....	85. %
1917.....	80.7%
1916.....	74.6%

Balance brought down from result of operation, for year:—

1918.....	\$422,108 02
1917.....	450,609 50
1916.....	543,944 49

Above comparative results show that 1918 decreased \$28,501.48 as compared with 1917 and \$121,836.47 as compared with 1916.

## ORE ROYALTIES.

1918.....	\$96,579 78
1917.....	119,576 04
1916.....	49,877 62

A decrease in 1918 of \$22,996.26 (19.2 per cent.), as compared with 1917, and an increase of \$46,702.16 (94 per cent.) as compared with 1916.

## NET EARNINGS.

1918.....	\$429,419 64
1917.....	516,700 56
1916.....	528,705 46

Decrease in 1918 as compared with 1917, \$87,280.92, or 16.9%.

Decrease in 1918 as compared with 1916, \$99,285.82, or 18.8%.

We have transmitted to Provincial Treasurer for year under review, the sum of three hundred thousand dollars (\$300,000.00).

## MINES AND MINERALS.

Mining Engineer's preliminary report included herein. Regular and complete report for fiscal year 1918 will be published in usual manner.

## PATRIOTIC ASSOCIATION.

The employees of Commission in 1915 formed themselves into a body known as "T. & N. O. Railwaymen's Patriotic Association," and through this medium the following sums have been subscribed in monthly amounts through payrolls and paid to "Canadian Red Cross Society" and "Canadian Patriotic Fund" to date of October 31st, 1918:—

Total subscription to Red Cross Society .....	\$26,181 03
Total subscription to Canadian Patriotic Fund .....	30,950 84
Commission subscription .....	25,000 00
Donation to enlisted employees .....	13,765 16
Total.....	\$95,897 03

The above amount is exclusive of many personal subscriptions made direct by members of Commission and officials, *et al.*

## CANADA'S FIFTH VICTORY LOAN.

During the period of Finance Minister's last appeal to the country for subscription to proposed loan of \$300,000,000—5½ per cent. gold bonds—Commission's employees subscribed for the sum of \$163,000.00, representing five hundred and ninety-two employees, or approximately fifty per cent. of entire number.

This amount, in addition to the \$76,450.00 subscribed the previous November to the Fourth Victory Loan, makes a total of \$239,450.00.

The outstanding feature in the results of the last campaign is the fact that Temiskaming District, with an objective of \$2,250,000.00, subscribed a total of \$4,548,000.00, or 202.13 per cent. of objective, a record unequalled in Canada's 1918 Victory Loan.



## INCREASED FREIGHT RATES—INCREASED WAGES.

On July 16th last, His Excellency the Governor-General approved of Order-in-Council No. 1768, in which the Honourable the Minister of Railways and Canals recommended under the authority of the War Measure Act, that:—

(a) The scale of wages of railway employees as fixed by the "McAdoo" Award in United States territory, including any amendments or extensions thereto, be applied in Canadian territory in so far as all lines of railway owned, operated or controlled by the Government are concerned, and that wage scales of privately owned railway companies in Canada be similarly advanced.

(b) That increases be made in freight rates of all Canadian railway carriers subject to the jurisdiction of Parliament, as have been made in the rates of American railways by the Interstate Commerce Commission, and under orders of the Director General of Railway Administration of the United States.

(c) That on the acceptance of the railway companies of the said "McAdoo" Schedule, the Board of Railway Commissioners be required to forthwith prepare a schedule of rates which will grant similar increases in freight rates in Canada to the increases already granted in American territory—effective as of August 1st, 1918.

In consequence the McAdoo Award No. 27 with supplementary amendments, was applied by all Canadian railways, based on rates of wage, effective December, 1915—with the establishment of an eight hour day for all employees—and the position of the Commission was found to be as follows:—

- (1) Federated Trades: Motive Power and Car Department's employees—an increase approximating 45 per cent. over rates of pay as of January 1st, 1918.
- (2) Shop Foremen and other supervisory forces of Motive Power Car Departments—an increase of \$60.00 per month over rates of pay as of January 1st, 1918.
- (3) Clerical Forces: Miscellaneous station and other employees—an increase of \$25.00 per month over rates of pay as of January 1st, 1918.
- (4) Maintenance of Way, Bridge and Building Departments, Foremen, Mechanics, Helpers, Labourers, *et al*—an increase of \$25.00 per month or an equivalent—according to classification over rates of pay as of January 1st, 1918.
- (5) Trainmasters, Yardmaster, Assistant Engineers, Roadmasters and minor supervisory officers—an increase of from 20 to 35 per cent. over rates of pay as of January 1st, 1918.
- (6) Trainmen, Locomotive Engineers, Firemen, Conductors, Brakemen, etc., according to classification and mileage—increases approximating 11¼ to 39½ per cent.—over rates of pay as of December 31st, 1915.

In addition to above, supplementary amendments in relation to station agents and telegraphers have been issued, increases therein being retroactive as of October 1st, 1918.

It is considered that the increase in payroll due to the adoption of the "McAdoo" Award No. 27 and amendments, will approximate six hundred thousand dollars per annum, based upon present personnel.

## PAYROLLS.

Comparison since commencement of operation:—

1905	Fiscal year.....	\$216,119 37
1906	“ “ .....	450,214 02
1907	“ “ .....	574,959 09
1908	“ “ .....	687,541 66
1909	“ “ .....	681,072 47
1910	“ “ .....	878,192 07
1911	“ “ .....	783,218 89
1912	“ “ .....	1,090,310 65
1913	“ “ .....	1,218,473 04
1914	“ “ .....	1,112,866 73
1915	“ “ .....	953,209 41
1916	“ “ .....	1,127,885 74
1917	“ “ .....	1,273,967 54
1918	“ “ .....	1,527,999 53
		\$12,576,030 21

## BITUMINOUS COAL.

During the period under consideration, the conditions covering the import of bituminous coal remained unchanged owing to the continued enormous increase in manufacturing demands throughout the United States and Canada, and consequent demand on railway tonnage. Commission, however, were fortunate in receiving a well maintained supply under contract, with sufficient reserve stock to meet all requirements. The coal stock issued in 1917 cost \$531,777.50, and that of current fiscal year \$646,058.17, an increase of \$114,280.67, or 21.5 per cent.

## STATEMENT RELATING TO COMMISSION'S PASSENGER TRAIN SERVICE FROM NOVEMBER 1ST, 1917, TO OCTOBER 31ST, 1918.

	No. Psgrs.	Train Miles.	Earnings.	Earnings per Train Mile.
Train No. 1 (Local Service), North Bay to Cochrane .....	103,687	79,268	\$136,886 15	\$1 73
Train No. 2 (Local Service), Cochrane to North Bay .....	105,914	79,268	155,023 23	1 96
Train No. 47 (Local Service), North Bay to Englehart .....	27,298	39,823	36,918 33	93
Train No. 46 (Local Service), Englehart to North Bay .....	22,505	40,961	35,881 84	88
Train No. 9 ("National" Service), North Bay to Cochrane .....	45,377	39,254	89,130 56	2 28
Train No. 10 ("National" Service), Cochrane to North Bay .....	48,370	38,846	103,661 97	2 67
Trains No. 50, 51, 52, 53, 54, 55 (Local Service), Porcupine Branch .....	149,152	44,546	53,450 55	1 20
Trains No. 23, 24, 25, 26 (Local Service), Charlton Branch .....	10,053	7,665	2,154 35	28
Trains No. 4 and 6 (Local Service), Englehart to Cobalt .....	8,117	10,690	2,973 40	28
Trains No. 60, 61, 62, 63 (Local Service), Elk Lake Branch .....	8,065	20,398	9,190 32	45
Trains—various (Local Service), Iron-quois Falls Branch .....	35,776	10,059	7,842 16	78
Total.....	564,314	410,778	\$633,112 86	\$1 54

Cost of Replacing Timber Trestles with Permanent Structures and Embankments,  
Main and Branch Lines

Mileage Main Line	Length of Timber Trestle	Cost of Filling		Cost of Culvert		Cost of Concrete Bridges		Cost of Steel Trestles and Foundations		Total
		\$	c.	\$	c.	\$	c.	\$	c.	
21.6	100 feet	2,145	00	3,000	00					5,145 00
25.7	183 "	4,000	00	600	00					4,600 00
34.2	300 "	3,500	00	400	00					3,900 00
42.18	86 "	1,200	00	2,100	00					3,300 00
48.9	142 "	1,150	00					3,950	00	5,100 00
50.81	160 "	4,500	00	1,600	00					6,100 00
53.84	112 "	900	00	700	00					1,600 00
55.36	225 "	5,800	00	1,200	00					7,000 00
55.94	114 "	1,400	00	350	00					1,750 00
57.31	338 "	12,000	00	1,500	00					13,500 00
58.75	60 "	200	00			2,600	00			2,800 00
59.41	60 "	200	00			3,000	00			3,200 00
62.23	100 "	800	00	3,625	00					4,425 00
64.5	50 "	1,000	00	1,500	00					2,500 00
68.71	383 "	4,600	00	1,200	00					5,800 00
69.71	138 "	2,000	00	850	00					2,850 00
70.21	50 "	1,300	00							1,300 00
71.37	280 "	10,500	00	1,600	00					12,100 00
75.4	685 "	12,000	00							12,000 00
115.5	400 "	200	00					27,200	00	27,400 00
119.13	630 "	400	00					42,000	00	42,400 00
153.5	336 "	350	00					57,100	00	57,450 00
162.1	312 "	10,000	00	14,500	00					24,500 00
163.2	756 "	21,000	00	2,500	00					23,500 00
168.5	120 "	365	00			11,435	00			11,800 00
174.9	50 "	100	00			5,900	00			6,000 00
178.8	700 "	9,800	00			11,805	00			21,605 00
181.4	196 "	1,000	00					14,800	00	15,800 00
184.2	170 "	1,500	00					9,000	00	10,500 00
196.8	490 "	300	00					75,600	00	75,900 00
Total Main Line.....		114,210	00	37,225	00	34,740	00	229,650	00	415,825 00
Porcupine Branch—										
3	300 feet	9,700	00	500	00					10,200 00
5	100 "	1,000	00	300	00					1,300 00
17½	200 "	1,800	00					26,200	00	28,000 00
Total Branch Line....		12,500	00	800	00			26,200	00	39,500 00
SUMMARY										
Main Line.....		114,210	00	37,225	00	34,740	00	229,650	00	415,825 00
Branch Lines.....		12,500	00	800	00			26,200	00	39,500 00
Grand Total.....		126,710	00	38,025	00	34,740	00	255,850	00	455,325 00

## Insurance—Fire

During the year fire insurance has been maintained on Commission's property to the extent of \$2,277,820.00 valuation under the following headings:—

### *Buildings and Contents.*

Division No. 1—buildings.....	\$273,130	00
“ 1—contents.....	144,050	00
“ 2—buildings.....	117,925	00
“ 2—contents.....	35,750	00
Kerr Lake Br.—buildings.....	600	00
“ —contents.....	100	00
Charlton Br. —buildings.....	7,100	00
“ —contents.....	1,300	00
Porcupine Br. —buildings.....	77,500	00
“ —contents.....	21,300	00
Elk Lake Br. —buildings.....	16,500	00
“ —contents.....	3,650	00
Nipissing Central Railway—buildings.....	10,425	00
“ “ “ —contents.....	23,040	00
		\$732,370 00

### *Bridges and Trestles.*

Division No. 1 .....	\$4,900	00
Division No. 2 .....	10,950	00
Kerr Lake Branch .....	5,000	00
Charlton Branch .....	10,150	00
Porcupine Branch .....	11,750	00
Elk Lake Branch .....	12,400	00
		\$55,150 00

### *Freight.*

Merchandise in transit .....	\$250,000	00
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### *Rolling Stock.*

Locomotives and tenders .....	\$255,000	00
Passenger equipment .....	320,700	00
Freight equipment .....	288,700	00
Work equipment .....	118,350	00
Electric railway equipment .....	43,800	00
Foreign equipment .....	200,000	00
		\$1,226,550 00
Total.....		\$2,264,070 00

### *Summary.*

Division No. 1 .....	\$422,080	00
Division No. 2 .....	164,625	00
Kerr Lake Branch .....	5,700	00
Charlton Branch .....	18,550	00
Porcupine Branch .....	110,550	00
Elk Lake Branch .....	32,550	00
Electric railways .....	33,465	00
Merchandise in transit .....	250,000	00
Rolling stock .....	1,226,550	00
Total.....		\$2,264,070 00

The rate of insurance is \$2.25 per \$100.00 for a period of three years, or 75c per \$100.00 per annum.

## AUDITOR'S REPORT

We have pleasure in directing attention to letter from Edwards, Morgan & Co., Chartered Accountants, Toronto, respecting Commission's accounts.

J. L. ENGLEHART, Esq., Chairman,

*Temiskaming and Northern Ontario Railway Commission,*  
Toronto, Ont.

DEAR SIR,—Acting under instructions from the Commissioners, we have maintained a running audit of the accounts of the Commission for the year ending October 31, 1918. Our audit has covered Cash Receipts and Disbursements, Accounts Payable and Collectible, Agents' and Conductors' Accounts, Foreign Tickets, Foreign Freights, Car Mileage Accounts and Bank Balances. All transactions relating thereto have been properly vouched, and the Cash and Bank Balances have been accounted for. We have verified the balances of outstanding accounts which are properly set forth in the General Ledger.

All information asked for has been cheerfully given. The books are in good order.

We are,

Yours faithfully,

EDWARDS, MORGAN & Co.



New Liskeard. Cutting clover on the farm of Geo. Slade, 1918.

## COUNSEL'S REPORT

### Litigation

At the end of the financial year there were no actions pending in which the Commission was defendant. There is only one action pending in which the Commission is plaintiff, namely, Temiskaming and Northern Ontario Railway Commission vs. Abitibi Pulp & Paper Company. Action for indemnity under siding agreement in respect of amounts paid in settlement of claims arising out of an accident on the siding of the defendant Company at Iroquois Falls. Negotiations for settlement of the action are pending.

### Damage Claims

As usual a large number of claims have arisen during the year in respect of freight, baggage, etc., lost, destroyed, delayed, mislaid or damaged; also claims for cattle killed on Commission's right of way. Most of these claims have been adjusted or abandoned while others are still pending. None have been placed in suit.

### Agreements, Leases, Contracts, etc.

As usual a large number of leases, contracts and other documents covering various miscellaneous matters between the Commission and others have been prepared and executed.

### Grand Trunk Railway Company, Grand Trunk Pacific and National Transcontinental Railway

This matter is still pending for adjustment. Meantime a temporary through train service over the Commission's line is being operated in conjunction with the Canadian Government Railway and Grand Trunk Railway on terms suitable for such limited service.

### North Bay Freight Yards, Canadian Northern

Negotiations are pending covering the installation and operation of additional inter-change facilities with the Canadian Northern Railway Company. Agreements have been prepared but not yet executed.

### Express Companies Agreement

An agreement between the Commission and the Dominion and Canadian Express Companies has been entered into whereby the employees of the Commission at Porquis Junction attend to the transfer of express matter for the express companies.

Agreements have been entered into with the Dominion Express Company granting express facilities at Cochrane and Timmins.

**NIPISSING CENTRAL RAILWAY COMPANY**

A number of claims, including some for personal injuries, were made during the year. Some have been settled and others abandoned, but in no case has a writ been issued.

**Agreements, Contracts, etc.**

A considerable number of agreements and contracts covering various miscellaneous matters between the Company and others have been prepared and executed.

A private Act of the Dominion Legislature has been obtained extending the time for the completion of the railway north of New Liskeard.

**Miscellaneous**

Numerous other questions on various subjects affecting both the Commission and the Nipissing Central Railway have arisen during the year, calling for the consideration of the legal department.

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## ANNUAL REPORT OF CHIEF ENGINEER AND SUPERINTENDENT OF MAINTENANCE

### Mileage and Equipment

There has been no change in the main track mileage during the year, and a small decrease in the mileage of yard tracks and sidings and private sidings.

#### Operated by the Commission:

	Oct. 31, 1918.	Oct. 31, 1917.
First Track .....	328.50 miles	328.50 miles
Second Track .....	1.70 "	1.70 "
Yard Track and Sidings .....	99.80 "	99.84 "
Private Sidings .....	14.09 "	14.21 "
	444.09 "	444.25 "

#### Leased to Grand Trunk Railway:

Nipissing Junction Spur .....	2.10 "	2.10 "
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#### Leased to Nipissing Central Railway:

Main Track .....	10.45 "	10.45 "
Yard Tracks and Sidings .....	1.65 "	1.65 "
Private Sidings .....	1.06 "	1.03 "
	13.16 "	13.13 "

Details of all track changes are shown in statements included in this report.

The equipment owned by the Commission consists of the following:—

	Oct. 31, 1918.	Oct. 31, 1917.
Locomotives .....	49	49
Passenger Cars .....	65	65
Freight Cars .....	660	593
Work Cars .....	118	107

#### *Main Line Revision:*

The grading for the revision between Mileage 63 and Mileage 66.5 was completed by the Port Arthur Construction Company, contractors for the work. Owing to the labour shortage and general conditions the building of the short revision at Mileage at 80.8 was postponed until a more favourable opportunity for doing the work. The tracklaying on the diversion, Mileage 63 to Mileage 66.5 was not done this year due to the shortage of rails and fastenings, but will be proceeded with early next spring.

For the same reason we were unable to undertake the tracklaying on the revision between Mileage 54 and Mileage 55.

## Additions to Road and Equipment

### ROAD

In common with the railroads all over the country, the T. & N. O. Railway suffered from the shortage of material and men to such an extent that we were unable to carry out our season's programme of maintenance work and betterments, but nevertheless a considerable amount of work was carried out for the betterment of the property. The most important of these works are given below:—

#### *North Bay Junction:*

A kaustine lavatory and washroom was installed in the machine shop.

At the present time a considerable enlargement of the yard is being made to provide additional storage tracks and improved facilities for the interchange of traffic with the C. N. R. When completed there will be three additional storage tracks with a combined capacity of 135 cars and three transfer sidings for the C. N. R. interchange.

An air operated tractor was installed on the turntable at the engine house.

#### *Feronia:*

A standard section house and a standard tool house, also a labourers' bunk house 14 ft. by 18 ft. were built at this point. These buildings are on the east side of the track on a piece of land purchased as a site. The grounds around the buildings were graded and levelled in conformity with the standards of the Commission.

#### *Mileage 34.13:*

Open beam culvert replaced with a double 36 in. concrete culvert.

#### *Mileage 40.82:*

Open beam culvert replaced with single 30 in. concrete pipe.

#### *Mileage 42.8:*

A spur siding 828 ft. long was put in for the Pembroke Lumber Company, who are taking out logs in this vicinity.

#### *Mileage 43.25:*

Beam culvert replaced by a single 36 in. concrete culvert.

#### *Mileage 44.5:*

Beam culvert replaced by a single 30 in. concrete culvert.

#### *Mileage 57.31:*

Open beam culvert replaced by a single 36 in. concrete culvert.

#### *Temagami:*

A new pumphouse was built and the pipe line renewed. This work was necessary on account of the Spanish River Pulp and Paper Company periodically raising and lowering the water in Temagami Lake. At the time the above changes were being made the steam pumping outfit was replaced by a combined gasoline engine and pump. A hot air heating system was installed in the agent's house.

*Owaissa:*

A standard section house and a standard tool house, also a labourers' bunk house 14 ft. by 18 ft. were built at this point. The grounds surrounding these buildings were levelled and graded to improve their appearance.

*Latchford:*

A hot air heating system was installed in the agent's house.

*Cobalt:*

A bunk house 18 ft. by 24 ft. for labourers on the section, was built at this point. A hot water heating system was installed in the office at the freight shed.

*Englehart:*

Hot air heating systems were installed in the three tenement houses.

*Boston Creek:*

A new frame station 25 ft. by 47 ft. was built at this point and the old one torn down.

*Swastika:*

A standard section house and a standard tool house were built at this point.

*Mileage 168.3:*

The timber trestle at Mileage 168.3 was replaced by embankment and a concrete trestle 75 ft. long. This bridge consisted of concrete piles and caps, with concrete slabs for carrying the track.

*Mileage 174.4:*

The timber trestle at this point was replaced by embankment and a 45 ft. concrete trestle. This trestle is similar in design to the one at Mileage 168.3.

*Mileage 178.8:*

The timber trestle at this point was replaced by embankment and a concrete trestle 75 ft. long, similar in design to the two mentioned above.

*Mileage 181.3:*

The 55 ft. steel span in course of construction at the close of last fiscal year was completed.

*Bourkes:*

A spur siding 298 ft. long was installed for the Bourkes Mines, Limited, for the handling of supplies for the mine.

*Mileage 191:*

The beam culvert at this point was replaced by a standard 6 ft. by 6 ft. concrete culvert.

*Matheson:*

An employees' bunk house 20 ft. by 24 ft. was built at this point.

*Mileage 207.8:*

The siding at the Wataybeag River bridge was moved a short distance south and extended 553 ft. for the R. S. Potter Lumber Company.

*Monteith:*

The frame station under construction at the close of the last fiscal year was completed by the contractors, Messrs. Van Rassel Brothers.

*Porquis Junction:*

To still further improve the facilities for handling the traffic at this busy junction point, the freight shed was moved to the east side of the main line and a twenty foot addition built on the south end for office accommodation. To provide tracks for switching to and from the shed a cross-over 175 ft. was installed and one siding lengthened 439 ft.

An employees' camp 20 ft. by 24 ft. was built at this point.

*Nellie Lake:*

A standard shelter station, 10 ft. by 30 ft., was built at this place.

*Mileage 233:*

A standard shelter station, 10 ft. by 30 ft., was built at this stop.

*Cochrane:*

Two repair tracks, one 688 ft. and the other 833 ft. long, were put in early in the fiscal year.

*Connaught:*

A siding 337 ft. long was put in for the St. Maurice Lumber Company, near their mill, for handling the pulpwood from their plant.

A third siding, 1,000 ft. long, was put in for Reamsbottom and Edwards to handle the increased amount of wood, lumber, etc., from their mill.

A standard 40,000 gallon wooden tank was built and the necessary pipe lines laid.

*Hoyle:*

The siding belonging to the Hoyle Industrial Company was moved a short distance west and extended 430 ft. to serve their new mill.

*Timmins:*

A hot air heating system was installed in the agent's house.

Except where otherwise noted, all the above works were done by the Commission's forces.

### Equipment

During the year one hundred 36 foot 80,000 lb. capacity box cars were received from the Canadian Car & Foundry Company, Montreal, in completion of an order placed during the previous year. An order was also placed with the same company for one all-steel snow plow. This has not yet been received, the contractors having been delayed in obtaining delivery of necessary materials.

Eight ten-wheel type locomotives were fitted with superheaters and brick arches at the shops of the Canadian Locomotive Company, Kingston.

A number of betterments have also been made to several passenger and baggage cars, while they were undergoing general repairs in the Commission's shop at North Bay. Details of these betterments and of the very extensive repairs to all classes of equipment are given in the Master Mechanic's report, which is transmitted herewith.

### Tie Supply

The Commission entered into a contract with Messrs. Reamsbottom and Edwards of South Porcupine for the manufacture of ties from timber on the Commission's reservation in the townships east and south of Night Hawk Lake. This season the contractors cut the jack pine timber on the north end of Macklem Township. The logs were drawn to Night Hawk Lake and in the spring were towed to the entrance to Frederick House River and then driven to the contractors' mill at Connaught. These operations furnish not only the track and switch ties, but a large quantity of valuable lumber, and even the slabs are utilized for lighting engines at the various engine houses.

### Wages of Employees

In the last annual report attention was directed to the very great increases in rates of pay it was necessary to make to organized employees in the Motive Power, Car and Maintenance of Way Departments. During the present year, as a result of additional demands on the part of these employees, further and greater increases in rates of pay have been made.

In March, 1918, advice was received from each of the various trades in the Motive Power and Car Department that they had consolidated, and that all trades represented in this department were now known as Division No. 4, Railway Employees' Department of the American Federation of Labor. At the same time, notice was given of their desire to amend the wage agreements between each of the respective trades and the Commission on their expiration on April 30th. Request was subsequently made that representatives of all the Canadian railways meet representatives of Division No. 4 to negotiate a uniform wage agreement with increased wages and reduced working hours for the federated trades represented by the Division No. 4.

The Canadian Railway War Board, acting on behalf of the Canadian railways, appointed a sub-committee to meet a committee representing Division No. 4. The rates of pay demanded by the Federated Trades were greatly in excess of those that had just been granted by the Director General of the United States Railroad Administration under his General Order No. 27. The increase in wages on the U. S. railways had been immediately followed by a twenty-five per cent. increase in freight rates. In the case of the Canadian railways, there had been no corresponding increase in rates to enable them to meet the large increases in wages demanded by their employees. An agreement was finally reached between the Canadian Railway War Board and the Dominion Government that an immediate increase of 25 per cent. in freight rates would be granted in consideration of the Canadian railways applying to their employees the wage increases included in General Order No. 27 and such subsequent supplements and interpretations that might be issued by the Director General of the U. S. Railway Administration.

A few weeks later Supplement No. 4 to General Order No. 27 was issued and the Canadian Railway War Board and Division No. 4, Railway Employees' Branch, entered into an agreement known as "Canadian Railway War Board Wage Agreement No. 1," which provided for the application of the terms of Supplement No. 4 to the employees represented by Division No. 4.

Wage agreement No. 1 finally established the basic eight hour day, and with its supplements, in the case of the T. & N. O. Railway, gave increased rates of wages as follows:—

Classification.	Old Rate. Cents per hour.	New Rate. Cents per hour
Machinist .....	46	68
Boilermaker .....	47	68
Blacksmith.....	40½-43½	68
Pipefitter .....	41½	68
Tinsmith .....	40½	68
Electrician .....	39½	68
Apprentices—First Year .....	19	25
Second Year .....	21	30
Third Year .....	22	35
Fourth Year .....	25	42½
Fifth Year .....	30	57½
Patternmaker .....	50	68
Carpenters—Coach, Cab and Bench .....	41-42½	68
Wood Machinist .....	42½	68
Painters .....	38½-40½	68
Car Inspectors .....	35	58
Car Repairer .....	32½-33½	58
Helpers .....	31½	45
Triple Tester .....	38½	68

In May, 1918, the Maintenance of Way employees' association gave notice that they desired a revision of their then existing wage agreement. After a series of conferences between representatives of the association and the officers of the Commission, a new agreement was reached by which uniform increases of 30c. per day for foremen and 3½c. per hour for mechanics and laborers were made. This agreement was reached on June 22nd, 1918, but on July 18th, the Secretary of the Central Committee of the Maintenance of Way Employees' Association for all roads in Canada notified the Secretary of the Canadian Railway War Board that they desired a standardization of wages and working conditions on all Canadian roads and submitted a schedule of proposed rates of pay considerably in excess of any then paid.

A committee of railway officials was appointed by the War Board and this committee is now negotiating with a committee representing the men. A wage agreement had not been reached at the close of the fiscal year, but it was anticipated that an amicable settlement would soon be reached, very probably based on the application of Supplement No. 8 to General Order No. 27, issued by the Director General of U. S. Railroad Administration.

This briefly consists in the adoption of an eight hour day and increases of \$25.00 per month for monthly rated employees, 96c. per day for foremen and 12c. per hour for mechanics and laborers.

## Comparative Statements

## FENCING

The following right of way and station grounds fence was repaired and renewed:—

First Division:	Length—Rods.
Mileage 9 to 10—Both sides .....	640
Second Division:	
Nushka Station Grounds .....	370
Mileage 219 to 222—Both sides .....	1,920
Iroquois Falls Station Grounds .....	500
Total . . . . .	3,430 rods, or 10.7 miles.

New standard right of way and station grounds fencing was constructed as follows:—

First Division:	Length—Rods.
Feronia Station Grounds .....	40
Mileage 16.5 to 22.5, Elk Lake Branch—Both sides .....	3,840
Second Division:	
Mileage 229 to 233.5—West side .....	1,440
Mileage 0.5 to 1.5, Porcupine Branch—Both sides .....	640
Mileage 10.5 to 11.75, Porcupine Branch—Both sides .....	800
Mileage 17.7 to 18.7, Porcupine Branch—Both sides .....	630
Total . . . . .	7,390 rods, or 23.1 miles.

*Private Sidings:*

The following statement includes all private sidings laid or extended during the year:—

Location.	Name.	Length.	Remarks.
<i>Main Line:</i>		Feet.	
Mile 42.8.....	Pembroke Lumber Co.....	828	For loading logs.
Bourkes .....	Bourkes Mines Limited.....	298	For handling coal, etc.
Mile 207.8.....	R. S. Potter Lumber Co.....	553	Location changed and siding extended.
<i>Porcupine Branch:</i>			
Connaught.....	Reamsbottom & Edwards.....	1,000	For handling forest products.
Hoyle .....	Hoyle Industrial Co., Limited...	430	Location changed and siding extended.
	Total.....	3,109	

The following includes all private sidings removed or shortened:—

Location.	Name.	Length.	Remarks.
<i>Main Line:</i>		Feet.	
Mile 99.75.....	Gillies Brothers.....	1,350	
" 130.6.....	Clarke & Miller.....	249	
Matheson.....	Canadian Stewart Co.....	2,650	Siding No. 1.
	" .....	540	" 2.
	" .....	358	" 3.
Mile 217.3.....	Union Coal Co.....	363	
<i>Porcupine Branch:</i>			
Mile 16.0.....	Crawford & Levinson.....	281	
	Total.....	5,791	

*Meeting, Yard and Loading Sidings:*

The following new sidings or extensions to existing sidings have been constructed to provide increased facilities at different points:—

Location.	Description.	Length.
		Feet.
Uno Park.....	Through Siding Extension .....	195
Mile 120.4.....	Public Spur .....	417
Porquis Junction .....	New Freight Shed Siding Extended .....	439
	Cross-over, Main Line to No. 1 through Siding East of Main Line.....	175
Cochrane .....	Repair Track, No. 1 .....	688
	" " No. 2 .....	833
	Equip. Storage Track.....	733
	Total .....	3,480



The following public sidings were taken up or shortened:—

Location.	Description.	Length.
		Feet.
Diver.....	Tail Track of Wye.....	322
Latchford.....	South Leg of Wye.....	606
Earlton Junction.....	Old Ballast Spur.....	1,608
Mile 207.....	Public Spur.....	1,070
	Total.....	3,606

#### Tie Renewals:

The tie renewals were very light this year, owing to the difficulty in securing a supply of ties early in the season. The following renewals were made:—

	Main Track.	Sidings.	Total.
First Division.....	16,359	2,610	18,969
Second Division.....	26,261	5,125	31,386
Kerr Lake Branch.....	622	.....	622
Elk Lake Branch.....	744	.....	744
Charlton Branch.....	1,940	.....	1,940
Porcupine Branch.....	} 807	.....	807
Iroquois Falls Branch.....		.....	
Total.....	46,733	7,735	54,468

Eighteen sets of switch ties were also renewed.

#### Ballasting:

Owing to the shortage of labour no ballasting was done this year.

#### Rail Renewals:

The rail renewals for the year were as follows:—

Mileage 61 to 63.....	2 miles 80 lb. A.S.C.E. Rail.
Mileage 66.5 to 67.....	1½ " 80 lb. " "
Main Line in Temagami Yard.....	½ " 80 lb. " "
Total.....	4 "

#### Miscellaneous Betterments:

Timber trestle replaced by embankment and permanent structures	1917.	1918.
Concrete tile used for culverts.....	311 ft.	658 ft.
New right of way fence.....	921 ft.	780 ft.
Public road crossings constructed.....	1.3 miles	23.1 miles
Private road crossings constructed.....	2	1
	6	3

## ACCIDENTS

Date, 1917.	Name of Person Injured.	Nature of Employment.	Place of Accident	Work at which Employee was Engaged at Time of Accident.	Extent of Injury.
Nov. 14	Dominic Cicci	Car Cleaner	North Bay	Carrying ice	Contusion of left leg.
" 24	John O'Hara	Carpenter	Swastika	Handling timber	Right shoulder blade broken.
" 28	Lorney Larocheil	Laborer	Owaissa	Driving stake into pocket of hat car	Right knee injured.
Dec. 12	Wm. Duquette	Section Foreman	Redwater	Making shavings	Finger cut.
" 13	Tony Parone	Hostler's Helper	Englehart	Watering engine	Hand cut.
" 14	Cyril Harrold	Laborer	M.P. 31½	Cutting brush	Toes frozen.
" 27	G. H. Coleman	Tenderman	North Bay	Repairing tender	Finger torn.
1918.					
Jan. 7	Harry Melton	Machinists' Apprentice.	North Bay	Tightening tool at wheel lathe	Wrist sprained.
" 17	Allan Johnson	Section Foreman	Kenabeek	Shovelling snow	Thumb frozen.
" 19	John Burns	Machinist	Englehart	Raising engine on jacks	Two fingers cut.
Feb. 8	John Dickey	Carpenter	North Bay	Dressing board at jointer	Two fingers cut.
" 11	John Lundy	Sectionman	M.P. 106¼	Inspecting track	Toe frozen.
" 14	Wm. Eaton	Car Repairer	Cochrane	Bending operating lever	Rib fractured.
Mar. 2	Geo. Robison	Tenderman	Englehart	Applying brake shoe to engine	Leg bruised and lacerated.
" 18	Arthur Arcier	Laborer	North Bay	Loading wheels	Thigh injured.
April 11	Joseph Truchon	Laborer	M.P. 24.75	Cutting wood	Ankle sprained.
" 19	Thomas Fischer	Carpenter	North Bay	Sheeting car	Ankle sprained.
" 23	Wm. Robb	Car Repairer	North Bay	Jacking car	Jaw bruised.
" 24	Arthur Flood	Laborer	North Bay	Loading cement mixer	Foot crushed.
" 27	George H. Gardner	Tube Cleaner	North Bay	Cleaning tubes	Finger lacerated.
May 17	Leslie Wilson	Machinists' Apprentice.	North Bay	Handling axles	Finger lacerated.
" 26	Harry Small	Machinist	North Bay	Fitting chuck in lathe	Dislocation of clavicle.
June 29	John Burns	Machinist	Englehart	Repairing engine	Hand bruised.
July 23	Ernest Clemens	Laborer	M.P. 62	Relaying rail	Foot injured.
" 29	Arthur B. Harris	Laborer	Haileybury	Working on hand car	Knee sprained.
Aug. 9	Wm. Eaton	Car Repairer	Cochrane	Adjusting load on car	Two ribs broken.
" 19	W. J. Robins	Legerwood Engineer	M.P. 208	Unloading ballast	Leg sprained.

Aug. 21.....	Geo. Shikingo .....	Laborer.....	Porquis Junction .....	Standing on ditcher car .....	Foot run over by ditcher.
" 30.....	Ernest Rivard .....	Sectionman .....	M.P. 132 .....	Standing near track, was struck by piece of coal falling from tender.....	Leg injured.
" 31.....	G. Taucredi .....	Stat. Fireman .....	North Bay .....	Blowing out tubes .....	Foot bruised.
Sep. 4.....	T. Doolin .....	Car Repairer .....	North Bay .....	Cutting bolts .....	Hand bruised.
Oct. 10.....	A. Patrice .....	Carpenter .....	Cobalt .....	Drilling concrete .....	Knee hurt.
" 11.....	Frank Preston .....	Hostler .....	Englehart .....	Coaling engine .....	Foot injured.
Oct. 15.....	Geo. Dunkirk .....	Hostlers' Helper .....	Cochrane .....	Alighting from engine, stepped on lump of coal.....	Hip joint bruised.
" 25.....	Samuel Rooney .....	Carpenter .....	Bourkes .....	Lathing; fell through open cellar door .....	Eye and thigh bruised.



Mr. D. Stewart's residence, New Liskeard, August, 1918.

## MOTIVE POWER AND CAR DEPARTMENT

### *New Freight Cars:*

During the month of March, 1918, the Canadian Car & Foundry Company, Limited, made delivery of the hundred 80,000 lb. capacity box cars, for which contract was let in May, 1917. These cars were numbered 80200 to 80398.

### *New Snow Plow:*

The Canadian Car & Foundry Company has been given the contract for one steel snow plow.

### *Alterations to Locomotives:*

Eight locomotives of the ten-wheel type, numbers 111, 114, 115, 116, 117, 118, 119, 120, were given general repair by the Canadian Locomotive Company of Kingston, Ont., and also equipped with the following new appliances: Superheaters, brick arches, pneumatic fire doors, and 8½-inch cross compound air pumps.

### *New Shop Equipment:*

The following new machinery has been added to the shop equipment:—

- 1—Dunmore Grinding Machine "Equipment A."
- 1—Dunmore Grinding Machine "Equipment B."
- 1—Electric Welding Machine (A.C.).
- 1—Fay & Egan Vertical Hollow Chisel Mortising Machine.

### *Summary of Extensive Repairs to Locomotives:*

Since November 1st, 1917, the following locomotives have been through our shops at North Bay Junction for repairs:—

Given General Repair—113, 127, 128, 139, 140, 150, 151, 153.

Given Heavy Repair—108, 112, 123, 124, 130, 135, 138, 142, 150.

Given Light Repair—101, 114, 115, 118, 122, 132, 133, 136, 137, 141, 145.

NOTE: The term "General Repair" as applied above refers to cases where an engine has been given a thorough overhauling and rebuild. "Heavy" repairs refers to cases where an engine has received such repairs as driving tires turned, driving boxes renewed, valves, piston rings and side rod bushings renewed. "Light repairs" covers cases where an engine has received minor repairs such as renewal of side rod bushings, piston rings and valve rings.

All requirements of the Dominion Railway Commission in regard to washing out and testing boilers, testing staybolts, examining nettings and dampers, etc., have been fully complied with, and during the summer months periodical inspection of all fire protective appliances has been made by a Government Inspector.

### *Engine Despatch:*

Statement showing the number of engines despatched from the different terminal and divisional points during the year:—

Station.	Number of Engines Despatched.
North Bay Junction .....	6,818
Elk Lake .....	373
Englehart .....	4,651
Iroquois Falls .....	576
Timmins .....	824
Cochrane .....	1,725
Total.....	14,967

The Motive Power has been generally assigned during the year as follows:—

Class of Service.	Number of Engines.
Passenger .....	15
Freight .....	28
Work .....	2
Switching .....	4

#### *Locomotive Mileage:*

The following statement shows the mileage made by locomotives belonging to this railway during the year:—

Engine Number.	Miles Run.
101.....	30,062
105.....	29
106.....	42,105
107.....	2,867
108.....	28,172
109.....	28,692
110.....	16,551
111.....	30,069
112.....	47,619
113.....	9,386
114.....	30,147
115.....	24,880
116.....	18,779
117.....	23,620
118.....	20,775
119.....	12,547
120.....	5,760
121.....	34,586
122.....	34,723
123.....	28,410
124.....	30,715
125.....	5,746
126.....	3,359
127.....	26,106
128.....	9,414
129.....	3,662
130.....	23,970
131.....	34,401
132.....	34,136
133.....	47,363
134.....	15,382
135.....	42,276
136.....	60,778
137.....	50,983
138.....	54,037
139.....	30,761
140.....	43,132
141.....	48,924
142.....	46,444
143.....	42,151
144.....	45,561
145.....	43,253

Engine Number.	Miles Run.
146.....	19,994
150.....	27,513
151.....	41,273
152.....	26,324
153.....	38,496
Total.....	1,464,933

#### *Repairs to Passenger Equipment:*

Extensive repairs have been made to passenger equipment at North Bay Junction shops as follows:—

Class of Car.	General Repair.	Light Repair.
First Class .....	..	7
Second Class .....	2	4
Mail and Express .....	2	..
Baggage and Express .....	1	1
Parlor Cafe Cars .....	..	1
Nip. Cen. Rly. Car No. 1 .....	..	1

NOTE: The term "General Repair" as applied above refers to cases where a coach has had the interior and exterior finish of car removed, framing refitted and trucks rebuilt. The term "Light Repair" applies to coaches having seat arms scraped and sanded, interior of car varnished, outside of car washed down and given two coats of varnish and trucks repaired.

#### *Coach Cleaning:*

Statement showing the number of coaches cleaned at the different stations during the year:—

Station.	Number of Coaches Cleaned.
North Bay Junction .....	2,933
Elk Lake .....	1,095
Englehart .....	1,638
Iroquois Falls .....	1,095
Timmins .....	1,185
Cochrane .....	2,079
Total.....	10,025

#### *Repairs to Conductors' Vans:*

Thirteen of our conductors' vans have been through the repair shop during the past year and have been given a general overhaul and repair.

#### *Repairs to Freight and Work Equipment:*

In addition to repairs to passenger equipment and vans, the staff in carpenter shop at North Bay Junction has rebuilt 11 flat cars, and made heavy repairs, such as applying new sills, decking, etc., to 25 flat cars, 10 box cars and 4 stock cars. All necessary running repairs to both T. & N. O. and foreign freight and passenger equipment have been made by repair staffs at the different terminal and divisional points in order to keep equipment in condition to fulfil the requirements of service and safety standards.

Monthly bills have been rendered against foreign roads to cover repairs to their equipment in accordance with rules adopted by the Master Car Builders' Association. Bills have also been rendered monthly against the Grand Trunk Railway for repairs to cars under the terms of the Grand Trunk Running Rights Agreement.

All work equipment, such as snow plows, snow flangers, wrecking outfits, steam shovels, railroad ditcher, boarding cars, etc., have been overhauled and given such repairs as required to keep them in serviceable condition.

#### *Rolling Stock Destroyed:*

During the past year the following rolling stock belonging to foreign lines has been destroyed on our line: G.T.P. 340169 at Krugerdorf, Dec. 19th, 1917; I.R.C. 15707 at Cochrane, Feb. 1st, 1918; G. T. P. 309612 at M.P. 20½, Mar. 27th, 1918; P. M. 51970 at Connaught, May 23rd, 1918; N. P. 100307 at Cochrane May 23rd, 1918; M. & St. L. 6680 at M.P. 1. Iroquois Falls Subdivision, June 13th, 1918; D. & H. 18798 at M.P. 1. Iroquois Falls Subdivision, June 13th, 1918; G. T. R. 7885 at M.P. 36. Sept. 30th, 1918; G. T. P. 360250 at Sesekinika, Oct. 23rd, 1918; C. N. R. 2687 at Porquis Junction, Oct. 28th, 1918; B. R. & P. 16349 at M.P. 75½, Oct. 29th, 1918; C. & P. A. 2452 at M. P. 75½, Oct. 29th, 1918.

In each instance settlement has been made with the car owners covering depreciated value of cars destroyed in accordance with M. C. B. regulations.

Nineteen of our wooden flat cars have been destroyed on foreign lines during the year, and bills have been rendered against such foreign companies covering depreciated value of cars, less value of serviceable parts and scrap returned.

#### *Equipment Owned:*

45 road locomotives.	3 snow plows.
4 switching locomotives.	3 snow flangers.
4 business cars.	3 right hand ballast plows.
14 first-class wooden coaches.	3 left hand ballast plows.
6 first-class steel coaches.	3 centre ballast plows.
14 second-class wooden coaches.	2 Jordon ballast spreaders.
4 second-class steel coaches.	1 centre ballast spreader.
2 combination wooden second-class and baggage cars.	2 Legerwood rapid unloaders.
1 combination wooden first-class and baggage car.	1 pile driver.
1 exhibition car.	1 American railroad ditcher.
3 parlor cafe cars.	2 steam wrecking cranes.
5 wooden baggage and express cars.	3 steam shovels.
4 steel baggage and express cars.	2 auxiliary boarding cars.
5 wooden mail and express cars.	2 auxiliary tool cars.
3 steel mail and express cars.	2 road department auxiliary cars.
26 conductors' vans.	2 auxiliary track material cars.
9 stock cars.	2 crane cabin cars.
242 box cars.	2 road cabin cars.
90 steel underframe flat cars.	1 pile driver tank car.
293 wooden flat cars.	35 boarding cars.
12 steel drop bottom dump cars.	6 tank cars for fire protection.
35 Hart convertible cars.	11 combination boarding and material cars.
	6 maintenance of way material cars.



## OFFICE OF THE SUPERINTENDENT OF TRAFFIC

Annual Report, Year ended October 31st, 1918

## ACCIDENTS—PERSONAL INJURIES, ETC.

November 3rd, 1917, while Ex. 137, south, passing M.P. 82.33, leading truck on G. T. No. 12804 derailed. Cause of derailment, unknown. Total damage to equipment, \$65.00.

November 21st, 1917, while Brakeman J. Ryan cleaning lantern globe in van No. 62 at Cobalt, alleged cut his left arm. Resumed duty December 3rd, 1917.

November 23rd, 1917, while passenger extra No. 109, west, passing Schumacher station, alleged struck team of horses—alleged slightly injuring one horse. Owner, J. R. Gordon, Timmins.

November 28th, 1917, while Engineer H. A. Reynolds putting button on door of engine cab, screwdriver alleged caused blisters on hand, which broke, allowing dirt to enter, causing blood poison. Resumed duty December 28th, 1917.

December 1st, 1917, while Extra No. 137, south, passing road crossing, M.P. 121 $\frac{3}{4}$ , alleged struck and killed cow. Owner Jos. Labine, Maybrook, Ont.

December 19th, 1917, while Extra No. 141, south, passing south switch, Krugerdorf, car G. T. P. No. 340169 derailed. Cause of derailment, broken wheel. Total damage to equipment, \$1,984.10. Damage to track material, labour repairing and wrecking, \$76.31.

January 12, 1918, while 2/85 passing 16 poles south of M.P. 81, car St. L. I. M. & S. 11423 derailed. Cause of derailment, broken wheel. Total damage to equipment, track material and labour repairing, \$100.30.

January 17th, 1918, while Swing train switching at Cobalt, derailed G. T. No. 105985 and P. R. R. No. 407190. Cause of derailment, brakeman throwing switch between the leading and trailing trucks on G. T. No. 105985. Damage to equipment, nil. Damage to track material, labour repairing, \$29.57. Brakeman disciplined.

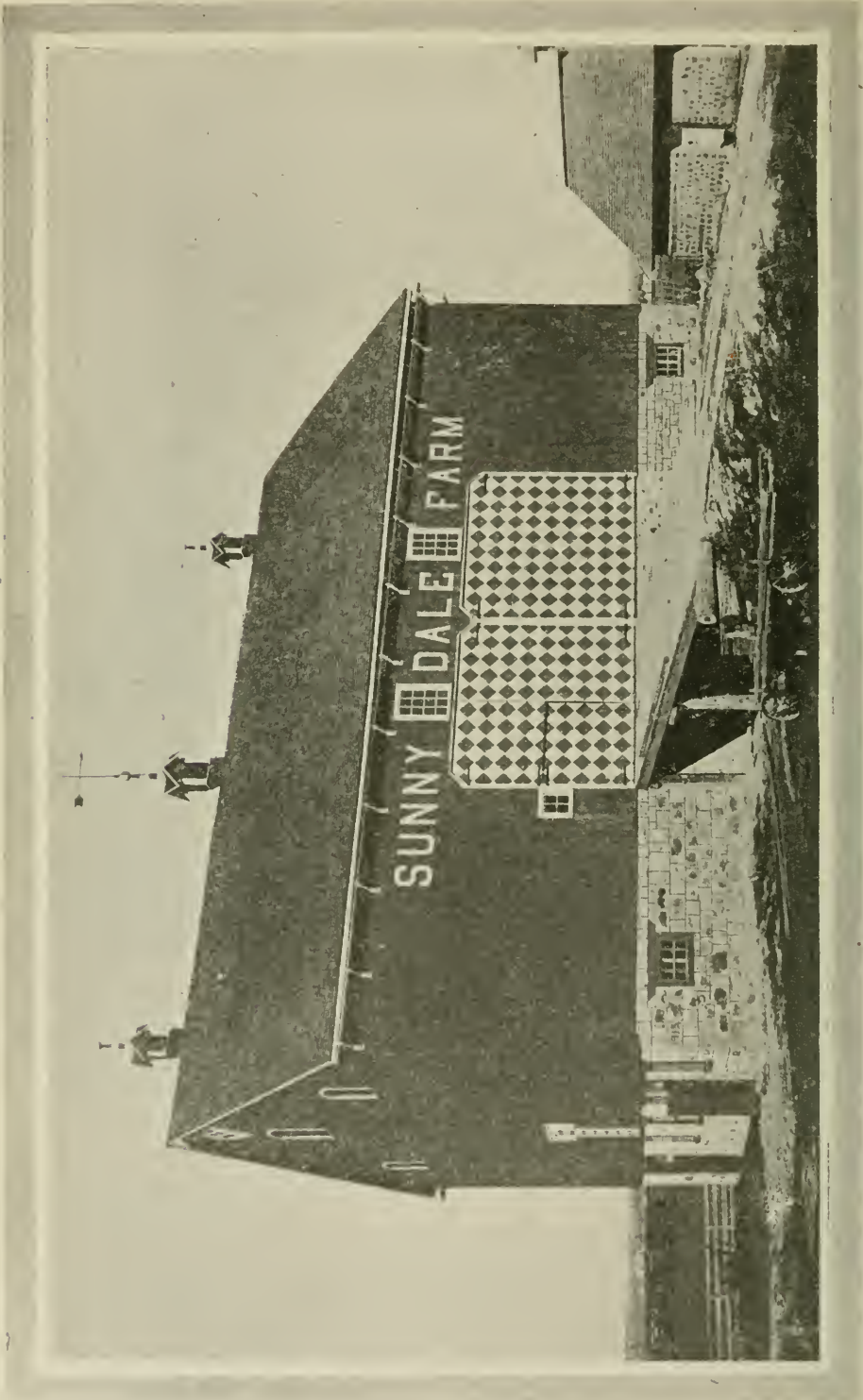
January 21st, 1918, while No. 2 passing 10 poles south M.P. 149, T. & N. O. Baggage Car No. 1, Second Class No. 36, Second Class No. 24, First Class No. 111 and Sleeper "Exshaw" derailed. Cause of derailment, spread track. Damage to equipment, \$37.00. Damage to track material, labour repairing, etc., \$33.70.

January 28th, 1918, while engine Extra No. 119, passing M.P. 123, rear of engine and tender derailed. Cause of derailment, loose tire on trailing drivers. Damage to track material, labour repairing, etc., \$37.55.

February 4th, 1918, while Yardman Geo. Pringle, switching North Bay Jct. yard, alleged squeezed between engine tender and car, alleged sustained injuries to right breast. Resumed duty March 18th, 1918.

February 6th, 1918, while Brakeman Frank Stoughton switching at Englehart, alleged jammed between car and air drum of cylinder hoist, causing bruises on back, hip and right leg. Resumed duty February 21st, 1918.

February 10th, 1918, while Extra No. 138, south, passing 11 poles north of M.P. 3, G. T. Refrigerator No. 16753, I. C. R. No. 63106, G. T. No. 41326 and



Mr. Laing's barn at New Liskeard, August 17th, 1918.

G. T. P. engine No. 93 derailed. Cause of derailment, wedge between engine and tender dropped, due to pin shearing off, causing trailing truck, G. T. Refrigerator No. 46753 to mount on inside of curve. Total damage to equipment, \$187.00. Damage to track material, labour repairing and wrecking, \$122.12.

February 25th, 1918, while No. 47 passing public road crossing, Uno Park, alleged struck and killed colt. Owner, Thos. Taylor, Holgevac, Ont.

March 2nd, 1918, while Ex. 138, south, passing Doherty, car G. T. No. 8419 derailed. Cause of derailment, broken wheel. Total damage to equipment, \$85.00. Damage to track material, labour repairing and wrecking, \$75.00.

March 8th, 1918, while Brakeman Irvin Clifford Hill getting on van at Riddle, alleged missed footing, falling on rail, striking knee and causing bruises. Resumed duty March 23rd, 1918.

March 10th, 1918, while No. 9 passing 11 poles south of M.P. 137, alleged struck and killed three horses. Owner, R. C. Perryman, Heaslip, Ont.

March 19th, 1918, while Brakeman John James McDonald getting off car, Englehart yard, alleged missed hand hold, falling to ground, alleged bruising both ankles. Resumed duty April 2nd, 1918.

March 22nd, 1918, while Trucker Anthony Tremblay handling freight, North Bay freight shed, truck which he was alleged holding in door of car, was struck by a truck which another employee was holding, alleged jamming hand against wall. Resumed duty April 20th, 1918.

March 23rd, 1918, while Extra No. 143, south, passing M.P. 156, car G. T. P. No. 305017 derailed. Cause of derailment, broken wheel on leading truck. Total damage to equipment, \$79.00. Damage to track material, labour repairing and wrecking, \$178.00.

March 25th, 1918, while No. 47, passing M.P. 136, alleged struck and killed cow. Owner, L. M. Bates, Heaslip, Ont.

March 25th, 1918, while No. 85 passing M.P. 121, alleged struck and killed cow. Owner, Jos. Labine, Maybrook, Ont.

March 27th, 1918, collision, Ex. 146, south, and No. 85, M.P. 21, resulting in fatal injury to Engineer Alex. McLeod and Engineer H. Reynolds. Fireman F. M. Livingston of No. 85, left leg mangled, amputated above knee. Fireman Bebee, of Ex. 146, south, right leg slightly injured, chest crushed, fully recovered. Brake-man R. Fleming of Ex. 146, south, left hand torn. Cars G. T. P. No. 309612 and I. R. C. No. 81300 badly damaged, also engines 134 and 146. Estimate of damage to equipment, \$60,000. Cause No. 85 over-running meet.

March 29th, 1918, while Extra No. 142, south, passing M.P. 120 $\frac{1}{2}$ , car L. V. No. 70326 derailed. Cause of derailment, broken arch bar on L. V. No. 70326. Total damage to equipment, \$25.00. Damage to track material, labour repairing and wrecking, \$37.20.

April 4th, 1918, while Engineer Wm. Plaus getting down on front foot board, after attending to head lamp, alleged missed his hold and fell to the ground, alleged bruising left hand. Resumed duty April 26th, 1918.

April 26th, 1918, while Trucker Nicholas Romanis trucking a crated couch, North Bay freight shed, alleged missed footing, backing off gangway, couch falling on top of him, alleged bruised above shoulders. Resumed duty May 14th, 1918.

April 29th, 1918, while Conductor Harvey Thomas checking up train, in Englehart yard, and while walking past engine, alleged struck by piece of bad coal being thrown from engine, alleged cutting scalp. Resumed duty June 2nd, 1918.

May 1st, 1918, while Extra No. 139, south, passing M.P. 17, car C. N. No. 52866 derailed. The same train while passing M.P. 11.43 car G. T. No. 17829 derailed, and while passing M.P. 5, C. N. No. 52866 again derailed. Cause of derailment to C. N. No. 52866, loose wheel. Cause of derailment to G. T. No. 17829, broken arch bar. Damage to track material, labour repairing, wrecking, etc., \$114.13.

May 5th, 1918, while Extra No. 132, south, passing M.P. 59¼, G. T. No. 6996 derailed. Cause of derailment, broken wheel. Damage to track material, labour repairing and wrecking, etc., \$113.00.

May 5th, 1918, while Extra 112, west, Porcupine Branch, passing M.P. 5, alleged struck and killed calf. Owner Geo. Holgevac, M.P. 4.

May 8th, 1918, while Fireman A. Vernon firing engine No. 142 at Englehart, water gauge glass and glass in water gauge glass protector alleged broke and small pieces of glass struck employee in eyes; both eyes badly cut. Resumed duty May 23rd, 1918.

May 15th, 1918, while Brakeman Patrick Joseph O'Neil handling barrel of oil at Widdifield, hand was alleged caught between barrel and car wall, alleged bruising hand. All fingers lacerated. Resumed duty June 6th, 1918.

May 25th, 1918, while Extra No. 131, south, passing M.P. 163½, car Erie No. 72874, C. G. R. No. 550,644 derailed. Cause of derailment frost coming out of inside of curve, causing too much elevation in one place and owing to it being a new car and stiff, caused it to climb over high rails when coming out of hole. Total damage to equipment, \$550.00. Damage to track material, labour repairing, etc., \$200.00.

May 26th, 1918, while Yardman Ernest James King switching, North Bay Jet. yard, crossing over between G. T. R. van and cars coupled to same, Engine 153 backed into cars, alleged throwing Yardman King off, hitting corner of car, alleged injuring back. Resumed duty June 12th, 1918.

May 30th, 1918, while Fireman James Laroche on engine No. 151, at North Bay C. P. R. Depot, wetting down coal on tender, started injector on engine working and then turned on sprinkler valve without first securing hose, allowing scalding water from hose to strike foot, alleged scalding toes on right foot. Resumed duty June 10th, 1918.

May 31st, 1918, while Extra No. 121, north, passing 4 poles north of M.P. 193, alleged run into six head of cattle, alleged killing two cows. Owner, F. Robillard, Ramore, Ont.

June 9th, 1918, while Fireman Amos Wood, firing locomotive No. 141, and while fixing fire in engine on arrival Englehart, employee alleged caught hand between poker and coal gates of engines, alleged bruising right hand. Resumed duty June 26th, 1918.

June 13th, 1918, while Labourer Geo. Burnett transshipping car of furniture at North Bay Jet., alleged fell between car and platform, alleged bruising side. Resumed duty July 3rd, 1918.

June 17th, 1918, while Sectionman Thomas Charles McGrath walking back from Wye switch to station at Porquis Jet., alleged struck by train, alleged bruising back. Resumed duty July 10th, 1918.

June 25th, 1918, while Brakeman Mellville Jones, riding on car between Cobalt and New Liskeard, alleged car derailed and brakeman thrown off, alleged cutting head. Resumed duty July 9th, 1918.

June 28th, 1918, while Brakeman Charles McGillivray switching cars, Feronia station, cars coupled heavily, alleged causing brakeman to come sharply in contact with end of car, alleged breaking rib. Resumed duty July 20th, 1918.

June 29th, 1918, while Fireman Kenneth McDonald firing locomotive between Englehart and Cochrane, and when shaking fire, shaker bar alleged slipped, alleged striking him in the stomach, alleged causing rupture. Resumed duty August 10th, 1918.

June 29th, 1918, while Extra No. 138, south, passing M.P. 83½, and while passing M.P. 45, car C. P. No. 126344 derailed. Cause of derailment, unknown. Damage to track material, labour repairing, etc., \$62.70.

June 29th, 1918, while extra No. 137, south, passing M.P. 11, car B. & S. No. 11387 derailed. Cause of derailment, loose wheel. Total damage to equipment, \$54.00. Damage to track material, labour repairing, etc., \$13.50.

July 15th, 1918, Harold Edward Saunders, Car Checker, North Bay Jet., alleged fatally injured while working around cars.

July 16th, 1918, while Labourer Frank Dunn handling scrap iron, North Bay transfer platform, alleged piece of scrap iron fell on wrist, alleged bruising wrist. Resumed duty July 26th, 1918.

July 16th, 1918, while Checker Albert Brewer, trucking freight at Timmins Freight Shed, alleged slipped and fell, truck alleged striking and bruising foot. Resumed duty July 29th, 1918.

July 22nd, 1918, while Brakeman Joseph Lavoie coupling cars at Porquis Jet., coupling did not make and brakeman fell between cars and is alleged to have been caught between couplers, alleged crushing abdomen. Resumed duty, August 4th, 1918.

July 23rd, 1918, while Extra No. 131, west, passing Keyson, alleged killed one horse. Owner, J. M. Forbes, Timmins, Ont.

July 24th, 1918, while Extra No. 120, south, passing 11 poles south of M.P. 153, alleged killed horse. Owner Peter Tagliamonte, Boston Creek, Ont.

July 27th, 1918, while switching crew, Englehart yard, coupling van to train, van broke loose from yard engine, coming against train forcibly, causing Brakeman Andrew Patrick Brennan in van to fall against locker, alleged cutting head and legs. Resumed duty August 5th, 1918.

July 28th, 1918, while No. 10 passing M.P. 153, alleged killed horse. Owner, Peter Tagliamonte, Boston Creek, Ont.

August 10th, 1918, while Brakeman Patrick Joseph O'Neil switching at Matheson, alleged fell off running board of locomotive, alleged bruising leg and foot. Resumed duty, September 12th, 1918.

August 17th, 1918, while Extra No. 131, east, passing M.P. 32½, Porcupine Branch, alleged struck and killed cow. Owner John Maciokas, Timmins, Ont.

August 19th, 1918, while Extra No. 117, south, passing M.P. 205¾, alleged struck and killed calf. Owner, Frank Hoard, Matheson, Ont.

August 25th, 1918, while Extra No. 143, north, passing M.P. 185½, alleged struck and injured cow. Owner, Wm. Smith, Bourkes, Ont.

August 26th, 1918. While Extra No. 124, south, switching Town Siding, Uno Park, tender and one pair of driving wheels, engine No. 124 derailed. Cause of derailment, permitting engine to run over derail. No damage to engine. Damage to track material, labour repairing, etc., \$21.00.

August 27th, 1918. while Brakeman Andrew Ranson, assisting in loading piano. his hand was alleged caught between top of piano and door, alleged squeezing fingers. Resumed duty September 21st, 1918.

September 2nd, 1918. while No. 61 passing M.P. 9, Elk Lake Branch. alleged struck and killed horse. Owner, Mr. Carroll, Kenabeek.

September 2nd, 1918. while Extra No. 122, south, passing M.P. 170, C. St. M. & P. No. 32538, C. P. No. 210186, C. N. No. 61030 and 61276 derailed. Cause, unknown. Damage to equipment, \$225.00. Damage to track material, labour repairing, wrecking, etc., \$150.00.

September 10th, 1918. while Brakeman Thomas John McAughy stepping off van, North Bay Jet. yard. alleged sprained ankle. Resumed duty September 17th, 1918.

September 20th, 1918. while Brakeman Edward Vreeland carrying pail of hot water from engine to wash dishes in van, alleged slipped and fell, permitting water to come in contact with leg, alleged scalding leg. Resumed duty, October 14th, 1918.

September 23rd, 1918. while Yardman John Gordon coupling coaches, Englehart yard, alleged caught between coach and tender of engine, alleged squeezed about abdomen. Resumed duty October 27th, 1918.

September 27th, 1918, while Fireman Henry M. Ruston getting engine ready for trip, alleged fire door swung shut, catching finger of hand, alleged bruising anger of left hand. Resumed duty October 27th, 1918.

September 28th, 1918. while No. 85, passing M.P. 88½, C. G. R. No. 550552 derailed. Cause, unknown. Damage to track material, labour repairing, etc., \$112.50.

September 30th, 1918, while Extra No. 139, south, passing M.P. 36, cars G. T. P. No. 2189, G. T. No. 106088, No. 22567, C. P. No. 208084, G. T. No. 7885, C. N. No. 41535, M. P. No. 38535 and C. G. R. No. 550236 derailed. Cause, unknown. Damage to equipment, \$1,167.00. Damage to track material, labour repairing and wrecking, etc., \$817.34.

October 3rd, 1918. while Extra No. 140 south, passing M.P. 87, T. & N. O. No. 80230 derailed. Cause of derailment, unknown. Damage to track material, labour repairing, etc., \$285.91.

October 4th, 1918, while Extra No. 143, south, passing M.P. 218, alleged struck and killed cow. Owner, P. H. Critchley, Monteith, Ont.

October 6th, 1918, while Extra No. 144, south, passing M.P. 184, G. T. P. No. 305981 derailed. Cause of derailment, broken journal. Damage to track material, labour repairing, wrecking, etc., \$180.00.

October 12th, 1918, while Extra No. 101, east, passing M.P. 1, Elk Lake Branch, alleged struck and killed cow. Owner, W. Gedney, Earlton, Ont.

October 17th, 1918, while Brakeman Geo. John Green unloading freight at South Porcupine, gang plank alleged slipped, permitting brakeman with truck-load of grain to fall to ground, alleged bruising hand. Resumed duty October 29th, 1918.

October 28th, 1918, while No. 85 passing Osborne, alleged struck and killed bull. Owner, A. Gordon, Osborne, Ont.

October 28th, 1918, while No. 83 passing 5¼ poles north of M.P. 75, cars C. & P. A. No. 2452, B. R. & P. No. 16349, C. N. Nos. 81586, 81510, 81512 and 81490 derailed. Cause of derailment, broken flange. Total damage to equipment, \$1,995.00. Damage to track material, labour repairing and wrecking, etc., \$449.10.

October 31st, 1918, while Extra No. 120, south, passing 7 poles north of M.P. 123, cars C. P. No. 203362, I. C. No. 34717, P. R. R. No. 15735, G. T. No. 106816, C. N. No. 58750, T. & N. O. No. 60275 derailed. Cause of derailment, due to C. P. No. 203362 swaying, account loaded to the roof with firewood, permitting friction to move. Damage to track material, labour repairing, etc., \$81.22. Damage to equipment, \$600.00.

#### TIME TABLE CHANGES.

Necessary Time Table changes have been made to meet summer and winter traffic requirements:

Time-table No. 39, effective January 6th, 1918. Timetable No. 40, effective March 10th, 1918. Time-table No. 41, effective April 28th, 1918. Current Time-table shows Trains Nos. 1 and 2 daily, except Sunday, between North Bay and Cochrane. Trains Nos. 46 and 47 daily, except Sunday, between North Bay and Englehart, with interline service, via Grand Trunk Railway, to Toronto. Trains Nos. 9 and 10, "National," tri-weekly, between North Bay and Cochrane, with interline service via Grand Trunk Railway, to Toronto, and Canadian Government Railways to Winnipeg, Man. Equipment of these trains consists of colonist sleeping cars, electric-lighted first-class coaches, tourist sleeping cars, dining cars, and standard sleeping cars. Trains Nos. 50, 51, 54 and 55 daily, except Sunday, between Timmins and Porquis Jct., connecting with main line trains. Train No. 52 daily, and No. 53 daily, except Sunday, between Timmins and South Porcupine. Train No. 56, Sunday, Wednesday and Friday, and No. 57, Wednesday and Friday only, making connections at Porquis Jct. with No. 9, "National." Train No. 59, Sundays only, making connection with No. 9, "The National," at Porquis Jct. Trains Nos. 30, 31, 32 and 33 daily, except Sunday. Trains Nos. 34 and 35, Wednesday and Friday only, between Iroquois Falls and Porquis Jct., connecting with main line trains. Trains Nos. 36 and 37, Sunday only, between Iroquois Falls and Porquis Jct., connecting with No. 9, "The National." Trains Nos. 60 and 61 daily, except Sunday, and Nos. 62 and 63 Wednesdays only, between Elk Lake and Earleton Jct., connecting with main line trains. Train No. 4 daily, except Saturday and Sunday, between Englehart and Cobalt, and Train No. 6 Saturday only, Englehart to Cobalt. Trains Nos. 23, 24, 25 and 26 daily, except Sunday, between Englehart and Charlton, connecting with main line trains.

#### REPORT OF DISTRICT SURGEONS.

Herewith reports, Dr. A. McMurchy, District Surgeon, North Bay, Dr. J. S. McCullough, New Liskeard, Dr. R. C. Lowrey, Englehart, Dr. H. H. Moore, Timmins, and Dr. J. W. Fraser, Cochrane.

### REPORT OF DR. A. McMURCHY

During the year ended October 31st, 1918, there was only one accident involving the loss of life, when two engineers died as the result of injuries received in a collision.

In the same accident one brakeman had his leg crushed, necessitating amputation.

One man employed in the shops received a dislocation of the sternal end of the clavicle and was disabled for a period of about six months.

There were a number of minor accidents occurring, mostly around the workshops, and not resulting in any permanent disability.

### REPORT OF DR. J. S. McCULLOUGH

I beg to submit herewith annual report for this district for year ended October 31st, 1918:—

*Medical.*—During the year there were 225 office consultations with medicine, and 180 town and hospital visits. The medical cases treated were of a minor nature, except one case of carcinoma of the liver. There were 20 visits out of town, all of which, with the exception of two, were medical cases.

*Surgical.*—Surgical cases treated were not of a very serious nature. They included cut and bruised hands and feet, two cases of frost-bite, one of which was severe, one fractured scapula, two of synovitis of knee, and one for the removal of a coin from the throat. All cases made satisfactory recovery.

All of which is respectfully submitted.

### REPORT OF DR. R. C. LOWREY

I beg to submit herewith annual medical report for this district during the year 1918:—

Head injuries .....	3
Fractured ribs .....	1
Injured legs .....	2
Injured feet .....	2
Appendicitis .....	1
Scalds .....	3
Hernia .....	1
Injured arms .....	3
Blood-poisoning .....	1
Eye injuries .....	3

There were also a number of small minor injuries treated by me.

*Medical Cases:*

Pneumonia .....	2
Pleurisy .....	2
Sciatica .....	1

Also a number of minor ailments, such as bronchitis, dyspepsia, rheumatism, etc. There were a great number of cases of Spanish influenza in this district during the past year.

### REPORT OF DR. H. H. MOORE

I beg to report for the year ended October 31st, 1918, the following cases of accidents and sickness among the employees and their families, of the T. & N. O. Railway, on the part of the line between Timmins and Iroquois Falls:



Nature of Illness.	Accidents.	Sickness.
Bruises .....	6	..
Burn .....	1	..
Cinder in eye .....	3	..
Cuts .....	2	..
Fracture .....	1	..
Lacerations .....	2	..
Sprains .....	8	..
Boil .....	..	1
Bronchitis .....	..	2
Corn .....	..	1
Coughs .....	..	5
Constipation .....	..	4
Conjunctivitis .....	..	1
Croup .....	..	1
Cramps .....	..	1
Convulsions .....	..	1
Debility .....	..	5
Diarrhœa .....	..	4
Grippe and colds .....	..	37
Gastritis .....	..	4
Infection .....	..	1
Otitis media .....	..	1
Pharyngitis .....	..	1
Rheumatism .....	..	4
Scabies .....	..	1
Tuberculosis .....	..	1
Tongue tie .....	..	1
Tonsillitis .....	..	1
Urticaria .....	..	1
Vaccination .....	..	4
Whooping cough .....	..	1

### REPORT OF DR. J. W. FRASER

I have the honour to present the following report for year ended October 31st, 1918, as District Surgeon:—

The cases of minor illnesses and injuries were of the usual variety and number. There were as well a few cases of epidemic influenza (Spanish influenza) during the latter months of the year. It is worthy of note that although approximately twenty per cent. (20%) of the population of our town were affected by the epidemic, only four or five cases occurred among T. & N. O. employees, there being no fatal cases.

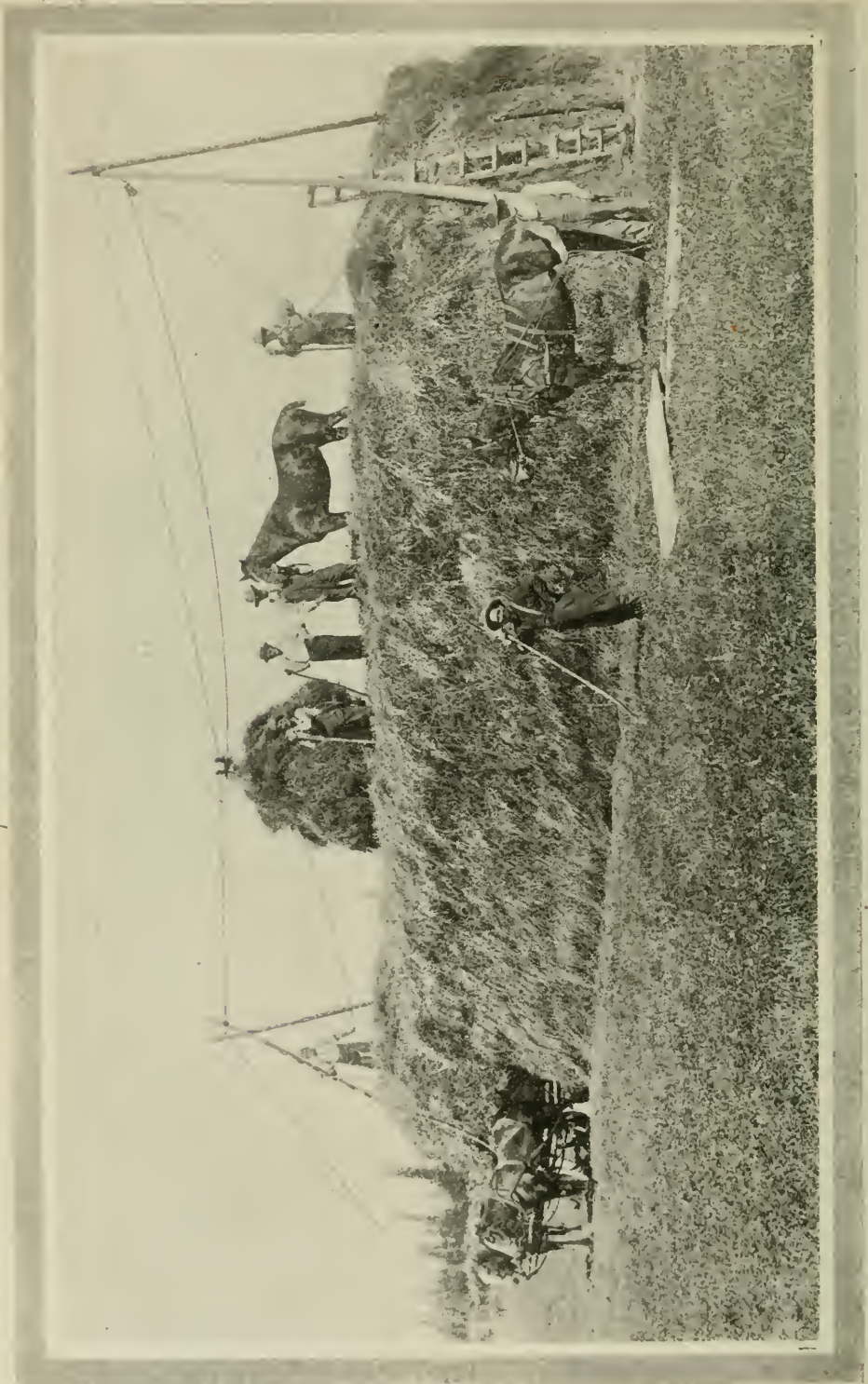
I make special note of the following:—

Crushed abdomen .....	1
Crushed and lacerated foot .....	1
Fractured rib .....	2
Lacerated hand .....	3
Dislocated jaw .....	1
Rheumatism .....	3
Tuberculosis .....	2
Pneumonia .....	2

Only those cases are tabulated which required prolonged or special treatment. All of which is respectfully submitted.

### CLOSING DANE STATION, OPENING BOSTON CREEK

Account traffic conditions, effective September 10th, 1918. Dane Station closed. Effective September 10th, 1918, Boston Creek Station opened as an agency point.



A. W. Skinner's farm at Englehart. Forty tons of hay.

## ANNUAL REPORT TELEGRAPH AND TELEPHONE DEPARTMENT

During the fiscal year ended October 31st, 1918, owing to labour conditions and the abnormal cost of material, no reconstruction work was undertaken. With the exception of stringing a local telephone circuit from Hoyle to South Porcupine, for the benefit of the pulpwood industry, no new extensions were made, as our present facilities were adequate to handle the business. Local pay station was installed at Mulock, to give connection with North Bay to parties shipping cordwood. In January, telegraph office was opened at Monteith, and in September, telegraph office was moved from Dane to Boston Creek.

During the year, twenty-nine subscribers' telephones were installed, and seventeen removed.

Telegraph circuit, North Bay to Cobalt, connecting with C. P. R. circuit to Toronto, leased to Messrs. Kiely, Smith & Amos, for broker business, was extended to Timmins on December 1st, 1917. This firm cancelled agreement on June 1st, 1918. On June 19th, circuit, North Bay to Cobalt, was leased to Mr. Hamilton B. Wills, broker, to connect with circuit furnished by Bell Telephone Co., North Bay to Toronto. On latter date, simplex equipment was installed on Long Distance telephone line, thereby furnishing above telegraph circuit, without necessitating the stringing of additional wire, and leaving present telegraph circuits intact for the handling of commercial business.

During the summer, all lines have undergone general repairs.

New working agreement was entered into with the Bell Telephone Co. to cover interchange of telephone business at North Bay. Agreement was also entered into with the Bell Telephone Co. to provide for the installation of repeating equipment at North Bay, to facilitate through transmission on long-haul conversations between offices on the T. & N. O. and the Bell Telephone Co. The installation of this equipment will be completed early in December.

Both telegraph and telephone lines were free from serious interruption: in fact there was not an hour during the year when communication was completely severed.

The following is a statement of commercial telegraph, telephone and cable business handled:

Local messages handled .....	37,548
Conjoint messages handled .....	78,631
Total.....	116,179
Cable messages sent .....	427
Cable messages received .....	147
Total.....	574
Cable words sent .....	8,390
Cable words received .....	2,786
Total.....	11,176
Telephone calls handled .....	62,830

Below is a summary of telegraph and telephone wire in operation, October 31st:

Kind.	Gauge.	Use.	Mileage.
Iron .....	No. 8 B.W.G. ...	Telegraph .....	1,684
Iron .....	No. 12 B.W.G. ...	Long Distance Telephone .....	167
Iron .....	No. 12 B.W.G. ...	Local Exchange and Party Line.....	274
Copper .....	No. 9 B. & S....	Telephone Train Despatching .....	574
Copper .....	No. 10 N.B.S. ...	Long Distance Telephone .....	650
Copper .....	No. 12 B. & S. ..	Long Distance Telephone .....	228
Style B. ....	Twisted Pair ...	Local Exchange .....	42,500 ft.
		Total Wire Mileage .....	3,577
		Total Pole Mileage .....	341

## GENERAL FREIGHT AND PASSENGER DEPARTMENT

## Annual Report, year ended October 31st, 1918

The freight tonnage handled during the fiscal year ended October 31st, 1918, and the gross receipts therefrom, showing the following comparison as against 1917:—

Tonnage, 1918 .....	1,176,582	Revenue .....	\$1,937,054 80
Tonnage, 1917 .....	960,714	Revenue .....	1,459,459 93
Increase .....	215,868	Increase .....	\$477,594 87

This increased tonnage is accounted for by large movement of all-rail grain and grain products, also dressed meats and packing-house products, and lumber from the west.

This increase goes to show that the "Transcontinental Route" is growing in popularity and is obtaining an increasing proportion of this through western business.

There was also a large increase in local shipments of lumber and other forest products from T. & N. O. territory as well as in local miscellaneous shipments.

An increase of approximately 15 per cent. in freight rates was allowed under General Order 212 of the Board of Railway Commissioners for Canada, effective March 17th, 1918.

A further increase was allowed by Order-in-Council PC 1863, effective August 12th, 1918, which amounted to approximately 21 per cent. increase.

The passenger traffic handled for the fiscal year ended October 31st, 1918, compares as follows with that for 1917:—

Passengers carried, 1918.....	436 984	Revenue .....	\$647,162 91
Passengers carried, 1917.....	499,759	Revenue .....	655,127 58
Decrease .....	62,775	Decrease .....	\$7,964 67

Effective March 17th, 1918, passenger fares were increased 15 per cent under General Order No. 213 of the Board of Railway Commissioners for Canada. This increase in fares in conjunction with the fact that in 1917 the average distance carried per passenger was 57.26 miles, with an average revenue per passenger per mile of 2.29 cents, while in 1918 the average distance carried per passenger was 58.44 miles, with an average revenue per passenger per mile of 2.54 cents, accounts for the slight decrease in gross passenger revenue as compared with the decrease in total passengers carried.

The decrease in the number of passengers carried is due to legislation of the Canadian Railway War Board in eliminating all reduced fare arrangements with the object of decreasing as far as possible all unnecessary travel and leave facilities available for the handling of freight made necessary because of war conditions.

## Analysis of Baggage Claims—Years 1917-18

—	No.	Paid	Pending	Declined	Remarks
Claims resulting from fire Cobalt baggage room, Dec. 24th, 1917	2	2	0	0	Two claims, loss account fire \$70.00.
Miscellaneous .....	16	4	5	7	Four claims paid, \$57.11. Seven claims declined account not sufficient grounds
	18	6	5	7	

## Statement of Baggage Claims

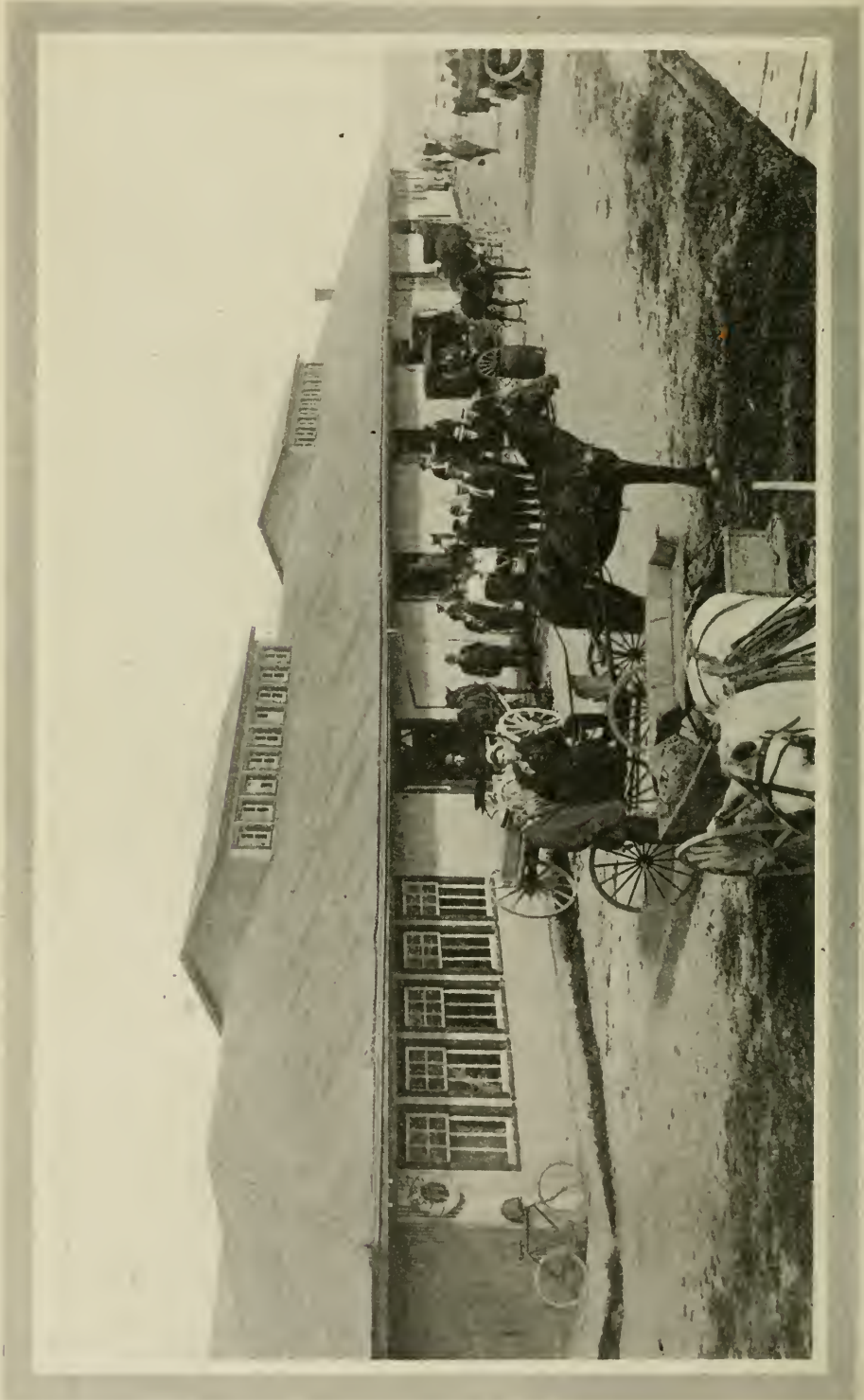
Number of claims.....	18	Amount.....	\$939 88
Number of claims vouchered.....	6	“ claimed..	135 36 vouchered for \$127.11
“ “ declined.....	7	“ “	719 05
“ “ pending.....	5	“ “	85 47
			<u>\$939 88</u>

## CREDITS

Insurance against fire claims paid.....	\$70 00
Other credits, nil	
Net Debit.....	<u>\$57 11</u>

Temiskaming and Northern Ontario Railway General Freight and Passenger Department  
Statement of all Baggage, Corpses and Bicycles handled during fiscal year ended October 31st, 1918

	Baggage		Corpses		Bicycles		Total 1918	Total 1917	Total Increase	Total Decrease
	Forwarded	Received	Forwarded	Received	Forwarded	Received				
Total year 1917-1918.....	71,776	79,607	61	35	70	79	151,628	170,111	3,390	21,873
Total year 1916-1917.....	88,680	81,082	79	61	111	98	170,111			
Increase.....									3,390	
Decrease.....	16,904	1,475	18	26	41	19	18,483			18,483



Haileybury market, August 17th, 1918.



## Preliminary Report of the Mining Industry in that part of Northern Ontario served by the Temiskaming and Northern Ontario Railway, Calendar year 1918

By ARTHUR A. COLE, Mining Engineer

The production of precious metals continues to be the most important industry in the Temiskaming District; for this reason, therefore, the physical condition of the industry is of vital importance to the Government Railway running through and serving this part of the country.

Gold production has in general been curtailed and the gold mining industry particularly hard hit by war conditions. The result has been the closing down of many properties. Notwithstanding this curtailment, it is encouraging to find that those mines that continued operations actually show an increased total production over last year. It is also remarkable to know that, even with the depressed condition of gold mining, prospecting and interest in gold prospects continued active, proving the faith of the investing public in the ultimate value of this industry. This faith was also reflected in the stock market, which began discounting a rise in gold mining shares some time before the signing of the armistice, although the physical conditions of the mines remained unchanged. With peace in sight, reductions in working costs will soon appear. The effect of the closing of munition plants is already noticeable in the increased number and better class of men applying for work at the mines. Cuts have already been made in the prices of cyanide and steel, and an early reduction in the price of explosives is also promised.

The necessity for keeping up or even for increasing the production of gold is conceded by leading world statesmen and financiers, but how to do this in the face of increased costs is a problem for which the solution is still being sought. It is manifestly unfair to ask the gold mine owner to produce gold at a loss, and he is not likely to do so long; and even if he can continue operations by selective mining and a smaller production, such a proceeding is poor business for both himself and the country at large. The high-grade gold property is the only one that can continue operations without much hardship. The question is one of international scope, and for that reason Canadians are looking to Great Britain and the United States to make the first move. In the meantime, now that peace is practically assured, the rational way to help solve this problem would seem to be by bringing the country back to normal peace-time conditions as soon as possible. One great factor in accomplishing this end will be the quick absorption of our returning army into productive civilian life, and in this the mines themselves will be a great assistance. One of the Porcupine mines alone has already notified the Government that it requires 1,500 more men to bring its working force up to capacity.

On account of the high price of silver, the silver mines of Cobalt have been able to operate at an excellent profit, notwithstanding the increased cost of production. The high price has also made available as ore material that formerly was too low grade to be worked profitably. Ore reserves, which were never very far ahead of requirements in Cobalt, have thus been increased, and as the demand for silver appears likely to be maintained for a considerable time, the future is bright for the silver mining industry.

## GOLD.

The signing of the armistice on the 11th November has opened, it is hoped, an era of renewed activity among the gold mines, which are expected to recommence operations as normal conditions are approached. The following statement, showing the capacities of the gold mills in the Temiskaming District of Northern Ontario, discloses some of the latent power of the industry to increase production when conditions become more favourable.

Camp	Mill	Daily capacity Tons	Present rate	Remarks
Porcupine .....	Hollinger .....	3,500	1,800	.....
	Dome .....	1,500	.....	Closed.
	McIntyre .....	550	550	.....
	Schumacher .....	180	.....	Closed.
	Porcupine Crown ..	125	.....	Closed.
	Porcupine V.N.T. ..	120	.....	Closed.
	Dome Lake .....	60	.....	Closed. Ran 9 months.
	Davidson .....	40	.....	Closed. Ran 3 months.
	Newray .....	20	.....	Closed. Ran 2 months.
	Kirkland Lake .....	Kirkland .....	150	.....
Tough-Oakes .....		120	.....	Closed since July.
Teck Hughes .....		80	80	Closed from June to November,
Lake Shore .....		60	60	Started March.
Boston Creek .....	Burnside .....	30	.....	New.
	Patricia .....	40	.....	Closed.
	Miller Independ- ence .....	35	.....	New.
Munro .....	Croesus .....	50	.....	Closed.

*Porcupine:*

The estimated gold production of Ontario for the Calendar year 1918, based on the Government figures for nine months, is over \$9,000,000. Of this the Hollinger contributed \$6,250,000, and the McIntyre \$1,600,000. Other properties which had produced during 1917, but only made small productions in 1918, and then closed down because of war conditions, were the Porcupine Crown, Vipond-North-Thompson, Schumacher, Dome Lake, and Newray. The Davidson ran its mill for a few months and then closed down. The Dome mill remained closed down throughout the year and only development work was carried on at the mine.

The Hollinger is only running about 1,800 tons per day, but with its new milling capacity it could handle from 3,500 to 3,700 tons per day. An increase to the latter amount will not be made till the labour is available to make the necessary corresponding development in the mine. At present most of the ore is hoisted from the 425-foot level, coming from this and higher levels.

*Kirkland Lake:*

Mining and milling costs in this district are higher than in Porcupine, due to physical reasons: war conditions were therefore even more unfavourable. Tough-Oakes and Teck Hughes were closed down much of the year, but both are now making arrangements to re-open. The Kirkland Lake has a 150-ton mill nearing completion, and the Wright-Hargraves and Burnside are both installing mills.

In March the Lake Shore opened its mill, which has been operating continuously since then, establishing a very enviable record. Most of the ore milled has been from development, which means that the ore reserves, instead of being depleted, are constantly being increased. The gross monthly production is now about \$45,000, the recovery in gold and silver being about \$24 per ton.

#### *Boston Creek:*

The Patricia mill was completed early in the summer, but after operating for several months, closed down. A noteworthy find of gold telluride and gold was made on the Miller Independence and development of the new vein is being vigorously prosecuted. The small mill on the property is soon to start treating ore, but for some time to come will be run as an experimental mill rather than as a steady producer, until a satisfactory method of treating this telluride ore has been worked out. This discovery of telluride ore has created considerable interest in the vicinity and much activity is already apparent. Several finds have been reported, notably one in Catharine Township about six miles south-east of the Miller-Independence.

#### *Other Gold Camps:*

At Bourkes Station, development on the 100-foot level of the Bourkes Mines is showing up well. A small plant has been taken into the Howie-Couchenour claim near Lightning River, and shaft sinking and other development is proceeding. The Goldfields Consolidated, of Larder Lake, continue development with small forces of men on the properties formerly known as the Harris-Maxwell, and the Reddick. Considerable diamond drill and other pioneering development work was done in the Matachewan district north of Elk Lake, but these operations have all ceased at present.

### SILVER.

#### *Cobalt and Other Silver Districts:*

The price of silver, which at the beginning of the year was 88c., has gradually risen till \$1.01<sup>1</sup>/<sub>8</sub> was reached in September, at which level it is likely to remain for some time from present appearances. The production for the year is about 17,500,000 ounces, and had a value of nearly \$17,000,000, which makes 1918 one of the best years in the camp's history. The mines producing over a million ounces during the year are Nipissing, Mining Corporation of Canada, Kerr Lake, and O'Brien.

Development work on the Adanac in south-east Coleman, adjoining the Temiskaming, has produced a little ore, and the future of this part of the camp has large possibilities.

A leasing company is working the foster dumps, and is obtaining some high-grade ore from underground development. A large pumping plant has been installed by the Mining Corporation of Canada, to handle sands from the bed of Cobalt Lake for retreatment. This is the largest operation of its kind ever undertaken in Canada. It is estimated that there are a half-million tons of tailings to be treated. The pumping plant will consist of two 8-inch motor-driven pumps with an estimated capacity of from 1,000 to 1,200 tons of sand and slime tailing per 24 hours. It is planned to treat 300 tons per day to begin with, increasing later to a maximum of 700 tons.

At North Cobalt, the Green-Meehan mine has been re-opened by Edwards & Wright, with very satisfactory results.



Mr. D. Stewart, Earleton. Sheep raising, September, 1918.

The Pittsburg-Lorrain worked the Wettlaufer and Currie properties in South Lorrain for part of the year and shipped a little ore, and some work was also done on the Keeley.

The Casey Township completed its new mill and has recommenced shipping concentrates.

At Gowganda another bonanza find has been made on the Miller-Lake O'Brien, and the Crewes-Macfarlane has made a carload shipment of ore.

A small vein containing niccolite and smaltite discovered in a railway cut at mileage 66, near Doherty Station, started prospecting in that vicinity, but nothing of importance was developed.

#### NICKEL.

The Alexo mine, near Porquis Junction, continues to be the only nickel mine in the district. For eleven months of 1918 shipments were made during five months, and amounted to 8,151 tons, all shipped to Coniston, Ontario, and sold to the Mond Nickel Company.

#### BARITE.

The Premier Langmuir Mine, near Night-Hawk Lake, completed its mill and has started shipment of high-grade powdered barite from Connaught Station, on the Porcupine Branch of the railway. The material is brought from the mine to the railway in barges over Night-Hawk Lake, and down the Frederickhouse River.

#### CHROMITE.

A discovery of chromite has been noted in Réaume Township, and a small amount of work done, but the extent of the deposit has not yet been determined.

#### MOLYBDENITE.

A plant is being taken in and installed at the St. Maurice property, 25 miles south of the Transcontinental at Amos, Quebec. A little work was done during the summer on a property near Temagami Station.

#### COPPER.

An option on the Fallahy property at Cedar Lake has been taken by the National Mines of Cobalt, and work has commenced.

#### IRON.

Interested parties have been taking samples from the iron range near Temagami during the summer.

#### PEAT.

Further surveys of peat bogs between Cobalt and Cochrane were made during five weeks of the autumn by A. Anrep and party from the Department of Mines, Ottawa. Five large bogs of good workable quality and depth were surveyed.

#### LIMESTONE.

Shipments from the Farr Quarry, near Haileybury, continued to be made regularly during the year to the Abitibi Power & Paper Company's plant at Iroquois Falls.

## RE STORES DEPARTMENT, PURCHASES AND ISSUES YEAR 1917-18

Submit herewith statement showing summary of purchases and issues from stores during the fiscal year ended October 31st, 1918, set in comparison with year 1917.

Shop stock runs much higher than any previous year, but approximately \$380,000.00 is taken up with purchase of 100 box cars, and alteration and repair of eight locomotives at Canadian Locomotive Works, Kingston.

During 1917, general policy was to "stock up" in anticipation of the increasing scarcity and prices of practically all lines of material, and was shown by the excess of purchases over issues of over \$257,000.00, but mainly in coal, tires, steel plates, and other imported material, and to a lesser degree in domestic products.

This year stock has been worked down, making the margin of difference between purchases and issues less than \$55,000.00, and while we hope a reasonable "Safety First" is maintained, the road should be in fair position to take advantage of post-war decreases in prices as they may occur. Purchases of coal show increase of \$13,869.06, but value of issues show increase of \$114,280.67, and would appear to be quite in keeping with increase of traffic hauled during the year.

Bituminous coal supply has been a serious matter for the country generally, but we have been fortunate in having a well maintained supply coming forward, and sufficient in stock to meet any contingency except fire for the next four months, on basis of consumption during corresponding period last year.

Hard coal purchases show a large decrease on account of scarcity on the market, and nothing remains except to substitute with soft coal, or wood, for which ample provision has been made.

Oil and waste shows an increase of slightly over 14 per cent., and, we understand, is within one per cent. of increase in traffic. It is the only "stock" that may be used as a barometer from which to judge comparisons between material consumed and traffic on account of pre-war prices prevailing on existing contract with Galena Signal Oil Co.

Stationery practically remains stationary in price, in fact allotment of the Railway's needs were placed at a little lower rate than in 1917.

Supply of new rail for the year was inadequate, on account of war demands both in Canada and the United States, and so marked was the shortage that surplus No. 3 relay rail brought nearly 50 per cent. higher prices than the same rail cost before the war, and this after the rail had served its day of usefulness in the track. So acute was the demand for second-hand rail that some United States markets are still quoting light relay rails at considerably higher prices than new standard rail.

Tie stock shows a decrease in purchases, and also a light issue on account of late date at which contractors got their mill in operation. Prices for ties have nearly doubled during the past five years, but it is doubtful if any other railway in Canada is as well protected for a future supply as the T. & N. O. Railway, on account of reservation secured by the Commission from the Ontario Government, and rightly so—it is a public asset applied to maintain a public utility for public convenience.

Details of "tie operation" are under management of C. E. & S. of M., who, no doubt, furnishes necessary reports to the Commission.

In connection with reclamation, can give a general idea of what has been done since institution, but there are many details connected therewith that would not serve any good purpose to put on clerical help to carry out.

During the thirteen months ending October 31st, 1918, we issued from Reclamation and Car Store material to the value of \$44,600.00. Against this we have to deduct \$21,300.00 value of new material supplied to store, and difference of \$23,300.00 represents value of reclaimed material when issued, and which, increased by \$3,500.00, approximate value of reclaimed material in stock, makes a total of \$26,890.00. Against this there is a charge of \$7,966.65 for labour, leaving a balance of \$18,833.35. Much of this amount would have disappeared as scrap and would not have realized more than 25 per cent. of what it meant in service. Overhead charges for light, water, coal and interest should be deducted, but of these charges we have not been advised to cover period under review.

Labour has been a serious problem for Stores Department in common with others. Approximately 175 car lots of material, such as lumber, slabs, switch sets, switch material, oil, wheels, tubing, etc., have had to be handled at North Bay, in addition to the thousands of L.C.L. and baggage shipments coming and going.

The small lots are taken care of by Stores' staff, but we have to depend on other departments for handling these car lots, and would suggest to the Commission the advisability of placing sufficient labour in direct charge of Stores Department to take care of this work—unloading of steam coal to remain as at present under the supervision of Superintendent of Maintenance.

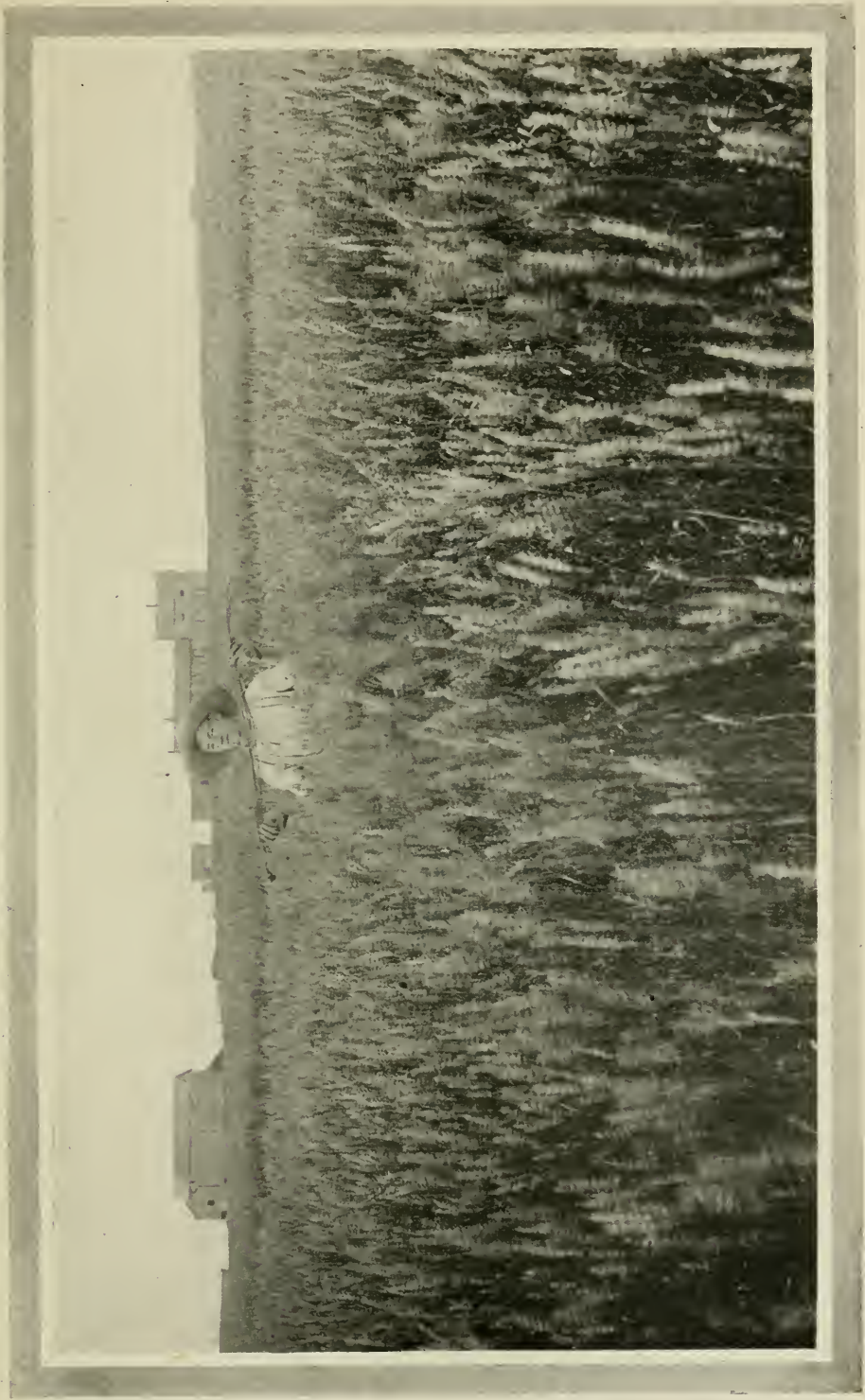
Staff changes were not excessive during the year, and in all cases to accept more lucrative positions than we could offer.

## Purchasing and Stores Department.

Statement of Purchases and Issues, Fiscal Years 1917-1918.

Stock.	1917		1918	
	Purchases.	Issues.	Purchases.	Issues.
	\$ c.	\$ c.	\$ c.	\$ c.
Shop .....	373,467 06	289,977 43	752,097 50	726,348 02
Soft Coal .....	662,042 84	531,777 50	675,911 90	646,058 17
Hard Coal.....	17,369 46	14,585 68	5,822 90	10,631 99
Oil and Waste.....	18,285 92	18,043 58	22,720 54	21,075 39
Stationery.....	19,052 97	18,673 70	17,910 43	19,413 53
Rail .....	42,678 53	20,421 49	40,832 08	32,545 95
Ties.....	29,587 66	23,615 63	13,380 79	19,598 25
Ice.....	5,469 18	3,875 22	3,908 57	4,068 60
Nipissing Central Railway .....	25,171 30	14,875 45	15,873 09	14,344 50
	1,193,124 92	935,845 68	1,548,457 80	1,494,084 40





Farm of Mr. Geo. Slade, 1 1/2 miles from New Liskeard. Wheat field, August 16th, 1918.

## GENERAL BALANCE SHEET, October 31st, 1918

## ASSETS.

<i>Property Owned:</i>	
Cost of Road as of October 31st, 1917	\$18,297,149 50
Cost of Road for year ended October 31st, 1918	181,390 62
	\$18,478,540 12
Cost of Equipment as of October 31st, 1917	\$2,563,911 79
Cost of Equipment for year ended October 31st, 1918	310,782 04
	2,874,693 83
Investment Nipissing Central Railway	492,123 31
Empire Lumber Co. Plant, Latchford	1,007 60
<i>Working Assets:</i>	
Cash, Treasurer	\$196,385 45
Cash, Land Agent	1,836 24
Accounts collectible	227,534 84
Balance due on townsite sales	39,150 47
Agents and conductors	14,585 04
Traffic balance—freight	121,111 89
Material and supplies	624,211 83
Ballast pit operations	46,375 34
Material accounts in transit	2,867 98
The operations	24,681 31
Other assets	1,379 56
	1,300,119 95

*Deferred Debit Items:*

Treasurer's advance	\$50 00
Insurance paid in advance	1,440 06
Surveys	2,057 86
Accounts in suspense	13,086 80
	16,634 72
	\$23,163,119 53

## PROFIT AND LOSS.

Profit or loss on retired road and equipment	.....	
Townsites	.....	\$10,280 13
Uncollectible accounts—cancelled	.....	1,445 51
Paid Treasurer of Ontario	.....	273 73
Balance carried forward	.....	300,000 00
		396,097 39
		\$708,096 76

## LIABILITIES.

Provincial Loan Account	.....	\$21,822,744 13
<i>Working Liabilities:</i>		
Accounts payable	.....	\$606,551 65
Traffic balance—tickets	.....	3,098 90
Traffic balance—car service	.....	8,931 42
		618,581 97

*Deferred Credit Items:*

Accrued depreciation	.....	\$318,762 77
Deposits on sidings	.....	3,870 00
Deposits on contracts	.....	1,899 10
War tax	.....	702 53
In suspense	.....	461 64
		325,696 04

*Free Surplus:*

Profit and loss—balance	.....	396,097 39
		\$23,163,119 53

By balance, October 31st, 1917	.....	\$273,305 64
Result operation for year ended October 31st, 1918	.....	429,419 64
Unclaimed wages	.....	2,347 94
Adjustment stores accounts to inventory	.....	3,021 08
Unclaimed vouchers	.....	2 46
		\$708,096 76

## STATEMENT OF EXPENDITURES ON CONSTRUCTION.

Fiscal Year Ending October 31st, 1918.

Engineering .....	\$2,288 00
Land for transportation purposes .....	66 45
Grading .....	82,025 94
Bridges, trestles and culverts .....	27,941 42
Ties .....	169 02
Rails .....	20,408 54
Other track material .....	2,741 93
Ballast .....	1,427 36
Track laying and surfacing .....	4,529 18
Right-of-way fences .....	8,641 34
Crossings and signs .....	4,478 45
Station and office buildings .....	27,367 13
Roadway buildings .....	15,768 65
Water stations .....	7,666 22
Shops and engine houses .....	5,093 73
Telegraph and telephone lines .....	1,051 76
Miscellaneous structures .....	709 67
Roadway machines .....	1,888 73
Roadway small tools and supplies .....	812 35
Shop machinery .....	10,119 45
Steam locomotives .....	59,574 23
Freight train cars .....	247,546 72
Passenger train cars .....	3,611 92
Work equipment .....	49 17
	\$492,172 66

## DETAILS OF CHARGES TO CONSTRUCTION.

## ROAD.

Installation heating systems agents' houses, Temagami, Latchford and Timmins, and tenement houses, Englehart .....	\$1,375 00
Public siding, mileage 121 .....	1,253 97
Completion replacement, bridge mileage 181.3—with steel .....	5,919 72
Additional sidings, etc., Porquis Jct. ....	5,972 25
Completion transfer siding, Cochrane .....	72 98
New station, Monteith .....	7,823 74
Oil and waste reclaiming plant, North Bay Junction, completion .....	38 18
Yard changes, Iroquois Falls .....	29 87
Road crossings, main line .....	492 61
Grade revision, mileage 63 to 66.5 .....	76,456 45
Additional sidings, Cochrane .....	627 32
Alterations, machine shop, North Bay Junction .....	2,079 43
Stores building, etc., repair track, North Bay Junction, completion .....	48 82
Station and freight shed, Connaught .....	4,857 63
Pumphouse, Connaught, completion .....	34 68
Station, Timmins, completion .....	1,200 99
Revision of line, mileage 81 .....	49 55
Matheson Station, completion .....	506 99
Heating system, Cochrane Station .....	1,083 31
Machine tools, North Bay Junction .....	10,758 17
Telegraph and telephone cable, Porquis Junction and Matheson .....	626 52
Pumphouse, Bourkes .....	395 41
Camp buildings, Cochrane, completion .....	19 08
Replacing trestle, mileage 168.5, with concrete slabs and filling .....	9,313 09
Replacing trestle, mileage 174.9 with concrete slabs and filling .....	5,384 54
Replacing trestle, mileage 178.8 with concrete slabs and filling .....	10,310 42
Road crossings, branch lines .....	982 57
New fencing .....	11,625 64
Improvements, station grounds .....	504 05
Section and tool houses, Feronia, Owaisa, Swastika and Monteith .....	13,100 76
Bachelor section houses .....	712 85
Waiting room and freight shed, Belleek .....	487 54

Waiting room and freight shed, Nellie Lake .....	229 03	
Motor generator set, etc., North Bay Junction, completion ..	145 18	
Culvert, Swastika .....	660 41	
Electric wiring buildings, Iroquois Falls .....	195 20	
Pipes from tanks, Latchford, Elk Pit, Porquis Junction and Connaught, fire protection .....	532 71	
Extension siding, Ramore .....	507 99	
Rail renewals (excess cost continuous rail joints) .....	3,011 43	
Telephone circuit, South Porcupine to Hoyle .....	425 24	
Additional section equipment .....	2,701 08	
Engine shed, Elk Lake .....	29 20	
Additional rail fastenings .....	906 75	
Waiting room and freight shed, Verney .....	390 86	
Water tank, Connaught .....	5,933 05	
Extension platform, steam train line and water service, Coch- rane .....	59 95	
Bachelor camps, Porquis Junction, Iroquois Falls, Doherty and Cobalt .....	1,015 33	
Replacing wooden culverts .....	2,494 68	
Rip track platform, car foreman's office, etc., Cochrane .....	71 80	
Clearing station grounds, Porquis Junction .....	675 00	
Bunkhouse, station, employees, Iroquois Falls .....	3 09	
Water supply, New Liskeard .....	266 67	
Electric lighting plant, Porquis Junction .....	1,717 46	
Bunkhouses, pumpmen and sectionmen, Tomiko .....	1,132 22	
Heating system, etc., Cobalt freight shed .....	1,695 49	
Insulation steam supply mains, shops .....	2,094 20	
Station, Boston Creek .....	2,283 14	
Bachelor camp, Scotty's Springs .....	470 97	
Extension, North Bay yard .....	4,401 71	
Water tank, Elk Lake .....	333 12	
Land purchased .....	628 55	
Land along right-of-way sold .....	695 00	<i>Cr.</i>
Sidings installed and removed .....	27,070 02	<i>Cr.</i>
		\$181,390 62

## EQUIPMENT.

Electric lighting parlor cafe cars .....	\$2,031 97	
Betterments passenger train cars .....	1,579 95	
Additional box cars .....	258,967 00	
Betterments eight locomotives .....	59,574 23	
Steel snow plow .....	49 17	
Freight cars rebuilt .....	1,914 40	
Freight cars destroyed and retired .....	13,334 68	<i>Cr.</i>
		\$310,782 04
		\$492,172 66

COMPARATIVE STATEMENT OF EARNINGS, EXPENDITURES AND RESULT OF  
OPERATION, NOVEMBER 1ST, 1917, TO OCTOBER 31ST, 1918

Receipts		Nov. 1-Oct. 31, 1918		Nov. 1-Oct. 31, 1917		
Revenue from Transportation.....		2,687,958	20	2,220,210	75	
Incidental to Transportation .....		124,352	42	111,695	04	
<b>Total Revenue.....</b>		<b>2,812,310</b>	<b>62</b>	<b>2,331,905</b>	<b>179</b>	
Expenditures		Per ct.	\$ c.	\$ c.	Per ct.	
Maintenance Way and Structures.....	16.4	462,526	51	419,266	84	18.
Maintenance of Equipment .....	17.2	485,057	18	305,286	86	13.1
Traffic .....	.7	19,376	52	17,676	10	.8
Transportation.....	44.8	1,260,079	27	985,452	19	42.3
Miscellaneous Operations.....	1.9	52,651	90	47,824	69	2.
General .....	4.	111,097	85	107,255	05	4.6
Transportation for Investment—Cr.....		586	63	1,465	44	.1
<b>Total Operating Expenses.....</b>	<b>85.</b>	<b>2,390,202</b>	<b>60</b>	<b>1,881,296</b>	<b>29</b>	<b>80.7</b>
Balance .....		422,108	02	450,609	50	.....
Other Income .....		7,311	62	66,091	06	.....
<b>Net Result .....</b>		<b>429,419</b>	<b>64</b>	<b>516,700</b>	<b>56</b>	<b>.....</b>

COMPARATIVE STATEMENT SHOWING EARNINGS AND EXPENDITURES IN OPERATION  
PERIOD 1905 TO 1918, INCLUSIVE.

Year.	Freight.		Passenger.		Other Revenue.		Maintenance of Way and Structures.		Maintenance of Equipment.		Traffic Expenses.		Transportation Expenses.		Misc. Operations.		General Expenses.		Transportation for Investment.		Total Revenue.		Total Expenditures.	
	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.
1905..	121,530	46	108,681	76	23,508	33	25,072	89	12,533	68	88,342	41	215,256	08	13,823	52	253,720	55	13,823	52	253,720	55	139,772	50
1906..	230,552	63	254,759	33	58,706	89	77,265	87	46,382	65	215,256	08	412,160	52	23,194	61	544,018	85	23,194	61	544,018	85	362,099	21
1907..	390,894	29	388,343	03	74,282	69	112,395	22	88,016	79	412,160	52	405,907	58	32,839	76	853,520	01	32,839	76	853,520	01	645,412	29
1908..	471,203	41	366,504	53	135,357	67	125,563	43	119,563	01	405,907	58	436,768	41	24,863	45	973,065	61	24,863	45	973,065	61	688,397	43
1909..	756,141	66	483,110	89	121,972	33	191,170	18	107,078	96	436,768	41	556,740	45	49,989	34	1,361,224	88	49,989	34	1,361,224	88	794,796	88
1910..	852,886	46	606,967	91	131,997	65	380,314	75	137,340	46	556,740	45	567,316	97	76,045	66	1,591,852	02	76,045	66	1,591,852	02	1,165,361	36
1911..	974,678	33	653,063	01	153,223	49	353,918	92	164,145	69	567,316	97	676,963	33	78,911	74	1,780,964	83	78,911	74	1,780,964	83	1,181,998	63
1912..	929,464	66	599,681	73	178,303	68	346,964	01	249,683	22	676,963	33	680,480	08	93,625	91	1,707,450	07	93,625	91	1,707,450	07	1,384,697	69
1913..	906,476	16	576,049	37	173,629	32	430,820	04	242,633	93	680,480	08	680,480	08	106,758	60	1,656,154	85	106,758	60	1,656,154	85	1,477,550	01
1914..	952,090	35	544,820	08	173,988	44	408,046	15	284,935	87	651,687	20	651,687	20	105,032	36	1,670,898	87	105,032	36	1,670,898	87	1,468,574	23
1915..	925,735	37	482,349	80	143,466	60	325,865	86	262,654	51	625,911	92	625,911	92	95,929	49	1,551,551	77	95,929	49	1,551,551	77	1,328,496	91
1916..	1,320,569	33	624,808	12	192,744	50	349,024	48	248,702	04	842,058	75	842,058	75	91,317	74	2,138,121	95	91,317	74	2,138,121	95	1,594,177	46
1917..	1,459,459	93	655,127	58	217,318	28	419,266	84	305,286	86	985,452	19	985,452	19	107,255	05	2,331,905	79	107,255	05	2,331,905	79	1,881,296	29
1918..	1,937,054	80	647,162	91	228,092	91	462,526	51	485,057	18	1,280,079	27	1,280,079	27	111,097	85	2,812,310	62	111,097	85	2,812,310	62	2,390,202	60
	12,228,737	84	6,991,430	05	2,006,592	78	4,008,215	15	2,754,014	85	185,759	97	8,405,125	16	1,010,685	08	14,039,481	48	1,010,685	08	14,039,481	48	16,502,833	49

SUMMARY.

Freight Revenue .....	\$12,228,737 84	Maintenance of Way and Structures .....	\$4,008,215 15
Passenger Revenue .....	6,991,430 05	Maintenance of Equipment .....	2,754,014 85
Other Revenue .....	2,006,592 78	Traffic Expenses .....	185,759 97
		Transportation Expenses .....	8,405,125 16
		Miscellaneous Operations .....	143,039 48
		General Expenses .....	1,010,685 08
		Transportation for Investment—Cr .....	4,006 20
	<u>\$21,226,760 67</u>		<u>\$16,502,833 49</u>

Total Revenue from Transportation .....	\$21,226,760 67
Total Expenditures .....	16,502,833 49
Other Income, etc .....	<u>4,723,927 18</u>
	760,415 37
Paid Treasurer of Ontario .....	5,484,342 55
	5,088,245 16
Balance Profit and Loss .....	<u>396,097 39</u>



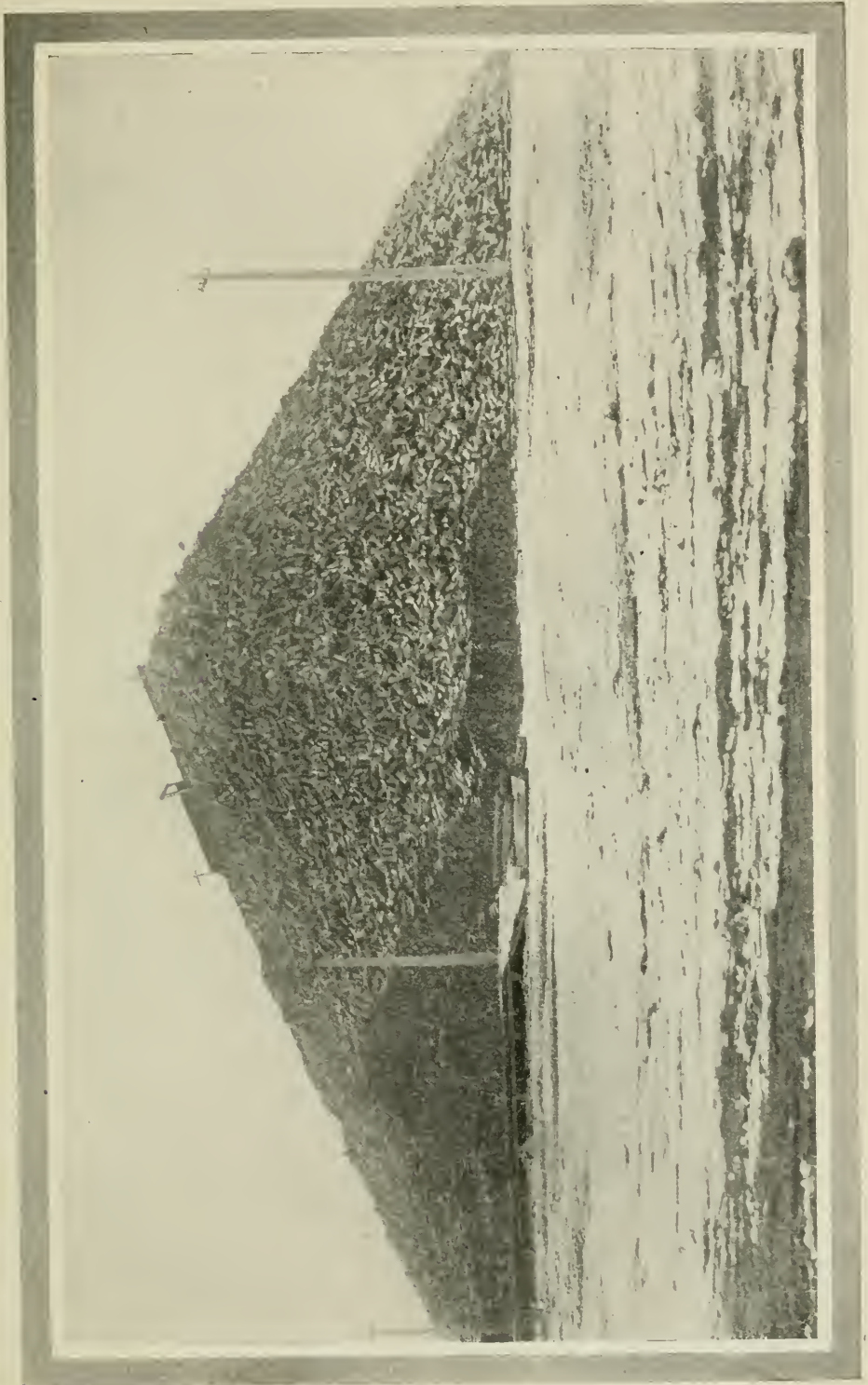


Per Mile of Road

	Total.		Freight.		Passenger.	
	1918	1917	1918	1917	1918	1917
<b>REVENUE.</b>						
Transportation .....	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Incidental to Transportation .....	8,182 52	6,758 63	5,921 02	4,474 07	2,261 50	2,284 56
	378 55	340 02	232 93	209 70	145 62	130 32
<b>Total .....</b>	<b>8,561 07</b>	<b>7,098 65</b>	<b>6,153 95</b>	<b>4,683 77</b>	<b>2,407 12</b>	<b>2,414 88</b>
<b>EXPENDITURES.</b>						
Maintenance of Way and Structures .....	1,408 00	1,276 31	940 79	766 30	467 21	510 01
Maintenance of Equipment .....	1,476 58	929 34	856 62	454 07	619 96	475 27
Traffic Expenses .....	58 98	53 81	36 23	28 44	22 75	25 37
Transportation Expenses .....	3,835 86	2,999 85	2,694 34	2,005 19	1,141 52	991 66
Miscellaneous Operations .....	160 28	145 58	70 49	61 24	89 79	84 34
General Expenses .....	338 20	326 50	223 09	200 19	115 11	126 31
Transportation for Investment—Cr. ....	1 79	4 46	1 79	4 46	.....	.....
<b>Total Operating Expenses .....</b>	<b>7,276 11</b>	<b>5,726 93</b>	<b>4,819 77</b>	<b>3,510 97</b>	<b>2,456 34</b>	<b>2,215 96</b>
Hire of Equipment .....	369 01	275 00	377 04	272 38	Cr. 8 03	2 62
<b>Total Expenses .....</b>	<b>7,645 12</b>	<b>6,001 93</b>	<b>5,196 81</b>	<b>3,783 35</b>	<b>2,448 31</b>	<b>2,218 58</b>
Balance .....	915 95	1,096 72	957 14	900 42	Dr. 41 19	196 30
Income unallocated .....	391 26	476 19	.....	.....	.....	.....
<b>Net Result .....</b>	<b>1,307 21</b>	<b>1,572 91</b>	.....	.....	.....	.....

Freight Traffic Movement—Company's Material Excluded—Nov. 1st, 1917, to Oct. 31st, 1918.

Commodity.	Freight originating on T. & N. O.	Freight origi- nating at other stations in Canada.	Freight origina- ting in U.S.	Total Freight.
	Whole Tons.	Whole Tons.	Whole Tons.	Whole Tons.
<b>Products of Agriculture—</b>				
Grain .....	1,019	222,909	.....	223,928
Flour .....	151	13,956	.....	14,107
Other Mill Products .....	33	8,401	.....	8,434
Hay .....	8,894	5,250	.....	14,144
Tobacco .....	.....	168	.....	168
Cotton .....	.....	.....	.....	.....
Fruit and Vegetables .....	2,774	6,337	70	9,181
Other Products of Agriculture .....	31	211	.....	242
<b>Total .....</b>	<b>12,902</b>	<b>257,232</b>	<b>70</b>	<b>270,204</b>
<b>Products of Animals—</b>				
Live Stock .....	1,611	2,912	12	4,535
Dressed Meats .....	54	3,414	15	3,483
Other Packing House Products .....	.....	682	.....	682
Poultry, Game, Fish and Eggs .....	.....	4,438	.....	4,438
Wool .....	.....	.....	.....	.....
Hides and Leather .....	.....	1,689	.....	1,689
Other Products of Animals .....	96	920	.....	1,016
<b>Total .....</b>	<b>1,761</b>	<b>14,055</b>	<b>27</b>	<b>15,843</b>
<b>Products of Mines—</b>				
Anthracite Coal .....	488	3,837	7,201	11,526
Bituminous Coal .....	2,765	39,637	68,712	111,114
Coke .....	32	211	844	1,087
Ores .....	26,980	1,671	.....	28,651
Stone, Sand and other like articles .....	14,926	2,125	935	17,986
Other Products of Mines .....	199	2,710	3,170	6,079
<b>Total .....</b>	<b>45,390</b>	<b>50,191</b>	<b>80,862</b>	<b>176,443</b>
<b>Products of Forests—</b>				
Lumber .....	93,002	47,870	25	140,897
Other Products of Forests .....	257,651	120,282	.....	377,933
<b>Total .....</b>	<b>350,653</b>	<b>168,152</b>	<b>25</b>	<b>518,830</b>
<b>Manufactures—</b>				
Petroleum and other Oils .....	62	5,465	221	5,748
Sugar .....	.....	1,381	23	1,404
Iron, Pig and Bloom .....	.....	259	.....	259
Iron and Steel Rails .....	73	320	81	474
Other Castings and Machinery .....	2,126	13,143	650	15,919
Bar and Sheet Metal .....	110	5,062	223	5,395
Cement, Brick and Lime .....	2,128	7,681	213	10,022
Agricultural Implements .....	94	10,350	.....	10,444
Wagons, Carriages, Tools, etc. ....	87	13,844	18	13,949
Wines, Liquors and Beers .....	41	2,002	.....	2,043
Household Goods and Furniture .....	597	11,520	.....	12,117
Other Manufactures .....	68,311	20,473	507	89,291
<b>Total .....</b>	<b>73,629</b>	<b>91,500</b>	<b>1,936</b>	<b>167,065</b>
Merchandise .....	24,635	40,769	765	66,169
<b>Miscellaneous—</b>				
Other Commodities not mentioned above	5,757	12,623	576	18,956
<b>Total Tonnage .....</b>	<b>514,727</b>	<b>634,522</b>	<b>84,261</b>	<b>1,233,510</b>



Pulpwood at Charlton Station, 1918.

### Statistics—Temiskaming and Northern Ontario Railway.

#### Comparative Passenger and Freight Traffic Statement.

	Passengers.	Revenue.
		\$ c.
Number of passengers carried during year 1905.....	86,648	108,681 76
“ “ “ “ 1906.....	359,861	254,759 33
“ “ “ “ 1907.....	518,678	388,343 03
“ “ “ “ 1908.....	479,005	366,504 53
“ “ “ “ 1909.....	580,748	483,110 89
“ “ “ “ 1910.....	670,913	606,967 91
“ “ “ “ 1911.....	479,102	653,063 01
“ “ “ “ 1912.....	497,452	599,681 73
“ “ “ “ 1913.....	508,055	576,049 37
“ “ “ “ 1914.....	535,869	544,820 08
“ “ “ “ 1915.....	480,995	482,349 80
“ “ “ “ 1916.....	485,759	624,808 12
“ “ “ “ 1917.....	499,759	655,127 58
“ “ “ “ 1918.....	436,984	647,162 91
Total .....	6,619,828	6,991,430 05

Number of passengers carried one mile, period 1905 to 1918, inclusive..... 290,607,094

	Tons.	Revenue.
		\$ c.
Number of tons of freight carried during year 1905 ...	99,192	121,530 46
“ “ “ “ 1906 ...	273,749	230,552 63
“ “ “ “ 1907 ...	393,589	390,894 29
“ “ “ “ 1908 ...	484,444	471,203 41
“ “ “ “ 1909 ...	498,645	756,141 66
“ “ “ “ 1910 ...	624,820	852,886 46
“ “ “ “ 1911 ...	564,120	974,678 33
“ “ “ “ 1912 ...	562,734	929,464 66
“ “ “ “ 1913 ...	674,942	906,476 16
“ “ “ “ 1914 ...	742,366	952,090 35
“ “ “ “ 1915 ...	676,938	925,735 37
“ “ “ “ 1916 ...	922,618	1,320,569 33
“ “ “ “ 1917 ...	960,714	1,459,459 93
“ “ “ “ 1918 ...	1,233,510	1,937,054 80
Total.....	8,712,381	12,228,737 84

Number of tons of freight carried one mile, period 1905 to 1918, inclusive..... 1,150,674,746

Equipment owned by Temiskaming and Northern Ontario Railway.  
October 31st, 1918.

	Total Authorized Equipment.	Available for Service.	Destroyed or Transferred to other classes	Capacity. Tractive Power.	Total Valuation.
					\$ c.
<b>STEAM LOCOMOTIVES.</b>					
Class A 3	4	4	.....	112,640	.....
Class B 4	4	4	.....	170,000	.....
Class C 2	2	2	.....	26,488	.....
Class C 3	30	29	1	680,746	.....
Class F 3	4	4	.....	121,600	.....
Class G 4	6	6	.....	182,000	.....
Total	50	49	1	.....	1,012,972 44
<b>PASSENGER EQUIPMENT.</b>					
First Class Coaches (wooden)	14	14	.....	.....	.....
" " (steel)	6	6	.....	.....	.....
Second " " (wooden)	21	14	7	.....	.....
" " (steel)	4	4	.....	.....	.....
Combination " (wooden)	3	3	.....	.....	.....
" " (steel)	3	.....	3	.....	.....
Parlor-Cafe	3	3	.....	.....	.....
Baggage and Express (wooden)	7	5	2	.....	.....
" " (steel)	4	4	.....	.....	.....
Mail and Express (wooden)	6	5	1	.....	.....
" " (steel)	3	3	.....	.....	.....
Business	4	4	.....	.....	.....
Total	78	65	13	.....	810,356 17
<b>FREIGHT EQUIPMENT.</b>					
Box	250	242	8	.....	.....
Stock	10	9	1	.....	.....
Vans	30	26	4	.....	.....
Flats	500	383	117	.....	.....
Total	790	660	130	.....	869,861 40
<b>MAINTENANCE OF WAY AND STRUCTURES EQUIPMENT.</b>					
Pile Driver	1	1	.....	.....	.....
Snow Plows	4	3	1	.....	.....
Flangers	3	3	.....	.....	.....
Steam Shovels	3	3	.....	.....	.....
Wrecking Cranes	2	2	.....	.....	.....
Auxiliaries (Complete)	2	2	.....	.....	.....
Road Cabin Cars	2	2	.....	.....	.....
Ledgerwood Unloaders	3	2	1	.....	.....
Side Ballast Plows	6	6	.....	.....	.....
Jordan Spreaders	2	2	.....	.....	.....
Centre Ballast Plows	3	3	.....	.....	.....
Pile Driver Tank	1	1	.....	.....	.....
Mahoney Ditching Machine	1	1	.....	.....	.....
Centre Ballast Spreader	1	1	.....	.....	.....
American Railroad Ditcher	1	1	.....	.....	.....
Cinder Cars, Steel	12	12	.....	.....	.....
Hart Convertibles	35	35	.....	.....	.....
Exhibition Cars	1	1	.....	.....	.....
Fish Car (owned by Dept. of Public Works)	1	1	.....	.....	.....
Tank Cars	6	6	.....	.....	.....
Boarding Cars	35	35	.....	.....	.....
M. of W. Combination Boarding and Material Cars	11	11	.....	.....	.....
M. of W. Material Cars	6	6	.....	.....	.....
Auxiliary Track Material Cars	2	2	.....	.....	.....
Total	144	142	2	.....	181,503 82
Grand Total	1,062	916	146	.....	2,874,693 83

## TONNAGE.

Statement of Tons One Mile—November 1st, 1917, to October 31st, 1918.

Month.	Gross Tonnage (Pounds).	Whole Tons.	Tons One Mile,		
			North & West	South & East	Total
November 1917....	121,993,278	60,997	4,572,399	6,300,984	10,873,383
December ".....	126,194,237	63,097	5,417,649	6,868,032	12,285,681
January 1918....	137,513,911	68,757	5,992,196	5,896,447	11,888,643
February ".....	145,231,585	72,616	4,492,125	6,901,853	11,393,978
March ".....	268,439,650	134,220	7,169,138	18,891,108	26,060,246
April ".....	374,596,168	187,298	6,396,672	33,054,529	39,451,201
May ".....	313,419,629	156,710	6,494,680	24,489,016	30,983,696
June ".....	216,554,171	108,277	6,478,824	14,197,576	20,676,400
July ".....	198,318,207	99,159	4,834,600	14,575,464	19,410,064
August ".....	185,052,869	92,526	4,533,506	13,704,450	18,237,956
September ".....	181,420,636	90,710	4,625,224	11,665,024	16,290,248
October ".....	198,286,121	99,143	5,715,910	13,766,471	19,482,381
Total.....	2,467,020,462	1,233,510	66,722,923	170,310,954	237,033,877

## FOREST PRODUCTS.

Statement of Tonnage, Tons one mile, Total Revenue, and Revenue per ton per mile, November 1st, 1917, to October 31st, 1918, under various headings.

Commodity.	Gross Tonnage. (Pounds).	Whole Tons.	Tons One Mile.	Revenue.	Revenue per ton per mile.
Lumber .....	180,803,699	90,402	16,237,859	\$ 117,927 31	c. 00.7262
Pulpwood.....	604,971,496	302,486	57,478,972	339,360 27	00.5904
Pulp .....	104,477,862	52,239	12,255,816	64,243 25	00.5242
Slabwood.....	45,195,186	22,597	992,111	15,810 04	01.5936
Poles .....	1,628,850	814	77,962	938 29	01.2035
Posts.....	809,700	405	54,730	483 13	00.8828
Piling .....	3,757,775	1,879	205,895	2,018 85	00.9805
Timber .....	5,849,819	2,925	117,565	2,422 14	02.0603
Logs .....	66,615,760	33,308	1,740,233	23,296 68	01.3387
Ties.....	19,854,780	9,927	2,019,452	15,940 90	00.7894
Shingles .....	1,556,390	778	188,542	741 90	00.3935
Laths .....	917,020	459	43,052	446 80	01.0378
Sawdust, etc.....	1,222,700	611	49,105	653 50	01.3308
Total.....	1,037,661,037	518,830	91,461,294	584,283 06	00.6388

## PASSENGER TRAFFIC.

Statement of Passengers, Revenue, Passengers one Mile and Passenger Revenue per mile, from November 1st, 1917, to October 31st, 1918.

Form of Ticket.	Passengers.	Revenue.	Passengers One Mile.	Revenue per Passenger, One Mile.
Commercial .....	22,085	\$ 45,218 90	1,829,170	c. 02.47
Excursion .....	10,262	17,864 55	1,117,988	01.59
Militia .....	10,102	29,366 38	2,205,652	01.33
Market .....	5,954	1,798 40	106,963	01.68
Week End .....	992	809 70	52,316	01.54
Scholars.....	1,864	171 65	28,919	00.59
Ordinary .....	385,725	551,933 33	20,197,416	02.73
Total .....	436,984	647,162 91	25,538,424	02.53

## STATEMENT OF MATERIALS AND SUPPLIES ON HAND, OCTOBER 31st, 1918.

*Shop Stock—North Bay.*

Class.	Material.	Amount.
1	Air brake material .....	\$1,979 25
2	Wheels, tires and axles .....	27,672 72
3	Bolts, nuts, etc. ....	9,465 58
4	Building material .....	1,712 23
5	Coach fittings .....	9,357 22
6	Iron castings .....	15,117 67
7	Couplers and parts .....	778 09
8	Forgings .....	814 09
9	Telegraph and telephone material .....	3,438 59
10	Electrical material .....	8,875 91
11	Glass .....	1,728 51
12	Hardware .....	2,305 95
13	Brass castings .....	15,036 16
14	Lamps and parts .....	1,631 66
15	Locomotive parts finished .....	12,123 68
16	Lumber (Carpenter shop) .....	11,595 08
17	Lumber (Bridge and B. material) .....	16,017 09
18	Metals .....	1,835 60
19	Miscellaneous .....	6,656 67
21	Water supply service parts .....	3,637 42
22	Paints and brushes .....	3,516 54
23	Pipes, fittings, valves, etc. ....	11,054 24
26	Hose and rubber .....	3,809 45
28	Commissary .....	74 62
	Commissary, line stock .....	275 00
29	Springs .....	6,888 83
30	Iron and steel (bar) .....	14,478 34
31	Steam shovel, ditcher and ledgerwood parts .....	1,448 83
32	Tools, etc. ....	8,370 45
33	Track material .....	46,193 50
	Track material, line stock .....	5,369 92
	Car department and reclamation store .....	15,445 73
	Material in process of manufacture on store orders .....	215 12
		\$268,919 74

*Shop Stock—Englehart.*

Class.	Material.	Amount.
1	Air brake material .....	\$76 86
2	Wheels, tires and axles .....	1,936 00
3	Bolts, nuts, etc. ....	801 39
4	Building material .....	.....
5	Coach fittings .....	33 27
6	Iron castings .....	500 03
7	Couplers and parts .....	602 47
8	Forgings .....	94 01
9	Telegraph and telephone material .....	.....
10	Electrical material .....	82 79
11	Glass .....	113 13
12	Hardware .....	33 35
13	Brass castings .....	139 50
14	Lamps and parts .....	40 54
15	Locomotive parts finished .....	180 17
16	Lumber (Carpenter shop) .....	.....
17	Lumber (B. and B. Dept.) .....	.....
18	Metals .....	14 94
19	Miscellaneous .....	177 30
21	Water service parts .....	.....
22	Paints and brushes .....	6 92
23	Pipes, fittings, valves, etc. ....	450 73
26	Hose and rubber .....	160 49
28	Commissary .....	.....

Class.	Material.	Amount.
29	Springs .....	\$475 06
30	Iron and steel (bar) .....	78 66
31	Steam shovel, ditcher and ledgerwood parts .....	.....
32	Tools, etc. ....	255 91
33	Track material .....	.....
		\$6,253 52

*Shop Stock—Timmins.*

1	Air brake material .....	\$11 30
2	Wheels, tires and axles .....	606 72
3	Bolts, nuts, etc. ....	55 34
4	Building material .....	.....
5	Coach fittings .....	30
6	Iron castings .....	84 24
7	Couplers and parts .....	164 13
8	Forgings .....	.....
9	Telegraph and telephone material .....	.....
10	Electrical material .....	73 43
11	Glass .....	2 45
12	Hardware .....	1 66
13	Brass castings .....	20 10
14	Lamps and parts .....	28 63
15	Locomotive parts finished .....	16 36
16	Lumber (Carpenter shop) .....	.....
17	Lumber (B. and B. Dept.) .....	.....
18	Metals .....	20
19	Miscellaneous .....	34 77
21	Water supply service parts .....	.....
22	Paints and brushes .....	3 55
23	Pipes, fittings, valves, etc. ....	67 01
26	Hose and rubber .....	47 33
28	Commissary .....	.....
29	Springs .....	.....
30	Iron and steel (bar) .....	.....
31	Steam shovel, ditcher and ledgerwood parts .....	.....
32	Tools, etc. ....	19 96
33	Track material .....	.....
		\$1,237 48

*Shop Stock—Cochrane.*

1	Air brake material .....	\$36 96
2	Wheels, tires and axles .....	1,030 40
3	Bolts, nuts, etc. ....	767 34
4	Building material .....	.....
5	Coach fittings .....	5 60
6	Iron castings .....	240 09
7	Couplers and parts .....	641 77
8	Forgings .....	139 16
9	Telegraph and telephone material .....	.....
10	Electrical material .....	5 85
11	Glass .....	.....
12	Hardware .....	9 38
13	Brass castings .....	.....
14	Lamps and parts .....	12 31
15	Locomotive parts finished .....	55 58
16	Lumber (Carpenter shop) .....	.....
17	Lumber (B. and B. Dept.) .....	.....
18	Metals .....	1 14
19	Miscellaneous .....	129 18
21	Water service supply parts .....	.....
22	Paints and brushes .....	3 02
23	Pipes, fittings, valves, etc. ....	94 20
26	Hose and rubber .....	96 97



Class.	Material.	Amount.
28	Commisary .....	.....
29	Springs .....	\$255 51
30	Iron and steel (bar) .....	.....
31	Steam shovel, ditcher and ledgerwood parts .....	.....
32	Tools .....	71 46
33	Track material .....	.....
		\$3,595 92

RECAPITULATION OF SHOP STOCK.

Location.	Amount.
North Bay .....	\$268,919 74
Englehart .....	6,253 52
Timmins .....	1,237 48
Cochrane .....	3,595 92

Less unvouchered material:—

Canadian Fairbanks-Morse Co., Ltd. ....	\$17 64
Canadian Westinghouse Co., Ltd. ....	10 73
Canadian Fairbanks-Morse Co., Ltd. ....	136 00
Gurney Foundry Co., Ltd. ....	994 73
Holden Co., Ltd. ....	106 17
C. H. Mindinhall .....	80 30
Montreal Locomotive Works, Ltd. ....	704 00
N. L. Piper Railway Supply Co., Ltd. ....	123 00
	\$2,172 57

\$277,834 09

Ice Stock.

North Bay .....	\$1,000 50
Englehart .....	5 80
Cochrane .....	1 16

\$1,007 46

Stationery Stock.

North Bay .....	\$5,072 65
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Less unvouchered material:—

The Planet .....	\$8 40
The Planet .....	5 00
The Jackson Press .....	4 68
Buntin, Gillies & Co., Ltd. ....	12 00
Rockwell, Barnes Co. ....	21 00
Grand & Toy, Limited .....	18 75
Richardson, Bond & Wright, Ltd. ....	13 04
Advertiser Job Printing Co., Ltd. ....	4 80
do do .....	18 00
do do .....	15 00
do do .....	7 75
Buntin, Gillies & Co., Ltd. ....	7 99
Buntin, Gillies & Co., Ltd. ....	11 76
Caribonum Co., Ltd. ....	37 50
Chas. Chapman Co. ....	26 50
Cochrane Hardware, Ltd. ....	3 50
Dominion Envelope & Carton Co., Ltd. ....	2 50
General Manifold & Printing Co. ....	7 78
The Jackson Press .....	61 90
The Jackson Press .....	154 00
The Planet .....	16 80
Richardson, Bond & Wright, Ltd. ....	36 00
Richardson, Bond & Wright, Ltd. ....	6 80
Standard Pencil Co. ....	92 50
United Typewriter Co., Ltd. ....	45 50
United Typewriter Co., Ltd., .....	11 05

\$650 50

\$4,422 15

*Oil and Waste Stock.*

North Bay .....	\$4,774 77
Englehart .....	586 78
Timmins .....	269 70
Cochrane .....	596 91
Elk Lake .....	42 21
Iroquois Falls .....	41 27
	<hr/>
	\$6,311 64
Less unvouchered material:—	
Imperial Oil, Limited .....	62 05
	<hr/>
	\$6,249 59

*Tie Stock.*

North Bay and on line .....	\$5,103 81
-----------------------------	------------

*Rail Stock.*

North Bay and on line .....	\$63,629 31
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*Anthracite Coal.*

	Weight—lbs.	
North Bay—stores .....	186,098	
North Bay—freight office .....	25,500	
In transit .....		
Widdifield .....	25,200	
Tomiko .....	32,000	
Redwater .....	20,100	
Temagami .....		
Latchford .....	24,000	
Cobalt .....	18,000	
North Cobalt .....	20,000	
Haileybury .....	18,382	
New Liskeard .....		
Uno Park .....	19,500	
Thornloe .....		
Earlton .....	15,300	
Elk Lake .....	94,000	
Heaslip .....	36,500	
Englehart .....	2,500	
Charlton .....		
Dane .....	3,000	
Swastika .....		
Bourkes .....		
Matheson .....		
Porquis Junction .....	22,000	
Iroquois Falls .....	1,000	
Connaught .....	12,900	
Monteith .....	7,200	
South Porcupine .....	500	
Schumacher .....	18,700	
Timmins .....	84,000	
Cochrane .....		
	<hr/>	
	686,380 or 343 tons	
343 tons at \$8.10 per ton .....		\$2,778 30

*Bituminous Coal.*

	Weight—lbs.
North Bay chutes .....	600,000
North Bay cars in yard .....	200,000
North Bay dump .....	68,560.899
North Bay boiler room .....	90,000
North Bay freight office .....	

	Weight—lbs.	
In transit .....	319,100	
Widdifield .....	9,775	
Tomiko .....	65,000	
Redwater .....	304,000	
Temagami .....	49,300	
Latchford .....	4,000	
Cobalt .....	125,000	
North Cobalt .....	.....	
Haileybury .....	79,000	
New Liskeard .....	168,750	
Uno Park .....	.....	
Thornloe .....	38,000	
Earlton .....	22,000	
Elk Lake .....	205,100	
Heaslip .....	36,500	
Englehart .....	990,700	
Charlton .....	.....	
Boston Creek .....	.....	
Swastika .....	48,000	
Matheson .....	114,700	
Monteith .....	.....	
Porquis Jct. ....	385,700	
Iroquois Falls ..	1,000	
Connaught .....	67,000	
South Porcupine ..	.....	
Schumacher .....	.....	
Timmins .....	67,000	
Cochrane .....	192,458	
	72,742,982 or 36,371 tons 982 lbs.	
36,371 tons 982 lbs. at \$7.23 per ton .....		\$262,965 88
<i>Cr.</i> —Claim on car L. V. 56664 .....	\$99 96	
<i>Cr.</i> —License Fuel Controller .....	275 00	
	.....	374 96
		\$263,340 84
<i>Dr.</i> —Freight on P. R. R., 82592, not paid .....		153 72
		\$263,187 12

## SUMMARY.

Shop stock .....	\$277,834 09
Ice .....	1,007 46
Stationery .....	4,422 15
Oil and waste .....	6,249 59
Ties .....	5,103 81
Rails .....	63,629 31
Anthracite coal .....	2,778 30
Bituminous coal .....	263,187 12
	\$624,211 83

## TRAFFIC AND MILEAGE STATISTICS.

*Passenger Traffic.*

1. Total passengers carried earning revenue .....	436,984
2. Number of passengers carried one mile .....	25,538,424
3. Number of passengers carried one mile per mile of road .....	77,743
4. Average distance carried—miles .....	58.44
5. Total passenger revenue .....	\$647,162 91
6. Average amount received from each passenger .....	1.48
7. Average receipts per passenger per mile (cents) .....	.02 53
8. Total passenger train service revenue .....	742,903 67
9. Passenger service train revenue per mile of road .....	2,261 50
10. Passenger service train revenue per train mile .....	1.73

*Freight Traffic.*

11. Number of tons carried earning revenue .....	1,233,510
12. Number of tons carried earning revenue one mile .....	237,033,877
13. Number of tons carried earning revenue one mile per mile of road ...	721,564
14. Average distance haul of one ton—miles .....	192.16
15. Total freight revenue .....	\$1,937,054 80
16. Average amount received for each ton .....	1 57
17. Average amount received per ton per mile (cents) .....	.00 82
18. Freight revenue per mile of road .....	5,896 67
19. Freight revenue per train mile .....	2 95

*Total Traffic.*

20. Operating revenue .....	\$2,812,310 62
21. Operating revenue per mile of road .....	8,561 07
22. Operating revenue per train mile .....	2 71
23. Operating expenses .....	2,390,202 60
24. Operating expenses per mile of road .....	7,276 11
25. Operating expenses per train mile .....	2 31
26. Net operating revenue .....	422,108 02
27. Net operating revenue per mile of road .....	1,284 96

*Car Mileage.*

28. Average number of passengers carried one mile per car mile .....	10.7
29. Average number of passengers carried one mile per train mile .....	59.3
30. Average number of passenger cars per train mile .....	5.55
31. Mileage of passenger cars .....	2,388,769
32. Mileage of loaded freight cars—north and east .....	4,268,751
33. Mileage of loaded freight cars—south and west .....	6,264,757
34. Mileage of empty freight cars—north and east .....	3,189,508
35. Mileage of empty freight cars—south and west .....	789,341
36. Average number of freight cars per train mile .....	23.08
37. Average number of loaded freight cars per train mile .....	16.03
38. Average number of empty freight cars per train mile .....	6.06
39. Average number of tons freight per train mile .....	360.82
40. Average number of tons freight per loaded car mile .....	22.50
41. Average mileage operated during the year .....	328.5

*Train Mileage.*

42. Mileage of revenue passenger trains .....	378,972
43. Mileage of revenue mixed trains .....	51,637
44. Mileage of revenue freight trains .....	605,297
45. Total revenue train mileage .....	1,035,906

TOWNSITES REPORT.

STATEMENT OF RECEIPTS—NOVEMBER 1ST, 1917, TO OCTOBER 31ST, 1918.

*Received on Lots Sold during Year.*

Latchford .....	\$50 00	
Englehart .....	147 54	
Matheson .....	356 25	
Monteith .....	45 00	
Porquis Junction .....	110 00	
Cochrane .....	783 65	
		<u>\$1,492 44</u>

*Received on Lots Sold prior to November 1st, 1917.*

Temagami .....	\$25 00	
Cobalt .....	298 00	
Englehart .....	919 33	
Dane .....	97 50	
Matheson .....	2,247 06	
Monteith .....	300 21	
Porquis Junction .....	1,720 25	
Cochrane .....	1,048 28	
		<u>\$6,655 63</u>

*Interest Received on Deferred Payments.*

Temagami .....	\$13 85	
Cobalt .....	80 74	
Englehart .....	287 49	
Dane .....	3 64	
Matheson .....	721 75	
Monteith .....	54 88	
Porquis Junction .....	151 57	
Cochrane .....	221 71	
		<u>1,535 63</u>
Interest received on bank deposits, less exchange .....	\$119 05	
Pulpwood sold from Porquis Junction .....	135 50	
		<u>\$254 55</u>
		<u>\$9,938 25</u>

TOWNSITE ACCOUNTS.

Statement of Lots Sold—Townships—Nov. 1st, 1917, to Oct. 31st, 1918.

—	Lots Sold.	Sale Price.		Amount Paid.	Balance due.
		\$ c.	\$ c.	\$ c.	\$ c.
Latchford .....	1 Parcel (11 Acres) .....		250 00	50 00	200 00
Englehart.....	2	100 00			
	1 " ( 5.04 " )	27 54			
	1 " ( 3.17 " )	20 00			
			<u>147 54</u>	147 54	
Matheson .....	25	655 00			
	1 Parcel .....	100 00			
			<u>755 00</u>	356 25	398 75
Monteith .....	3	.....	150 00	45 00	105 00
Porquis Junction..	3	.....	110 00	110 00	
Cochrane .....	19	.....	783 65	783 65	
			<u>2,196 19</u>	1,492 44	703 75

## STATEMENT OF WAGES PAID EMPLOYEES, YEAR ENDED OCTOBER 31st, 1918

*Officers.*

Maud, W. H. ....	Secretary-Treasurer .....	\$3,085 00
Clement, S. B. ....	Chief Engineer and Supt. of Main- tenance .....	4,200 00
Griffin, W. A. ....	Superintendent of Traffic .....	3,600 00
Gracey, T. J. ....	Auditor of Disbursements and Accountant .....	2,225 00
Graham, W. A. ....	Purchasing Agent and Storekeeper	2,640 00
Parr, A. J. ....	General Freight and Passenger Agent .....	2,580 00
Teskey, H. W. ....	Auditor of Receipts and Claims and Car Accountant .....	1,845 00
Ross, T. ....	Master Mechanic .....	2,580 00
Kelly, W. J. ....	Superintendent of Telegraph and Telephone .....	2,270 00
Ferguson, C. L. ....	Paymaster .....	2,520 00
Cole, A. A. ....	Mining Engineer .....	1,520 00
		\$29,065 00

*Office of Secretary-Treasurer.*

Odlum, A. B. ....	Chief Clerk .....	\$1,390 00
Pratt, A. B. ....	Statistics—Insurance .....	1,955 00
McNeice, Miss H. ....	Stenographer .....	917 50
Odlum, Miss R. ....	" .....	590 00
Nugent, Miss P. ....	" .....	420 00
Patterson, Miss V. ....	" .....	752 50
Brocklehurst, Miss H. ....	" .....	635 00
Young, Miss P. ....	" .....	134 00
Edwards, Miss M. ....	" .....	133 34
Johnson, Miss M. ....	" .....	7 00
Phillips, Miss M. ....	" .....	93 11
Kennedy, Miss A. ....	" .....	80 85
Best, Miss G. ....	Clerk .....	350 00
Hurry, Miss E. M. ....	" .....	300 00
Martin, R. M. ....	" .....	40 00
Kelly, H. ....	" .....	61 60
Elliss, Miss D. ....	" .....	50 00
McCartney, Miss L. ....	" .....	64 00
Baines, Geo. ....	Mail Carrier .....	51 85
		\$8,025 75

*Office of Auditor of Disbursements and Accountant.*

Hamilton, D. ....	Assistant Accountant .....	\$1,750 00
May, E. N. ....	Clerk .....	1,322 50
Dean, P. C. ....	" .....	815 00
McCartney, W. A. ....	" .....	735 00
Martin, R. M. ....	" .....	240 00
Graham, Miss G. G. ....	" .....	455 00
Burgess, Miss M. A. ....	" .....	775 00
Stewart, Miss R. ....	" .....	521 02
Robinson, Miss S. ....	" .....	477 50
Kerr, Miss G. ....	" .....	86 20
Morley, Miss E. C. ....	" .....	194 17
Giles, Miss M. ....	Stenographer .....	575 00
Ling, Miss G. ....	" .....	17 30
Lord, Miss E. ....	" .....	395 00
Smith, Miss M. L. ....	" .....	160 00
Constable, Miss A. ....	" .....	28 85
Anderson, Miss L. A. ....	" .....	60 00
Emery, Miss L. M. ....	" .....	105 60
		\$8,713 14

*Office of Mining Engineer.*

Molyneau, Miss M. ....	Stenographer .....	\$765 00	
McLaughlin, Miss F. ....	" .....	60 00	
			\$825 00

*Land Department.*

Bauldry, W. J. ....	Inspector .....	\$1,500 00	
Gregory, Miss T. ....	Stenographer .....	1,001 65	
			\$2,501 65

*Office of Chief Engineer and Superintendent of Maintenance and Engineering Department.*

Dickson, G. H. ....	Draughtsman .....	\$2,030 00	
McRoberts, A. A. ....	" .....	1,515 00	
Johnston, W. I. ....	Chief Clerk .....	1,740 50	
Young, J. ....	Clerk .....	1,143 25	
McIntosh, R. ....	" .....	200 00	
Morgan, N. L. ....	Stenographer .....	835 93	
Martin, A. H. ....	" .....	610 00	
Palmer, M. ....	" .....	491 11	
White, J. M. ....	Clerk .....	350 00	
Orton, B. ....	Stenographer .....	176 67	
Boast, R. G. ....	Resident Engineer .....	1,880 00	
Maher, W. R. ....	Locating Engineer .....	2,042 75	
Watson, C. G. ....	Instrument Man .....	1,341 50	
Fraser, A. C. ....	" .....	1,264 00	
O'Donnell, J. A. ....	" .....	781 50	
Bulger, C. ....	Rodman .....	210 77	
Allen, H. ....	" .....	131 98	
Flannery, W. M. ....	" .....	256 67	
Cousineau, J. ....	" .....	45 00	
Martin, H. ....	Inspector .....	213 33	
Tallon, J. ....	Tie Inspector .....	90 89	
English, W. ....	" .....	200 00	
Stewart, W. ....	Chainman .....	12 00	
			\$17,562 85

*Office of B. and B. Master.*

Oldham, W. J. ....	B. and B. M. ....	\$2,100 00	
Stafford, E. J. ....	Clerk .....	1,150 60	
			\$3,250 60

*Roadmasters.*

Young, W. ....	Roadmaster .....	\$2,010 00	
Faught, S. J. ....	" .....	125 00	
Switzer, W. ....	" .....	1,328 34	
Drinkwater, J. ....	" .....	1,890 00	
Edwards, A. ....	" .....	1,530 00	
Comrie, W. ....	" .....	60 48	
Rose, S. ....	" .....	35 00	
			\$6,978 82

*Office of Superintendent of Traffic.*

Jessup, J. H. ....	Acting Trainmaster .....	\$208 65	
McKerrow, G. ....	" .....	1,288 75	
Freeman, A. ....	Chief Clerk .....	1,506 75	
Thompson, W. A. ....	Clerk .....	1,260 96	
Bain, J. ....	" .....	967 64	
Brockway, W. L. ....	" .....	1,000 68	
Gairdner, M. J. ....	" .....	660 00	
Amos, A. C. ....	" .....	588 39	
Taylor, H. M. ....	" .....	585 00	
White, J. M. ....	" .....	11 54	
Ledkea, W. E. ....	" .....	156 87	
Wissler, J. S. ....	" .....	119 79	

Newell, M. ....	Stenographer .....	\$872 55	
Robertson, I. M. ....	" .....	769 00	
Carr, B. H. ....	" .....	500 00	
Griffith, E. ....	" .....	694 00	
Newton, V. P. ....	" .....	163 33	
Swan, R. ....	Special Officer .....	1,380 00	
Fleming, J. T. ....	" .....	200 00	
Brewster, L. ....	Porter, Business Car .....	951 65	
Monette, A. P. ....	" .....	951 65	
Swain, W. ....	" .....	39 21	
Hume, J. ....	Janitor .....	1,099 77	
Hume, Mrs. J. ....	Janitress .....	180 00	
Cliffe, R. ....	Office Boy .....	188 70	
Richmond, J. N. ....	Rule Book Instructor .....	222 02	
Ness, C. ....	Acting Trainmaster .....	382 50	
Hewitt, W. A. ....	Timekeeper .....	28 15	
			\$16,977 55

*Train Despatchers.*

Lamb, R. L. ....	C. Despatcher .....	\$2,535 00	
Workman, R. ....	Despatcher .....	2,499 08	
Trowhill, R. ....	" .....	2,547 14	
Dwyer, J. H. ....	" .....	2,338 66	
Pelkie, J. A. ....	Opr. and Relv. Despatcher .....	1,554 05	
Brown, A. W. ....	Despatcher .....	38 50	
Cattley, B. ....	R. S. Operator .....	22 79	
Gormley, J. W. ....	" .....	174 40	
Measor, J. S. ....	" .....	163 37	
			\$11,872 99

*Purchasing Agent and Stores Department.*

Alford, G. B. ....	Chief Clerk .....	\$1,561 00	
Tarsey, S. G. ....	Clerk .....	1,085 40	
Darling, E. ....	" .....	232 14	
Fletcher, D. R. ....	" .....	974 60	
Elston, E. ....	" .....	993 97	
Hume, L. R. ....	" .....	916 55	
Brill, M. ....	Stenographer .....	691 50	
Simpson, D. W. ....	" .....	693 50	
Dreany, L. ....	" .....	513 33	
White, M. ....	" .....	357 50	
Carruthers, T. L. ....	Clerk .....	205 17	
Hubert, R. ....	" .....	95 00	
Brill, L. C. ....	" .....	57 04	
Sale, T. M. ....	Store Foreman .....	1,561 00	
McManus, M. J. ....	Yard Foreman .....	1,066 42	
Dignan, J. C. ....	Storeman .....	992 90	
Depledge, F. ....	" .....	409 62	
Biggs, J. E. ....	" .....	861 15	
Brown, E. ....	" .....	360 00	
Prue, A. ....	" .....	838 43	
Beckett, J. ....	" .....	327 92	
White, R. ....	" .....	1,450 59	
Cavanagh, A. ....	" .....	816 71	
Smart, T. ....	" .....	165 00	
McGier, L. ....	" .....	7 41	
Clark, H. ....	" .....	72 59	
Karam, G. ....	" .....	19 26	
Telford, G. M. ....	" .....	17 77	
Coomb, H. ....	" .....	35 56	
Croghan, J. ....	" .....	171 61	
Hawkins, C. S. ....	" .....	153 10	
Adshead, H. ....	" .....	133 49	
Sale, T. ....	" .....	22 41	
English, W. ....	Inspector .....	1,089 27	
Daly, D. ....	Blacksmith .....	1,430 74	



Cipparrone, S. ....	Blacksmith Helper .....	\$1,082 37
Couch, A. ....	Laborer .....	698 36
Lebreque, J. ....	" .....	919 46
Pinkney, A. ....	" .....	853 06
Willis, W. G. ....	" .....	792 94
Watkin, W. ....	Storekeeper, Englehart .....	1,213 58
		\$25,939 42

*Office of General Freight and Passenger Agent.*

Banks, E. C. ....	C: Clerk .....	\$1,451 75
McLeod, R. P. C. ....	Clerk .....	1,034 02
Burritt, W. ....	" .....	610 42
Taylor, E. L. ....	Stenographer .....	629 50
Martin, E. V. ....	" .....	276 66
Cunningham, M. ....	" .....	620 00
Robinson, M. K. ....	" .....	323 33
Fitzsimmons, G. ....	Office Boy .....	188 50
Rogers, Percy .....	" .....	176 50
		\$5,310 68

*Office of Auditor of Receipts and Claims and Car Accountant.*

McGee, H. H. ....	Travelling Auditor .....	\$1,860 00
King, A. T. ....	" .....	1,488 14
Palmer, G. E. ....	Claims Inv. ....	1,500 00
Conroy, P. A. ....	Clerk .....	102 47
Brockway, H. ....	" .....	781 11
Brennan, J. B. ....	" .....	1,190 00
Lavery, T. H. ....	" .....	1,190 00
Galagher, J. A. ....	" .....	684 00
Douglas, M. B. ....	" .....	1,130 00
Trotter, A. T. ....	" .....	1,014 60
Jones, W. ....	" .....	1,085 00
Peel, R. J. ....	" .....	1,130 00
Knapp, E. A. ....	" .....	860 55
Cocksedge, G. ....	" .....	846 50
Doidge, M. ....	" .....	880 15
Smith, G. ....	" .....	830 00
Rigby, H. ....	" .....	350 00
Casey, M. ....	" .....	593 33
Campbell, M. ....	" .....	660 00
Sharpe, H. W. ....	" .....	76 15
Amos, D. G. ....	" .....	660 00
Winters, G. ....	" .....	653 65
Harrison, C. ....	" .....	615 00
Freeman, E. ....	" .....	608 65
Hamilton, C. ....	" .....	535 66
Osborne, A. ....	" .....	586 54
Smith, H. ....	" .....	495 00
Winters, V. ....	" .....	495 00
Conroy, E. V. ....	" .....	349 07
Burritt, R. ....	" .....	498 66
McKay, W. ....	" .....	132 16
Dignan, A. ....	" .....	295 77
Torrance, I. ....	" .....	278 52
Burke, W. ....	" .....	143 85
Beers, Mrs. J. ....	" .....	230 20
Lethbridge, J. ....	" .....	7 40
Parker, E. ....	" .....	356 82
Leishman, A. ....	" .....	102 97
Dun, I. ....	" .....	84 00
Wilson, N. R. ....	Stenographer .....	805 00
Lefebvre, A. ....	" .....	675 00
Sherman, M. ....	" .....	274 62
		\$27,135 54

*Office of Master Mechanic.*

Rodgers, H. L. ....	Mechanical Engineer .....	\$1,920 00
Douglas, J. J. ....	Road Foreman .....	500 00
Battley, C. ....	A. B. Inspector .....	1,970 00
McMillan, W. ....	T. C. Inspector .....	1,570 00
Earle, G. ....	Chief Electrician .....	1,670 00
Sharpe, H. W. ....	Draughtsman .....	752 63
Ellwood, R. ....	Chief Clerk .....	1,396 50
Raymond, J. C. ....	Clerk .....	1,022 40
Leppan, E. ....	" .....	349 31
Corbeil, I. ....	" .....	888 48
Lidkea, H. ....	" .....	562 40
Leppan, S. ....	" .....	512 80
McMillan, W. G. ....	" .....	225 00
Hansman, A. ....	" .....	169 26
Elston, E. ....	Stenographer .....	675 91
McLaren, G. ....	" .....	713 21
McMillan, N. A. ....	Road Foreman .....	1,482 04
Douglas, J. ....	Loco. Inspector .....	458 33
		\$16,838 27

*Telegraph and Telephone Department.*

Brown, C. A. ....	Clerk .....	\$800 00
Workman, R. ....	Operator .....	5 00
Pelkie, J. A. ....	" .....	5 00
Picard, J. W. ....	Lineman .....	1,201 02
Imbeault, E. ....	" .....	1,068 47
McLellan, J. ....	" .....	49 37
Picard, H. ....	Groundman .....	26 00
		\$3,154 86

*Office of Paymaster.*

Cousineau, L. J. ....	Clerk .....	\$255 00
Amos, H. C. ....	" .....	575 00
Blyth, C. R. ....	" .....	785 00
Bourke, E. ....	" .....	195 82
Carruthers, M. ....	" .....	392 69
		\$2,203 51

*Freight Office, North Bay.*

Baker, C. O. ....	Agent .....	\$2,172 25
Gibson, R. M. ....	C. Clerk .....	1,379 71
Sullivan, M. J. ....	Cashier .....	1,158 93
Forrest, W., Sr. ....	Clerk .....	1,136 79
Lapointe, H. ....	" .....	449 32
Forrest, W., Jr. ....	" .....	447 17
McNutt, H. M. ....	" .....	925 83
Willis, F. G. ....	" .....	910 03
Duncan, H. ....	" .....	916 72
Fitzsimmons, G. ....	" .....	755 94
Lansloot, R. ....	" .....	501 50
Titterton, P. W. ....	" .....	637 62
Dickey, E. ....	" .....	670 48
Coffey, D. ....	" .....	583 61
Girard, E. ....	" .....	105 00
Devine, Miss N. ....	Stenographer .....	455 76
Carr, Miss B. ....	" .....	150 00
Cangiano, N. ....	Clerk .....	211 11
McDonald, A. ....	" .....	195 96
Léfebvre, O. ....	" .....	329 06
Beatty, E. ....	" .....	33 47
Parker, E. ....	" .....	97 43
Fraser, A. G. ....	" .....	40 75
Brown, D. H. ....	" .....	39 92
Orton, Miss B. ....	" .....	74 44

Guay, S. ....	Messenger .....	\$10 71
Saunders, H. E. ....	" .....	40 17
Hunt, G. ....	" .....	117 92
Sharp, C. ....	" .....	54 58
Brown, W. ....	" .....	28 57
Sabourin, C. ....	" .....	7 77
Brill, Miss L. C. ....	Stenographer .....	129 81
Johnson, Miss O. M. ....	" .....	8 33
Brown, C. A. ....	" .....	2 77
Butt, Miss F. L. ....	" .....	52 78
Irwin, E. M. ....	Clerk .....	70 15
Johnson, O. ....	" .....	81 44
Lidkea, H. ....	" .....	14 39
		\$14,998 10

*Freight Shed, North Bay.*

Sharvell, F. W. ....	Foreman .....	\$1,379 63
Ashford, S. ....	Clerk .....	1,142 15
Pratt, C. ....	Checker .....	1,035 72
Rogers, A. E. ....	" .....	1,031 41
Challotte, M. ....	" .....	222 11
James, V. M. ....	" .....	817 71
Jenes, R. J. ....	" .....	686 41
Webber, S. ....	" .....	447 47
Griffiths, C. E. ....	" .....	762 10
Gauthier, O. ....	" .....	291 85
McLean, J. ....	" .....	62 96
Truckers, Stowers, Laborers, etc. ....		26,905 16
		\$34,784 68

*Yard Office, North Bay Junction.*

Ness, C. ....	Yardmaster .....	\$1,330 27
Richmond, J. N. ....	" .....	1,678 37
Aubry, N. ....	" .....	168 88
Archer, H. ....	" .....	445 53
Bradford, J. N. ....	" .....	452 32
Treacy, W. L. ....	" .....	170 20
King, A. W. ....	" .....	7 80
Roberts, C. A. ....	Operator .....	1,616 49
Dudley, H. A. ....	" .....	1,612 25
Cattley, B. ....	" .....	1,397 21
Brown, A. W. ....	" .....	125 36
Pelkie, J. A. ....	" .....	21 92
Wissler, J. S. ....	C. Clerk .....	1,104 06
Elston, F. ....	Clerk .....	1,016 24
Samler, W. ....	" .....	564 98
Donegan, J. E. ....	" .....	393 13
Edey, J. ....	" .....	933 91
Lapointe, E. ....	" .....	277 62
Dickey, E. ....	" .....	140 15
Saunders, L. ....	" .....	561 89
Lidkea, H. ....	" .....	3 57
Wright, W. T. ....	Checker .....	931 75
McGillis, A. ....	" .....	806 83
Leishman, C. ....	" .....	94 56
Ethier, J. E. ....	" .....	35 18
Brown, D. H. ....	" .....	20 90
Lariviere, A. ....	" .....	129 22
Peever, J. ....	" .....	626 48
Soule, A. ....	" .....	262 65
Saunders, H. E. ....	" .....	152 98
Barnhart, W. ....	Scaleman .....	880 99
McDevitt, L. ....	" .....	916 31
Vezina, P. ....	" .....	113 34

Willis, G. ....	Call Boy .....	\$243 19	
Adshead, H. ....	" .....	138 99	
Tindall, N. ....	" .....	198 13	
Girard, E. G. ....	" .....	39 95	
Quirt, L. ....	" .....	16 91	
Williams, C. ....	" .....	235 31	
Aubry, O. ....	" .....	310 28	
Marshall, W. ....	" .....	20 95	
Sabourin, C. ....	Messenger .....	143 72	
Lariviere, L. ....	" .....	58 57	
Pratt, A. ....	" .....	36 69	
Veraldi, S. ....	" .....	4 44	
Parry, J. ....	" .....	2 88	
Edey, C. ....	" .....	8 47	
Soule, F. ....	" .....	11 29	
Dubois, H. ....	" .....	25 27	
Leboenf, D. ....	" .....	1 79	
Montigny, J. ....	" .....	51 49	
Ethier, D. ....	" .....	6 70	
Quirt, W. ....	" .....	356 09	
Sharp, C. ....	" .....	83	
Lefebvre, P. E. ....	" .....	2 50	
Gerious, E. ....	" .....	74 51	
Mantha, J. ....	" .....	3 23	
Parr, R. ....	" .....	36 29	
Giles, E. ....	" .....	216 37	
Colbon, W. ....	Janitor .....	299 97	
			\$21,538 15

*Station, Widdifield.*

Deagle, L. A. ....	Agent .....	\$327 18	
Beemer, J. H. ....	" .....	959 76	
Gormley, J. W. ....	Relieving Agent .....	50 53	
			\$1,337 47

*Station, Tomiko.*

Smith, A. J. ....	Agent .....	\$1,420 31	
Marshall, R. S. ....	Relieving Agent .....	26 60	
McCloskey, G. E. ....	Operator .....	1,193 98	
			\$2,640 89

*Station, Redwater.*

Baker, T. J. ....	Agent .....	\$1,584 40	
Deschenes, J. H. ....	Relieving Agent .....	60 06	
			\$1,644 46

*Station, Temagami.*

Clark, M. G. ....	Agent .....	\$1,455 37	
Ferguson, W. J. ....	Cleaning .....	30 00	
			\$1,485 37

*Station, Latchford.*

Richardson, R. ....	Agent .....	\$264 66	
Murphy, E. M. ....	Relieving Agent .....	178 26	
Deagle, L. A. ....	Agent .....	1,303 76	
Switzer, H. R. ....	Operator .....	1,060 69	
Marshall, R. S. ....	" .....	33 52	
Brown, D. H. ....	" .....	66 38	
			\$2,907 27

## Station, Cobalt.

Way, D. H. ....	Agent .....	\$2,010 00
Earle, W. R. ....	Operator .....	1,618 42
Audet, E. J. ....	" .....	86 66
Nixon, E. ....	Clerk .....	1,335 24
Hunter, I. L. ....	" .....	1,134 24
Carter, W. ....	" .....	967 41
Gregor, L. V. ....	" .....	115 38
Cassie, Miss M. ....	" .....	790 45
Downard, F. ....	" .....	375 00
Joanisse, E. ....	" .....	634 17
Whaley, F. M. ....	" .....	255 93
Mayer, Miss M. M. ....	Stenographer .....	44 73
Shernick, Miss R. ....	" .....	138 33
Murdock, Miss E. W. ....	" .....	167 50
Major, L. ....	" .....	10 00
Ritchie, S. A. ....	" .....	503 01
Bywaters, H. ....	Shed Foreman .....	1,166 90
McAllister, F. L. ....	Checker .....	149 10
Crawford, T. J. ....	" .....	142 79
Taylor, C. ....	" .....	350 51
Clark, S. ....	" .....	414 57
Boileau, E. ....	" .....	169 61
Gorman, J. T. ....	" .....	309 62
Clark, J. J. ....	" .....	26 92
Kearney, M. ....	" .....	151 20
Hocking, J. ....	" .....	397 98
Crawford, J. W. ....	" .....	226 51
Bradley, W. ....	" .....	264 05
Devinney, N. ....	" .....	15 40
Peacock, W. A. ....	Trucker .....	49 90
Edwards, W. ....	" .....	87 33
Lapense, H. ....	" .....	18 30
McMillan, S. ....	" .....	4 81
Bell, R. ....	" .....	218 17
Barnes, A. ....	" .....	320 00
Andrasaks, A. ....	" .....	12 50
Cameron, L. A. ....	" .....	16 25
Maldens, F. ....	" .....	397 57
Rhodes, C. ....	" .....	183 75
Moquin, L. ....	" .....	57 50
Coumes, J. ....	" .....	21 25
Barker, H. T. ....	" .....	410 96
Roy, A. A. ....	" .....	30 09
Rathwell, J. J. ....	" .....	190 51
Clement, J. A. ....	Baggage-man .....	43 33
Whitehead, H. ....	" .....	1,197 05
Quibell, W. ....	Constable .....	216 65
Holmes, R. B. ....	" .....	63 14
Laurin, J. A. ....	" .....	310 00
McLeod, T. ....	Attendant .....	4 37
Stor, Mrs. M. ....	Janitress .....	8 16
Stokes, Mrs. L. ....	" .....	14 99
Dudford, Mrs. J. ....	" .....	19 11
Peterson, Mrs. M. ....	" .....	22 30
Price, Mrs. B. ....	" .....	4 96
Bartlett, Mrs. M. ....	" .....	239 81
Johnson, Mrs. M. ....	" .....	118 15
Bartlett, Mrs. M. ....	" .....	40 30
		<hr/>
		\$18,292 84

## Station, North Cobalt.

Gibbons, G. ....	Agent .....	\$1,263 84
O'Brien, H. ....	Cleaning .....	12 00
		<hr/>
		\$1,275 84

*Station, Haileybury.*

Shibley, J. H. ....	Agent .....	\$1,592 51
Copner, J. M. ....	C. Clerk .....	1,329 13
Trousdale, F. A. ....	Operator .....	73 34
Marshal, R. S. ....	" .....	130 64
Murphy, E. M. ....	" .....	1,044 21
Lebarron, L. W. ....	" .....	78 64
Brown, A. W. ....	" .....	69 65
Grant, W. A. ....	" .....	61 29
Dunn, J. E. ....	Clerk .....	47 47
Wattam, M. I. ....	" .....	898 14
Devinney, R. M. ....	" .....	256 33
Roach, M. I. ....	" .....	752 23
Floody, L. M. ....	" .....	118 36
Dunn, J. A. ....	" .....	90 00
Rice, W. ....	Baggage-man .....	144 49
Edwards, T. ....	" .....	322 50
Alton, C. E. ....	S. Foreman .....	759 76
Moore, M. R. ....	" .....	981 83
Hoolihan, C. ....	Checker .....	222 14
Roy, A. A. ....	" .....	135 59
Mawhinney, W. ....	" .....	273 34
Spence, Mrs. ....	Cleaning .....	15 00

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 \$9,396 59
*Station, New Liskeard.*

Goodman, E. M. ....	Agent .....	\$1,784 98
Murphy, E. M. ....	Relieving Agent .....	33 38
Holt, F. G. ....	Operator .....	1,404 41
Durand, J. B. ....	" .....	1,045 51
Lebarron, L. W. ....	" .....	26 85
Sawyer, O. ....	" .....	21 42
Broughton, E. W. ....	" .....	6 52
Ramsay, W. ....	Clerk .....	1,148 14
Stafford, E. J. ....	" .....	442 96
Herron, F. ....	" .....	447 27
Cameron, R. M. ....	" .....	34 00
Hogg, A. ....	S. Foreman .....	452 82
Proctor, H. ....	" .....	331 56
Hansman, A. ....	Checker .....	327 50
Wolfe, P. ....	Baggage-man .....	568 88
McMillan, P. ....	Janitor .....	727 61
Kingyens, C. ....	" .....	88 32
Smith, E. ....	" .....	221 80
Taylor, C. H. ....	Trucker .....	557 40
Barr, H. ....	Messenger .....	339 97

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 \$10,011 30
*Station, Uno Park.*

Brown, H. G. ....	Agent .....	\$764 80
Doherty, M. R. ....	" .....	591 64
Marshall, R. S. ....	Relieving Agent .....	51 82
Audet, E. J. ....	" .....	66 11
Connors, E. ....	Teaming .....	8 00

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 \$1,482 37
*Station, Thornloe.*

Caldwell, W. H. ....	Agent .....	\$1,539 12
Marshall, R. S. ....	Relieving Agent .....	25 90

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 \$1,565 02

*Station, Earleton.*

Buchanan, L. ....	Agent .....	\$1,570 64	
Audet, E. J. ....	Relieving Agent .....	108 42	
Blanchett, N. J. ....	Assistant .....	729 41	
Haskin, A. ....	Cleaning .....	10 50	
		<hr/>	\$2,418 97

*Station, Elk Lake.*

Belanger, O. ....	Agent .....	\$1,640 45	
Tuck, J. S. ....	Clerk .....	654 42	
Staniski, Mrs. S. ....	Janitress .....	59 99	
Belanger, J. M. ....	Messenger .....	5 92	
Champagne, H. ....	" .....	3 89	
Staniski, T. ....	Cleaning .....	10 00	
		<hr/>	\$2,374 67

*Station, Heaslip.*

Chouinard, J. ....	Agent .....	\$1,361 38	
Audet, E. J. ....	Relieving Agent .....	77 48	
		<hr/>	\$1,438 86

*Station, Englehart.*

Murray, F. J. ....	Agent .....	\$1,546 36	
Vanmeer, E. W. ....	Operator .....	1,741 79	
Bruce, G. ....	" .....	1,886 37	
Murphy, E. M. ....	" .....	22 48	
Sawyer, O. ....	" .....	50 36	
Grant, W. A. ....	" .....	362 94	
Erret, F. A. ....	C. Clerk .....	935 98	
Dunn, J. A. ....	Clerk .....	46 36	
Monkhouse, T. S. ....	S. Foreman .....	1,233 62	
Pullan, C. ....	Checker .....	173 88	
Price, A. ....	" .....	491 43	
Woollings, E. V. ....	" .....	653 98	
Hough, C. ....	" .....	150 26	
Vanmeer, W. ....	" .....	29 22	
Ward, W. ....	" .....	718 68	
Rowe, C. ....	" .....	522 05	
Ellis, O. ....	Stenographer .....	605 40	
Pullan, A. ....	Baggageman .....	732 50	
Gray, R. N. ....	Trucker .....	20 96	
Free, W. ....	" .....	877 65	
Vreeland, E. ....	" .....	460 19	
Stevens, D. R. ....	" .....	937 43	
Phillips, W. ....	" .....	882 73	
Ward, W. J. ....	" .....	13 33	
Bowen, D. B. ....	" .....	154 28	
Price, R. T. ....	Janitor .....	740 40	
Green, J. ....	Call Boy .....	275 92	
Ward, C. ....	" .....	99 35	
Hoskin, A. ....	Scavenger .....	6 00	
		<hr/>	\$16,371 90

*Station, Charlton.*

Price, J. T. ....	Agent .....	\$1,411 24	
Audet, E. J. ....	Relieving Agent .....	62 10	
Rogers, G. P. ....	Clerk .....	167 31	
Hanson, E. ....	" .....	67 70	
Hill, J. S. ....	" .....	"	
		<hr/>	\$1,822 42

*Station, Boston Creek.*

Marshall, C. ....	Agent .....	\$172 93	
		<hr/>	\$172 93

*Station, Danc.*

Marshall C. ....	Agent .....	\$1,076 13	
Murphy, E. M. ....	Relieving Agent .....	7 50	
Gormley, J. W. ....	" .....	95 37	
			<u>\$1,179 00</u>

*Station, Swastika.*

Brennan, W. W. ....	Agent .....	\$1,521 94	
Marshall, R. S. ....	Relieving Agent .....	261 13	
Audet, E. J. ....	Operator .....	35 80	
Murphy, E. M. ....	" .....	98 06	
Lebarron, L. W. ....	" .....	65 22	
Sawyer, O. ....	" .....	66 74	
Gormley, J. W. ....	" .....	107 68	
McLellan, J. E. ....	Telephone Operator .....	96 80	
McLellan, M. ....	" .....	326 92	
Furlong, A. ....	" .....	458 19	
Boivin, E. ....	" .....	168 27	
Clark, M. ....	Clerk .....	52 80	
Moore, T. F. ....	" .....	722 83	
Fisher, H. ....	" .....	410 53	
Etherington, H. ....	" .....	478 43	
			<u>\$4,871 34</u>

*Station, Bourkes.*

Valliere, J. L. ....	Operator .....	\$1,295 85	
Lebarron, L. W. ....	" .....	17 70	
			<u>\$1,313 55</u>

*Station, Matheson.*

Beemer, F. B. ....	Agent .....	\$1,769 76	
Black, W. R. ....	Operator .....	339 43	
Lebarron, L. W. ....	" .....	17 70	
Ludford, P. A. ....	Clerk .....	495 01	
Monahan, R. M. ....	" .....	300 77	
Stewart, M. ....	" .....	9 23	
Kitts, J. M. ....	" .....	254 14	
Brown, W. ....	Baggage man, Checker .....	791 86	
Kingston, Mrs. ....	Janitress .....	119 98	
Bruce, J. ....	Teaming .....	10 15	
Shellswell, J. ....	" .....	23 45	
McCauley, F. ....	Checker .....	27 13	
			<u>\$4,158 61</u>

*Station, Montcith.*

Allan J. D. ....	Agent .....	\$1,219 80	
Audet, E. J. ....	Relieving Agent .....	59 60	
			<u>\$1,279 40</u>

*Station, Porquis Jct.*

Milne, W. B. ....	Agent .....	\$1,734 22	
Beemer, F. B. ....	" .....	42 00	
Beemer, J. H. ....	Operator .....	372 28	
Clark, P. G. ....	" .....	68 75	
Audet, E. J. ....	" .....	676 16	
Black, W. R. ....	" .....	1,130 05	
Sawyer, O. ....	" .....	142 34	
Martin, J. S. ....	" .....	4 54	
Switzer, H. R. ....	" .....	76 57	
Brown, D. H. ....	" .....	412 04	
Hess, D. ....	Clerk .....	393 54	
McDonald, G. ....	" .....	1,157 19	
Redford, G. E. ....	" .....	56 36	



Ludford, A. ....	Telephone Operator .....	\$201 53
Nolting, M. ....	" .....	529 79
Cousineau, E. ....	" .....	333 64
Hopkins, H. ....	Baggageman .....	18 35
Goldstein, A. ....	" .....	170 25
Beatty, R. H. ....	" .....	112 50
Harper, R. ....	" .....	387 40
Harper, W. ....	" .....	849 04
Rowlandson, J. ....	" .....	433 26
Baillod, H. ....	Exp. Transfer .....	95 40
Osborne, A. ....	Janitor .....	746 49
Nolting, Mrs. C. ....	Cleaning .....	6 00
Lothian, D. R. ....	Baggageman .....	15 65

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 \$10,165 34

## Station, Iroquois Falls.

Varrett, E. J. ....	Agent .....	\$161 20
Chatterton, C. D. ....	" .....	1,167 27
King, A. T. ....	" .....	3 00
Simms, A. E. ....	Operator .....	1,014 50
Lebarron, L. W. ....	" .....	26 27
Swayne, A. R. ....	" .....	455 75
Leitch, J. ....	C. Clerk .....	1,300 47
Mortson, R. C. ....	" .....	159 23
Stevens, A. ....	Clerk .....	88 46
Ludford, L. D. ....	" .....	435 92
Charbonneau, J. H. ....	" .....	667 15
Miller, F. ....	" .....	241 66
Martin, J. S. ....	" .....	310 12
Thomson, O. M. ....	" .....	59 14
Leitch, R. M. ....	" .....	540 66
Zealand, B. ....	" .....	317 81
Johnson, C. E. ....	" .....	281 64
Archangeault, N. ....	" .....	132 00
Armstrong, C. E. ....	" .....	60 18
Orr, O. T. ....	" .....	238 27
McCurdy, M. ....	" .....	102 16
Donohue, R. J. ....	" .....	39 32
Pullin, J. W. ....	" .....	198 86
Stevenson, C. H. ....	Cashier .....	409 53
Edwards, H. M. ....	" .....	96 28
Stevens, M. ....	Stenographer .....	741 77
Charron, M. O. ....	" .....	54 05
McLeod, E. ....	Baggageman .....	435 54
Bentley, R. ....	" .....	328 17
Barnes, F. ....	Shed Foreman .....	201 48
Mullen, R. C. ....	" .....	166 62
McDonald, D. A. ....	" .....	289 18
Daly, G. L. ....	" .....	69 25
Hill, H. ....	" .....	251 06
Penoff, P. ....	Shedman .....	621 08
Currie, L. ....	Tel. Operator .....	229 33
Stillar, M. P. ....	" .....	462 05
Brisbois, V. ....	Messenger .....	70 83
Bond, B. ....	" .....	6 92
Chartre, E. ....	" .....	150 00
Kingsley, H. ....	Janitor .....	30 00

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 \$12,614 18

## Station, Connaught.

Picard, J. W. ....	Agent .....	\$1,428 71
Audet, E. J. ....	Relieving Agent .....	63 17
Gervais, A. ....	Clerk .....	204 90
Green, G. ....	" .....	352 58
Maltais, P. ....	" .....	69 55
Armstrong, C. E. ....	" .....	140 37

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 \$2,259 28

*Station, South Porcupine.*

Marshall, R. S. ....	Agent .....	\$903 51
Varrett, E. J. ....	" .....	1,672 35
Audet, E. J. ....	Relieving Agent .....	77 15
Brown, H. G. ....	Operator .....	763 72
Deschenes, J. H. ....	" .....	66 13
Dunn, J. A. ....	Clerk .....	282 50
Brown, P. ....	Baggageman .....	28 80
Barnes, E. A. ....	" .....	72 50
Johnston, J. ....	" .....	297 18
Boivin, P. ....	" .....	366 69
Longworth, B. ....	Shedman .....	198 52
Williams, J. B. ....	" .....	435 08
McLeod, Mrs. E. ....	Cleaning .....	54 99
Talentino, R. ....	Scavenger .....	24 00
		<hr/>
		\$5,243 12

*Station, Schumacher.*

Hawkins, J. A. ....	Agent .....	\$1,920 01
Audet, E. J. ....	Relieving Agent .....	157 42
D'Vine, L. ....	Clerk .....	13 57
Kitchen, J. S. ....	" .....	628 30
Plaunt, S. ....	" .....	88 31
Hawkins, E. ....	" .....	27 77
		<hr/>
		\$2,835 38

*Station, Timmins.*

Richardson, R. ....	Agent .....	\$1,473 55
Allan, J. D. ....	" .....	311 96
Shankman, S. ....	Operator .....	1,308 62
Swayne, A. R. ....	" .....	890 66
Simms, A. E. ....	" .....	312 87
Donohue, R. J. ....	C. Clerk .....	1,281 62
Leitch, J. ....	" .....	54 81
Donaldson, E. M. ....	Clerk .....	452 58
Nixon, A. ....	Baggageman .....	841 56
Patterson, W. A. ....	Clerk .....	52 31
Teed, M. ....	" .....	520 29
Pommerille, J. G. ....	" .....	104 01
McCarthy, N. ....	Cashier .....	454 29
Donovan, M. A. ....	Stenographer .....	610 00
Archer, P. ....	" .....	273 22
Fulton, G. ....	Shed Foreman .....	1,088 15
Watt, W. ....	" .....	208 92
Brewer, A. ....	Checker .....	894 97
Maltais, P. ....	" .....	693 61
Martin, J. S. ....	" .....	66 80
Armstrong, C. ....	" .....	91 15
Downey, H. R. ....	Baggageman .....	86 57
Brewer, H. ....	Trucker .....	52 50
Nixon, Mrs. A. ....	Caretaker .....	475 16
Ayoub, H. ....	Messenger .....	122 50
Brown, K. H. ....	" .....	1 39
Little, K. ....	" .....	52 50
Mustatow, E. ....	" .....	88 20
Gauthier, J. ....	" .....	16 80
Gilker, M. ....	" .....	162 51
Peters, Mrs. ....	Janitress .....	54 81
Garovitch, M. ....	Scavenger .....	15 00
		<hr/>
		\$13,113 89

*Station, Cochrane.*

Mortson, R. C. ....	Agent .....	\$1,763 87
King, A. T. ....	" .....	241 28

Robinson, W. G. E. ....	Operator	\$1,677 30
Fisher, E. C. ....	"	1,736 46
Deschenes, J. H. ....	"	69 83
Grasser, H. J. ....	Clerk	1,054 05
Douglas, E. M. ....	"	455 41
Bernier, J. A. ....	"	594 32
Drinkwater, L. ....	"	491 54
Nunn, W. ....	"	938 31
Sullivan, E. E. ....	"	177 60
Powell, Q. ....	"	42 43
Knox, I. L. ....	"	414 83
Sanderson, E. H. ....	"	306 25
Crumie, M. ....	Stenographer	448 14
Adams, E. M. ....	"	324 65
Johnson, F. ....	Baggage-man	295 14
Jones, E. A. ....	"	160 44
Harper, R. ....	"	141 94
Bauldry, J. A. ....	"	342 26
Livsey, T. ....	Shed Foreman	473 61
Moore, L. H. ....	"	402 86
Pawson, W. G. ....	Checker	938 27
Hewson, W. ....	"	72 40
Smith, J. A. ....	"	40 59
Zahalan, G. ....	"	11 97
Queenville, H. ....	"	628 04
Drake, E. J. ....	"	283 53
Byers, D. J. ....	Trucker	72 25
Morrin, J. ....	"	65 10
Roussell, D. ....	"	13 75
Payne, G. H. ....	"	270 02
Daigle, J. A. ....	"	7 22
Lacroix, T. ....	"	18 75
Singh, J. ....	"	184 80
Albertson, F. G. ....	"	211 28
Robillard, E. ....	"	21 25
Letourneau, J. ....	"	55 81
Bedard, P. ....	"	20 94
Valiquette, M. O. ....	"	3 90
Gauthier, A. ....	"	130 34
Madean, J. ....	"	130 34
Cote, F. ....	"	138 88
Thomas, L. ....	"	254 27
Logan, J. ....	"	244 38
Hewson, J. ....	"	271 12
Taillon, S. ....	Janitor	943 13
Pert, W. ....	"	1,014 71
Drake, E. ....	"	279 58
Brazeau, L. ....	Messenger	130 38
Pert, R. A. ....	"	269 58

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 \$19,279 10

## Yard Office, Cochrane.

Barlow, I. W. ....	Yardmaster	\$860 92
Axler, T. ....	Clerk	1,405 89
Campbell, D. S. ....	"	141 63
Drake, E. ....	Heaterman	65 00
Cummings, A. ....	"	954 17
Bauldry, J. A. ....	"	362 37
Sullivan, L. ....	"	30 77
Presby, O. K. ....	Checker	34 62
Hewson, J. A. ....	"	518 21
Sanderson, G. ....	"	329 71
Belleveau, J. ....	"	123 33
Moore, A. ....	"	227 03
Jamieson, D. ....	"	306 67
St. John, J. A. ....	"	240 10
Wingrove, J. N. ....	"	232 83

Powles, G. A. ....	Checker	\$195 05
Amandola, K. ....	"	397 33
Bellande, A. ....	"	46 52
Peterson, C. E. ....	"	57 86
Brazeau, L. ....	"	3 87
Bennett, F. ....	"	37 19
Mainville, H. ....	"	49 36
Jones, C. ....	"	34 33
Therrault, J. ....	Call Boy	23 58
Ivy, A. T. ....	"	190 57
Carriere, A. ....	"	146 23
Eaton, W. ....	and Checker	377 91
Eaton, D. H. ....	"	60 00
Peterson, O. ....	"	70 64

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 \$7,523 69

#### Shelter Stations.

Daly, J. ....	Attendant	\$80 00
Young, Mrs. A. L. ....	"	60 00
Johnston, J. ....	"	120 00
Blackburn, Mrs. H. ....	"	60 00
Bedford, H. P. ....	"	87 50
Schlievert, W. ....	"	32 50
Simser, W. J. ....	"	40 00
Cohen, L. ....	"	80 00
Goodfellow, Mrs. R. ....	"	70 00
Labelle, F. ....	"	95 00
Burnett, W. ....	"	120 00
Lalonde, T. A. ....	"	100 00
Moncian, J. B. ....	"	20 00
Fillmore, J. ....	"	22 90
Mitchell, J. B. ....	"	120 00
King, C. ....	"	144 80
Corbeil, J. J. ....	"	17 40
Bouck, R. H. ....	"	120 00
Gervais, A. ....	"	120 00
Tomlinson, C. ....	"	30 00

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 \$1,540 10

#### Conductors.

Nidd, J. T. ....	Conductor	\$1,547 52
Newell, A. ....	"	1,736 76
Murray, P. J. ....	"	1,675 99
Graham, H. F. ....	"	1,826 20
McParland, T. J. ....	"	1,571 61
Hamilton, T. ....	"	1,869 25
Gillespie, J. ....	"	2,118 32
Flegg, R. ....	"	494 71
Sheppard, E. E. ....	"	1,790 94
Jessup, J. H. ....	"	1,429 09
McKerrow, G. W. ....	"	828 54
Ressor, A. P. ....	"	2,392 30
Cockerline, J. ....	"	1,420 01
Miller, A. ....	"	2,095 75
Miller, J. S. ....	"	2,446 13
Leckie, J. W. ....	"	1,573 67
Aubry, N. ....	"	1,853 58
Bradford, J. N. ....	"	994 04
Lillie, O. ....	"	2,098 92
Nixon, W. ....	"	2,180 17
Archer, H. A. ....	"	1,573 39
Treacy, W. L. ....	"	1,937 06
Dubois, C. H. ....	"	980 62
Robinson, E. ....	"	1,223 69
Campbell, W. A. ....	"	895 09

McConomy, E. J. ....	Conductor .....	\$1,109 55
Steinhoff, J. A. ....	" .....	1,633 82
McTavish, R. ....	" .....	2,113 96
Rouble, A. ....	" .....	2,422 23
Sullivan, H. ....	" .....	2,213 58
Thomas, H. ....	" .....	1,771 36
Connell, J. S. ....	" .....	976 59
Campbell, T. J. ....	" .....	1,291 29
Bourrett, W. J. ....	" .....	1,704 63
McMahon, F. ....	" .....	771 12
Loney, W. L. ....	" .....	1,023 06
King, A. W. ....	" .....	1,353 05
King, E. J. ....	" .....	379 38
Perrault, G. ....	" .....	1,769 77
St. Louis, F. ....	" .....	1,304 99
Dorschner, A. ....	" .....	108 69
Kennedy, J. ....	" .....	1,021 15
Stoughton, N. ....	" .....	1,895 19
Copps, R. W. ....	" .....	133 78
Fisher, R. E. ....	" .....	906 82
Pringle, G. ....	" .....	214 95
Francis, S. F. ....	" .....	891 81
Ness, C. ....	" .....	67 74
O'Hara, J. ....	" .....	39 17
Fleming, R. ....	" .....	92 64
Cameron, A. ....	" .....	30 96
Drinkwater, S. ....	" .....	114 14
Kerr, C. D. ....	" .....	1,005 23
Ferrier, G. ....	" .....	192 99
Chambers, A. J. ....	" .....	1,744 29
Lett, W. ....	" .....	124 37
Wall, A. H. ....	" .....	12 00
Holland, J. ....	" .....	819 27
Barrett, P. J. ....	" .....	1,229 00
Sullivan, K. ....	" .....	386 55
Edwards, W. J. ....	" .....	226 15
Kilroy, P. B. ....	" .....	457 15
Doherty, T. J. ....	" .....	43 25
Stevenson, W. J. ....	" .....	395 88
Bailey, J. ....	" .....	18 46
Gauthier, A. ....	" .....	54 15
Pringle, N. ....	" .....	590 09
Richmond, J. N. ....	" .....	11 40
Belec, D. A. ....	" .....	208 95
Bigelow, E. ....	" .....	213 99
Bailey, J. B. ....	" .....	53 30
Farmer, A. ....	" .....	31 32
Johnston, A. ....	" .....	83 20

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 \$75,809 76

#### Brakemen.

Lee, G. ....	Brakemen .....	\$1,154 28
McQuestion, W. A. ....	" .....	1,137 05
Edwards, A. S. ....	" .....	1,195 23
Seguin, W. J. ....	" .....	1,282 70
Downey, M. J. ....	" .....	1,400 62
Coburn, G. ....	" .....	1,231 12
Cockerline, A. S. ....	" .....	304 50
Thurlow, J. ....	" .....	1,187 15
Aubry, H. J. ....	" .....	1,127 13
Durack, D. B. ....	" .....	1,474 29
Winters, W. R. ....	" .....	1,684 46
Allan, J. B. ....	" .....	1,245 20
Ryan, H. ....	" .....	2 93
Kilroy, P. B. ....	" .....	1,180 60
Francis, S. F. ....	" .....	903 91

Holland, J. ....	Brakemen	\$752 10
Lett, W. ....	"	1,479 43
Edwards, W. J. ....	"	1,398 13
Sullivan, K. ....	"	1,389 86
Ferrier, G. ....	"	1,195 44
Fleming, R. ....	"	1,290 02
Doherty, T. J. ....	"	1,403 07
Fisher, R. E. ....	"	758 91
Bailey, J. ....	"	1,324 46
Copps, R. W. ....	"	1,597 51
Gauthier, A. ....	"	1,321 16
Dubois, C. H. ....	"	670 12
King, A. W. ....	"	377 14
King, E. J. ....	"	1,231 44
Spencer, W. L. ....	"	224 43
James, R. ....	"	1,364 75
Farmer, A. ....	"	1,555 10
Farmer, W. ....	"	1,373 32
Scott, F. J. ....	"	849 57
Kerr, C. D. ....	"	869 29
Pringle, N. ....	"	1,163 70
Comerford, D. T. ....	"	1,508 98
Simms, P. ....	"	1,461 91
Pringle, G. ....	"	1,390 28
Chambers, W. H. ....	"	306 09
Fleury, G. ....	"	202 51
O'Hara, J. ....	"	901 59
O'Toole, G. ....	"	1,221 79
Foster, W. F. ....	"	1,514 04
Larone, A. T. ....	"	1,519 68
Hollands, W. ....	"	1,587 44
Bigelow, E. ....	"	1,470 18
Lennox, E. W. ....	"	1,284 52
Wall, A. H. ....	"	1,621 57
Belec, D. A. ....	"	1,114 00
Bourrette, W. J. ....	"	341 41
St. Louis, F. ....	"	471 86
Kennedy, J. ....	"	765 78
Loney, W. L. ....	"	68 21
McArthur, N. R. ....	"	1,252 81
Biers, J. M. ....	"	796 50
Caley, C. ....	"	1,029 88
Chambers, A. J. ....	"	295 44
Wagner, H. W. ....	"	427 27
Johnston, A. ....	"	1,656 15
Banks, R. W. ....	"	1,510 06
Cameron, A. ....	"	1,451 35
Cameron, E. M. ....	"	1,391 95
Denault, W. ....	"	637 15
Fisher, W. ....	"	1,528 66
Irvine, A. ....	"	797 67
Childerhose, W. ....	"	240 04
Leckie, R. ....	"	471 89
McAughey, T. J. ....	"	1,487 58
Johnson, I. W. ....	"	1,388 96
Spence, C. J. ....	"	253 60
Treacy, W. L. ....	"	4 92
Campbell, W. A. ....	"	817 76
Conroy, A. J. ....	"	430 87
Green, D. ....	"	597 51
Sommerville, J. S. ....	"	1,088 60
McCauley, M. J. ....	"	645 06
Bigelow, J. ....	"	481 61
Barrett, P. J. ....	"	504 11
Kerr, B. ....	"	187 78
Jarvis, A. ....	"	308 28
Ryan, J. A. ....	"	140 28

Thompson, G. ....	Brakemen .....	\$824 18
Dunn, E. ....	" .....	590 49
Cahill, M. ....	" .....	1,365 98
McDonald, J. J. ....	" .....	1,038 45
Drinkwater, S. ....	" .....	623 26
Coughlin, J. J. ....	" .....	449 98
Leckie, J. W. ....	" .....	136 77
Dorschner, A. ....	" .....	268 49
Fraser, E. ....	" .....	501 02
Houle, A. ....	" .....	30 15
Doyle, H. B. J. ....	" .....	158 06
Begin, P. ....	" .....	13 37
McGee, E. G. ....	" .....	200 11
Gauthier, J. ....	" .....	167 96
Willis, E. ....	" .....	1,050 10
Robinson, E. ....	" .....	160 49
Purcell, J. E. ....	" .....	379 21
Jarvis, J. M. ....	" .....	8 20
Widdifield, H. ....	" .....	190 57
McLellan, D. ....	" .....	431 42
Coulthart, D. P. ....	" .....	83 06
Taylor, L. P. ....	" .....	250 66
Kimmerley, J. W. ....	" .....	204 57
Croghan, R. ....	" .....	1,131 42
O'Neil, P. J. ....	" .....	732 09
Stoughton, F. ....	" .....	1,232 79
Munroe, J. C. ....	" .....	63 85
Coughlin, A. ....	" .....	239 09
Hill, I. C. ....	" .....	79 20
Patterson, W. ....	" .....	1,120 59
Assad, K. ....	" .....	97 15
White, L. ....	" .....	1,138 60
Manigold, H. ....	" .....	286 55
Barlow, I. W. ....	" .....	572 68
Stephenson, W. J. ....	" .....	1,035 34
McNeil, H. A. ....	" .....	605 53
Hoppins, G. N. ....	" .....	434 54
Kelly, B. M. ....	" .....	844 86
Dunn, R. ....	" .....	162 46
Buffett, A. D. ....	" .....	568 69
Chambers, J. E. ....	" .....	1,017 22
Pommerelle, E. ....	" .....	93 60
Patterson, R. ....	" .....	89 43
Hamilton, W. R. ....	" .....	67 96
Vallier, J. ....	" .....	957 62
Mullen, R. C. ....	" .....	268 98
Menard, E. ....	" .....	300 44
Ranson, J. A. ....	" .....	662 12
McCauley, J. ....	" .....	479 64
Downard, F. ....	" .....	147 02
McQuarrie, G. M. ....	" .....	54 88
Gordon, J. ....	" .....	610 95
Haggarty, E. ....	" .....	491 04
Peden, A. ....	" .....	47 13
Dickenson, D. H. ....	" .....	302 92
McCoy, A. J. ....	" .....	115 71
Pound, A. R. ....	" .....	945 41
Hughes, T. W. ....	" .....	155 77
Deacon, W. ....	" .....	30 92
Mayer, T. ....	" .....	197 42
Harrington, C. F. ....	" .....	289 08
Brennan, L. W. ....	" .....	730 20
McKenney, A. ....	" .....	681 67
Price, A. ....	" .....	732 43
Lavoy, J. ....	" .....	614 00
Smith, L. J. ....	" .....	126 41
Perrault, G. ....	" .....	41 51

Mullen, J. A. ....	Brakemen .....	\$99 33
Cushin, J. ....	" .....	57 39
Vreeland, E. ....	" .....	486 90
Bailey, J. D. ....	" .....	652 70
Lohman, S. H. ....	" .....	21 96
Samler, W. ....	" .....	649 62
Maluish, G. ....	" .....	20 90
McGillivray, C. ....	" .....	683 04
Jennings, T. E. ....	" .....	13 97
Dion, C. ....	" .....	305 59
Dyre, C. ....	" .....	5 55
Brennan, A. P. ....	" .....	164 33
Gamble, J. A. ....	" .....	211 45
Ness, C. ....	" .....	5 55
Bedard, I. D. ....	" .....	558 32
Green, G. J. ....	" .....	440 08
Green, D. ....	" .....	439 70
Joy, L. ....	" .....	632 17
Hickey, W. J. ....	" .....	202 32
Dunn, F. ....	" .....	293 83
McDonald, D. ....	" .....	607 06
Bradford, E. ....	" .....	29 52
Hurley, R. ....	" .....	14 06
McLeod, J. ....	" .....	312 34
Redden, J. O. ....	" .....	267 75
Guertin, G. ....	" .....	297 72
Wilkes, W. ....	" .....	403 25
McConomy, E. J. ....	" .....	272 26
Connell, J. S. ....	" .....	191 79
Sullivan, H. ....	" .....	55 53
Lillie, O. ....	" .....	19 24
Farmer, S. ....	" .....	108 37
Rochon, A. ....	" .....	27 20
Avery, W. L. ....	" .....	77 86
Morrisette, J. ....	" .....	47 13
Coleman, W. ....	" .....	56 09
Blake, W. A. ....	" .....	42 06
Silver, S. ....	" .....	82 62
Quimet, A. ....	" .....	64 50
Constantineau, M. ....	" .....	88 53
Brown, W. R. ....	" .....	46 26
Blundell, J. ....	" .....	54 93
Harper, R. ....	" .....	54 58
		\$119,564 51

*Engineers.*

Morgan, F. ....	Engineer .....	\$2,338 24
Shaw, L. G. ....	" .....	2,218 70
Donohue, J. ....	" .....	2,194 80
Fry, J. ....	" .....	2,188 56
McLeod, A. J. ....	" .....	600 98
Coombs, G. ....	" .....	2,274 86
Thomas, W. ....	" .....	1,812 36
Ross, W. ....	" .....	2,576 87
Holland, J. ....	" .....	1,538 13
Newman, A. ....	" .....	1,852 25
Johnston, J. A. ....	" .....	1,951 51
Millman, W. C. ....	" .....	2,001 32
Wilson, J. T. ....	" .....	1,699 18
McMillan, N. ....	" .....	675 28
Johnston, J. C. ....	" .....	2,215 72
Copeland, J. E. ....	" .....	1,984 08
McKenzie, H. W. ....	" .....	2,531 66
Ward, A. ....	" .....	1,973 27
McElhaney, H. ....	" .....	2,010 62
Thomas, F. ....	" .....	2,582 41



Filiatrault, Z. E. ....	Engineer	\$2,253 16
Plaus, W. ....	"	1,922 45
Normabell, E. A. ....	"	2,102 58
Kirk, F. G. ....	"	2,241 49
Langlois, J. ....	"	1,908 21
Nolan, P. B. ....	"	2,672 62
Durkin, J. T. ....	"	1,023 24
Morris, J. ....	"	2,083 79
Hermeston, H. ....	"	435 53
Jackson, I. ....	"	2,312 86
Bedard, S. ....	"	1,840 54
Leishman, E. G. ....	"	1,853 32
Reynolds, H. ....	"	809 96
Biggs, J. E. ....	"	1,975 02
Newman, S. B. ....	"	1,845 99
McMenemy, A. ....	"	2,134 73
Nudds, G. ....	"	2,042 57
McElhaney, A. ....	"	638 79
Lackie, S. ....	"	2,575 30
McKerrow, J. E. ....	"	2,561 96
McLeod, J. ....	"	2,019 29
Moore, A. ....	"	2,127 77
McEwen, S. ....	"	1,625 15
Woollings, T. ....	"	319 80
Tripp, G. ....	"	25 94
Vincent, R. ....	"	2,045 75
Brooks, A. W. ....	"	7 17
Lind, E. T. ....	"	47 11
McKenzie, A. B. ....	"	1,858 54
Vreeland, C. ....	"	44 13
Beauchamp, H. ....	"	1,621 49
Mahaffy, A. ....	"	22 75
Muldoon, T. ....	"	1,047 10
Lewis, W. H. ....	"	1,293 64
Gentile, A. ....	"	40 76
Anderson, J. M. ....	"	346 03
Byers, P. ....	"	43 93
Vernon, A. ....	"	92 89
McDonald, M. J. ....	"	2 83
Hill, F. J. ....	"	375 84
Croghan, R. ....	"	5 45
Chambers, J. W. ....	"	5 66

\$91,473 93

*Firemen.*

Moore, A. ....	Fireman	\$155 14
Lewis, W. H. ....	"	581 76
McKenzie, A. B. ....	"	208 65
Biers, G. ....	"	69 80
Beauchamp, H. ....	"	442 05
Muldoon, T. ....	"	751 05
Woollings, T. ....	"	1,034 16
McKenney, J. ....	"	224 16
Dods, J. ....	"	1,348 32
Byers, P. J. ....	"	1,810 44
Brooks, G. ....	"	154 11
Kelly, H. ....	"	1,479 72
Gentile, A. ....	"	1,645 28
Tripp, G. ....	"	272 03
Anderson, J. M. ....	"	1,001 05
Vernon, A. ....	"	1,389 04
Savard, E. ....	"	1,874 96
McDonald, M. J. ....	"	1,680 93
Beebee, T. A. ....	"	636 34
Chambers, J. W. ....	"	1,340 20
McLennan, E. ....	"	1,117 82

Romain, D. C. .... Fireman	\$1,103 87
Vinette, D. .... "	932 65
Humphrey, W. .... "	195 30
Landers, M. .... "	1,314 98
Quinn, D. .... "	1,393 55
Quinn, P. .... "	1,822 33
Gard, W. J. .... "	1,432 09
Hamilton, J. .... "	223 32
Clark, F. .... "	362 05
Mahaffy, A. .... "	1,360 01
Vincent, R. .... "	305 13
Empie, C. .... "	1,292 85
Lind, E. T. .... "	1,304 05
Brown, S. .... "	1,226 24
Brooks, A. W. .... "	207 67
Woods, A. .... "	1,353 26
Vreeland, C. .... "	699 52
McLeod, J. .... "	190 84
Bedard, S. .... "	116 12
Bellevau, N. .... "	1,285 65
McEwen, S. .... "	369 25
Legary, J. .... "	933 29
Biggs, J. E. .... "	125 78
Nudds, G. .... "	146 19
Thompson, H. .... "	7 30
McGirr, C. .... "	109 48
Kay, G. .... "	753 74
Floyd, E. .... "	1,124 03
McMenemy, A. .... "	9 52
Weiss, G. .... "	26 91
Walbeck, J. .... "	7 39
Pommerelle, J. .... "	3 69
Waldron, G. .... "	23 27
Lafortune, A. .... "	19 91
Quirt, M. .... "	129 37
Truchon, O. .... "	205 64
Haskins, G. K. .... "	1,043 13
McLean, H. .... "	308 18
Petrosky, A. .... "	155 36
McDonald, K. L. .... "	935 55
Lebarron, O. .... "	918 91
Fletcher, J. .... "	1,212 74
Lecappelein, A. .... "	292 09
McLeod, R. .... "	28 56
Bowes, H. .... "	173 76
Baker, C. .... "	3 55
Leblanc, J. .... "	34 41
Koopman, T. .... "	125 57
Lariviere, J. .... "	209 03
Landers, J. .... "	8 87
Livingstone, F. .... "	86 98
Renand, F. .... "	120 26
Schram, N. .... "	3 55
McLeod, A. J. .... "	148 37
McLaren, D. II. .... "	955 12
Gubb, G. .... "	764 61
Cripps, V. .... "	195 66
Wangan, A. .... "	18 12
Jessup, H. .... "	214 33
Switzer, R. .... "	1 80
Hamilton, W. J. .... "	689 95
Bowes, C. J. .... "	925 08
Doucette, J. .... "	576 77
Walker, W. .... "	933 74
Pauley, C. .... "	836 79
Clark, N. .... "	143 16
Pillsworth, J. .... "	295 07
McGonegal, J. .... "	28 48

Watson, P. ....	Fireman	.....	\$36 41
Luesby, J. ....	"	.....	56 53
McQuarrie, G. M. ....	"	.....	4 14
Ray, W. ....	"	.....	7 30
Coyne, J. ....	"	.....	69 96
Racicot, B. ....	"	.....	1 48
Hampel, H. ....	"	.....	62 45
Buckland, H. ....	"	.....	17 23
Preston, B. ....	"	.....	607 59
Fleury, E. ....	"	.....	68 80
Guertin, G. ....	"	.....	446 00
Nolan, P. B. ....	"	.....	1 33
Green, D. ....	"	.....	11 89
Labre, A. ....	"	.....	99 47
Bainbridge, H. C. ....	"	.....	830 67
Lacym, F. C. ....	"	.....	18 18
Tallon, H. ....	"	.....	595 77
Laroche, J. ....	"	.....	372 87
Mayer, G. ....	"	.....	8 93
Lebarron, L. ....	"	.....	16 93
McDonald, A. V. ....	"	.....	404 33
Brown, C. ....	"	.....	133 10
Lintlop, C. C. ....	"	.....	47 21
Short, T. ....	"	.....	17 86
Silver, S. ....	"	.....	19 17
Doucette, T. ....	"	.....	479 10
Belleveau, J. ....	"	.....	7 37
Pullan, C. ....	"	.....	7 10
Latour, J. H. ....	"	.....	39 29
Pocock, H. ....	"	.....	52 82
Flobert, A. ....	"	.....	4 14
Stoughton, F. ....	"	.....	9 00
St. Cyr, N. ....	"	.....	335 67
Williams, G. ....	"	.....	11 40
Giroux, N. ....	"	.....	3 55
Laronde, L. ....	"	.....	357 01
Toye, J. ....	"	.....	66 83
Leonard, C. W. ....	"	.....	309 31
Berger, R. H. ....	"	.....	12 26
Betteridge, H. ....	"	.....	104 10
Gervais, N. ....	"	.....	104 44
Desjardines, E. ....	"	.....	318 90
Menzies, S. ....	"	.....	228 88
Ruston, H. N. ....	"	.....	155 61
Maimville, O. M. ....	"	.....	69 07
Simard, A. ....	"	.....	28 50
Dobberman, F. ....	"	.....	58 84
Lafrance, O. ....	"	.....	24 31
Thick, A. ....	"	.....	5 70
Lacy, C. ....	"	.....	9 71
Lariviere, D. E. ....	"	.....	103 60
Haskins, J. H. ....	"	.....	62 81

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 \$60,645 72

*Linemen and Extra Gang.*

Imbeault, E. ....	Foreman	.....	\$91 50
Toupin, P. ....	Lineman	.....	82 87
Desormeau, N. ....	Cook	.....	50 00
Laborers		.....	94 87

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 \$319 24

*Commercial Telegraph Office, Cobalt.*

Bunyan, M. ....	Operator	.....	\$1,129 50
Guertin, F. M. ....	"	.....	1,124 86
Skelly, A. A. ....	"	.....	91 49
Burry, J. ....	Messenger	.....	145 00
Scanlon, C. E. ....	"	.....	239 17

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 \$2,730 02

*Commercial Telephone Office, Elk Lake and Gowganda.*

Sullivan, N. J. ....	Lineman .....	\$1,215 75
Clements, C. C. ....	Groundman .....	202 00
Carleton, E. ....	" .....	150 00
Gardiner, H. ....	" .....	38 00
Stubinski, E. ....	Operator .....	522 01
Stubinski, N. ....	" .....	42 58
Craig, M. ....	" .....	240 00
		<hr/>
		\$2,410 34

*Linemen, etc., Englehart.*

McLellan, J. ....	Lineman .....	\$1,204 66
Imbeault, E. ....	" .....	43 65
Ludlow, F. ....	Groundman .....	81 20
Stokill, L. ....	" .....	80 00
Silver, S. ....	" .....	31 60
		<hr/>
		\$1,441 11

*Commercial Telegraph Office, Cochrane.*

Loisel, S. ....	Lineman .....	\$1,229 05
Hann, R. C. ....	Agent .....	1,377 41
Thompson, A. O. ....	Operator .....	55 68
Hogan, D. M. ....	Clerk .....	330 00
Fisher, E. C. ....	" .....	40 04
Hann, Mrs. V. A. ....	" .....	151 07
Lebarron, F. ....	" .....	34 84
Bennett, F. ....	Messenger .....	137 15
Brazeau, L. ....	" .....	53 53
Belleveau, A. ....	" .....	50 32
Belleveau, R. ....	" .....	70 00
Williams, R. ....	" .....	109 17
Beemer, J. H. ....	Special Operator, Porquis Jct. ..	5 00
		<hr/>
		\$3,643 26

*Englehart, Greenhouse.*

Kerrigan, D. ....	Gardener .....	\$936 09
Ward, W. ....	" .....	884 59
Phillips, W. ....	Laborer .....	31 25
Simpkins, P. ....	" .....	316 20
Richmond, A. ....	" .....	50 75
Stokill, L. ....	" .....	30 90
Clark, A. ....	" .....	162 80
Simpkins, A. ....	Teaming .....	90 00
Ewing, A. ....	Laborer .....	121 50
Jarvie, R. ....	Carpenter .....	22 40
Ward, J. ....	Laborer .....	196 80
Dodge, L. ....	" .....	416 70
Remus, W. ....	" .....	338 70
Edwards, B. ....	" .....	130 50
Wand, J. ....	" .....	12 00
Wand, C. A. ....	Teaming .....	18 75
Artwein, W. ....	" .....	126 00
Sackett, E. ....	" .....	48 20
Church, E. ....	" .....	3 00
Remus, H. ....	" .....	7 00
Degear, J. W. ....	" .....	12 00
Tremblay, J. J. ....	" .....	20 00
Dalton, T. ....	" .....	17 50
Moore, E. N. ....	" .....	24 00
Hoskin, A. ....	Scavenger .....	3 00
		<hr/>
		\$4,020 63

*Motive Power Department, North Bay.*

Black, W. ....	Foreman .....	\$2,100 00	
Vanstone, A. ....	Asst. Foreman .....	711 88	
Machinists .....		31,841 93	
Carpenters .....		2,454 17	
Painters .....		2,196 74	
Other Shopmen .....		103,503 02	
			\$142,807 74

*Car Department, North Bay.*

Beath, J. ....	Foreman .....	\$1,730 00	
Carpenters .....		3,986 05	
Other Employees .....		45,158 57	
			\$50,874 62

*Carpenter Shop, North Bay.*

Williamson, R. ....	Foreman .....	\$1,860 00	
Carpenters .....		20,093 49	
Painters .....		7,311 96	
Other Shopmen .....		29,557 74	
			\$58,823 19

*Motive Power and Car Department, Cobalt.*

Sibbald, T. ..	Inspector .....	\$1,741 69	
			\$1,741 69

*Motive Power and Car Department, Elk Lake.*

Other Shopmen .....	\$2,420 00	
		\$2,420 00

*Motive Power and Car Department, Englehart.*

Clarke, R. ....	Foreman .....	\$1,980 00	
McCoy, J. ....	Car Foreman .....	628 46	
Machinists .....		5,905 87	
Other Shopmen .....		41,334 92	
			\$49,849 25

*Motive Power and Car Department, Iroquois Falls.*

Burton, E. ....	Foreman .....	\$620 38	
Shopmen .....		5,817 02	
			\$6,437 40

*Motive Power and Car Department, Timmins.*

Thompson, E. ....	Foreman .....	\$1,620 00	
Crossley, W. ....	Car Foreman .....	235 60	
Machinists .....		19 55	
Other Shopmen .....		13,406 81	
			\$15,281 96

*Motive Power and Car Department, Cochrane.*

Pawles, G. ....	Foreman .....	\$243 20	
Moth, A. T. ....	" .....	1,385 40	
Glover, A. ....	Car Foreman .....	235 60	
Machinists .....		3,521 67	
Other Shopmen .....		29,999 44	
			\$35,385 31

*Water Service.*

Day, H. J. ....	Inspector .....	\$1,364 99	
Pumpmen, etc. ....		12,225 25	
			\$13,590 24

*B. and B. Extra Gangs.*

Carpenters .....		\$31,088 02	
Others .....		46,896 82	
			\$77,984 84

## Track Section Gangs.

Section No. 1	Foreman	\$2,003 56	
	Laborers	10,309 55	12,313 11
" 2	Foreman	1,169 15	
	Laborers	2,746 21	3,915 36
" 3	Foreman	970 24	
	Laborers	3,118 98	4,089 22
" 4	Foreman	1,232 46	
	Laborers	3,103 47	4,335 93
" 5	Foreman	1,176 59	
	Laborers	1,395 93	2,572 52
" 6	Foreman	1,394 33	
	Laborers	1,193 85	2,588 18
" 7	Foreman	1,148 93	
	Laborers	1,833 97	2,982 90
" 8	Foreman	1,179 35	
	Laborers	2,034 03	3,213 38
" 9	Foreman	1,175 90	
	Laborers	2,529 83	3,705 73
" 10	Foreman	1,240 81	
	Laborers	1,652 67	2,893 48
" 11	Foreman	1,218 50	
	Laborers	2,188 36	3,406 86
" 12	Foreman	1,242 09	
	Laborers	1,520 49	2,762 58
" 13	Foreman	1,181 14	
	Laborers	3,115 14	4,296 28
" 14	Foreman	973 76	
	Laborers	1,337 27	2,311 03
" 15	Foreman	1,185 06	
	Laborers	1,852 14	3,037 20
" 16	Foreman	1,325 74	
	Laborers	1,690 59	3,016 33
" 17	Foreman	1,158 51	
	Laborers	2,341 57	3,500 08
" 18	Foreman	1,171 67	
	Laborers	1,911 94	3,083 61
" 19	Foreman	1,205 55	
	Laborers	4,686 04	5,891 59
" 20	Foreman	1,179 45	
	Laborers	4,614 26	5,793 65
" 21	Foreman	1,352 73	
	Laborers	3,378 54	4,731 27
" 22	Foreman	1,148 90	
	Laborers	3,121 49	4,270 39
" 23	Foreman	1,299 45	
	Laborers	3,397 77	4,697 22
" 24	Foreman	1,334 75	
	Laborers	3,187 62	4,522 37
" 25	Foreman	1,276 49	
	Laborers	2,380 34	3,656 83
" 26	Foreman	1,342 81	
	Laborers	12,352 38	13,695 19
" 27	Foreman	1,144 12	
	Laborers	2,082 13	3,226 25
" 28	Foreman	1,122 74	
	Laborers	2,514 77	3,637 51
" 29	Foreman	1,217 44	
	Laborers	2,860 07	4,077 51
" 30	Foreman	1,082 50	
	Laborers	1,447 55	2,530 05
" 31	Foreman	1,197 90	
	Laborers	2,071 48	3,269 38
" 32	Foreman	1,160 52	
	Laborers	2,353 74	3,514 26
" 33	Foreman	1,222 84	
	Laborers	1,681 50	2,904 34

*Truck Section Gangs.—Continued.*

Section No. 34	Foreman	\$1,187 08	
	Laborers	2,995 87	4,182 95
" 35	Foreman	1,144 93	
	Laborers	2,909 32	4,054 25
" 36	Foreman	1,203 22	
	Laborers	1,815 41	3,018 63
" 37	Foreman	1,153 80	
	Laborers	3,107 82	4,261 62
" 38	Foreman	1,156 77	
	Laborers	2,730 34	3,887 11
" 39	Foreman	1,088 24	
	Laborers	1,201 58	2,289 82
" 40	Foreman	1,261 36	
	Laborers	4,567 22	5,828 58
" 41	Foreman	1,132 06	
	Laborers	2,619 80	3,751 86
" 42	Foreman	1,112 30	
	Laborers	2,095 67	3,207 97
" 43	Foreman	1,094 17	
	Laborers	2,162 19	3,256 36
" 44	Foreman	1,429 92	
	Laborers	8,972 16	10,402 08
" 45	Foreman	1,137 76	
	Laborers	2,199 48	3,337 24
" 46	Foreman	1,096 30	
	Laborers	2,282 74	3,379 04
" 47	Foreman	1,135 55	
	Laborers	2,163 64	3,299 19
" 48	Foreman	1,134 50	
	Laborers	3,280 61	4,415 11
" 49	Foreman	1,193 81	
	Laborers	3,245 16	4,438 97
" 50	Foreman	1,171 00	
	Laborers	2,983 71	4,154 71
" 51	Foreman	1,175 00	
	Laborers	1,649 39	2,824 39
" 52	Foreman	1,160 53	
	Laborers	1,810 74	2,971 27
" 53	Foreman	1,169 70	
	Laborers	2,553 71	3,723 41
" 54	Foreman	1,265 61	
	Laborers	2,925 68	4,191 29

*Extra Gangs, Road Department.*

Extra Gang No. 1	Foreman	\$2,115 20	
	Laborers	12,195 14	14,310 34
" 2	Foreman	1,472 71	
	Laborers	10,535 43	12,008 14
" 3	Foreman	1,088 06	
	Laborers	4,857 36	5,945 42
" 4	Foreman	1,662 46	
	Laborers	8,887 78	10,550 24
" 5	Foreman	1,005 72	
	Laborers	2,940 00	3,945 72
" 6	Foreman	786 41	
	Laborers	5,358 70	6,145 11
" 7	Foreman	400 46	
	Laborers	1,444 82	1,845 28
" 8	Foreman	596 25	
	Laborers	866 48	1,462 73
" 9	Foreman	751 49	
	Laborers	2,972 10	3,723 59
" 10	Foreman	565 98	
	Laborers	2,576 76	3,142 74

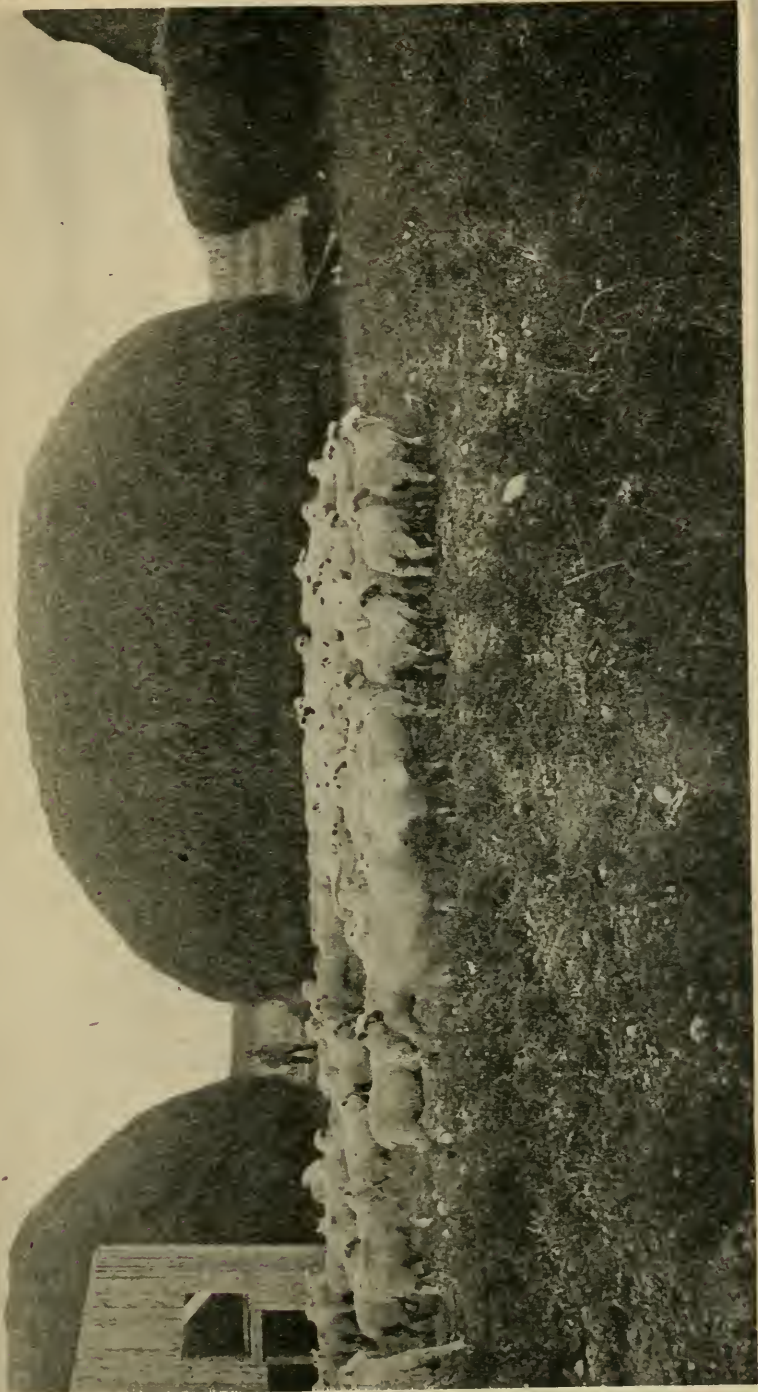
*Extra Gangs, Road Department—Continued.*

Extra Gang No. 11.....	Foreman .....	\$433 21	
	Laborers .....	1,258 50	\$1,691 71
" 12.....	Foreman .....	10 50	
	Laborers .....	46 50	57 00
" 13.....	Foreman .....	90 20	
	Laborers .....	569 90	660 10

*Special Pay Roll—Donation to Employees Enlisted for Overseas Service.*

Willis, J. B. ....	Travelling Auditor .....	\$125 00	
Cousineau, L. J. ....	Clerk .....	85 00	
Duffett, I. S. ....	Baggage man .....	37 50	
			\$247 50
Total pay roll .....			\$1,527,999 53





Mr. D. Stewart's farm at Earleton. Lambs, September 21st, 1918.

## TEMISKAMING AND NORTHERN ONTARIO RAILWAY

## EXPENDITURE FOR FISCAL YEAR, 1918

Adams & Westlake Co., Chicago, Ill., materials and supplies .....	\$324 70
Art Metropole, The, Toronto, Ont., materials and supplies .....	387 04
Allen Manufacturing Co., Ltd., Toronto, Ont., laundry .....	158 36
Atlantic Coast Line Railroad, Wilmington, N.C., car service and car repairs .....	503 05
American Refrigerator Transit Co., St. Louis, Mo., car service .....	24 04
Algoma Central & Hudson Bay Railway, Sault Ste. Marie, Ont., traffic balances, car repairs, etc. ....	2,683 15
Atlanta, Birmingham & Atlantic Railway, Atlanta, Ga., car service and car repairs .....	45 93
Abitibi Power & Paper Co., Ltd., Montreal, P.Q., claims, etc. ....	13,437 76
Ann Arbor Railroad, Detroit, Mich., car service and car repairs .....	83 03
Atchison, Topeka & Santa Fe Railway, Topeka, Kansas, traffic balances, car repairs, etc. ....	2,445 66
Acme Waste Manufacturing Co., Toronto, Ont., material and supplies ..	422 20
Advocate Printing Co., North Bay, Ont., printing, etc. ....	34 10
Acme Machinery Co., Cleveland, Ohio, material and supplies .....	12 50
Ahearn & Soper, Ltd., Ottawa, Ont., material and supplies .....	46 08
Adamson, W. H., Toronto, Ont., insurance adjustments .....	3,678 48
Advertiser Job Printing Co., London, Ont., printing, etc. ....	336 98
Ansara, N., Cobalt, Ont., claim .....	6 81
Astels, Helen, Gillies Depot, Ont., awards, Workmen's Compensation Board .....	240 00
Allworth, E. M., Timmins, Ont., contract, electric wiring, etc. ....	725 40
American Arch Co., New York, N.Y., material and supplies .....	763 92
Astels, Mrs. James, North Cobalt, Ont., donation .....	30 00
American Railway Association, New York, N.Y., assessments, etc. ....	219 31
Alabama & Vicksburg Ry., New Orleans, La., car service and car repairs ..	41 99
Arms Palace Horse Car Co., Chicago, Ill., car service .....	24 01
American Hoist & Derrick Co., St. Paul, Minn., material and supplies ....	425 35
Association of American Railway Accounting Officers, Washington, D.C., membership fees .....	23 90
American Railway Master Mechanics Association, Chicago, Ill., membership fees .....	5 00
Aurora Metal Co., Inc., Aurora, Ill., material and supplies .....	548 99
Association of Transportation & Car Accounting Officers, New York, N.Y., assessments, etc. ....	21 28
Alexander & Cable, Toronto, Ont., printing, etc. ....	352 15
Anchor Packing Co., of Canada, Ltd., Montreal, P.Q., material and supplies ..	44 93
Algoma Eastern Railway, Sault Ste. Marie, Ont., car service and car repairs ..	35 44
Arizona Eastern Railroad Co., Tucson, Arizona, car service and car repairs ..	2 18
Aumont, Edmond, Joliette, P.Q., land .....	100 00
American Woodenware Co., Manistee, Mich., claim .....	94
American Railway Engineering Association, Chicago, Ill., publication, etc. ....	13 00
American Railway Bridge & Building Association, Chicago, Ill., membership fee .....	10 00
American Pacific Whaling Co., Toronto, Ont., car service .....	1 90
Allan, J. S., Monteith, Ont., water rates—agent's house, Timmins .....	86 84
American Association of General Baggage Agents, Toronto, Ont., membership fees .....	10 00
Amos, H. C., North Bay, Ont., salary .....	62 00
Amos, D. G., North Bay, Ont., salary .....	74 50
Amos, A. C., North Bay, Ont., salary .....	67 50
Alford, G. B., North Bay, Ont., salary .....	180 04
Allan, H., North Bay, Ont., salary .....	43 52
Automatic Coal Conveyor Co., Chicago, Ill., material and supplies .....	563 00
Audet, E. J., North Bay, Ont., travelling expenses .....	158 00
Armstrong, F., Uno Park, Ont., claim .....	5 00
Alabama, Tennessee & Northern Railway, Mobile, Ala., car service and car repairs .....	15 95
American Hardware Corporation, New Britain, Conn., material and supplies ..	6 13
Alice, B., Timmins, Ont., claim .....	6 37
Angus, D. H., Cobalt, Ont., claim .....	13 92
Association of Railway Telegraph Superintendents, Gibson, Ind., membership fee .....	7 50

Archer, Arthur, North Bay, Ont., awards, Workmen's Compensation Board	\$131 86
Adams Furniture Co., Ltd., Toronto, Ont., claim	5 00
Askar, F., Cobalt, Ont., claim	1 08
About, Mrs. N., Timmins, Ont., claim	7 50
Abraham, R., Haileybury, Ont., claim	7 00
Art Printing & Advertising Co., Timmins, Ont., claim	4 14
Alcolu Railroad Co., Alcolu, S.C., car service	4 20
American International Shipbuilding Corp'n., Hog Island, Pa., car repairs	15 81
Alexo Mining Co., Ltd., Porquis Jct., Ont., claims	84
Air Brake Association, New York, N.Y., publication	2 00
Ahern Safe Works, Ltd., Montreal, P.Q., material and supplies	28 00
Buffalo, Rochester & Pittsburg Railway Co., Rochester, N.Y., car service and car repairs, etc.	1,796 03
Bessemer & Lake Erie Railroad Co., Pittsburg, Pa., traffic balances, car repairs, etc.	1,165 54
Begg Brothers, North Bay, Ont., material and supplies	1,327 97
Bell Telephone Co., of Canada, Telephone interchange balances, telephone exchange and toll service	2,173 43
Buntin, Gillies & Co., Ltd., Hamilton, Ont., material and supplies	1,250 02
Buffalo & Susquehanna Railroad Corporation, Buffalo, N.Y., traffic balances, car repairs, etc.	32,951 65
Boston & Maine Railroad, Boston, Mass., traffic balances, car repairs, etc.	1,776 16
Banner & Ostrom, North Bay, Ont., supplies	122 64
Beardmore Belting Co., Ltd., Toronto, Ont., material and supplies	223 27
Burroughs Adding Machine Co., Detroit, Mich., material and supplies	229 68
Buffalo & Susquehanna Coal & Coke Co., Buffalo, N.Y., coal	310,652 69
Bunyan, R., & Co., North Bay, Ont., claims, etc.	156 01
Bernstein, C., Englehart, Ont., claim	110 90
Bogart, J. C., Thornloe, Ont., material and supplies	7 19
Brewster, L., Toronto, Ont., salary, etc.	103 01
Boast, R. G., North Bay, Ont., salary and travelling expenses	314 61
Burt, F. N., Co., Ltd., Toronto, Ont., material and supplies	184 14
Bauldry, W. J., Cochrane, Ont., salary, travelling expenses, etc.	617 55
Brown, L. W., South Porcupine, Ont., claim	15 92
Bank of Ottawa, interest, exchange, etc.	7,158 30
Boivin, L., Cochrane, Ont., claims	40 76
Bureau of Explosives, New York, N.Y., assessments, etc.	193 21
Balfour, D. A., Toronto, Ont., material and supplies	89 50
Baltimore & Ohio Ry. Co., Baltimore, Md., traffic balances, car repairs, etc.	3,679 19
Buffalo Brake Beam Co., New York, N.Y., material and supplies	48 00
Beardmore & Co., Toronto, Ont., material and supplies	57 91
Beamish & Smith, North Bay, Ont., material and supplies	8 50
Booth-Coulter Copper & Brass Co., Ltd., The, Toronto, Ont., material and supplies	142 50
Barrett Company, Ltd., The, Toronto, Ont., material and supplies, etc.	122 99
Banwell Hoxie Wire Fence Co., Ltd., Hamilton, Ont., material and supplies	26 40
Brown, Boggs Co., Ltd., Hamilton, Ont., material and supplies	5 20
Brill, The J. G., Co., Philadelphia, Pa., material and supplies	461 58
Butterfield & Co., Rock Island, P.Q., material and supplies	4 12
Boisvert, T. W., Swastika, Ont., material and supplies	13 04
Buffalo Creek & Gauley Railway, Dundon, W.V., car service	31 20
Bedford, H., Krugerdorf, Ont., material and supplies	5 00
Berndt, Henry, Cochrane, Ont., material and supplies	522 25
Bouvier & Hutchinson, Toronto, Ont., material and supplies	43 36
Brinton Carpet Co., Ltd., Peterborough, Ont., material and supplies	47 50
Burrow, Stewart & Milne Co., Ltd., Hamilton, Ont., material and supplies	111 67
Battley, Chas., North Bay, Ont., salary and travelling expenses	234 85
Boeckh Co., Ltd., The, Toronto, Ont., material and supplies	217 48
Brown Brothers, Ltd., Toronto, Ont., material and supplies	1 70
Bangor & Aroostook Railroad, Bangor, Me., car service and car repairs	145 49
Boston & Albany Railroad, New York, N.Y., traffic balances and car repairs	297 44
Belt Railway Co. of Chicago, Chicago, Ill., car service and car repairs	14 99
Booth, J. R., Montreal, P.Q., claims	5 68
Brunette Saw Mill Co., Ltd., New Westminster, B.C., material and supplies	3 25
Barber-Ellis, Ltd., Toronto, Ont., material and supplies	104 13
Birmingham Southern Railroad Co., Birmingham, Ala., car repairs	25 00
Brantford Roofing Co., Ltd., Brantford, Ont., material and supplies	278 50
Bailod, Arthur, Porquis Jct., Ont., clearing station grounds, Porquis Jct.	675 60

Bertram, John, & Sons, Ltd., Dundas, Ont., material and supplies .....	\$15 81
Binkley Co., The, New Liskeard, Ont., claims .....	8 66
Boyer, P. D., Haileybury, Ont., claims .....	10 73
Brazeau, A., Timmins, Ont., work performed .....	2,111 02
Barrett Co., The, New York, N.Y., car service .....	3 48
Beaver Board Companies, The, Buffalo, N.Y., claim .....	3 45
Baronet, Wm., Limoilou, P.Q., award, Workmen's Compensation Board ....	40 62
Buffalo Mines, Ltd., Cobalt, Ont., claims .....	97 85
Bird & Son, Hamilton, Ont., material and supplies .....	189 24
Brown, Elmer, North Bay, Ont., salary and travelling expenses .....	66 50
British Red Cross Society, Toronto, Ont., donation .....	5,065 00
Brown Engineering Corporation, Ltd., Toronto, Ont., material and supplies	1,055 40
Burton, E., Iroquois Falls, Ont., travelling expenses .....	10 10
British American Oil Co., Toronto, Ont., claims .....	31 36
Bevins, W. H., New Liskeard, Ont., claims .....	4 45
Brown Bros., Leeville, Ont., claim .....	3 00
Burgess, J. K., New Liskeard, Ont., rent house for sectionmen .....	44 00
Balfour & McLaren, Hamilton, Ont., claim .....	35 28
Bell & Rochester Hardware Co., Ltd., Haileybury, Ont., material and supplies	30
Baldwin Gold Mining Co., Kenogami Lake, Ont., claim .....	2 45
Bourk, H., North Bay, Ont., travelling expenses .....	27 30
Brockway, H., North Bay, Ont., salary .....	138 28
Brennan, J. B., North Bay, Ont., salary .....	141 50
Burritt, R., North Bay, Ont., salary .....	52 50
Bain, J., North Bay, Ont., salary .....	85 00
Brockway, W. L., North Bay, Ont., salary .....	107 90
Banks, E. C., North Bay, Ont., salary .....	157 54
Burritt, W., North Bay, Ont., salary .....	44 78
Brill, M. C., North Bay, Ont., salary .....	71 77
Bigg, J. E., North Bay, Ont., salary .....	96 50
Beckett, J., North Bay, Ont., salary .....	62 50
Brown, C. A., North Bay, Ont., salary .....	82 79
Bulgar, C., North Bay, Ont., salary .....	60 00
Blyth, C. R., North Bay, Ont., salary .....	37 50
Bingham, Geo. A., M.D., Toronto, Ont., professional services .....	125 00
Brousseau, Wilfred, North Bay, Ont., travelling expenses .....	1 60
Burnett, Geo., North Bay, Ont., award, Workmen's Compensation Board..	23 06
Brown, A., North Bay, Ont., material and supplies .....	8 00
Bruce, J., Matheson, Ont., material and supplies, etc. ....	3 70
Bedard, I. D., North Bay, Ont., travelling expenses .....	2 50
Rigras, P., Timmins, Ont., claim .....	30 00
Buffalo News, Buffalo, N.Y., claim .....	2 00
Buran, S., Cochrane, Ont., claim .....	9 75
Beatty, Mrs. H., Porquis Jct., Ont., meals .....	43 00
Belliveau, J., Cochrane, Ont., travelling expenses .....	4 50
Burns, John, Englehart, Ont., awards, Workmen's Compensation Board and travelling expenses .....	148 19
Bebee, Thos. Archibald, North Bay, Ont., award, Workmen's Compensation Board .....	159 11
Buckler, H., Cobalt, Ont., claim .....	5 60
Brockville Loan & Savings Co., Brockville, Ont., claim .....	75 00
Brandon, Dr. Edgar, North Bay, Ont., professional services .....	42 00
Brooks, Clarence, & Co., Newark, N.J., material and supplies .....	4 50
Blanchard, E. W., Elk Lake, Ont., material and supplies .....	43 51
Burlinghoff, L., Nellie Lake, Ont., material and supplies .....	41 98
Beneke, Peter, McCool, Ont., material and supplies .....	45 79
Blaisdell Pencil Co., Philadelphia, Pa., material and supplies .....	5 54
Byrnes, J. B., Haileybury, Ont., claim .....	9 65
Brimstone Railroad & Canal Co., New York, N.Y., traffic balances .....	859 82
Byerlay, Geo., Englehart, Ont., travelling expenses .....	6 00
Botly, Arthur L., Ramore, Ont., claim .....	5 35
Buron, R., Montreal, P.Q., claim .....	27 00
Bedard, J. A., M.D., C.L., North Bay, Ont., professional services .....	3 00
Brewer, Alton, Timmins, Ont., award, Workmen's Compensation Board ...	16 55
Brennan, Andrew Patrick, Englehart, Ont., award, Workmen's Compensation Board .....	15 95
Barker, J. J., Connaught, Ont., work performed .....	2,284 77
Business Systems, Ltd., Toronto, Ont., printing, etc. ....	18 63
Bosley, D. W., Co., Chicago, Ill., material and supplies .....	57 33

Bruce, George, Englehart, Ont., material and supplies .....	\$19 00
Bastian, E. H., Shillington, Ont., claim .....	70
Brownlee, Thos. R., Ottawa, Ont., claim .....	10 75
Burton, John, New Liskeard, Ont., work performed .....	4 50
Braidberg, H., Thorold, Ont., claim .....	175 00
Canadian Pacific Railway, Montreal, P.Q., traffic balances, car repairs, etc.	326,675 66
Chicago & North Western Railway, Chicago, Ill., traffic balances, car repairs	931 89
Cleveland, Cincinnati, Chicago & St. Louis Ry., Cincinnati, Ohio, traffic balances, car repairs, etc. ....	602 45
Chesapeake & Ohio Railway, Richmond, Va., car service and car repairs ..	924 79
Chicago, Milwaukee & St. Paul Ry., Chicago, Ill., traffic balances, car repairs, etc. ....	771 27
Chicago, Indianapolis & Louisville Railway, Chicago, Ill., car service and car repairs .....	195 45
Canada Paint Co., Ltd., Montreal, P.Q., material and supplies .....	5,071 10
Canadian Car Service Bureau, Montreal, P.Q., proportion of expenses ....	352 59
Chicago, New York & Boston Refrigerator Co., Chicago, Ill., car service ....	61 01
Canadian General Electric Co., Ltd., Toronto, Ont., material and supplies ..	3,724 67
Canadian Fairbanks-Morse Co., Ltd., Toronto, Ont., material and supplies ..	3,395 26
Canadian Freight Association, Toronto, Ont., proportion of expenses, etc...	1,009 91
Canada Metal Co., Ltd., Toronto, Ont., material and supplies .....	2,409 05
Chicago, Burlington & Quincy Railroad, Chicago, Ill., traffic balances, car repairs, etc. ....	1,195 14
Canadian Westinghouse Co., Ltd., Hamilton, Ont., material and supplies ..	4,960 37
Chicago, Peoria & St. Louis Railway, Chicago, Ill., car service and car repairs .....	43 36
Coghlin, B. J., Co., Ltd., Montreal, P.Q., material and supplies .....	3,559 51
Cole, A. A., Cobalt, Ont., salary and expenses .....	1,225 85
Canadian Bronze, Ltd., New York, N.Y., material and supplies .....	11,651 56
Cincinnati, Hamilton & Dayton Ry., Cincinnati, Ohio, traffic balances and car repairs .....	5 82
Chicago & Eastern Illinois Railroad, Chicago, Ill., traffic balances and car repairs .....	396 61
Central Railroad of New Jersey, Jersey City, N.J., car service and car repairs .....	970 38
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont., material and supplies .....	15,628 96
Cobalt Daily Nugget, Ltd., Cobalt, Ont., advertising, etc. ....	294 68
Central Vermont Railway, St. Albans, Vt., traffic balances, car repairs ....	396 37
Clement, S. B., North Bay, Ont., salary and travelling expenses .....	1,578 11
Caribonum Co., Ltd., Toronto, Ont., material and supplies .....	263 35
Comrie, Wm., North Bay, Ont., travelling expenses .....	42 65
Canadian Gold Car Heating & Lighting Co., Ltd., Montreal, P.Q., material and supplies .....	370 16
Cincinnati, Indianapolis & Western Ry., Indianapolis, Ind., car service and car repairs .....	129 76
Carolina, Clinchfield & Ohio Railway, Johnson City, Tenn., car service and car repairs .....	68 11
Colorado & Southern Railway, Denver, Col., traffic balances, car repairs ..	78 11
Cochrane Hardware, Ltd., North Bay, Ont., material and supplies .....	7,160 90
Cook, Thos., & Son, Montreal, P.Q., commission on ticket sales .....	6 66
Chicago, Terre Haute & South Eastern Ry., Chicago, Ill., car service and car repairs .....	35 37
Canadian Express Co., express charges .....	501 40
Central Railway Signal Co., Iberville, P.Q., material and supplies .....	1,402 00
Cavanagh, A. W., North Bay, Ont., salary and travelling expenses .....	124 05
Canadian Shovel & Tool Co., Ltd., Hamilton, Ont., material and supplies..	243 74
Cochrane Northland Post, Cochrane, Ont., advertising .....	35 30
Canadian Pacific Railway Co.'s Telegraph, telegraph interchange balances and telegraph service .....	8,393 43
Cochrane Steam Laundry Co., Cochrane Ont., laundry .....	352 82
Chapman, Chas., Co., London, Ont., printing, etc. ....	877 58
Canadian Explosives, Ltd., Cobalt, Ont., claims .....	253 56
Crain Printers, Ltd., Ottawa, Ont., printing, etc. ....	255 74
Central New England Railway, New Haven, Conn., car service .....	18 60
Chicago & Alton Railroad, Chicago, Ill., car service and car repairs .....	145 10
Cherry, S. J., & Co., North Bay, Ont., plumbing, etc. ....	106 04
Central Territory Freight Committee, Chicago, Ill., tariffs .....	13 29

Chicago. Rock Island & Pacific Ry., Chicago, Ill., car service and car repairs	\$1,014 06
Canadian Yale & Towne Co., Ltd., St. Catharines, Ont., material and supplies	273 34
Chicago, St. Paul, Minneapolis & Omaha Ry., St. Paul, Minn., car service and car repairs	436 55
Canadian Northern Railway System, Toronto, Ont., traffic balances, car repairs, etc.	14,849 72
Chicago. Great Western Railroad, Chicago, Ill., car service and car repairs	311 11
Canadian Government Rys., Moncton, N.B., traffic balances, car repairs, etc.	45,661 68
Chicago Junction Railway, Chicago, Ill., car repairs	81 62
Chicago. Rock Island & Gulf Railway, Fort Worth, Texas, car service and car repairs	70 37
Canadian Allis-Chalmers, Ltd., Toronto, Ont., material and supplies	505 14
Canadian Pneumatic Tool Co., Ltd., Montreal, P.Q., material and supplies	413 35
Canadian Wm. A. Rogers, Ltd., Toronto, Ont., material and supplies	32 15
Curtain Supply Co., Chicago, Ill., material and supplies	126 00
Canadian Locomotive Co., Ltd., Kingston, Ont., repairs—locomotives	114,480 64
Canadian Steel Foundries, Ltd., Montreal, P.Q., material and supplies	2,672 15
Canadian Car & Foundry Co., Ltd., Montreal, P.Q., equipment	260,048 20
Canadian Asbestos Co., Montreal, P.Q., material and supplies	440 67
Canada Furniture Mfrs., Ltd., Woodstock, Ont., material and supplies	64 92
Cleveland Copper Ferrule Co., Cleveland, Ohio, material and supplies	155 93
Cobalt Water Commission, Cobalt, Ont., water supplied	51 04
Central of Georgia Railway, Savannah, Ga., car service and car repairs	213 36
Coe, W. H., Manufacturing Co., Providence, R.I., material and supplies	152 59
Chenette, A. L., Barber's Bay, Ont., material and supplies	43 00
Canadian Pulp & Lumber Co., Latchford, Ont., refund, unexpired telephone rental	10 94
Cook, E. M., North Bay, Ont., award, Workmen's Compensation Board	79 20
Canada Cement Co., Ltd., Montreal, P.Q., material and supplies	4,263 48
Canuck Supply Co., Ltd., Montreal, P.Q., material and supplies	196 15
Camel & Co., Chicago, Ill., material and supplies	28 00
Catholic Register, Toronto, Ont., advertising	15 00
Canadian Stewart Co., Ltd., Toronto, Ont., claims	6,050 33
Canadian Forestry Association, Ottawa, Ont., publication	13 00
Cairns, Bernard, Toronto, Ont., material and supplies	6 65
Copeland, Chatterson Co., Ltd., Brampton, Ont., material and supplies	14 50
Canadian Consolidated Rubber Co., Ltd., Toronto, Ont., material and supplies	3,271 13
Cobalt Municipality, Town of, Cobalt, Ont., grant towards general purposes of Municipality, etc.	608 84
Campbell & Deyell, Ltd., Cobalt, Ont., claims	213 83
Carters Ink Co., Montreal, P.Q., material and supplies	246 12
Cameron, Wm., St. Louis, Mo., tariffs	37 79
Cobalt Reduction Co., Ltd., Cobalt, Ont., claims	37 75
Connelly, Donald, Elk Lake, Ont., material and supplies	75 00
Chamandy, F., Cochrane, Ont., claims	30 00
Charcoal Supply Co., Toronto, Ont., material and supplies	345 26
Cochrane, Town of, Waterworks Department, Cochrane, Ont., water supplied	514 67
Corbell, J. J., Dane, Ont., claim	1 36
Cochrane Telephone Co., Ltd., Cochrane, Ont., telephone exchange service	157 50
Central Electric Co., Chicago, Ill., material and supplies	63
Canadian National Carbon Co., Ltd., Toronto, Ont., material and supplies	290 08
Church, E., Englehart, Ont., cartage	13 12
Cartwright, H. V., Matheson, Ont., claim	24 72
Conkey & Murphy, Haileybury, Ont., material and supplies, etc.	59 85
Charlton Agricultural Society, Brentha, Ont., donation towards prizes	10 00
Catterello, James, Cobalt, Ont., claim	7 50
Canadian Consolidated Felt Co., Ltd., Kitchener, Ont., material and supplies	93 39
Copp, Clark Co., Ltd., The, Toronto, Ont., material and supplies	1 50
Canada Foundries & Forgings, Ltd., Brockville, Ont., material and supplies	128 97
Catholic Truth Society—The Acme Press, Toronto, Ont., advertising	10 00
Chicago. West Pullman & Southern Railroad, Chicago, Ill., car repairs	2 86
Chase, L. C., & Co., Boston, Mass., material and supplies	508 81
Cambria Steel Co., Philadelphia, Pa., rails	35,085 50
Canada Steamship Lines, Ltd., Montreal, P.Q., traffic balances	27 90
Canadian Oil Co., Ltd., Toronto, Ont., claims	19 37
Chicago. Milwaukee & Gary Railway, Rockford, Ill., car service	7 20
Cincinnati Northern Railroad Co., Cincinnati, Ohio, car service and car repairs	125 95
Canadian Railway War Board, Montreal, P.Q., assessments	269 76

Calvello, Frank, North Bay, Ont., material and supplies .....	\$6 35
Cowan, William, Englehart, Ont., travelling expenses .....	5 00
Clutchev, David, Haileybury, Ont., wiring Matheson Station, etc. ....	262 36
Cambria & Indiana Railroad Co., Philadelphia, Pa., car service .....	200 40
Colorado, Midland Railroad Co., Denver, Col., car service and car repairs ..	54 07
Chicago & Western Indiana Railroad, Chicago, Ill., car repairs .....	15 12
Cochrane, A. L., Temagami, Ont., supplies .....	511 87
Cocking, J. J., Cochrane, Ont., claim .....	3 18
Clark, M. G., Temagami, Ont., claim .....	1 00
Canadian Independent Telephone Association, Toronto, Ont., membership fee	5 00
Carr, Milton, Cobalt, Ont., claim .....	12 55
Carborundum Co., The, Niagara Falls, N.Y., material and supplies .....	109 28
Caldwell, E. R., Co., Bradford, Pa., material and supplies .....	16 00
Chalenor, L. E., Atlanta, Ga., tariffs .....	8 11
Campbell, P. J., Renfrew, Ont., supplies .....	11 63
Campbell, Wm., Cochrane, Ont., travelling expenses .....	1 00
Croesus Gold Mines, Ltd., Matheson, Ont., claim .....	14 00
Carter Drug & Stationery Co., Ltd., Cochrane, Ont., claims .....	43 60
Corbett, Guy, Cochrane, Ont., travelling expenses .....	46 90
Canadian Brotherhood Railway Employees, Halifax, N.S., advertising .....	10 00
Charleston & Western Carolina Railway, Wilmington, N.C., car service and car repairs .....	57 59
Coleman, G. H., North Bay, Ont., awards, Workmen's Compensation Board.	54 31
Charlotte Harbor & Northern Railway, Boca Grande, Fla., car repairs ....	1 89
Childs Hardware, Matheson, Ont., material and supplies .....	16 33
Campbell's Creek Railroad Co., Dana, W. Va., car service .....	6 60
Clark, W. A., Hillview, Ont., material and supplies .....	8 00
Consolidated Car Heating Co., Albany, N.Y., material and supplies .....	196 80
California Fruit Store, Timmins, Ont., claim .....	1 03
Cade, F. F., North Bay, Ont., travelling expenses .....	17 40
Cousineau, L. J., North Bay, salary .....	60 00
Cocksedge, G., North Bay, Ont., salary .....	94 50
Casey, M., North Bay, Ont., salary .....	72 28
Campbell, M., North Bay, Ont., salary .....	70 56
Conroy, E., North Bay, Ont., salary .....	52 00
Cunningham, Miss M. E., North Bay, salary .....	57 00
Couch, A., North Bay, Ont., salary .....	78 50
Cipparone, S., North Bay, Ont., salary .....	128 73
Carruthers, T. L., North Bay, Ont., salary .....	60 33
Corbeil, I., North Bay, Ont., salary .....	97 50
Carr, B. H., North Bay, Ont., salary .....	25 00
Cobalt Carriage Works, Cobalt, Ont., claim .....	3 00
Chambers, Wm., Englehart, Ont., travelling expenses .....	2 50
Chicago Flag & Decorating Co., Chicago, Ill., material and supplies .....	53 70
Clark, N., North Bay, Ont., travelling expenses .....	189 35
Carey, William, Englehart, Ont., travelling expenses .....	33 50
Connelly, T. H., Elk Lake, Ont., claim .....	6 33
Cicci, Dominic, North Bay, Ont., award, Workmen's Compensation Board ..	16 31
Chicago, Memphis & Gulf Railroad Co., Chicago, Ill., car service .....	57 60
Constant, S., North Bay, Ont., travelling expenses .....	3 30
Cholette, J. E., Cobalt, Ont., claims .....	28 45
Carolina & North Western Railway, Chester, S.C., car repairs .....	2 38
Chapin, John M., Iroquois Falls, Ont., claim .....	74 00
Chouinard, G. A., Chelmsford, Ont., claim .....	10 00
Cox, W. H., Coal Co., Ltd., Toronto, Ont., claim .....	62 69
Canadian Railway and Marine World, Toronto, Ont., publications .....	28 00
Coal & Coke Railroad, Baltimore, Md., car service and car repairs .....	67 97
Crown Reserve Mining Co., Cobalt, Ont., claim .....	15 00
Culver, C. H., Kelso, Ont., material and supplies .....	1 20
Cook, J. E., Thornloe, Ont., material and supplies .....	16 20
Crosby Steam Gauge & Valve Co., Boston, Mass., material and supplies ..	2 12
Chambers, John, Kingston, Ont., material and supplies .....	26 48
Cote, Wilfrid, McIntosh Springs, Ont., material and supplies .....	97 12
Custodis Canadian Chimney Co., Ltd., Toronto, Ont., claim .....	36 38
Cragg, W. V., New Liskeard, Ont., claim .....	16 96
Campbell, H. S., North Bay, Ont., material and supplies .....	2 65
Commercial Union Assurance Co., Ltd., Toronto, Ont., premium .....	23 40
Canada Railway News Co., Ltd., Toronto, Ont., material and supplies ....	23 40
Charron, J., Iroquois Falls, Ont., claim .....	5 50

Cleveland Stone Co., Cleveland, Ohio, material and supplies .....	\$49 63
Cleland, Dr. F. A., Toronto, Ont., professional services .....	175 00
Cote, A., Guiges, P.Q., claims .....	22 95
Canadian Office & School Furniture Co., Ltd., Preston, Ont., material and supplies .....	13 50
Cumberland Pennsylvania Railroad, Cumberland, Md., car service .....	83 40
Coniagas Mines, Ltd., Cobalt, Ont., claims .....	29 00
Cumberland Valley Railroad, Chambersburg, Pa., traffic balances, car repairs, etc. ....	6 27
Clark, W. E., Englehart, Ont., travelling expenses .....	9 50
Carson, A. J., Haileybury, Ont., claims .....	4 95
Comeau, Irene, Cochrane, Ont., claim .....	23 47
Carroll, Mrs. Thomas, Kenabeek, Ont., donation <i>re</i> horse alleged killed ..	30 00
Cobbold, Paul A., Haileybury, Ont., unclaimed wages .....	19 52
Croghan, Jack, North Bay, Ont., travelling expenses .....	14 00
Canadian Link Belt Co., Ltd., Toronto, Ont., material and supplies .....	1 40
Canadian Annual Review, Ltd., Toronto, Ont., publication .....	5 08
Colonial Coal & Coke Co., Ltd., Toronto, Ont., coal .....	1,057 51
Cushing, John, Haileybury, Ont., claim .....	1 85
Canadian H. W. Johns-Manville Co., Ltd., Toronto, Ont., material and supplies .....	1,966 20
Co-operative Society, St. Eugene De Guiges, P.Q., claim .....	8 52
Canadian Labor Press, Ottawa, Ont., advertising .....	50 00
Clements, C. C., Elk Lake, Ont., claim .....	9 98
Chartier, George, Hull, P.Q., claim .....	60 00
Critchley, P. H., Monteith, Ont., donation <i>re</i> cow alleged killed .....	50 00
Cousineau, Joseph, North Bay, Ont., travelling expenses .....	43 20
Colorado Ontario Development Co., Elk Lake, Ont., refund, unexpired telephone rental .....	7 55
Chambers, Wm. Clark, McCaffrey, Wm. A., McCaffrey, Louis E., and Cholette, Joseph Eli, land .....	200 00
Delaware, Lackawanna & Western Railroad, New York, N.Y., traffic balances, car repairs .....	9,454 70
Drinkwater, J., North Bay, Ont., salary and travelling expenses .....	320 50
Department of Public Printing & Stationery, Ottawa, Ont., publications ..	22 40
Denver & Rio Grand Railroad, Denver, Col., car service and car repairs ..	221 88
Pominion Express Co., North Bay, Ont., express charges .....	469 12
Douglas, John, North Bay, Ont., salary and travelling expenses .....	401 35
Drummond, McCall Co., Ltd., Montreal, P.Q., material and supplies .....	1,844 90
Delaney & Pettit Co., Ltd., Toronto, Ont., material and supplies .....	304 54
Delaware, Lackawanna & Western Coal Co., Buffalo, N.Y., coal .....	3,485 58
Delaware & Hudson Co., New York, N.Y., traffic balances, car repairs, etc.	2,095 82
Detroit, Toledo & Ironton Ry., Detroit, Mich., car service and car repairs ..	97 48
Dominion Linens, Ltd., Peterborough, Ont., material and supplies .....	215 50
Doig, Jas., & Co., Latchford, Ont., claims .....	73 88
Despatch and Tribune, North Bay, Ont., advertising, etc. ....	23 40
Dome Mines Co., Ltd., Toronto, Ont., claims and siding rebates .....	107 92
Day, H., North Bay, Ont., travelling expenses .....	203 55
Dominion of Canada Guarantee & Accident Insurance Co., Toronto, Ont., ticket sales .....	9 77
Disston, Henry, & Sons, Ltd., Toronto, Ont., material and supplies .....	176 23
Duncans, Ltd., North Bay, Ont., material and supplies .....	452 97
Dominion Brake Shoe Co., Ltd., Montreal, P.Q., material and supplies ....	5,633 95
Dominion Loose Leaf Co., Ltd., Ottawa, Ont., material and supplies .....	393 00
Dominion Envelope Co., Ltd., Toronto, Ont., material and supplies .....	570 16
Dominion Wheel & Foundries, Ltd., Toronto, Ont., material and supplies..	26,227 96
Duluth, Winnipeg & Pacific Railway, Toronto, Ont., car service and car repairs .....	406 42
Duluth, South Shore & Atlantic Railway, Marquette, Mich., traffic balances, car repairs, etc. ....	116 79
Dodge Mfg. Co., Ltd., Toronto, Ont., material and supplies .....	265 17
Deacon, J. M., North Bay, Ont., registry fees .....	60
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont., material and supplies ..	565 18
Day & Gordon, Haileybury, Ont., legal services .....	151 91
Dominion Foundries & Steel, Ltd., Hamilton, Ont., material and supplies..	1,853 26
Davis & Henderson, Ltd., Toronto, Ont., material and supplies .....	202 30
Dickson, G. H., North Bay, Ont., salary and travelling expenses .....	298 75
Detroit Terminal Railroad, Detroit, Mich., car repairs .....	18



Dougall Varnish Co., Ltd., Montreal, P.Q., material and supplies .....	\$756 38
Denver & Salt Lake Railroad, Denver, Col., car service and car repairs ..	23 18
Duner Co., Chicago, Ill., material and supplies .....	55 02
Department of Inland Revenue, Ottawa, Ont., war tax .....	9,095 67
Daly, John, Feronia, Ont., material and supplies .....	24 70
Dayton Manufacturing Co., Dayton, Ohio, material and supplies .....	23 88
Dominion Atlantic Railway Co., Kentville, N.S., traffic balances .....	3 87
Defiance Check Writer Corporation, Rochester N.Y., material and supplies ..	2 91
Dominion Glass Co., Ltd., Montreal, P.Q., material and supplies .....	247 50
Devlin, R. D., Cobalt, Ont., claims .....	73 70
Dell, G. H., Kenabeck, Ont., material and supplies .....	23 10
Detroit and Mackinac Railway, Detroit, Mich., car service .....	26 40
Duncan, Frank W., North Bay, Ont., material and supplies .....	2,426 00
Dominion Chain Co., Ltd., Montreal, P.Q., material and supplies .....	87 36
Dome Lake Mining & Milling Co., Ltd., South Porcupine, Ont., claim .....	28 62
Dawson, Thomas, Uno Park, Ont., claim .....	3 61
Detroit and Toledo Shore Line Railroad, Detroit, Mich., traffic balances, car repairs, etc. ....	113 90
Dietz, R. E., Co., New York, N.Y., material and supplies .....	42 12
Danaher, Wm., North Bay, Ont., travelling expenses .....	6 15
Detroit Lubricator Co., Walkerville, Ont., material and supplies .....	64 19
Dunham, C. A., Co., Ltd., Toronto, Ont., material and supplies .....	21 17
Dedman, R., North Bay, Ont., travelling expenses .....	15 60
Davies, Wm., Co., Ltd., Toronto, Ont., claims .....	22 90
Drew, James S., Cobalt, Ont., work performed .....	2 75
Drew, M. M., Cobalt, Ont., work performed .....	79 28
Dressel Railway Lamp Works, The, New York, N.Y., material and supplies ..	33 00
Demers, George, Cochrane, Ont., claim .....	1 50
Dominion Association of Fire Chiefs, Kingston, Ont., advertising .....	15 00
Desroches & Brisbois, Haileybury, Ont., claim .....	46 01
Derosier, Mrs. J., Temagami, Ont., donation cows alleged injured .....	108 11
Dunn, John, Haileybury, Ont., claim .....	1 71
Dupuis, Hector, Earlton, Ont., claim .....	4 75
Dalton's Livery, Timmins, Ont., work performed .....	6 00
Demey Derosier, Temagami, Ont., travelling expenses, etc. ....	64 95
Dawson, Charles F., Limited, Montreal, P.Q., material and supplies .....	46 75
Douglas, M. B., North Bay, Ont., salary .....	134 00
Doidge, M., North Bay, Ont., salary .....	89 00
Dwyer, J. H., North Bay, Ont., salary .....	255 46
Darling, E. J., North Bay, Ont., salary .....	91 14
Dreany, L., North Bay, Ont., salary .....	59 00
Dignam, J. C., North Bay, Ont., salary .....	111 50
Depledge, F., North Bay, Ont., salary .....	110 50
Daly, D., North Bay, Ont., salary .....	129 01
Dominion Bridge Co., Ltd., Montreal, P.Q., material and supplies .....	88 00
Davie, Thomas, Earlton, Ont., material and supplies .....	30 40
Davis, Jack, Timmins, Ont., claim .....	4 16
Dupuis Freres, North Temiskaming, Ont., claim .....	7 20
Duel, Wm., North Bay, Ont., travelling expenses .....	7 85
Dixon, P. St. John, New York, N.Y., expense <i>re</i> detained train .....	4 10
Davide, Edward, Connaught, Ont., material and supplies .....	4 00
Dickey, John, North Bay, Ont., award, Workmen's Compensation Board ..	33 34
Dunne, J. A., Thornloe, Ont., claim .....	6 05
Dixon, Geo. T., Waterloo, Ont., claim .....	40 00
Dominion Reduction Co., Ltd., Cobalt, Ont., claims .....	253 00
Dominion Brewery, Ltd., Toronto, Ont., claim .....	27 40
Dominion Match Co., Toronto, Ont., claim .....	33 53
Department of Labour, Ottawa, Ont., publication .....	75
Dayton, Dr. E. C., North Bay, Ont., travelling expenses .....	25 00
Dalton & Cunningham, South Porcupine, Ont., work performed .....	2 00
Dennis Wire & Iron Works Co., Ltd., London, Ont., material and supplies ..	14 00
Decaire, Simon, Timmins, Ont., claim .....	2 50
Denton, I. H., Temagami, Ont., claim .....	2 00
Deschenes, H. J., North Bay, Ont., travelling expenses .....	61 50
Davis, Sam., North Bay, Ont., travelling expenses .....	5 50
Dooling, Timothy, North Bay, Ont., award, Workmen's Compensation Board ..	16 43
Donohue, R. J., Timmins, Ont., travelling expenses .....	9 00
De Long, K. F., Timmins, Ont., claim .....	19 00
De Peco, Frank, Timmins, Ont., claim .....	54

Des Moines Union Railway Co., Des Moines, Iowa, car repairs .....	\$1.76
Demonstration Farm, Monteith, Ont., current lighting Monteith Station, etc.	37 95
Erie Railroad, New York, N.Y., traffic balances, car repairs, etc. ....	4,264 80
English, Wm., North Bay, Ont., salary and travelling expenses .....	274 05
Eddy, E. B., Co., Ltd., Hull, P.Q., material and supplies .....	889 20
Englehart, J. L., Toronto, Ont., remuneration, expenses, etc., .....	7,570 72
Eastern Canadian Passenger Association, Montreal, P.Q., proportion of expenses, etc. ....	162 26
Elgin, Joliet & Eastern Railway, Chicago, Ill., traffic balances, car repairs..	249 58
<i>Evening Telegram</i> , Toronto, Ont., advertising .....	12 63
Employers' Liability Assurance Co., Toronto, Ont., premium .....	296 88
Eaton, The T., Co., Ltd., Toronto, Ont., material and supplies, etc. ....	805 63
Electrical Supply Co., North Bay, Ont., material and supplies .....	15 55
El Paso and South-Western System, New York, N.Y., car service and car repairs .....	29 83
Englehart, Town of, Englehart, Ont., water supplied .....	2,104 02
Elk Lake Power Co., Ltd., Elk Lake, Ont., current supplied .....	39 49
Edwards, A., North Bay, Ont., salary and travelling expenses .....	519 35
Earl, Geo., North Bay, Ont., salary and travelling expenses .....	232 40
Edmonton, Dunvegan & British Columbia Railway, Edmonton, Alta., car service .....	17 40
Elkins & Sinclair, Haileybury, Ont., material and supplies .....	1,273 72
Elias, P., & Brother, Buffalo, N.Y., material and supplies .....	1,761 17
East End Hardware, North Bay, Ont., material and supplies .....	101 64
Englehart Drug Store, Englehart, Ont., material and supplies .....	13 65
Evansville & Indianapolis Railroad, Terre Haute, Ind., car service .....	1 20
Erie Tool Works, Inc., Erie, Pa., material and supplies .....	60 00
Edwards, H. M., Agency, New Liskeard, Ont., claims .....	5 25
Englehart and District Agricultural Society, Englehart, Ont., donation .....	25 00
England Brothers, New Liskeard, Ont., claims .....	4 26
Eydt, J., Cobalt, Ont., work performed, etc .....	195 29
<i>Electric Railway Journal</i> , New York, N.Y., publication .....	4 50
Edwards, Morgan & Co., Toronto, Ont., audit fee .....	430 00
Elliott, W. J., & Co., New Liskeard, Ont., claims .....	13 76
Elston, E., North Bay, Ont., salary .....	50 00
Ellwood, R., North Bay, Ont., salary and travelling expenses ..	173 20
Elston, E., North Bay, Ont., salary .....	37 50
Ellis, Joseph, Timmins, Ont., claim .....	4 80
Eaton, Wm., Cochrane, Ont., awards, Workmen's Compensation Board, and travelling expenses .....	73 24
Electric Short Line Railway Co., Minneapolis, Minn., car service .....	3 00
<i>Evening Citizen</i> , Ottawa, Ont., advertising .....	19 80
Evans, Jenkin, Schumacher, Ont., claim .....	10 30
Evoy, A., Toronto, Ont., claims .....	130 48
Ferguson, C. L., North Bay, Ont., payrolls, etc. ....	1,451,498 01
Ferguson, Lucie E., New London, P.E.I., award, Workmen's Compensation Board .....	600 00
Fort Worth and Denver City Railway, Fort Worth, Texas, car service and car repairs .....	155 25
Florida East Coast Railway, St. Augustine, Fla., car repairs .....	1 78
Fort Dodge, Des Moines & Southern R.R., Boone, Iowa, car service and car repairs .....	140 29
Fifty Thousand Club, Toronto, Ont., donation Toronto staff .....	215 00
Frothingham & Workman, Ltd., Montreal, P.Q., material and supplies .....	1,100 56
Faught, S. J., North Bay, Ont., travelling expenses .....	23 75
Frost Steel and Wire Co., Ltd., Hamilton, Ont., material and supplies .....	408 40
Fish, F. A., Coal Co., Toronto, Ont., claim .....	6 00
Felice, Frank, North Bay, Ont., supplies .....	4 15
Fielding, W. J., Porquus Junction, Ont., material and supplies .....	48 07
Fesserton Timber Co. Ltd., Toronto, Ont., Claim .....	7 25
Freight Claims Association, Richmond, Va., assessment, etc. ....	23 94
Ferguson & McFadden, Tomiko, Ont., claim .....	17 95
Fraser, A. A., North Bay, Ont., salary and travelling expenses .....	495 01
Fowke & Gerrard, Charlton, Ont., claims .....	24 00
Fasano, Nicolas, Cochrane, Ont., claim .....	2 60
Fruit Growers' Express, Inc., Chicago, Ill., car service .....	38 09
Ferris, A., Timmins, Ont., claims .....	7 58

Farm and Dairy and Rural Home, Peterborough, Ont., advertising .....	\$21 00
Feldman, F., Timmins, Ont., claim .....	3 04
Fete of the Allies & Confederation Bazaar, Toronto, Ont., advertising .....	10 00
Fort Smith and Western Railroad, Fort Smith, Ark, car service .....	37 50
Freeman, A. R., Timmins, Ont., claim .....	11 75
Fleming, Geo. A., Matheson, Ont., claim .....	5 09
Field, J. H., Englehart, Ont., claim .....	67 75
Frost, H., Iroquois Falls, Ont., claim .....	18 51
Palardeau, Ardoani, Thornloe, Ont., claim .....	8 40
Furnivall-New, Ltd., Hamilton, Ont., claim .....	1 31
Freeman, B., North Bay, Ont., salary .....	57 04
Freeman, A., North Bay, Ont., salary .....	176 50
Fitzsimmons, Gordon, North Bay, Ont., salary .....	27 00
Fletcher, D. R., North Bay, Ont., salary .....	109 27
Fraser, James, Dane, Ont., material and supplies .....	33 00
Fraser, Miss Emma A., Cobalt, Ont., claim .....	30 00
Flood, Arthur, North Bay, Ont., award, Workmen's Compensation Board .....	9 08
Fritz, Charles, Thornloe, Ont., donation hay alleged burned .....	250 00
Foster, T. W., Toronto, Ont., claim .....	33 63
Flannery, M. W., North Bay, Ont., judgment .....	29 67
Fleming, Richard, North Bay, Ont., award, Workmen's Compensation Board .....	93 14
Fischer, Thomas, North Bay, Ont., award, Workmen's Compensation Board .....	113 08
Fairlie, Matt., Cobalt, Ont., claim .....	4 74
Fuel Controller of the Dominion of Canada, Ottawa, Ont., fee .....	275 00
Fisher, A. & F., Toronto, Ont., work performed .....	21 25
Flannery, W. M., North Bay, Ont., travelling expenses .....	128 35
Fraser, R. V., Cochrane, Ont., work performed .....	3 00
Fuller, Francis W., North Bay, Ont., donation .....	42 10
Frisco Refrigerator Line, St. Louis, Mo., car service .....	5 16
Farmers' Co-operative Society, Verner, Ont., claim .....	1 56
Fleming, P. M., Haileybury, Ont., material and supplies .....	6 00
Forbes, J. M., Timmins, Ont., donation horse alleged killed .....	50 00
Flood & Simpson, Elk Pit, Thornloe, Ont., material and supplies .....	773 47
Fleming, Alf E., Haileybury, Ont., work performed .....	11 00
Ferrocarriles Nacionales de Mexico, City of Mexico, Mexico, car service .....	1 20
Fay, J. A., & Egan Co., Cincinnati, Ohio, material and supplies .....	794 37
Federated Trades and Labour Council, Toronto, Ont., advertising .....	15 00
Federated Association of Letter Carriers, Hamilton, Ont., advertising .....	10 00
Fennell, J., Englehart, Ont., claim .....	2 05
Fleming, J. T., North Bay, Ont., travelling expenses .....	38 30
Grand Trunk Ry. System, Montreal, P.Q. traffic balances, car repairs, etc. ...	101,058 13
Galena Signal Oil Co., Toronto, Ont., material and supplies .....	8,386 53
General Supply Co. of Canada, Ltd., Ottawa, Ont., material and supplies .....	2,228 62
Garlock Packing Co., Hamilton, Ont., material and supplies .....	501 88
Gibson, F. R., Haileybury, Ont., work performed, etc., .....	4,471 64
Graham, W. A., North Bay, Ont., travelling expenses and salary .....	791 42
Grand & Toy, Ltd., Toronto, Ont., material and supplies .....	735 38
Gurney Foundry Co., Ltd., Toronto, Ont., material and supplies .....	289 95
Grieve, John, Cochrane, Ont., travelling expenses .....	22 80
Great Northern Railway, St. Paul, Minn., traffic balances, car repairs .....	978 50
Gage, W. J., & Co., Toronto, Ont., material and supplies .....	13 96
Galveston, Harrisburg & San Antonio Railway, Houston, Texas, car service and car repairs .....	133 25
General Manifold & Printing Co., Franklin, Pa., material and supplies .....	52 26
Green Bay and Western Railroad, Green Bay, Wis., car service .....	102 60
Graham Nail Works, Toronto, Ont., material and supplies .....	1,419 12
Gregory, Miss T., North Bay, Ont., salary .....	257 00
Great North-Western Telegraph Co., telegraph service .....	482 71
Griffin, W. A., North Bay, Ont., salary and expenses .....	1,239 85
Globe Printing Co., Toronto, Ont., advertising .....	109 80
Goodman, E. M., New Liskeard, Ont., additional remuneration .....	20 00
Giles, Charles S., Cochrane, Ont., work performed .....	57 05
Greening, B., Wire Co., Ltd., Hamilton, Ont., material and supplies .....	1,289 96
Grand Trunk Pacific Railway, Montreal, Que., car service, claims, etc. ....	31,482 49
Gurney Scale Co., Hamilton, Ont., material and supplies .....	15 44
Goldie & McCulloch Co., Ltd., Galt, Ont., material and supplies .....	299 46
Gartshore Thomson Pipe & Foundry Co., Ltd., Hamilton, Ont., material and supplies .....	749 52

Gracey, T. J., Toronto, Ont., travelling expenses .....	\$50 85
Gill & Long, Toronto, Ont., taxi service .....	7 00
Gourock Ropework Export Co., Ltd., Montreal, P.Q., material and supplies .....	313 21
Grand Trunk Pacific Coast Steamship Co., Ltd., Vancouver, B.C., traffic balances, etc. ....	4 69
Gulf, Mobile & Northern Railroad, Mobile, Ala., car repairs .....	4 59
Gordon, George, & Co., Ltd., Cache Bay, Ont., material and supplies .....	3,533 34
Globe Furniture Co., Ltd., Waterloo, Ont., material and supplies .....	67 50
Galveston, Houston & Henderson Railroad, Galveston, Texas, car repairs .....	3 20
Gutta Percha & Rubber, Ltd., Toronto, Ont., material and supplies .....	1,438 56
Grills Co., The, New Liskeard, Ont., claim .....	46
Gordon, J. R., Timmins, Ont., claim .....	3 90
Gulf and Ship Island Railroad, Gulfport, Miss., car repairs .....	32 84
Golding, A. W., Clute, Ont., claim .....	20 87
Galt, Preston & Hespeler Railway, Galt, Ont., traffic balances and claims .....	9 60
Gifford Wood Co., Hudson, N. Y., material and supplies .....	23 05
Gardiner, E. C., Thornloe, Ont., material and supplies .....	39 49
Georgia & Florida Railway, Augusta, Ga., car repairs .....	5 25
Georgia Southern & Florida Railway, Macon, Ga., car service and car repairs .....	73 74
General American Tank Car Corporation, Chicago, Ill., car service .....	3 08
Greenwood, S., & Sons, New Liskeard, Ont., claims .....	15 23
Grodwards Company, The, Cobalt, Ont., claims .....	692 79
Georgia Railroad, Augusta, Ga., car service and car repairs .....	9 99
Gulf, Florida & Alabama Railway Co., Pensacola, Fla., car repairs .....	4 02
Gulf Coast Lines, Houston, Texas, car repairs .....	7 22
Garrow, R. M., Porcupine, Ont., claim .....	3 83
Gibbons, Joseph, Iroquois Falls, Ont., claim .....	4 90
Gamble Robinson Sudbury, Ltd., Sudbury, Ont., claims .....	33 37
Graham, S., Haileybury, Ont., claim .....	2 00
Graham, R. P., Cobalt, Ont., claims .....	63 94
Grey, Thos. J., Co., Boston, Mass., material and supplies .....	19 25
Gallaher, J. A., North Bay, Ont., salary .....	141 00
Gairdner, M., North Bay, Ont., salary .....	75 00
Griffith, E., North Bay, Ont., salary .....	70 00
Gubb, Geo., North Bay, Ont., travelling expenses .....	87 85
Groulx, James L., Cochrane, Ont., claim .....	4 00
Gardiner, Geo. H., North Bay, Ont., award, Workmen's Compensation Board .....	11 83
Godin, Joe, South Porcupine, Ont., work performed .....	10 00
Gulf, Colorado & Santa Fe Railway, Galveston, Texas, car service .....	6 60
Glover, A., Cochrane, Ont., travelling expenses .....	1 00
Gawley, A., services rendered .....	10 00
Grand Rover Railway, Galt, Ont., traffic balances .....	225 46
Giachino, Orsola, Cobalt, Ont., claim .....	7 00
Glenn, J. H., Atlanta, Ga., tariffs .....	2 80
George, John, Heaslip, Ont., material and supplies .....	10 00
Grant, W. A., Englehart, Ont., travelling expenses .....	63 00
Grand Rapids & Indiana Ry., Grand Rapids, Mich., traffic balances and car repairs .....	80 81
Gould, A., North Bay, Ont., travelling expenses .....	3 00
Gormley, J. W., Annapolis Royal, N.S., travelling expenses .....	63 00
Genesee & Wyoming Railroad, New York, N.Y., traffic balance .....	7 22
Galveston Wharf Co., Galveston, Texas, car repairs .....	6 12
Gilmore & Pittsburg Railroad, Armstead, Montana, car service .....	12 60
Gordon, John, Englehart, Ont., award, Workmen's Compensation Board .....	71 63
Grasselli Chemical Co., Ltd., Cleveland, Ohio, car service .....	1 88
Hamilton Stamp & Stencil Works, Ltd., Hamilton, Ont., material and supplies .....	135 18
Hees, Geo. H., & Son Co., Ltd., Toronto, Ont., material and supplies .....	192 76
Haileyburian, The, Haileybury, Ont., advertising .....	17 10
Hart, S. R., & Co., Ltd., Toronto, Ont., material and supplies .....	26 00
Houston & Texas Central Railway, Houston, Texas, car repairs .....	12 24
Hogg & Lytle, Ltd., New Liskeard, Ont., refund on siding .....	22 00
Holden Co., Ltd., Montreal, P.Q., material and supplies .....	1,629 75
Hydro-Electric Power Commission of Ontario, power, etc. ....	3,602 27
Heasman, Frank, New Liskeard, Ont., claims .....	25 47
Hollinger Consolidated Gold Mines, Ltd., Timmins, Ont., claims .....	74 11
Hopkins, F. H., & Co., Montreal, P.Q., material and supplies .....	116 54
Haileybury, Corporation of Town of, Haileybury, Ont., water rates, etc. ....	120 60
Houston East and West Texas Railway Co., Houston, Texas, car repairs .....	11 10

Hayes Track Appliance Co., Richmond, Ind., material and supplies .....	\$27 00
Hay Stationery Co, London, Ont., printing .....	122 76
<i>Herald, The</i> , Printing Co., Ltd., Hamilton, Ont., advertising .....	20 00
Hill, C., North Bay, Ont., travelling expenses .....	3 15
Hudson's Bay Co., The, North Bay, Ont., claim .....	40 75
Hart & McDonagh, Toronto, Ont., material and supplies .....	81 75
Hochman, Froeh & Co., Iroquois Falls, Ont., claims .....	124 44
Hutson, Mr. and Mrs. John, Trout Mills, Ont., services rendered .....	15 00
Henderson & Angus, North Bay, Ont., work performed .....	359 38
Howland, H. S., Sons & Co., Ltd., Toronto, Ont., claim .....	21 50
Harris Abattoir Co., Ltd., Toronto, Ont., claims .....	41 60
Howie, R. G., Milverton, Ont., claim .....	6 41
Hotel Goldfields, Timmins, Ont., board .....	11 50
Henry Manufacturing & Grease Cup Co., Terre Haute, Ind., material and supplies .....	73 20
Herbert, A. L., Haileybury, Ont., claim .....	173 04
Hamilton Co., Haileybury, Ont., claim .....	98 52
Hocking Valley Railway, Columbus, Ohio, traffic balances .....	664 11
Milton, Hersey Co., Ltd., Montreal, P.Q., services rendered .....	7 83
Hamilton Bridge Works Co., Ltd., Hamilton, Ont., material and supplies ..	645 38
Ham, C. H., Englehart, Ont., claims, etc. ....	2 91
Hunt, Robt. W., & Co., Ltd., Montreal, P.Q., services rendered .....	471 03
Harmer, W. H., & Co., Cochrane, Ont., services rendered .....	29 00
Haileybury Supply Store, Haileybury, Ont., claims .....	30 15
Harrison, John, & Sons Co., Ltd., Owen Sound, Ont., material and supplies..	120 00
Hobson, E. M., Cochrane, Ont., claims .....	134 44
Hamilton, G. D., South Porcupine, Ont., claim .....	2 09
Hendry, F. W., Haileybury, Ont., claim .....	45 00
Heaton's Agency, Toronto, Ont., publication .....	1 25
Hutt, F. W., Haileybury, Ont., claims .....	39 69
Holden, Mrs. Eleanor, New Liskeard, Ont., deduction from payroll .....	7 32
Harrison, C., North Bay, Ont., salary .....	66 11
Hamilton, C., North Bay, Ont., salary .....	59 50
Hume, J., North Bay, Ont., salary .....	89 25
Hume, Mrs. J., North Bay, Ont., salary .....	22 50
Hume, R. L., North Bay, Ont., salary .....	101 00
Hargraves, E., Haileybury, Ont., work performed .....	15 90
Hewson, Gunner A., London, Eng., unclaimed wages .....	13 27
Harris, Arthur B., Haileybury, Ont., award, Workmen's Compensation Board.	17 09
Hotel Cecil, Earleton, Ont., board, etc. ....	22 50
Hopkins, R. H., Porquis Jct., Ont., claim .....	75
Helperin Bottling Works, Timmins, Ont., claims .....	44 29
Hartford, Lyman A., Iroquois Falls, Ont., claim .....	10 00
Hyslop and Sons, Greensville, Ont., claim .....	1 30
Hawkesbury Lumber Co., Ltd., Nesto, Ont., refund unexpired telephone rental .....	7 50
Huntingdon & Broad Top Mountain Railroad & Coal Co., Huntingdon, Pa., car service .....	46 20
Harrison, Edward, South Porcupine, Ont., work performed .....	20 00
Harris Brothers Company, Chicago, Ill., material and supplies .....	631 00
Hosken, A., Englehart, Ont., work performed .....	3 00
Hooper, Mrs. H., Hanbury, Ont., claim .....	3 50
Holgevac, George, Porquis Junction, Ont., donation <i>re</i> heifer alleged killed.	25 00
Hendun Lumber Co., Ltd., Haileybury, Ont., claim .....	18 32
Hill Crest Farm, Iroquois Falls, Ont., claim .....	2 20
Hamilton & Toronto Sewer Pipe Co., Ltd., Hamilton, Ont., claim .....	88 50
Howard, John, Heaslip, Ont., material and supplies .....	15 00
Hicks, Harry, Co., Toronto, Ont., work performed .....	10 40
Illinois Central Railroad, Chicago, Ill., traffic balance, car repairs .....	1,850 29
Imperial Oil, Limited, Toronto, Ont., material, supplies and rent of offices..	12,566 61
Irish and Maulson, Ltd., Toronto, Ont., premiums .....	20,288 79
International and Great Northern Railroad, Houston, Texas, car service, car repairs .....	164 58
International Railway Publishing Co., Ltd., Montreal, P.Q., advertising....	101 00
Illinois Northern Railway, Chicago, Ill., car repairs .....	1 40
Industrial Works, Bay City, Mich., material and supplies .....	278 65
International Malleable Iron Co., Ltd., Guelph, Ont., material and supplies.	564 84

International Equipment Co., Ltd., Montreal, P.Q., material and supplies ..	\$1,769 75
International Time Recording Co., Ltd., Toronto, Ont., material and supplies ..	12 67
<i>Industrial Banner</i> , Toronto, Ont., advertising.....	25 00
Iroquois Falls Merchandising Co., Ltd., Iroquois Falls, Ont., claims.....	347 70
International Seal and Lock Co., Hastings, Mich., seals .....	335 00
Indiana Harbor Belt Railroad, Cleveland, Ohio, car repairs and traffic balances .....	27 63
International Harvester Co. of Canada, Ltd., Chicago, Ill., claims .....	11 57
<i>Iron Trade Review</i> , Cleveland, Ohio, publication .....	6 00
Irvine, A., Englehart, Ont., award, Workmen's Compensation Board.....	28 25
Imbeault, E., North Bay, Ont., salary and travelling expenses.....	342 58
International Business Machines Co., Ltd., Toronto, Ont., material and sup- plies .....	1,247 60
Illinois Southern Railway Co., St. Louis, Mo., car service .....	78 00
Ireland, M. S., Englehart, Ont., work performed .....	6 00
Inverness Railway and Coal Co., Inverness, N.S., car repairs .....	1 89
Invalid Soldiers' Commission Industries, Guelph, Ont., material and supplies	303 75
Jones, D. F., Manufacturing Co., Ltd., Gananoque, Ont., material and sup- plies .....	449 45
Jackson Press, Kingston, Ont., printing, etc. ....	3,843 52
Jessup, J. H., North Bay, Ont., travelling expenses .....	36 25
Johnson, D., Matheson, Ont., supplies .....	3 05
Johnson, Captain Albert, Haileybury, Ont., material and supplies.....	972 00
Johnson Bronze Co., New Castle, Pa., material and supplies .....	45 00
Jordon, C. F., Co., East Chicago, Ind., material and supplies .....	882 64
Johnson, Thos., Leeville, Ont., material and supplies .....	122 12
Johns, Wm., Leeville, Ont., material and supplies .....	150 30
Jory, P. H., Limited, Haileybury, Ont., claim .....	12 25
Joy, H. M., South Porcupine, Ont., claim .....	2 00
Junor, Wm., Toronto, Ont., supplies .....	1 50
Jenckes Machine Co., Ltd., Cobalt, Ont., claim .....	8 00
Jacobs, Thos., Cochrane, Ont., travelling expenses .....	56 75
James, F., Matheson, Ont., work performed .....	2 50
Jones, A. H., Cochrane, Ont., travelling expenses .....	47 90
Joseph, K. & Co., Cochrane, Ont., claim .....	7 50
Jones and Glassco, Montreal, P.Q., material and supplies .....	3 05
Jones, W., North Bay, Ont., salary .....	126 50
Johnston, W. I., North Bay, Ont., salary and travelling expenses.....	209 27
Jodouin, J., Ottawa, Ont., claim .....	9 90
Johnson, T. H., Iroquois Falls, Ont., travelling expenses .....	7 00
Jaeger, Julius T., Iroquois Falls, Ont., claim .....	7 57
Johnston, Samuel, M.A., M.D., Toronto, Ont., professional services .....	25 00
Johnson and Thompson, Leeville, Ont., work performed .....	4,803 00
Jonesboro Lake & Eastern Railroad, Jonesboro, Ark., car repairs .....	3 33
Johnston, George, Charlton, Ont., material and supplies .....	26 00
<i>Journal Pub. Co.</i> , of Ottawa, Ltd., Ottawa, Ont., advertising .....	22 80
Kennedy, Rebecca, North Bay, Ont., laundry .....	217 02
Kelly, W. J., North Bay, Ont., salary and travelling expenses .....	403 65
Kerrigan, D., Englehart, Ont., expenses .....	58 00
Kennedy Brothers, Utica, N.Y., material and supplies .....	1 35
Knight Bros., & McKinnon, Ltd., Cobalt, Ont., claims .....	72 27
Kansas City, Mexico & Orient Railway, Kansas City, Mo., car service .....	16 20
Krug, H., Furniture Co., Ltd., Kitchener, Ont., material and supplies .....	18 86
Kerry, J. G. G., Toronto, Ont., fee as consulting engineer, etc. ....	1,014 12
Kaustine Co. Ltd., Toronto, Ont., material and supplies .....	1,028 57
Knechtel Furniture Co., Ltd., Hanover, Ont., material and supplies .....	336 42
King, A. T., North Bay, Ont., salary and travelling expenses .....	729 10
Korman, D., Englehart, Ont., claim .....	37 81
King's Printer, Toronto, Ont., material and supplies .....	481 14
Keystone, Coal & Coke Co., Greensburg, Pa., car service .....	4 69
Kanawha & Michigan Railway Co., Columbus, Ohio, car repairs .....	38 91
Kansas City Southern Railway, Kansas City, Mo., traffic balances and car repairs .....	2,474 72
Kentucky & Indiana Terminal Railroad, Louisville, Ky., car repairs .....	2 06
Kelly, H., Cobalt, Ont., claim .....	5 75
Knight, Charles, Englehart, Ont., material and supplies .....	35 00

Kalamazoo Railway Supply Co., Kalamazoo, Mich., material and supplies..	\$616 50
Kirkbride, J., Cochrane, Ont., travelling expenses .....	90
King, Earnest James, North Bay, Ont., award, Workmen's Compensation Board .....	43 59
Knapp, E. A., North Bay, Ont., salary .....	102 78
Keeley, D. E., Schumacher, Ont., claim .....	4 28
Kideckel, E., Iroquois Falls, Ont., claim .....	1 00
King Construction Co., Ltd., The, Toronto, Ont., material and supplies .....	4 00
Lehigh Valley Railroad, Philadelphia, Pa., traffic balances, car repairs, etc.	2,894 51
Lee, Geo. W., North Bay, Ont., honorarium, expenses, etc. ....	3,794 15
L'Air Liquide Society, Toronto, Ont., material and supplies .....	669 00
London Guarantee & Accident Co., Ltd., Toronto, Ont., premium .....	124 62
Loisel, Sam., Cochrane, Ont., travelling expenses .....	154 25
Louisiana Western Railway, New Orleans, La., car repairs .....	41
Lowe Bros., Ltd., Toronto, Ont., material and supplies .....	1,540 58
Locher, G. R., Co., Montreal, P.Q., material and supplies .....	77 10
Laframbois, F. X., North Cobalt, Ont., material and supplies .....	209 40
Labor Educational Association of Ontario, Toronto, Ont., advertising .....	20 00
Louisville & Nashville Railway, Louisville, Ky., traffic balances, car repairs	717 27
Lambton Creamery Co., Petrolia, Ont., material and supplies .....	121 50
Los Angeles & Salt Lake Railroad, Los Angeles, Cal., car service and car repairs .....	48 70
Lewis Bros., Ltd., Montreal, P.Q., material and supplies .....	6 37
Lunkenheimer Co., The, Cincinnati, Ohio, material and supplies .....	14 90
Lovell, J. T., North Bay, Ont., material and supplies .....	626 54
Lawson, Thomas, & Sons, Ltd., Ottawa, Ont., material and supplies .....	40 00
Levy Bros., Co., Ltd., The, Hamilton, Ont., material and supplies .....	35 00
Lyman Tube & Supply Co., Ltd., Montreal, P.Q., claim, etc. ....	129 65
Lalonde, R. E., Cochrane, Ont., claims .....	48 60
Little, Walter, Swastika, Ont., livery hire, etc. ....	64 69
Lalonde, Mrs. A., North Bay, Ont., supplies .....	80 85
Labor Directory, Toronto, Ont., advertising .....	10 00
Louisiana & Arkansas Railway, Texarkana, Ark., car service .....	56 75
Lady Minto Hospital, New Liskeard, Ont., donation .....	100 00
Lacroix & Morrissette, Cochrane, Ont., claim .....	43 85
Lehigh & New England R. R., South Bethlehem, Pa., car service and car repairs .....	308 17
Lake Erie & Western Railroad, Indianapolis, Ind., car repairs and claims.	216 58
Lewis, W. H., Haileybury, Ont., registry fees .....	21 76
Lindsay & McCluskey, North Bay, Ont., material and supplies .....	2,330 75
Lucky Cross Mines, Ltd., Swastika, Ont., rent of building .....	160 00
Locomotive Superheater Co., New York, N.Y., superheater equipment .....	13,496 00
Laidlaw, R., Lumber Co., Ltd., Toronto, Ont., material and supplies .....	3,451 90
Lillie, Dexter P., Co., Indian Orchard, Mass., material and supplies .....	319 52
Lowery, W. R., Cobalt, Ont., claims .....	961 53
Lamb, R. L., North Bay, Ont., salary and travelling expenses .....	301 05
Leng, J. H., New Liskeard, Ont., claims .....	14 52
Legault Hardware Co., Charlton, Ont., claims, etc. ....	22 51
Lowrey, Dr. R. C., Englehart, Ont., claims, etc. ....	68 65
Louisville, Henderson & St. Louis Railway, Louisville, Ky., car service..	60
Lye, Arthur L., North Bay, Ont., travelling expenses .....	6 20
Lehigh & Hudson River Railway, Warwick, N.Y., car service .....	72 60
Leavoy, Mrs. Janet, Matheson, Ont., claim .....	45
Leppan, Francis, North Bay, Ont., award, Workmen's Compensation Board	6 85
Leishman, E. G., North Bay, Ont., travelling expenses .....	3 15
Leclair, A., Connaught, Ont., work performed .....	75
Lady Minto Hospital, Cochrane, Ont., donation .....	50 00
Leak & Co., Ltd., Toronto, Ont., claim .....	8 41
Lyman Bros., & Co., Ltd., Toronto, Ont., claim .....	10 44
London & Port Stanley Railway, London, Ont., car repairs .....	1 75
Live Oak, Perry & Gulf Railroad, Live Oak, Fla., car service and car repairs	20 78
Lake, T. H., Haileybury, Ont., claim .....	6 30
Labor News, The, Hamilton, Ont., advertising .....	15 00
Lalor, W. M., Chicago, Ill., material and supplies .....	81 00
Lackawanna & Wyoming Valley Railroad, Scranton, Pa., car service .....	13 80
Lee, A., Englehart, Ont., travelling expenses .....	4 10
Lavoy, Joseph, North Bay, Ont., travelling expenses .....	27 30
Leavoy, E. W., Matheson, Ont., unclaimed wages .....	14 50

Lacart, J., North Bay, travelling expenses .....	\$3 30
Lavery, T. H., North Bay, Ont., salary and travelling expenses .....	143 97
Lefevre, A., North Bay, Ont., salary .....	72 28
Lidkea, W. E., North Bay, Ont., salary .....	32 50
Lebreque, J., North Bay, Ont., salary .....	108 50
Lehman, E., North Bay, Ont., salary .....	57 50
Lidkea, H., North Bay, Ont., salary .....	45 00
Leppan, S., North Bay, Ont., salary .....	45 00
Labine, James, Haileybury, Ont., claim .....	4 35
Lundy, John, Haileybury, Ont., award, Workmen's Compensation Board ....	84 16
Liquids Despatch Line, Chicago, Ill., car service .....	1 54
Labine, Joseph, Haileybury, Ont., donation cow alleged killed, etc. ....	100 09
Livingston, Francis Maurice, North Bay, Ont., award, Workmen's Compensation Board .....	468 63
London & Petrolia Barrel Co., Ltd., London, Ont., material and supplies..	27 50
Lebovitz, Sam., Cobalt, Ont., claim .....	21 00
LeBarron, Orville, Cochrane, Ont., award, Workmen's Compensation Board	13 18
Lackawanna Steel Co., Buffalo, N.Y., car service .....	3 04
Lafond, Oliver, Guigues, P.Q., claim .....	95
Lafleur, P. J., Earlington, Ont., material and supplies .....	14 20
Lake Terminal Railroad Co., Pittsburg, Pa., car repairs .....	2 77
Lillie, Robert, North Cobalt, Ont., claims .....	20 94
Lyon, Dr. Mortimer, Toronto, Ont., professional services .....	15 00
Little, F. W., Monteith, Ont., material and supplies .....	24 67
Lake Shore Mines, Ltd., Swastika, Ont., claim .....	2 31
Lamothe, Charles, North Temiskaming, P.Q., claim .....	2 50
Labarge, L. J., Iroquois Falls, Ont., claim .....	14 00
Louisiana Railway & Navigation Co., Shreveport, La., car service .....	9 00
London Concrete Machinery Co., Ltd., London, Ont., material and supplies	480 25
Lafamme, E., Timmins, Ont., claim .....	29 51
Lake Superior Paper Co., Ltd., Sault Ste. Marie, Ont., claim .....	167 20
Lotbiniere & Megantic Railroad, Lyster, P.Q., traffic balance .....	17
Michigan Central Railroad, Detroit, Mich., traffic balances, car repairs, etc.	2,509 25
Missouri Pacific Railway, St. Louis, Mo., traffic balances, car repairs, etc...	2,954 77
Mobile & Ohio Railroad, Mobile, Ala., car service and car repairs .....	220 06
Maund, W. H., Toronto, Ont., Toronto payrolls, expenses, etc. ....	21,502 04
Mussens, Ltd., Montreal, P.Q., material and supplies .....	379 20
Maine Central Railroad, Portland, Me., traffic balances, car repairs, etc. ..	232 27
Monetary Times Printing Co., Ltd., Toronto, Ont., publications and advertising .....	53 00
Minneapolis & St. Louis Railroad, Minneapolis, Minn., car service and car repairs .....	775 63
Meakins & Sons, Ltd., Hamilton, Ont., materials and supplies .....	588 69
Might Directories, Ltd., Toronto, Ont., services rendered, etc. ....	46 97
Minneapolis, St. Paul & Sault Ste. Marie Railway, Minneapolis, Minn., traffic balances, car repairs, etc. ....	1,532 22
Marshall-Ecclestone, Ltd., Timmins, Ont., claims .....	25 02
Missouri, Kansas & Texas Railway, St. Louis, Mo., car service and car repairs .....	570 78
Murphy, E. M., New Liskeard, Ont., travelling expenses .....	15 00
Mail Printing Co., Ltd., Toronto, Ont., advertising, etc. ....	59 60
Methodist Book & Publishing House, Toronto, Ont., printing, etc. ....	1,093 57
Molyneaux, Miss M., Cobalt, Ont. salary .....	260 00
Morrison, Jas., Brass Mfg. Co., Ltd., Toronto, Ont., material and supplies.	1,688 62
Morrow, John, Screw & Nut Co., Ltd., Ingersoll, Ont., material and supplies	35 43
Marsh & Truman Lumber Co., Chicago, Ill., material and supplies .....	1,065 49
Mackie, W. L., North Bay, Ont., material and supplies .....	2 25
Mitchell, The Robert Co., Ltd., Montreal, P.Q., material and supplies ....	2 40
Military Hospitals Commission Industries, Guelph, Ont., material and supplies .....	266 50
Massey, Harris Co., Ltd., Toronto, Ont., claim .....	11 27
Morrison, C. D., Cobalt, Ont., claims .....	2 18
Montreal Locomotive Works, Ltd., New York, N.Y., material and supplies	144 00
MacBride Press, Ltd., The, Brantford, Ont., printing .....	6 00
Mines Publishing Co., Ltd., Toronto, Ont., advertising .....	60 00
Midland Valley Railroad, Muskogee, Okla., car service and car repairs ....	17 63
Montpelier & Wells River Railroad, Boston, Mass., car repairs .....	5 00
Magladery, Thos., Englehart, Ont., claims .....	5 89



Mueller, S., Mfg. Co., Ltd., Sarnia, Ont., material and supplies .....	\$55 66
Mathews-Blackwell, Ltd., Toronto, Ont., claims .....	33 00
Miner, W. H., Chicago, Ill., material and supplies .....	911 20
Marshall, R. S., Heaslip, Ont., travelling expenses .....	52 00
Montreal Star Pub. Co., Ltd., Montreal, P.Q., advertising .....	22 24
Maclean Pub. Co., Ltd., Toronto, Ont., publications and advertising .....	56 00
Maclean, Hugh C., Ltd., Toronto, Ont., publications .....	4 00
Master Car Builders' Association, Chicago, Ill., annual dues, etc. ....	14 50
Montour Railroad, Pittsburg, Pa., car service .....	78 60
Mississippi Central Railroad, Hattiesburg, Miss., car service and car repairs .....	31 08
Missouri & North Arkansas Railroad, Harrison, Ark., car service and car repairs .....	44 43
Missouri, Kansas & Texas Railway of Texas, Dallas, Texas, car service and car repairs .....	175 00
Morgan's Louisiana & Texas Railroad & Steamship Co., New Orleans, La., car repairs, etc. ....	104 82
Malkin, R. L., Nellie Lake, Ont., material and supplies .....	2,583 36
Monteith Pulp & Timber Co., Ltd., Monteith, Ont., rebate on private siding, etc. ....	928 97
Malkin, Henry S., Charlton, Ont., Material and supplies and claims .....	131 93
Miller Chemical Engine Co., Chicago, Ill., material and supplies .....	96 10
Milne, Wm., & Son, Ltd., North Bay, Ont., material and supplies, etc. ....	1,066 22
Mead, G. H., Co., Detroit, Mich., claim .....	11 62
MacMillan Wm. M., North Bay, Ont., salary and travelling expenses ....	235 85
Missouri, Oklahoma & Gulf Railway Co., Muskogee, Okla., car service and car repairs .....	24 24
Maher, W. R., North Bay, Ont., salary and travelling expenses .....	366 31
Manistee & Northeastern Railroad Co., Manistee, Mich., car service .....	1 20
Merkeley, D. S., Haileybury, Ont., material and supplies .....	20 15
Moore, Geo. N., Timmins, Ont., claims .....	8 46
Martyn, F. J., North Bay, Ont., services rendered .....	163, 00
Mason, Gordon & Co., Montreal, P.Q., material and supplies .....	3,531 05
Mould, Charles W., North Bay, Ont., awards, Workmen's Compensation Board .....	348 50
Martin, H., North Bay, Ont., travelling expenses .....	96 50
Monette, A. P., North Bay, Ont., salary .....	104 50
Mining Corporation of Canada, Ltd., Cobalt, Ont., claim .....	1 68
Manufacturers' Junction Railway Co., Cicero, Ill., car service .....	4 20
Macon, Dublin & Savannah Railroad, Macon, Ga., car repairs .....	25
MacAlpine, J. D., Cleveland, Ohio, publication .....	4 50
Munson Supply Co., New York, N.Y., material and supplies .....	7 20
Mathew, E., North Bay, Ont., travelling expenses .....	13 50
Meton, Harry, North Bay, Ont., award, Workmen's Compensation Board ..	6 81
Maslink, John, Iroquois Falls, Ont., claims .....	15 84
Memphis, Dallas & Gulf Railroad, Nashville, Ark., car repairs .....	6 47
Martin, Miss G. V., North Bay, Ont., salary .....	67 00
Morgan, N. L., North Bay, Ont., salary .....	96 50
Martin, A. H., North Bay, Ont., salary .....	65 28
Martino, C., & Co., Timmins, Ont., claims .....	9 83
Morin, J., Cochrane, Ont., travelling expenses .....	5 90
Monahan, J. A., Matheson, Ont., claim .....	1 05
Meyers, E. J., Timmins, Ont., claims .....	8 92
Martin, John, Jr., Uno Park, Ont., material and supplies .....	10 00
Nickle, Clark & Miller, Earleton, Ont., claim .....	3 04
Miller Lake, O'Brien Mine, Gowganda, Ont., claim .....	5 29
Morris, Peter, New Liskeard, Ont., claim .....	4 00
Marchand, D., Iroquois Falls, Ont., claim .....	3 49
Monaghan, R., Timmins, Ont., claim .....	8 00
Monongahela Connecting Railroad Co., Pittsburg, Pa., car service .....	1 80
Middle Tennessee Railroad Co., Nashville, Tenn., car service .....	11 40
Morgan, George, Porquis Junction, Ont., material and supplies .....	41 15
Morrissey & Davies, Latchford, Ont., claims .....	9 90
Murdock, H. G., Kirkland Lake, Ont., refund, unexpired telephone rental..	8 75
Mattagami Pulp & Paper Co., Ltd., Toronto, Ont., claim .....	11 04
Medland Bros., Ltd., Toronto, Ont., claim .....	60
Murtagh, Mrs. C., Timmins, Ont., claim .....	10 00
Maciokas, John, Timmins, Ont., donation <i>re</i> cow alleged killed .....	40 00
Mexico Northwestern Railway, El Paso, Texas, car service .....	19 80
MacRae's Blue Book Co., Hammond, Ind., publication .....	2 00

Morrison, J., West Charlton, Ont., claim .....	\$14 04
Minister of Finance & Receiver General, Ottawa, Ont., war saving stamps	1,625 00
Mitchell, John A., Kenebek, Ont., material and supplies .....	49 36
Montgomery, Miss Cora, Haileybury, Ont., registry fee .....	53
Montgomery, R., New Liskeard, Ont., claim .....	7 20
Miller, Dr. C., North Bay, Ont., services rendered .....	19 00
Morin, Zepherin, Cobalt, Ont., material and supplies .....	56 00
Meaford Monitor, Meaford, Ont., advertising .....	2 10
Marchand, Z., Iroquois Falls, Ont., claim .....	13 20
Morin & Frere, Cobalt, Ont., claim .....	1 55
Mac-Mieth Company, Newark, N.J., material and supplies .....	18 00
Main Belting Co. of Canada, Ltd., Montreal, P.Q., material and supplies ..	110 25
Malin, G. D., Dane, Ont., material and supplies .....	2 05
Minneapolis, Northfield & Southern Ry., Minneapolis, Minn., car service ..	3 00
Mississippi River & Bonne Terre Ry., Bonne Terre, Mo., car service .....	60
McGee, H. H., North Bay, Ont., salary and travelling expenses .....	846 20
McLellan, J., North Bay, Ont., travelling expenses .....	233 40
McCord Mfg. Co., Detroit, Mich., material and supplies .....	41 89
McColl Bros., & Co., Toronto, Ont., material and supplies .....	286 71
McBurney, J., & J., Widdifield, Ont., material and supplies .....	353 37
McCord & Co., Inc., Chicago, Ill., material and supplies .....	2,144 90
McLeod, Mrs. Margaret, North Bay, Ont., award, Workmen's Compensation Board .....	210 00
McLaughlin, J. P., Timmins, Ont., claims .....	41 43
McAuslan & Anderson, North Bay, Ont., services rendered .....	5,584 62
McIntosh, A. A., North Bay, Ont., supplies .....	37 55
McKnight, Wesley, New Liskeard, Ont., claims .....	20 35
McKee, T. E., North Bay, Ont., legal services .....	31 55
McRoberts, A. A., North Bay, Ont., salary and travelling expenses .....	183 50
McGrathers, W. J., Widdifield, Ont., work performed .....	60 00
McMahon, J., South Porcupine, Ont., claim .....	5 00
McEachren, Donald, Cobalt, Ont., claim .....	2 90
McCay, W. H., Cobalt, Ont., claim .....	1 50
McCarthy, C. M., Elk Lake, Ont., claim .....	43 02
McAndrew, J. A., Toronto, Ont., legal services rendered .....	10 00
McDonald, Geo. S., Charlton, Ont., claim .....	5 50
McKay, W., North Bay, Ont., salary .....	37 50
McKerrow, George, North Bay, Ont., salary and travelling expenses .....	418 80
McLeod, R. P. C., North Bay, Ont., salary .....	112 00
McManus, M. J., North Bay, Ont., salary and travelling expenses .....	130 00
McLaren, G., North Bay, Ont., salary .....	50 00
McMillan, W. A., North Bay, Ont., salary and travelling expenses .....	242 61
McIntosh, Garvin, South Porcupine, Ont., claim .....	50 00
McLellan, D., New Liskeard, Ont., claim .....	3 00
McMullen, E., Cobalt, Ont., claim .....	12 00
McCauley, J., North Bay, Ont., travelling expenses .....	9 25
McGee, J. J., Timmins, Ont., claim .....	2 25
McKee, Mrs. Laura, Elk Lake, Ont., rental telephone line and claim.....	107 50
McDonald, John J., Englehart, Ont., award, Workmen's Compensation Board.	42 43
McLeod, E., Iroquois Falls, Ont., refund erroneous deduction from payroll...	30 00
McGrath Bros., Timmins, Ont., work performed .....	13 75
McIntyre Porcupine Mines, Ltd., Schumacher, Ont., claim .....	14 65
McGuire, T. K., Englehart, Ont., claim .....	3 10
McGrath, Thomas Charles, Porquis Junction, Ont., award, Workmen's Compensation Board .....	29 03
McKenzie Brothers, Ottawa, Ont., services rendered .....	27 00
McCool, P., North Bay, Ont., claim .....	16 75
McGillivray, Chas., North Bay, Ont., award, Workmen's Compensation Board	31 34
McBride, Wm., Heaslip, Ont., donation re alleged damage to property .....	25 00
McDougall, R., Co., Ltd., Galt, Ont., material and supplies .....	20 40
McGrath, T. J., Timmins, Ont., material and supplies .....	10 32
McMurchy, Dr. A., North Bay, Ont., professional services rendered.....	39 00
McAughy, Thomas John, North Bay, Ont., award, Workmen's Compensation Board .....	17 22
McCloud River Railroad Co., McCloud, Cal., car repairs .....	3 38
McGee, Mrs. James R., Timmins, Ont., claim .....	20 00
McKendry, W. B., Tomiko, Ont., meals supplied .....	5 00
McDonald, Kenneth, Englehart, Ont., award, Workmen's Compensation Board	29 94

Nipissing Laundry Co., Ltd., North Bay, Ont., laundry .....	\$75 15
Northern Pacific Railroad, St. Paul, Minn., car service and repairs.....	924 60
Northern Electric Co., Ltd., Montreal, P.Q., material and supplies .....	968 74
New York Central and Hudson River Railroad, New York, N.Y., traffic balances, car repairs, etc. ....	11,149 43
Nashville, Chattanooga & St. Louis Railway, Nashville, Tenn., traffic balances, car repairs .....	287 62
Norfolk & Western Railway, Roanoke, Va., traffic balances, car repairs....	2,322 48
New York, Chicago & St. Louis Railroad, Cleveland, Ohio, traffic balances, car repairs .....	1,215 96
North Bay Times, North Bay, Ont., advertising .....	11 00
New York, Ontario and Western Railroad, New York, N.Y., traffic balances, car repairs .....	1,640 11
National Drug & Chemical Co., of Canada, Limited, Toronto, Ont., material and supplies .....	1,273 40
North Bay, Corporation, Town of, North Bay, Ont., water supplied .....	3,068 75
New York, Susquehanna and Western Railroad, New York, N.Y., car service and repairs .....	260 70
Nicholson File Company, Port Hope, Ont., material and supplies .....	732 67
National Railway Publication Company, New York, N.Y., representation in Official Guide, etc. ....	88 50
Nichols Chemical Co., Ltd., Montreal, P.Q., material and supplies .....	329 95
Northern Canada Supply Co., Ltd., Cobalt, Ont., claim .....	173 62
Northern Ontario Light & Power Co., Ltd., Cochrane, Ont., current supplied.	370 29
Northern Ontario Light & Power Co., Ltd., New Liskeard, Ont., current sup- plied .....	150 04
Northern Ontario Light & Power Co., Ltd., South Porcupine, Ont., current supplied .....	73 76
Northern Ontario Light & Power Co., Ltd., Haileybury, Ont., current supplied	67 30
Northern Ontario Light & Power Co., Ltd., Cobalt, Ont., current supplied....	479 68
Northern Ontario Light & Power Co., Ltd., Timmins, Ont., current supplied.	729 67
Northern Ontario Light & Power Co., Ltd., Englehart, Ont., current supplied	919 94
Northern Canada Power Co., Ltd., Timmins, Ont., claims .....	265 83
New Orleans, Texas and Mexico Railway, Houston, Texas, car service, car repairs .....	107 39
New York, New Haven & Hartford Railroad, New Haven, Conn., car service, car repairs, etc.....	1,043 11
New Orleans & Great Northern Railroad, Bogalusa, La., car service and car repairs .....	76 57
Norfolk Southern R. R., Norfolk, Va., car service and car repairs .....	86 18
North American Bent Chair Co., Ltd., Owen Sound, Ont., material and supplies	112 80
Naismith, G., North Bay, Ont., travelling expenses .....	36 85
National Safety Council, Chicago, Ill., membership fees .....	30 00
<i>Northern Miner</i> Press, Ltd., Cobalt, Ont., subscription .....	1 50
Norfolk & Rochester Hardware Co., Ltd., Haileybury, Ont., material and sup- plies .....	45 25
Norton, A. O., Ltd., Coaticook, P.Q., material and supplies .....	801 25
New Liskeard Water Commission, New Liskeard, Ont., water supplied.....	386 90
National Malleable Castings Co., Cleveland, Ohio, material and supplies.....	42 00
Navy League of Canada, Toronto, Ont., donation .....	1,000 00
Northern Lumber Mills, Ltd., North Cobalt, Ont., material and supplies....	1,848 88
New Orleans, Mobile & Chicago Railroad, Mobile, Ala., car service .....	36 60
Northland Stores, Ltd., Cobalt, Ont., claim, etc. ....	170 10
Nipissing Central Railway, Toronto, Ont., advances, etc. ....	21,927 89
Niagara Frontier Summer Rate Committee, Montreal, P.Q., proportion expenses .....	15 66
North Western Motor Co., Eau Claire, Wis., material and supplies .....	25 60
Niagara, St. Catharines & Toronto Railway, St. Catharines, Ont., traffic balances, etc. ....	40 16
National Council of Women of Canada, advertising .....	50 00
New Ontario Colonization Co., Ltd., Buffalo, N.Y., material and supplies.....	273 88
National Grocers, Ltd., North Bay, Ont., material and supplies .....	3,042 99
National Fruit and Produce Co., Timmins, Ont., claims .....	11 85
Northern Builders' Supply Co., North Bay, Ont., materials and supplies....	270 90
Northwestern Pacific Railroad, San Francisco, Cal., car repairs .....	8 36
Newell, M., North Bay, Ont., salary .....	94 50
North Bay Garage Co., North Bay, Ont., material and supplies .....	144 45
National Despatch—Great Eastern Line, Boston, Mass., claim.....	10 12

National Woodenware Co., St. Thomas, Ont., claims .....	\$3 87
News Publishing Co., The, Ltd., Toronto, Ont., advertising .....	100 00
Napierville Junction Railway Co., New York, N.Y., traffic balance .....	41
New England Passenger Association, Boston, Mass., publications.....	10 00
Ness, Charles, North Bay, Ont., travelling expenses .....	62 35
Norton, Frederick, Cane, Ont., material and supplies.....	20 52
Nowry, Russell, Earlton, Ont., material and supplies.....	12 12
Nowry, Thomas, Earlton, Ont., material and supplies.....	9 00
Napier, Andrew, Earlton, Ont., material and supplies.....	35 52
New Orleans Public Belt Railroad, New Orleans, La., car repairs.....	19 05
National Paper Goods Co., Ltd., Hamilton, Ont., material and supplies.....	15 75
New Liskeard, Town of, New Liskeard, Ont., claim .....	30 00
Ottawa Car Manufacturing Co., Ltd., Ottawa, Ont., baggage trucks.....	425 00
Ottawa River Forest Protection Association, Ltd., Ottawa, Ont., claim .....	20 00
Office Specialty Manufacturing Co., Ltd., Toronto, Ont., material and supplies	567 30
Ontario Wind Engine and Pump Co., Ltd., Toronto, Ont., material and supplies .....	1,547 50
Oldham, W. J., North Bay, Ont., salary and travelling expenses .....	426 90
Ogilvie, James A., & Sons, Montreal, P.Q., material and supplies .....	126 50
Oregon, Washington Railroad & Navigation Co., Portland, Ore., car repairs..	20 46
Ontario Reformatory Industries, Toronto, Ont., material and supplies.....	86 50
Official List of Open and Prepay Stations, St. Louis, Mo., publications.....	8 67
Ontario Sewer Pipe Co., Ltd., Mimico, Ont., material and supplies.....	243 57
Oregon Short Line Railroad, Salt Lake City, Utah, car repairs .....	16 92
Orr, Laura A., Toronto, Ont., advertising .....	25 00
Official Classification Committee, New York, N.Y., proportion of expense....	110 18
Ontario Government Creamery, New Liskeard, Ont., material and supplies..	57 20
O'Hara, John, Sturgeon Falls, Ont., award, Workmen's Compensation Board.	72 48
Ostrosser & Co., Timmins, Ont., claim.....	28 00
O'Connor, D., Connaught, Ont., claim .....	11 00
Osborne, A., North Bay, Ont., salary .....	57 28
O'Donnell, J. A., North Bay, Ont., salary and travelling expenses.....	105 05
O'Connor, M., Connaught, Ont., material and supplies .....	13 00
O'Neil, Patrick Joseph, North Bay, Ont., award, Workmen's Compensation Board .....	95 39
Ontario Rubber Co., Toronto, Ont., material and supplies .....	3 50
O'Brien, W. P., New Liskeard, Ont., services rendered .....	2 00
Page, Hersey Iron & Tube Co., Ltd., Toronto, Ont., material and supplies....	2,313 20
Piper, N. L., Railway Supply Co., Ltd., Toronto, Ont., material and supplies..	1,735 76
Pilkington Bros., Ltd., Toronto, Ont., material and supplies.....	1,748 51
Philadelphia and Reading Railroad, Philadelphia, Pa., car service and car repairs .....	1,884 16
Pittsburg & Lake Erie Railroad, Pittsburg, Pa., traffic balances, car repairs	631 89
Pittsburg, Shawmut & Northern Railroad, St. Mary's, Pa., car service and car repairs .....	354 00
Palmer, G. E., North Bay, Ont., salary and travelling expenses .....	715 53
Parr, A. J., North Bay, Ont., salary and travelling expenses.....	607 80
Pacific Fruit Express, Omaha, Neb., car service .....	107 73
Pintsch Compressing Co., New York, N.Y., gas supplied.....	1,759 91
Peerless Carbon & Ribbon Manufacturing Co., Toronto, Ont., material and supplies .....	204 16
Powell, C. H., Englehart, Ont., material and supplies .....	485 24
Porter and Company, Elk Lake, Ont., claims .....	3 91
<i>Planct</i> , The, Chatham, Ont., printing, etc. ....	371 15
Picard, P., North Bay, Ont., salary and expenses .....	240 10
Prest-O-Lite Company, Toronto, Ont., material and supplies .....	498 23
Pantasote Company, New York, N.Y., material and supplies .....	233 18
Peoria and Pekin Union Railway, Peoria, Ill., car repairs .....	47 33
Pittsburg and Shawmut Railroad, Kittaning, Pa., car service .....	264 00
Preston, F. C., Ltd., Haileybury, Ont., claims .....	32 94
Porcupine Telephone Lines, Ltd., South Porcupine, Ont., exchange service..	180 00
Pink, Thos., Co., Ltd., Pembroke, Ont., material and supplies .....	87 51
Pedlar, The, People, Ltd., Oshawa, Ont., material and supplies .....	663 35
Pere Marquette Railroad, Detroit, Mich., traffic balances, car repairs, etc....	1,446 84
Pennsylvania Railroad, Philadelphia, Pa., traffic balances, car repairs, etc...	49,284 56
Porter, A. H., Elk Lake, Ont., rent telephone office.....	120 00
<i>Porcupine Herald</i> , South Porcupine, Ont., advertising.....	12 60

Piper, Hiram L., Co., Ltd., Montreal, P.Q., material and supplies .....	\$289 03
Pelagio, J., Cochrane, Ont., meals supplied .....	4 50
<i>Porcupine Advance</i> , Timmins, Ont., advertising .....	20 00
Penn-Canadian Mines, Ltd., Cobalt, Ont., claim .....	107 90
Pratt & Whitney Company, Ltd., Dundas, Ont., material and supplies.....	181 57
Powles, Geo. W., North Bay, Ont., travelling expenses .....	16 00
Perlmutter & Nathanson, Iroquois Falls, Ont., claims .....	26 15
Pierce, Charles, & Sons, Ltd., Timmins, Ont., claims .....	56 01
Pratt & Letchworth Co., Ltd., Brantford, Ont., material and supplies.....	1,247 83
Preston Car & Coach Co., Ltd., Preston, Ont., material and supplies.....	20 55
Pressed Prism Plate Glass Co., Morgantown, W.V., material and supplies..	33 25
Perkus & Company, Cochrane, Ont., claims .....	8 03
Pacific Coast Pipe Co., Ltd., Vancouver, B.C., material and supplies.....	2,082 25
Pipe, Taylor, Cobalt, Ont., claims .....	32 59
Pittsburg Spring and Steel Co., Pittsburg, Pa., material and supplies .....	2,641 98
Port Arthur Construction Co., Doherty, Ont., work performed, etc. ....	75,803 35
Pittsburg & West Virginia Railway, Pittsburg, Pa., car service .....	83 24
Paterson Manufacturing Co., Ltd., Toronto, Ont., material and supplies....	74 40
Pullman, The, Company, Chicago, Ill., car repairs .....	73
Preston & Schwartz, Galt, Ont., material and supplies .....	11 65
Piedmont & Northern Railway, Charlotte, N.C., car service .....	12 60
Page Wire Fence Co., Ltd., Walkerville, Ont., material and supplies .....	113 31
Pillsworth, Percy, Englehart, Ont., travelling expenses .....	68 00
Pilling, Harry, North Bay, Ont., travelling expenses .....	3 55
Poaps, J. V., & Co., Ltd., Ottawa, Ont., claim .....	100 00
Peerless Transit Line, Cleveland, Ohio, car service .....	8 34
Perron, Nelson, Timmins, Ont., claim .....	2 90
Potter, R. S., Matheson, Ont., claim .....	28 30
Prose, Geo. R., Range Co., Ltd., Montreal, P.Q., material and supplies.....	9 00
Proctor & Gamble Transportation Co., Cincinnati, Ohio, car service .....	3 80
Pierce-Jacobs Lumber Co., Timmins, Ont., material and supplies.....	87 50
P. & M. Company, Ltd., Montreal, P.Q., material and supplies .....	550 00
Pelletier, E., North Bay, Ont., work performed.....	1 50
Pearce, Wm. D., South Porcupine, Ont., claims .....	28 60
Power Specialty Company, New York, N.Y., material and supplies .....	24 00
Pannaman, J., Toronto, Ont., claim .....	2 50
Pringle, Geo., North Bay, Ont., award, Workmen's Compensation Board ...	98 63
Peel, R. J., North Bay, Ont., salary .....	132 50
Prue, A., North Bay, Ont., salary .....	92 00
Pinkney, A., North Bay, Ont., salary .....	104 69
Palmer, M. E., North Bay, Ont., salary .....	57 78
Preston, Dr. R. F., Carleton Place, Ont., honorarium, expenses, etc. ....	1,627 79
Pierce, O. H., Toronto, Ont., Monroe calculating machine .....	375 00
Peterson, E. V., Cochrane, Ont., travelling expenses .....	1 00
Pringle, T. M., North Bay, Ont., travelling expenses .....	5 45
Pringle, A., North Bay, Ont., travelling expenses .....	7 85
Paquett, John, Timmins, Ont., travelling expenses .....	3 50
Price, James, Cobalt, Ont., claim.....	3 35
Plaus, Wm., North Bay, Ont., award, Workmen's Compensation Board ...	64 70
Pacific Great Eastern Railway, Vancouver, B.C., car service .....	7 80
Porcupine Pulp & Lumber Co., Ltd., Hoyle, Ont., claim .....	17 25
Poisson, H. P., North Cobalt, Ont., claims .....	62 54
Pulley, H. C., North Bay, Ont., supplies .....	9 50
Pelletier, H., North Cobalt, Ont., claim .....	3 75
Pitre, Mrs. S., Timmins, Ont., claim .....	3 00
Pelkie, J. A., North Bay, Ont., salary .....	154 00
Pollock, Wm., & Son, Englehart, Ont., material and supplies .....	5 00
Plecan, Theodore, Sault Ste. Marie, Ont., claim .....	119 52
Pöst, W. J., Kenogami Lake, Ont., material and supplies .....	33 36
Patrice, Abraham, Cobalt, Ont., award, Workmen's Compensation Board ...	19 64
Preston, Francis James, Englehart, Ont., award, Workmen's Compensation Board .....	24 17
Pacific Coast Railroad, Seattle, Wash., car service .....	1 20
Quebec, Montreal & Southern Ry., Albany, N.Y., traffic balances, car repairs	228 03
Quebec Central Railway, Sherbrooke, P.Q., traffic balances car repairs, etc.	52 81
Quaker Oats Company, Chicago, Ill., claim .....	7 00
Quackenbush, J. F., Matheson, Ont., claim .....	3 20

Queen Victoria Memorial Hospital, North Bay, Ont., donation, etc. ....	\$191 00
Quincy Adams Lumber Co., Toronto, Ont., rebate on private siding .....	136 00
Rice Lewis & Son, Ltd., Toronto, Ont., material and supplies .....	1,222 66
Reamsbottom and Edwards, South-Porcupine, Ont., tie making, etc. ....	43,242 97
<i>Railway Age</i> , New York, N.Y., publications .....	40 50
Robertson, James, Co., Ltd., Montreal, P.Q., material and supplies .....	992 54
Reckin, Charles, & Sons, Cobalt, Ont., claims .....	54 28
Ratcliff Paper Co., Ltd., Toronto, material and supplies .....	83 90
Richardson, Bond & Wright, Ltd., Owen Sound, Ont., printing, etc., .....	2,232 88
Ross, Thomas, North Bay, Ont., salary and travelling expenses .....	344 95
Richardson, J. W., North Bay, Ont., material and supplies .....	137 82
Rava & Pianfetti, Cobalt, Ont., claim .....	7 39
Right of Way Mines, Ltd., Ottawa, Ont., adjustment, ore royalties .....	349 90
Robb Engineering Works, Ltd., Amherst, N.S., material and supplies .....	380 50
Reynolds, Mrs. Helen E., North Bay, Ont., award, Workmen's Compensation Board .....	600 80
Roberts, J. T., Buffalo, N.Y., coal .....	264 16
Raw, J. Frank, Ltd., Toronto, Ont., services rendered .....	1 50
Ranger, J. P., North Temiskaming, Ont., claim .....	2 79
Rankin, R., North Bay, Ont., material and supplies .....	405 02
Railway Signal Association, Bethlehem, Pa., publications .....	1 00
Royal Polishes Co., Montreal, P.Q., material and supplies .....	72 90
Rodgers, H. L., North Bay, Ont., salary and travelling expenses .....	542 80
Russia Cement Co., Gloucester, Mass., material and supplies .....	176 40
Remington Typewriter Co., Ltd., Toronto, Ont., material and supplies .....	38 40
Rutland Railroad, Rutland, N.Y., traffic balances, car repairs, etc. ....	246 64
Rockwell Barnes Co., Chicago, Ill., material and supplies .....	131 65
<i>Railway and Locomotive Engineering</i> , New York, N.Y., publications .....	4 00
Rorabeck, A. C., North Bay, Ont., material and supplies .....	11 35
Rail Joint Co., of Canada, Limited, Montreal, P.Q., rail joints .....	15,204 75
Rous & Mann, Ltd., Toronto, Ont., printing, etc. ....	544 00
Railway Equipment & Publication Co., New York, N.Y., registration .....	120 25
Roberge, L. D., Kirkland Lake, Ont., claims .....	4 76
Richmond, Fredericksburg & Potomac Railroad, Richmond, Va., car service and car repairs .....	33 25
<i>Railway Electrical Engineer</i> , New York, N.Y., publication .....	1 00
Ritchie, S. S., New Liskeard, Ont., claim .....	5 37
Roberts & Schaefer Co., Chicago, Ill., material and supplies .....	115 56
Ruckwood, W. J., Cochrane, Ont., travelling expenses .....	1 00
Reynolds, Edward W., Toronto, Ont., services rendered .....	25 00
Rouble, A., Englehart, Ont., refund erroneous deduction from payroll .....	12 00
Reynolds, Herbert A., award, Workmen's Compensation Board .....	81 58
Rose, S., Englehart, Ont., travelling expenses .....	84 30
Railway Mechanical Computing Tables, Lakewood, Ohio, material and supplies .....	3 00
Richardson, Miss K., Timmins, Ont., claim .....	11 00
Rigby, H., North Bay, Ont., salary .....	74 50
Robertson, I. M., North Bay, Ont., salary .....	87 50
Raymond, J. C., North Bay, Ont., salary and travelling expenses .....	115 60
Rose & La Flamme, Ltd., Montreal, P.Q., claim .....	10 12
Robison, Geo. Albert, Englehart, Ont., award, Workmen's Compensation Board .....	274 71
Robb, William, North Bay, Ont., award, Workmen's Compensation Board .....	28 97
Russell, B. H., Timmins, Ont., claim .....	14 00
Roumanis, Nicholas, North Bay, Ont., award, Workmen's Compensation Board .....	20 78
Reddy, Mrs., North Bay, Ont., services rendered .....	2 00
Raymond, P., Iroquois Falls, Ont., material and supplies .....	65 00
Richmond, J. N., North Bay, Ont., travelling expenses .....	18 50
Robertson, Thomas, & Co., Ltd., Montreal, P.Q., material and supplies .....	24 21
Roach, George W., McCool, Ont., material and supplies .....	13 83
Rivard, Ernest, Earleton Junction, Ont., award, Workmen's Compensation Board .....	17 33
Riches, G. A., North Bay, Ont., travelling expenses .....	22 00
Rummerford, Samuel, Earleton, Ont., material and supplies .....	14 80
Ranney, A. E., M.D., C.M., North Bay, Ont., professional services rendered ..	20 00
Robins, W. J., New Liskeard, Ont., award, Workmen's Compensation Board ..	22 72

Ranson, John Andrew, Mattawa, Ont., award, Workmen's Compensation Board .....	\$40 21
Rooke, C. H., Ltd., Toronto, Ont., material and supplies .....	1,495 00
Roy, V. G., & Son, Earlton, Ont., claim .....	98
Santa Fe Refrigerator Despatch Co., Topeka, Kan., car service .....	38 93
Safety Car Heating and Lighting Co., New York, N.Y., material and supplies .....	1,560 16
St. Louis & San Francisco Railway, St. Louis, Mo., car service and car repairs .....	578 10
Shurly & Dietrich Co., Ltd., Galt, Ont., material and supplies .....	91 79
St. Louis & South-Western Railway of Texas, Tyler, Tex., car service .....	291 00
Swift Refrigerator Transportation Co., Chicago, Ill., car service .....	6 70
Stephenson & Son, New Liskeard, Ont., advertising .....	13 80
Southern Railway, Washington, D.C., traffic balances, car repairs, etc. ....	903 75
Seaboard Air Line Railway, Portsmouth, Va., car service, car repairs ....	266 51
Southern Classification Committee, Atlanta, Ga., proportion expenses .....	85
St. Joseph & Grand Island Railroad, St. Joseph, Mo., car service .....	15 60
Swift Canadian Co., Ltd., West Toronto, Ont., claims .....	112 96
San Antonio & Aransas Pass Railway, San Antonio, Tex., car service and car repairs .....	33 19
Shea, Smith & Co., Chicago, Ill., material and supplies .....	6 84
<i>Sentinel</i> Publishing Co., Ltd., Toronto, Ont., advertising .....	60 00
Scully, Wm., Montreal, P.Q., material and supplies .....	320 70
Stevenson Boiler & Engine Works, Petrolia, Ont., material and supplies ....	65 00
Swan, Robert, North Bay, Ont., salary and travelling expenses .....	584 48
Scythes & Co., Ltd., Toronto, Ont., material and supplies .....	5,833 17
Stone, J., & Co., Ltd., London, England, materials and supplies .....	644 50
<i>Spectator</i> Printing Co., Ltd., Hamilton, Ont., advertising .....	21 56
Steel Equipment Co., Ltd., Ottawa, Ont., material and supplies .....	41 40
Steel Company of Canada, Ltd., material and supplies .....	25,598 17
Southern Pacific Railway, San Francisco, Cal., traffic balances, car repairs .....	921 15
Standard Planing Mills, Ltd., North Bay, Ont., material and supplies .....	6,302 39
Sullivan, Norman J., Elk Lake, Ont., travelling expenses .....	339 00
Sheet Metal Products Co., Ltd., Toronto, Ont., material and supplies .....	593 88
Southam Press, Ltd., printing, etc. ....	3,512 46
Still, J. H., Manufacturing Co., Ltd., St. Thomas, Ont., material and supplies .....	536 98
Sherwin-Williams Co., Ltd., Montreal, P.Q., material and supplies .....	110 98
Smith's Falls Malleable Castings Co., Ltd., Smith's Falls, Ont., material and supplies .....	339 40
St. Louis Southwestern Railway, St. Louis, Mo., car repairs .....	185 00
Shell Bar Boico Supply, Ltd., Toronto, Ont., material and supplies .....	143 52
Simmers, J. A., Ltd., Toronto, Ont., material and supplies .....	4 50
Sylvester Manufacturing Co., Ltd., Lindsay, Ont., material and supplies ....	1,485 60
Streatfield, A. A., Toronto, Ont., material and supplies .....	13 60
Smallpiece, H. E., Toronto, Ont., advertising .....	92 50
Sullivan & Shillington, Cobalt, Ont., claims .....	65 33
Swedish Steel & Importing Co., Ltd., Montreal, P.Q., material and supplies ..	82 41
Soper, Levi, Englehart, Ont., claims .....	9 27
Sirr, Misses O. and S., New Liskeard, Ont., claim .....	8 34
Switzer, W., North Bay, Ont., salary and travelling expenses .....	353 05
Stanley House, Matheson, Ont., claim .....	5 00
Sunbeam Specialty Co., Ltd., Toronto, Ont., material and supplies .....	44 55
Stevens, Arthur, Englehart, Ont., claims .....	38 62
<i>Standard</i> Printing & Publishing Co., Ltd., Kingston, Ont., advertising .....	50 00
Sangamo Electric Co., Ltd., Montreal, P.Q., material and supplies .....	34 50
Sproule & Soucie, Ltd., New Liskeard, Ont., claims .....	6 05
Secord, P. H., & Sons, Ltd., Brantford, Ont., claims .....	23 69
Shankman Brothers, Timmins, Ont., claims .....	9 84
Singer Sewing Machine Co., Inc., Elizabethport, N.J., claim .....	17 27
Switzer, H. R., Porquis Junction, Ont., travelling expenses .....	18 25
Sandy Valley & Elkhorn Railway, Baltimore, Md., car service .....	33 00
Small, Harry, North Bay, Ont., award, Workmen's Compensation Board ....	324 07
Sterling Salt Co., New York, N.Y., material and supplies .....	168 25
Simms Livery & Cartage Co., Ltd., Cobalt, Ont., services rendered .....	12 00
Strong Drug Co., Ltd., Haileybury, Ont., claims .....	9 89
Shaw, A., New Liskeard, Ont., claim .....	2 48
Sarnia Bridge Co., Ltd., Sarnia, Ont., material and supplies .....	12 62
Stewart, D., New Liskeard, Ont., donation <i>re</i> sheep alleged killed .....	20 00
Sky Brothers, South Porcupine, Ont., claim .....	8 72

Sheldons, Limited, Galt, Ont., material and supplies .....	\$18 15
Stevenson, W. J., Toronto, Ont., material and supplies .....	148 46
Stephenson, T. M., Toronto, Ont., publication .....	1 50
Saumier, Wm., Cobalt, Ont., claim .....	7 05
Skinner, A. W., Englehart, Ont., Material and supplies .....	11 00
San Antonio, Uvalde & Gulf Railroad, San Antonio, Tex., car repairs .....	3 67
Smith, G., North Bay, Ont., salary .....	97 50
Sherman, M., North Bay, Ont., salary .....	74 75
Smith, H., North Bay, Ont., salary .....	52 50
Simpson, D. W., North Bay, Ont., salary .....	71 76
Sale, T. M., North Bay, Ont., salary .....	173 33
Sharpe, H. W., North Bay, Ont., salary .....	86 50
Stafford, E. J., North Bay, Ont., salary .....	123 25
South Porcupine Nursery, South Porcupine, Ont., claim .....	8 70
Starrett, L. S., Athol, Mass., material and supplies .....	26 13
Spaulding, J., & Sons Co., Tonawanda, N.Y., material and supplies .....	47 19
Salmon, C. S., Healslip, Ont., claim .....	7 60
St. Mark's Anglican Church, Iroquois Falls, Ont., donation .....	50 00
Sheridan, Joseph, Timmins, Ont., salvage recovered on cow killed .....	10 00
Schumacher Gold Mines, Ltd., Schumacher, Ont., claims .....	142 21
Strapp, Arthur W., Porquis Junction, Ont., claim .....	11 60
Stoughton, Frank, North Bay, Ont., award, Workmen's Compensation Board .....	27 50
Saumier, A. J. B., Swastika, Ont., claims .....	31 23
Smith, John B., & Sons, Ltd., Toronto, Ont., material and supplies .....	960 67
South Buffalo Railway, Buffalo, N.Y., car repairs .....	45 02
Smiley, F. L., Haileybury, Ont., legal services rendered .....	10 00
Shepherdson, F. W., New Liskeard, Ont., work performed .....	3 75
Shepard & Morse Lbr. Co., North Temiskaming, P.Q., claim .....	8 20
Solomon, I. A., Haileybury, Ont., claim .....	2 09
Skjonsbye, A. J., Sec.-Treas. S. S. No. 1, Benoit, Bourkes, Ont., claim .....	4 00
Shields, E., Porquis Junction, Ont., material and supplies .....	18 00
Sauve, A., Temagami, Ont., claim .....	3 40
Steele Briggs Seed Co., Ltd., Toronto, Ont., material and supplies .....	10 90
Sheridan, Miss Orpha, Cobalt, Ont., claim .....	24 00
Smith, J. W., Haileybury, Ont., claim .....	2 40
Shibley, J. H., Haileybury, Ont., claim .....	1 50
Stafford, S. S., Inc., Toronto, Ont., material and supplies .....	53 90
Schliefer, Charles, Toronto, Ont., claim .....	18 50
St. Louis, Rev. A., St. Eugene De Geuges, P.Q., claim .....	1 75
Stewart, W. F., Oakville, Ont., claim .....	32 68
Saunders, Annie F., North Bay, Ont., award, Workmen's Compensation Board .....	800 00
Seculick & Astronitch, Connaught, Ont., work performed .....	1,000 00
Savannah & Atlanta Railway, Savannah, Ga., car repairs .....	6 24
Samusik, Simon, North Bay, Ont., work performed .....	423 00
Speirs, Sergt. J. C., England, unclaimed wages .....	27 97
Shikingo, George, Porquis Jct., Ont., award, Workmen's Compensation Board .....	21 45
Shaheen, A., Timmins, Ont., claim .....	16 95
St. Louis & Hannibal Railway, Hannibal, Mo., car service .....	1 80
Sterling Printing & Publishing Co., Ltd., Toronto, Ont., printing .....	21 50
Southern Railroad in Mississippi, Mobile, Ala., car repairs .....	1 17
Star, Toronto Daily, Toronto, Ont., advertising .....	2 84
Smith, Dr. G. W., North Bay, Ont., professional services .....	5 00
Stevens, A., Temagami, Ont., claim .....	1 50
Swayne, A. R., Iroquois Falls, Ont., travelling expenses .....	21 00
Swayne, A. W., Doherty, Ont., claim .....	4 50
Shankman, Sol., Timmins, Ont., material and supplies .....	6 50
Shellswell, James, Matheson, Ont., work performed .....	21 00
Sullivan, Thomas, Latchford, Ont., work performed .....	4 00
Smith, A., Toronto, Ont., donation, damage to property .....	150 00
St. Louis, Iron Mountain & Southern R.R., St. Louis, Mo., traffic balance .....	18 95
Susquehanna & New York, R.R., Williamsport, Pa., car service .....	7 80
Temiskaming Telephone Co., Ltd., New Liskeard, Ont., exchange service, etc. ....	357 95
Toronto World, Toronto, Ont., advertising and subscription .....	32 50
Tallman Brass & Metal Co., Hamilton, Ont., material and supplies .....	416 30



Time Table Distributing Co. of Canada, Ltd., St. John, N.B., services rendered .....	\$200 00
Temagami Hotel & Steamboat Co., Temagami, Ont., work performed .....	673 32
Toronto Weekly Railway & Steamboat Guide, Ltd., Toronto, Ont., subscription .....	6 00
Travellers's Insurance Co., Hartford, Conn., ticket sales .....	13 78
Transcontinental Freight Bureau, Chicago, Ill., tariffs .....	27 62
T. and N. O. Railway Telegraph, North Bay, Ont., telegraph service .....	21
Toronto, Hamilton & Buffalo Ry., Detroit, Mich., traffic balances, car repairs .....	5,078 61
Toledo, Peoria & Western Railroad, Peoria, Ill., car service .....	58 90
Taylor, John, & Co., Ltd., Toronto, Ont., material and supplies .....	559 45
Toledo Terminal Railroad, Detroit, Mich., car service and car repairs .....	6 48
Toledo, St. Louis & Western Railway, Chicago, Ill., car service and car repairs .....	70 49
Terminal Railroad Association of St. Louis, St. Louis, Mo., car repairs ..	145 70
Timmins, Corporation of Town of, Timmins, Ont., water rates .....	788 61
Taylor Instrument Co., Rochester, N.Y., material and supplies .....	5 38
T. and N. O. Railwaymen's Patriotic Association, North Bay, Ont., deduction from payrolls .....	226 88
Transit Co., Ltd., Toronto, Ont., car service .....	7 74
Taylor, Geo., Hardware, Ltd., Cobalt, Ont., claims, etc. ....	629 78
T. & N. O. Railway, station outstandings, claims .....	2,077 97
T. & N. O. Railway, operation account, payrolls, etc. ....	119,902 81
Texas & Pacific Railway, Dallas, Texas, car service and car repairs .....	188 63
Thomson, D. E., Toronto, Ont., fee as counsel .....	4,000 00
Toronto, Sanitary Towel Supply Co., Toronto, Ont., towel supply .....	42 00
Taylor, J. & J., Ltd., Toronto, Ont., material and supplies .....	233 50
Thomas, W. H., North Bay, Ont., services rendered .....	65 00
Taylor, Mrs. Nellie, New Liskeard, Ont., award, Workmen's Compensation Board .....	360 00
Texarkana & Fort Smith Railway, Texarkana, Texas, car repairs .....	5 41
Temiskaming Trading Co., Ltd., Haileybury, Ont., claim .....	53 50
Telegraph and Telephone Age, New York, N.Y., publication .....	2 00
Traffic Bureau, Chicago, Ill., publication .....	10 00
Texas & New Orleans Railroad, Houston, Texas, car repairs .....	110 35
Taylor & Arnold, Ltd., Montreal, P.Q., material and supplies .....	1,796 65
Thorpe Bros., New Liskeard, Ont., claims .....	9 45
Thomas Co., North Bay, Ont., work performed .....	49 50
Temiscouata Railway, Riviere de Loup, P.Q., car service .....	8 40
Tudhope Lumber Co., Elk Lake, Ont., material and supplies .....	1,124 81
Tomstown Lumber Co., Ltd., Tomstown, Ont., claim .....	4 54
Tatham, G. S., New Liskeard, Ont., claims .....	31 32
Tremont & Gulf Railway Co., Winnfield, La., car service .....	6 60
Toronto District Labor Council, Toronto, Ont., advertising .....	15 00
Tough Oakes Gold Mines, Ltd., Kirkland Lake, Ont., claim .....	8 22
Taylor, J. H. A., North Bay, Ont., supplies .....	7 60
Toronto Carpet Mfg. Co., Ltd., Toronto, Ont., material and supplies .....	454 75
Toronto Pottery Co., Ltd., Toronto, Ont., claim .....	15 35
Thiel Detective Service of Canada, Montreal, P.Q., services rendered .....	2,553 01
Texas Mexican Railway, Laredo, Texas, car repairs .....	63
Turner, J. J., & Sons, Ltd., Peterborough, Ont., material and supplies .....	14 60
Toledo & Ohio Central Railway, Cleveland, Ohio, traffic balances and car repairs .....	172 75
Tuck, Mrs. Geo., Cane, Ont., claim .....	45 00
The Threading Machine Co., Sandusky, Ohio, material and supplies .....	10 34
Tennessee Central Railroad, Nashville, Tenn., car service, car repairs .....	44 15
Theriault, Rev. Father, Timmins, Ont., claim .....	19 43
Templeton, Kenly & Co., Ltd., Toronto, Ont., material and supplies .....	428 97
Teskey, H. W., North Bay, Ont., salary .....	214 50
Trotter, A. T., North Bay, Ont., salary .....	117 28
Thompson, W. A., North Bay, Ont., salary .....	138 00
Taylor, H. M., North Bay, Ont., salary .....	67 50
Trowhill, R., North Bay, Ont., salary .....	292 38
Taylor, Miss E. L., North Bay, Ont., salary .....	64 28
Tarsey, S. G., North Bay, Ont., salary .....	138 77
Tallon, J., North Bay, Ont., salary .....	44 44
Taillon, S., unclaimed wages .....	5 94
Tellier, F. J., Englehart, Ont., material and supplies .....	3 00
Toronto & York County Patriotic Fund, Toronto, Ont., donation .....	5,075 00

Thermos Bottle Co., Ltd., Toronto, Ont., material and supplies .....	\$15 91
Trout Creek Lumber Co., Powassan, Ont., material and supplies .....	116 55
Tremblay, Anthony, North Bay, Ont., award, Workmen's Compensation Board .....	30 94
Thomas, Harvey, Englehart, Ont., award, Workmen's Compensation Board..	82 73
Turchon, Joseph, North Bay, Ont., award, Workmen's Compensation Board..	18 06
Tosto, F., unclaimed wages .....	49 31
Thompson, J. W., Leeville, Ont., material and supplies .....	50 00
Third Lumber Mills, Wahtaybeag, Ont., claim .....	8 99
Thompson, Russell H., North Bay, Ont., work performed .....	15 00
Teck-Hughes Gold Mines, Ltd., Kirkland Lake, Ont., claim .....	4 50
Trebutat, J., Timmins, Ont., claim .....	24 00
Toronto General Hospital, Toronto, Ont., services rendered .....	65 80
Taylor, W. J., Woodstock, Ont., advertising .....	-9 80
Truchon, John, North Bay, Ont., travelling expenses .....	1 60
Traver, Geo., Heaslip, Ont., material and supplies .....	8 35
Tedesco, Joe, Cochrane, Ont., claim .....	2 30
Taylor, Dr. W. O., Cobalt, Ont., claim .....	4 99
Trebilcock, Dr. Frank C., Toronto, Ont., professional services .....	10 00
Temiskaming Mining Co., Ltd., Cobalt, Ont., claim .....	98
Tilley, Johnson, Thomson, Parmenter, Toronto, Ont., fee as counsel .....	800 00
Tancredi, Gabriele, North Bay, Ont., award, Workmen's Compensation Board	25 10
Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont., claim .....	21 05
Towne & McCluskey, Cochrane, Ont., claims .....	3 63
Tagliamonte, Peter, Boston Creek, Ont., donation <i>re</i> horses alleged killed .	100 00
Treasurer of Ontario, Toronto, Ont., proceeds from operation, timber dues and fire protection and inspection of boilers .....	301,893 64
Union Pacific Railroad, Omaha, Neb., traffic balances, car repairs, etc. ....	1,004 08
United Typewriter Co., Ltd., Toronto, Ont., material and supplies .....	1,325 21
Union Railroad, Pittsburg, Pa., car service, car repairs .....	233 16
Union Lumber Co., Ltd., Toronto, Ont., claim .....	20 00
United States Steel Products Co., New York, N.Y., material and supplies..	2,152 94
Union Tank Line, New York, N.Y., car service .....	3 80
Union Railroad, Memphis, Tenn., car repairs .....	37 88
Union Refrigerator Transit Co., Milwaukee, Wis., car service .....	16 75
Union Switch & Signal Co., Swissvale, Pa., material and supplies .....	5 40
Usborne, H. L., Cobalt, Ont., claim .....	6 40
Ulster & Delaware Railroad, Kingston, N.Y., car service .....	1 80
Union Employment Bureau, North Bay, Ont., commission .....	6 00
Virginian Railway, Norfolk, Va., car service .....	21 75
Virginia, Carolina Railway, Roanoke, Va., car service .....	12 60
Verona Tool Works, Pittsburg, Pa., material and supplies .....	162 92
Van Russell Bros., Cochrane, Ont., work performed .....	3,533 45
Vapor Car Heating Co., Inc., Montreal, P.Q., material and supplies .....	804 65
Vissering, Harry & Co., Inc., Chicago, Ill., material and supplies .....	16 35
<i>Varsity, The</i> , Toronto, Ont., advertising .....	50 00
Vernon, A., North Bay, Ont., award, Workmen's Compensation Board ....	30 85
Warwick Bros., & Rutter, Ltd., Toronto, Ont., material and supplies .....	838 87
Wabash Railroad, St. Louis, Mo., traffic balances, car repairs .....	2,905 58
Work & Fretz, Detroit, Mich., claims .....	623 02
Whitman & Barnes Mfg. Co., St. Catharines, Ont., material and supplies..	633 01
Williams, A. R., Machinery Co., Ltd., Toronto, Ont., material and supplies.	43 31
Welbourn, J. T., Uno Park, Ont., claims .....	2 18
Wheeling & Lake Erie Railroad, Pittsburg, Pa., car service and car repairs	214 34
Western Maryland Railroad, Baltimore, Md., car service and car repairs .	260 02
Wood, Alexander & James, Hamilton, Ont., material and supplies .....	190 46
Wichita Falls & North Western Railway, Wichita Falls, Texas, car service	-18 00
Welland Vale Mfg. Co., Ltd., St. Catharines, Ont., material and supplies ..	52 92
Weaver, F. P., Coal Co., Inc., Buffalo, N.Y., claims .....	99 22
Western Classification Committee, Chicago, Ill., publication .....	1 50
World's Only Dustless Brush Co., North Bay, Ont., material and supplies..	7 50
Western Trunk Line Committee, Chicago, Ill., tariffs .....	2 26
Wabi Iron Works, Ltd., New Liskard, Ont., material and supplies, etc. ..	1,133 25
Whittlesey, F. H., Co., Windsor Locks, Conn., material and supplies .....	117 50
Widnoon Coal Mining Co., Inc., Reynoldsville, Pa., coal .....	156 77
Warren Collieries, Ltd., Toronto, Ont., coal .....	1,711 63

Warden, King, Ltd., Montreal, P.Q., material and supplies .....	\$4 08
Wagner Electric Mfg. Co., Ltd., St. Louis, Mo., material and supplies ....	15 85
Woolworth, F. W., Co., Ltd., Toronto, Ont., claims .....	25 18
Watson, The, Co., Ltd., New Liskeard, Ont., claims .....	51 65
Watson, Jack, & Co., Ltd., Montreal, P.Q., material and supplies .....	421 14
Wickett, W., New Liskeard, Ont., claims .....	7 80
Washington Southern Railroad, Richmond, Va., car repairs .....	31 51
Watt, Peter, North Kildonan, Man., claim .....	10 00
Wagar Furniture Co., North Bay, Ont., material and supplies .....	365 15
Workmen's Compensation Board, Toronto, Ont., proportion of expense ....	51 69
White Swan Spices & Cereals, Ltd., Toronto, Ont., claims .....	29 34
Williams, C. L., Connaught, Ont., material and supplies .....	1 50
Wright, E. T., Co., Ltd., Hamilton, Ont., material and supplies .....	152 83
Western Pacific Railroad, San Francisco, Cal., car service and car repairs ..	92 65
Western Railway of Alabama, Atlanta, Ga., car service, car repairs, etc. . .	34 08
Watson, C. G., North Bay, Ont., salary and travelling expenses .....	168 44
Winston-Salem Southbound Railroad, Wilmington, N.C., car service .....	28 20
Woods, R. R., New Liskeard, Ont., claims .....	22 29
Whitton, John, Monteith, Ont., work performed .....	735 70
Washburn, M. P., Louisville, Ky., tariffs .....	2 23
Wilson, J. B., Toronto, Ont., material and supplies .....	8 00
Weston Electrical Instrument Co., Newark, N.J., material and supplies. . .	34 54
Woolings, Thomas S., Englehart, Ont., claim .....	2 07
Wilfows, Sherman, Calgary, Alta., claim .....	350 00
Walbourn & Davidson, North Bay, Ont., material and supplies .....	7 40
Wild, Joseph & Co., New York, N.Y., material and supplies .....	157 29
Amos Wood, Englehart, Ont., award, Workmen's Compensation Board ....	30 67
Ward, Albert, North Bay, Ont., award, Workmen's Compensation Board ..	88 12
Wilson, N. R., North Bay, Ont., salary .....	89 50
Winters, G., North Bay, Ont., salary .....	72 26
Winters, V., North Bay, Ont., salary .....	52 00
Workman, R., North Bay, Ont., salary .....	292 38
White, R., North Bay, Ont., salary .....	135 50
Willis, W. G., North Bay, Ont., salary .....	106 25
White, J. M., North Bay, Ont., salary and travelling expenses .....	38 15
Westmoreland Coal Co., Philadelphia, Pa., car service .....	11 37
Wiedeke, Gustav, Dayton, Ohio, material and supplies .....	12 08
Wilson Bros., Cochrane, Ont., work performed .....	2 50
West Dome Consolidated Mines, Ltd., South Porcupine, Ont., claim .....	44 11
Wright, H., New Liskeard, Ont., claim .....	1 50
Weber, M. L., Elmira, Ont., claim .....	25 00
Wheat Export Co., Ltd., Toronto, Ont., claim .....	2,435 14
Wilson, Leslie, North Bay, Ont., award, Workmen's Compensation Board ..	12 01
Wallace, R., & Son, North Bay, Ont., material and supplies .....	158 40
West Side Belt Railroad, Pittsburg, Pa., car service .....	1 80
Woman's Century, Ltd., Toronto, Ont., advertising .....	25 00
Watson-Stillman, Co., The, Aldene, N.J., material and supplies .....	81 25
Weaver, F. P., Coal Co., Ltd., Toronto, Ont., coal .....	140 61
Wabash, Pittsburg Terminal Railway, Pittsburg, Pa., car service .....	3 00
Warrell & Yates, Cochrane, Ont., claims .....	86
Wilson, Frank, Leeville, P.Q., material and supplies .....	6 00
Wagar, W. S., Mileage, 79½, T. & N. O. Railway, material and supplies ..	45 00
Washington, Idaho & Montana Ry., Potlach, Idaho, car service and car repairs	16 76
Wallace, S., New Liskeard, Ont., claim .....	25 65
Young, Wm., North Bay, Ont., salary and travelling expenses .....	366 20
Yates, W. J., Co., New Liskeard, Ont., claim .....	70
Young Lumber Co., North Bay, Ont., material and supplies .....	2,767 58
Yale & Towne Mfg. Co., Stamford, Conn., material and supplies .....	106 34
Young Men's Christian Association, Toronto, Ont., donation .....	500 00
Young, J., North Bay, Ont., salary .....	129 25
Yorowenko, O., Iroquois Falls, Ont., claim .....	40 31
Young, Frederick, Chicago, Ill., material and supplies .....	24 00
Zelnicker, Walter A., Supply Co., St. Louis, Mo., material and supplies ..	10 00

\$4,040,325 24

## RECAPITULATION ACCOUNTS PAYABLE.

November 1st, 1917, to October 31st, 1918.

General ledger balance as of November 1st, 1917 .....		\$300,632 32	
Disbursements for year, November 1st, 1917, to October 31st, 1918, as per detailed statement .....		4,040,325 24	
Cash payments by Treasurer during year .....	\$3,734 397 86		
Registration prior to October 31st, 1917, cancelled .....	10 51		
Cash prior to October 31st, 1917, cancelled .....			2 46
General ledger balance, as of October 31st, 1918 .....	606,551 65		
		\$4,340,960 02	\$4,340,960 02

## CONTRACTS, AGREEMENTS, et. al.

### CANADA RAILWAY NEWS COMPANY.

Contract for lease of space in Cobalt Station for purpose selling books newspapers, etc., extended for period one year from July 31st, 1918, to July 31st, 1919, same terms and conditions.

### BITUMINOUS COAL CONTRACT, 1918-19.

BUFFALO, N.Y., Feb. 26th, 1918.

Buffalo and Susquehanna Coal and Coke Co., agree to sell, and Temiskaming and Northern Ontario Railway Commission agree to buy, the following coal at the prices and upon the terms herein named.

Quantity.—Sixty thousand (60,000) net tons.

Quality.—Coal from Seller's Sagamore Mine, located at Sagamore, Pa.

Size.—Mine Run or  $\frac{3}{4}$  lump, Seller's option.

Delivery.—Between May 1, 1918, and May 1, 1919.

Shipment.—7,500 net tons per month, May, 1918, to October, 1918, inclusive. Balance equal monthly shipments November, 1918, to April, 1919, inclusive.

Price.—\$3.05 $\frac{1}{2}$  per net ton, F.O.B. mines; subject to any increase or decrease required to be made to conform to prices established by order or proclamation of the President, Fuel Administrator, or other duly authorized Government Agency.

Payment.—Bills for all coal shipped in any one month to be settled for on or before the 15th of the following month.

Expiration.—April 30, 1919.

Ship to Temiskaming & Northern Ontario Railway Commission, North Bay, Ontario, via G.T. or C.P.

It is mutually understood and agreed that this contract is subject to all the terms and provisions of the Regulation of the United States Fuel Administrator dated December 24th, 1917, and effective December 29th, 1917, all of which terms and provisions are hereby incorporated herein as fully as if the same were set forth.

WITNESS:  
A. B. ODLUM.

Accepted:

TEMISKAMING & NORTHERN ONTARIO  
RAILWAY COMMISSION,  
J. L. ENGLEHART,  
*Chairman.*  
W. H. MAUND,  
*Secretary-Treasurer.*

Accepted:

BUFFALO & SUSQUEHANNA COAL &  
COKE Co.,  
J. W. TROUNCE,  
*General Sales Agent.*

## TIE CONTRACT, 1918.

Agreement entered into with Messrs. Reamsbottom & Edwards, Connaught, Ontario, for the furnishing of 125,000 railway ties to cover Commission's requirements for season 1918.

Quantity.—125,000 ties F.O.B. cars Connaught, Ontario.

Price.—No. 1, 8 ft. ties, 7" face, 7" thick—35c. each.

No. 2, 8 ft. ties, 6" face, 6" thick—33c. each.

10 ft. ties, 8" face, 8" thick—50c. each.

Culls—16c. each.

Lumber made from timber as directed by Engineer, \$15.00 per M.F.B.M. Agreement fully covering all items executed under date February 5th, 1918.

## CARTAGE OF FREIGHT FROM AND TO COBALT STATION.

New agreement entered into with the "Simms Livery & Cartage Co., Ltd." dated March 1st, 1918, for period one year and thereafter until cancelled by six months' notice.

Bond in the sum of \$1,000 Ocean Accident & Guarantee Corporation, Ltd., furnished by Contractor providing for due performance of work.

## RIGHT-OF-WAY FENCING, ELK LAKE BRANCH.

Contract entered into with Messrs. Johnston & Thompson, for fencing right-of-way from mileage 16.5 Elk Lake Br. to Montreal River Bridge. Price, \$1.20 per rod. Usual form of agreement executed containing clauses protecting Commission.

## RIGHT-OF-WAY FENCING, PORCUPINE BRANCH.

Contract entered into with Messrs. Sekulick & Ostrovitch for approximately  $1\frac{1}{4}$  miles of fence, commencing from west end of Frederickhouse River Bridge. Price, \$1.25 per rod. Usual form of agreement executed protecting Commission.

## FENCING RIGHT-OF-WAY, PORCUPINE BRANCH.

Contract entered into with Mr. John Barker, Connaught, for installation of fencing at \$1.15 per rod. Usual form of agreement executed protecting Commission.

FENCING RIGHT-OF-WAY BETWEEN NELLIE LAKE AND  
MILEAGE 233.

Contract entered into with Mr. John J. Barker, Connaught, for approximately 7 miles of fencing. Price, 35c. per rod where posts have been placed in the ground; \$1.15 per rod for balance of fencing. Usual form of agreement executed containing protective clauses to Commission.

## WHEELS AND CASTING CONTRACT, SEASON 1918-19.

Only two tenders received, as below:

Contractor	Cast Iron Wheels Net ton	Iron Casting Net ton	Scrap Car Wheels Net ton	Cast Scrap Net ton	Period
Canada Iron Foundries, St. Thomas, Ont. ....	\$ c. 62 00	\$ c. 120 00	\$ c. 25 30	\$ c. 23 00	Nov. 1st, 1918-Oct. 31, 1919
Dominion Wheel and Fds., Ltd., Toronto...	60 00	108 00	24 80	15 00	" " "

Quotations.—F.o.b. North Bay.

Wabi Iron Works, Ltd., quoted on Grey Iron Casting only.

Contract awarded Dominion Wheel & Foundries, Ltd., most favourable tenderer.

ELECTRIC WIRING FOR STATION BUILDING AND PLATFORM,  
FREIGHT SHED, COAL CHUTES AND NEW BUILDING FOR  
LIGHTING PLANT, PORQUIS JUNCTION, ONT.

Tenders received as below:

Contractor	Price	Extras	Time of Completion.
E. M. Allworth, Timmins .....	\$ c. 744 00	Cost plus 20 % Labor	4 weeks
Electric Supply Co., North Bay, Ont .....	882 00	Cost plus 20 % Labor, board and material.	6 "

Contract awarded E. M. Allworth, lowest tenderer, and usual form of agreement entered into, covering.

INSTALLATION HEATING SYSTEM, COBALT FREIGHT SHED OFFICE.

Tenders received as follows:

Contractor	Price	Extras	Time of Completion
F. R. Gibson, Haileybury .....	\$ c. 997 00	Cost plus 20% of Labor	5 weeks
Jas. Murphy, New Liskeard .....	1,056 00	" " 10% "	5 weeks
Cochrane Hardware, Ltd., North Bay	1,285 00	.....	30 days

Contract awarded F. R. Gibson, lowest tenderer, and usual agreement entered into containing clauses fully protecting Commission.

ELECTRIC WIRING AND INSTALLATION OF FIXTURES IN FREIGHT SHED, ENGINE SHED AND BUNK ROOM BUILDING AT IROQUOIS FALLS.

Only one tender received, that of Mr. E. M. Allworth, Timmins, \$195.00. Contract awarded and usual agreement entered into with clauses protecting Commission.

ELECTRIC WIRING AND FIXTURES—COMBINED FRAME STATION AND FREIGHT SHED, AND AGENT'S FRAME HOUSE AT CONNAUGHT, ONT.

Only one tender received, that of E. M. Allworth, Timmins, \$152.00. Contract awarded and agreement entered into containing usual protective clauses.

INSTALLATION HOT AIR HEATING SYSTEMS IN AGENTS' HOUSES AT TEMAGAMI, LATCHFORD AND TIMMINS, ALSO THREE T. & N. O. TENEMENT HOUSES AT ENGLEHART, ONT.

Contractor	Amount	Extras	Date of Completion
	\$ c.		
F. R. Gibson, Haileybury .....	1,375 00	Cost plus 20% for Labor	5 weeks
A. Brazeau, Timmins.....	1,700 00	" "	5 "
Cochrane Hardware, Ltd., North Bay	1,950 00	" "	8 "

Contract awarded F. R. Gibson, Haileybury, lowest tenderer. Usual form of agreement entered into containing all clauses protecting Commission.

INSTALLATION OF WATER PIPE LINE FROM TOWN MAIN TO T. & N. O. STATION AT MONTEITH.

Contract for digging a 670 ft. trench and back filling, awarded Mr. John Whitton. Amount involved, \$524.50. Usual form of agreement entered into fully protecting Commission.

CLEARING LAND AT PORQUIS JUNCTION.

Contract awarded Mr. Arthur Bailod, for clearing, stumping, plowing and harrowing, etc., approximately eight acres of ground. Price, \$125.00 per acre. Regular form of agreement entered into containing protective clauses to Commission.



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TELEPHONE REPEATER, NORTH BAY.

Arrangements made with Bell Telephone Company, whereby a telephone repeater equipment will be installed and maintained in exchange premises at North Bay, in order to overcome excessive transmission losses occurring in circuits of the Commission's system and points in the Bell Telephone Co.'s system. Commission's proportion of annual charges for maintenance, supervision, power, etc., \$208.33, payable in half-yearly instalments. Agreement executed as of October 1st, 1918.

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PROPOSED WATER SUPPLY AND SEWERAGE SYSTEM, MATHESON.

Arrangements made with Town Council of Matheson, which is constructing a Water Works and Sewerage System, for continuous supply of water to meet requirements of Commission, as follows:—

*Water.*—Proposed Water Works and Sewerage system will follow Fourth Avenue, along Railway Street, to Sixth Avenue.

Commission to have right to connect its water tank with Town Main, at Fourth Avenue.

Commission will also be entitled to water connection with Agent's house, two section houses, station and freight offices, and for lawn watering purposes.

*Sewerage.*—Commission will have the right, under proposed agreement, to connect all above-mentioned properties with the Town sewerage system, and to include necessary water connection, etc.

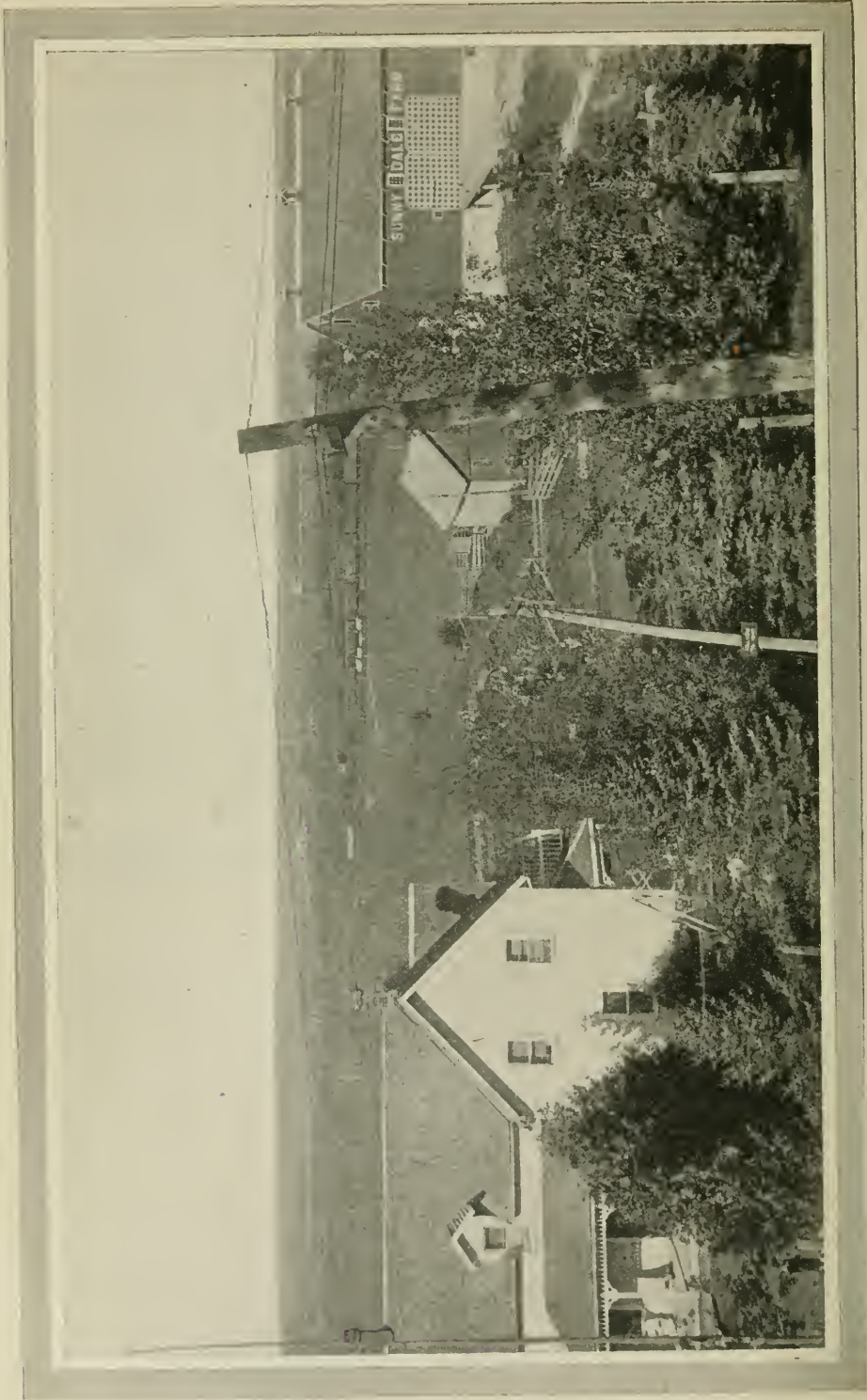
*Cost.*—Commission to undertake to pay Town of Matheson the sum of \$1,800.00 per annum for water supply, and \$200.00 per annum for sewerage.

*Payment.*—Payment is to be made semi-annually in advance—\$1,000.00 each payment.

*Period.*—Ten (10) years.

Agreement containing clauses fully protecting Commission entered into under date September 30th, 1918.

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Mr. Laing's farm at New Liskeard, August 17th, 1918.

## NIPISSING CENTRAL RAILWAY

### Mileage

There has been no change in the Main Track mileage and but a very slight increase in Private Sidings.

The mileage operated is as follows:—

<b>Main Track—</b>	
Owned and maintained by Company.....	4.92 miles
Leased from T. & N. O. Ry. Commission:	
Maintained by Company .....	5.28 “
Maintained by Commission .....	5.17 “
	15.37 miles
 <b>Sidings and Spurs—</b>	
Sidings on that part of the line owned by T. & N. O. Ry. Commission:	
Yard Tracks and Sidings .....	1.65 miles
Private Sidings .....	1.06 “
	2.71 miles
 Sidings on that part of the line owned by N. C. Railway:	
Company Spurs .....	2.00 miles
Private Spurs .....	0.11 “
	2.11 miles
<b>Total Track .....</b>	<b>20.19 “</b>

### Equipment

Rolling stock consists of the following:—

- 6 Electric Motor Passenger Cars.
- 1 Combination Switching Locomotive, Express Car and Snow Plow.
- 2 Freight Cars.

### Additions to Road and Equipment

There was a siding 160 feet long constructed on the Kerr Lake Branch near the Foster Mine for H. G. Carmichael. This siding is used for the loading of mill rock from the old dumps at that point.

Car Number 6, which was partially destroyed in the fire of March 4th, 1917, was rebuilt and put in service early in the fiscal year.

### Rebuilding of Car Barns

The rebuilding of that portion of the car barns, destroyed by fire on March 4th, 1917, was completed early in the fiscal year. As mentioned in last year's report, the roofing and plumbing was done by contract, the balance of the work being performed by our own forces.

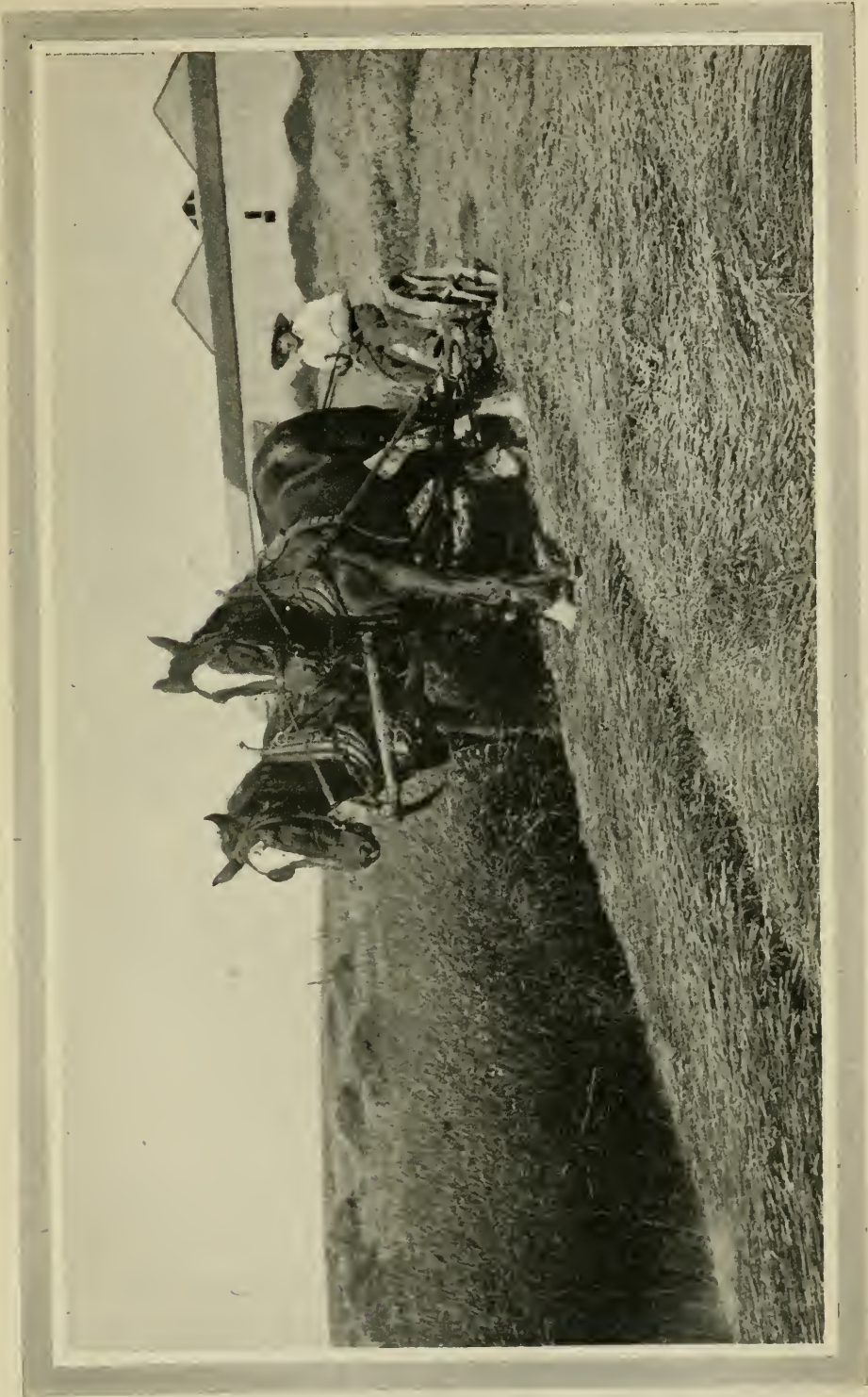
Advantage was taken of the opportunity to change the layout of the offices, so as to provide better accommodation for the staff and the public.

### Maintenance

The property of the Company was kept in good condition during the year. Owing to the exceptionally heavy storms of last winter, traffic was tied up for short periods, but it is hoped that this difficulty will be overcome this coming winter by improved equipment for handling the snow.

### ACCIDENTS

Date	Name of person injured	Nature of Employment	Place of Accident	Work at which Employee was engaged at time of Accident	Extent of Injury
April 25.	David McKee	Sectionman, . . .	Haileybury . . .	Breaking stone . . . . .	Eye permanently injured.



Mr. Geo. Slade, 1½ miles from New Liskeard, mowing timothy, August 16th, 1918.

GENERAL BALANCE SHEET

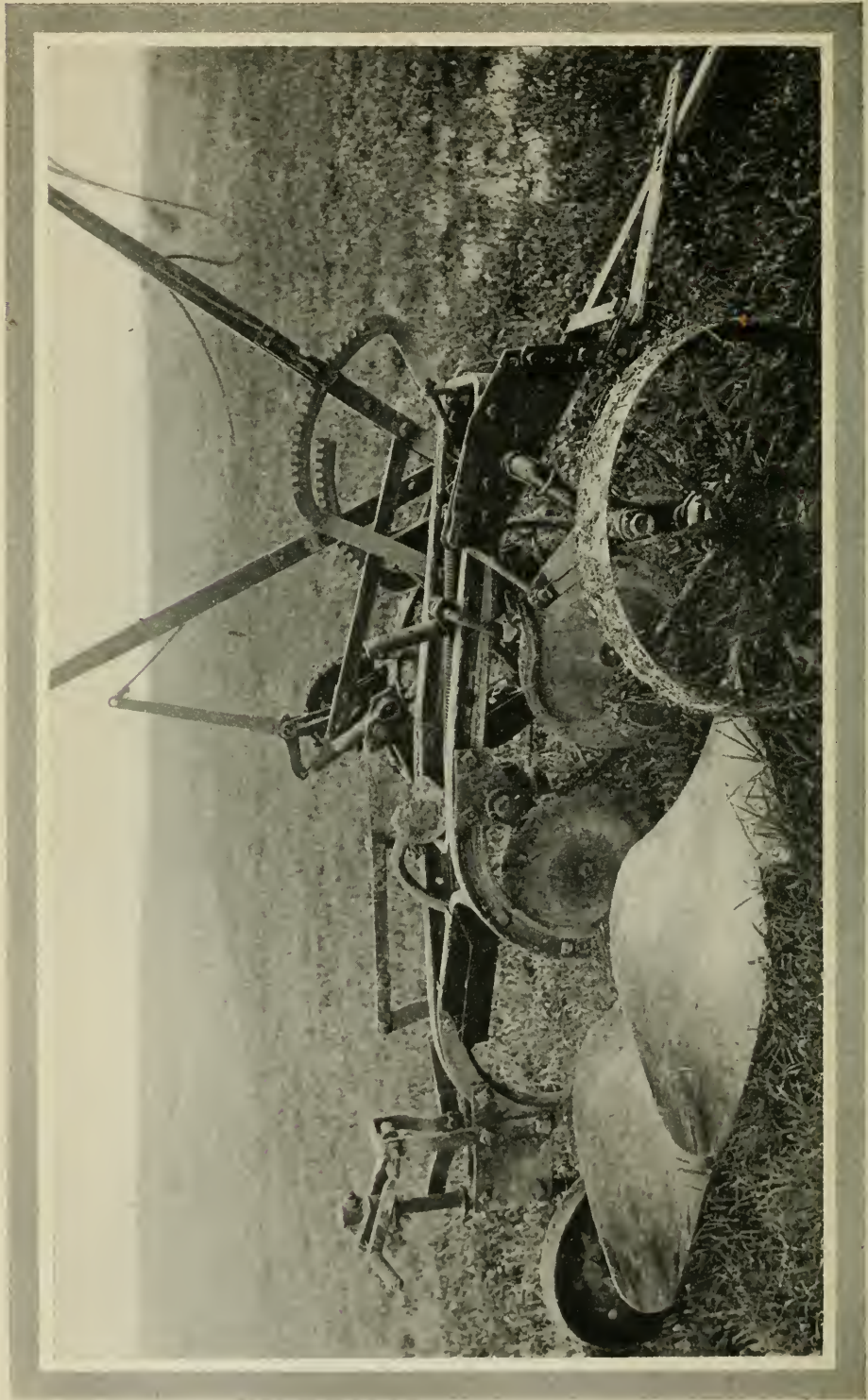
ASSETS.		LIABILITIES.	
Property Owned:		Capital Stock.....	\$550,000 00
Cost of Road as of Oct. 31, 1917 ..	\$308,095 21	T. & N. O. Railway—Advance.....	256,659 50
for year ended Oct. 31, 1918.....	3,196 86		
	<u>\$311,292 07</u>	Working Liabilities:	
Cost of Equipment as of Oct. 31, 1917.....	\$65,585 07	Accounts Payable.....	\$12,197 87
.. for year ended Oct. 31, 1918,	401 42	Unclaimed Wages.....	134 23
Townsite Property—North Cobalt .....	232,444 35		<u>12,332 10</u>
		Deferred Credit Items:	
Working Assets:		War Tax .....	9 80
Cash .....	\$5,174 33		
Accounts Collectible.....	352 58		
Balance due on Townsite Sales.....	11,367 44		
Bills Receivable.....	157 36		
Balance due from Agents and Conductors.....	457 12		
Material on hand .....	15,840 10		
	<u>33,548 93</u>		
Deferred Debit Items:			
Insurance paid in advance.....	\$51 96		
Accounts in Suspense.....	3,401 65		
	<u>3,453 61</u>		
Other Assets:			
Franchise.....	141,383 32		
Profit and Loss Balance.....	10,872 63		
	<u>\$798,981 40</u>		<u>\$798,981 40</u>
		PROFIT AND LOSS.	
Result Operation—Deficit .....	\$8,727 13	By Balance—October 31, 1917 .....	\$1,161 29
Townsites .....	3,306 79	By Balance—October 31, 1918 .....	10,872 63
	<u>\$12,033 92</u>		<u>\$12,033 92</u>

COMPARATIVE STATEMENT OF EARNINGS, EXPENDITURES AND RESULT OF OPERATION, NOVEMBER 1st, 1917, TO OCTOBER 31st, 1918.

Receipts	Nov. 1st to Oct. 31st, 1918		Nov. 1st to Oct 31st, 1917	
Revenue from Transportation....		\$ c.	\$ c.	
Incidental to Transportation ....		93,628 30	93,331 73	
		3,112 62	2,115 75	
<b>Total Revenue .....</b>		<b>96,740 92</b>	<b>95,447 48</b>	
Expenditures	Per Ct.	\$ c.	\$ c.	Per Ct.
Way and Structures .....	20.2	19,457 06	15,717 59	16.5
Equipment.....	17.6	16,957 47	12,484 13	13.1
Power.....	20.5	19,832 90	17,481 46	18.3
Conducting Transportation .....	31.5	30,440 81	26,568 09	27.8
Traffic.....	.2	169 61	293 60	.3
General and Miscellaeuous .....	9.2	8,918 98	7,712 86	8.1
<b>Total Operating Expenses.</b>	<b>99.2</b>	<b>95,776 83</b>	<b>80,257 73</b>	<b>84.1</b>
Balance .....		964 09	15,189 75	
Deductions from Income .....		9,691 22	10,557 18	
<b>Net result .....</b>		<b>8,727 13 Dr.</b>	<b>4,632 57</b>	

MISCELLANEOUS STATISTICS.

	Nov. 1st to Oct. 31st, 1918	Nov. 1st to Oct. 31st, 1917
Passenger Car Hours .....	24,332	23,439
Passenger Car Miles.....	249,968	240,350
Total Passengers Carried .....	1,131,722	1,207,390
Average Daily Receipts .....	\$256 52	255 70
Average Receipts per Car Hour—Passenger.....	3.34.7	3.40.7
Average Receipts per Car Mile— " .....	.32.6	.33.2
Earnings per Passenger .....	.07.2	.06.6



Farm of Mr. D. Stewart, Earleton. Plow drawn by gasoline tractor, September 21st, 1918.



## STATEMENT SHOWING INVESTMENT IN ROAD AND EQUIPMENT

November 1st, 1917, to October 31st, 1918.

Right of Way .....	\$159 75	
Grading .....	626 68	Cr.
Ballast .....	1,946 52	
Ties .....	5 25	Cr.
Rails and Fastenings .....	827 63	
Special Work .....	99 78	
Track and Roadway Labor .....	418 56	
Bridges, Trestles and Culverts .....	204 49	
Distribution System .....	172 06	
Passenger Cars .....	401 42	
		<hr/>
		\$3,598 28
<i>Detail of Charges—</i>		
New Cars, Nos. 22, 24 and 26 .....	\$360 17	
Market Spur, Haileybury, Track Changes, etc. ....	1,834 82	
Change of Grade, Armstrong St., New Liskeard .....	793 77	
New Cars .....	41 25	
Siding Riordan Pulp & Paper Co., Haileybury .....	408 52	
Right of Way, North Cobalt .....	159 75	
		<hr/>
		\$3,598 28

## STATEMENT OF WAGES PAID EMPLOYEES

November 1st, 1917, to October 31st, 1918.

## OPERATION.

McDonald, K. ....	Superintendent .....	\$2,040 00
Murray, D. R. ....	Cashier .....	1,394 98
Miller, N. A. ....	Stenographer .....	764 98
Stewart, W. F. ....	Land Agent .....	934 98
Andrews, Mrs. ....	Janitress .....	129 99
Montgomery, A. ....	Conductor .....	469 03
Holden, A. ....	" .....	1,151 97
McDonald, A. ....	" .....	1,323 37
Curry, T. ....	" .....	1,277 37
Mills, J. G. ....	" .....	1,303 68
Doughty, J. ....	" .....	1,277 17
Prescott, A. R. ....	" .....	216 13
McIsaac, N. D. ....	" .....	974 64
Beer, F. ....	Motorman and Conductor .....	1,176 65
Peterson, C. ....	" .....	1,263 94
Hurley, R. ....	" .....	403 89
McRae, A. J. ....	Motorman .....	1,396 76
Finlay, F. F. ....	" .....	1,452 69
Lyons, H. ....	" .....	1,333 32
Quinn, P. ....	" .....	1,319 73
Parks, W. ....	" .....	1,365 71
Richardson, R. ....	" .....	1,334 61
Garrison, T. ....	" .....	1,460 85
Lemieux, P. ....	" .....	1,439 82
Nord, J. ....	" .....	16 20
Hoppins, G. ....	" .....	78 97
Hughes, M. ....	" .....	696 97
Nickason, G. ....	" .....	1,187 58
Munshaw, A. ....	" .....	879 20
		<hr/>
		\$30,065 18

## MAINTENANCE.

Draper, J. ....	Foreman .....	\$1,420 00
Davis, J. H. ....	S.S. Operator .....	1,280 88
Nickason, G. ....	" .....	45 33
Davis, B. ....	" .....	14 17
Barber, P. ....	" .....	444 55
Wilson, G. ....	" .....	65 75
Fairbairn, G. A. ....	" .....	285 60

Poirier, J. A. ....	Electrician .....	333 02	
McQuaig, J. ....	Cleaner .....	1,009 77	
Sedgwick, J. ....	" .....	1 75	
Pelletier, H. ....	" and S.S. Operator .....	779 94	
Hawley, H. B. ....	Arm. Winder .....	83 60	
Nicholson, W. C. ....	" .....	498 68	
Montgomery, P. ....	Blacksmith .....	974 30	
Craig, P. ....	" .....	21 00	
McCoshen, S. ....	" .....	109 20	
Montgomery, A. ....	Repairer .....	180 00	
Hoppins, G. ....	" .....	234 80	
Cristefalo, J. ....	" .....	3 00	
Munshaw, A. ....	" .....	79 64	
Page, F. ....	Lineman .....	213 50	
Pirie, G. ....	" .....	279 24	
Hallick, J. ....	Cleaner .....	357 00	
Carmichael, E. ....	Lineman .....	240 97	
			8,955 69

## TRACK SECTION GANGS.

## SECTION No. 1.

Foreman .....	\$1,132 52	
Laborers .....	2,120 26	
		\$3,252 78

## SECTION No. 2.

Foreman .....	\$1,349 61	
Laborers .....	3,913 59	
		5,263 20
Total Payroll .....		\$47,536 85

Details of Nipissing Central Railway Expenditures for Fiscal Year,  
ending October 31st, 1918

Abdoe, S., North Cobalt, Ont., Sanitary work .....	\$5 00
Bank of Ottawa, Cobalt, Ont., expense <i>re</i> transfer .....	88
Bucke, Municipal Corporation of, Haileybury, Ont., taxes .....	2,172 68
Begg Bros., North Bay, Ont., material and supplies .....	35 81
Brill Co., The J. G., Philadelphia, Pa., material and supplies .....	209 55
Bauldry, W. J., North Bay, Ont., expenses <i>re</i> townsites .....	27 90
<i>Cobalt Daily Nugget</i> , Ltd., Cobalt, Ont., advertising .....	77 99
Courtmarche, Chas., North Cobalt, Ont., rental post office drawer .....	3 00
Coleman Fare Box Co., Toronto, Ont., repairing fare boxes .....	32 38
Canadian General Electric Co., Ltd., Toronto, Ont., material and supplies .....	516 58
Canadian Westinghouse Co., Ltd., Hamilton, Ont., material and supplies .....	462 74
Cain Coal Co., Port Cobalt, Ont., material and supplies .....	23 20
Cochrane Hardware, Ltd., North Bay, Ont., material and supplies .....	85 91
Christefolo, J., North Cobalt, Ont., services rendered .....	4 00
Canada Paint Co., Ltd., Montreal, Que., material and supplies .....	32 09
Crouse-Hinds Co. of Canada, Ltd., Toronto, Ont., material and supplies ..	40 62
Canadian Consolidated Rubber Co., Ltd., Toronto, Ont., material and supplies ..	79
Canada Metal Co., Ltd., Toronto, Ont., material and supplies .....	24 35
Chapman Co., Chas., London, Ont., material and supplies .....	19 90
Canadian Pneumatic Tool Co., Ltd., Montreal, Que., material and supplies .....	43 10
Cobalt, Corporation, Town of, Cobalt, Ont., taxes .....	498 80
Canadian H. W. Johns-Manville Co., Ltd., Toronto, Ont., material and sup- plies .....	90 00
Day & Gordon, Haileybury, Ont., services rendered .....	125 00
Drummond, McCall & Co., Montreal, Que., material and supplies .....	17 48
<i>Despatch and Tribune</i> , North Bay, Ont., advertising .....	6 30
Department of Public Printing & Stationery, Ottawa, Ont., advertising ..	7 20
Disston, H., & Sons, Ltd., Toronto, Ont., material and supplies .....	3 34
Dominion Envelope Co., Ltd., Toronto, Ont., material and supplies .....	4 00
Dayton Mfg. Co., Dayton, Ohio, material and supplies .....	56 00
Dominion Brake Shoe, Ltd., Montreal, Que., material and supplies .....	166 06
Darling Bros., Ltd., Montreal, Que., material and supplies .....	40 00
Employers' Liability Assurance Corporation, Ltd., Toronto, Ont., premium ..	12 73
<i>Electric Railway Journal</i> , New York, N.Y., subscription .....	9 00
Ferguson, C. L., North Bay, Ont., payrolls .....	47,598 41
Gibson, F. R., Haileybury, Ont., repairs, heating system .....	626 86
General Supply Co. of Canada, Ltd., Ottawa, Ont., material and supplies ..	10 18
Greening, B., Wire Co., Ltd., Hamilton, Ontario, materials and supplies ..	57 42
Hughes, Melville, Haileybury, Ont., award, W. C. B., <i>re</i> personal injuries ..	19 66
Haileybury, Corporation of Town of, Haileybury, Ont., taxes .....	647 07
Hees, Geo. H., Sons, & Co., Ltd., Toronto, Ont., material and supplies ....	18 41
<i>Haileyburian</i> , <i>The</i> , Haileybury, Ont., advertising .....	3 15
Hydro-Electric Power Commission of Ontario, Toronto, Ont., material and supplies .....	416 64
Haileybury Board of Trade, Haileybury, Ont., donation, picnic grounds ....	25 00
Imperial Oil, Ltd., Toronto, Ont., material and supplies .....	219 07
International Register Co., Chicago, Ill., material and supplies .....	13 80
Jackson Press, Kingston, Ont., material and supplies .....	26 00
Jones, S. Alfred, Porcupine, Ont., services rendered .....	10 00
Jones & Moore Electric Co., Ltd., Toronto, Ont., material and supplies ....	74 80
Jones, B. J., North Cobalt, Ont., award, W. C. B., <i>re</i> personal injuries .....	18 96
Knechtel Furniture Co., Ltd., Hanover, Ont., material and supplies .....	103 09
Kammerer, Jacob A., Toronto, Ont., transfer of lot .....	25 00
Lillie, Robert, North Cobalt, Ont., material and supplies .....	8 78
Lane, Dr. R. D., Toronto, Ont., services rendered .....	5 00
Lewis, W. H., Haileybury, Ont., services rendered .....	49 85
Lyman Tube & Supply Co., Ltd., Montreal, Que., material and supplies ..	615 47
Lewis Bros., Ltd., Montreal, Que., material and supplies .....	23 49
Leonard, E., & Sons, Ltd., London, Ont., material and supplies .....	141 00
<i>Mail Printing Co.</i> , Toronto, Ont., advertising .....	9 37
Minister of Inland Revenue, Ottawa, Ont., war tax .....	47 90
Morrison, James, Brass Mfg. Co., Ltd., Toronto, Ont., material and supplies ..	2 89
Morrow, John, Screw & Nut Co., Ltd., Ingersoll, Ont., material and supplies ..	6 65
Methodist Book & Publishing House, Toronto, Ont., material and supplies ..	20 00

Maxwell's, Ltd., St. Mary's, Ont., materials and supplies .....	\$5 53
McAuslan & Anderson, North Bay, Ont., services rendered .....	159 75
McKnight, Wesley, New Liskeard, Ont., materials and supplies .....	2,112 00
McDonald, Norman S., Cobalt, Ont., services rendered .....	5 00
McKee, David A., Haileybury, Ont., award, W.C.B., <i>re</i> personal injuries....	132 59
Northern Ontario Light & Power Co., Ltd., Cobalt, Ont., current supplied..	16,947 34
Northern Electric Co., Ltd., Toronto, Ont., material and supplies .....	32 58
Northern Canada Supply Co., Ltd., Cobalt, Ont., material and supplies ....	29 83
Northern Lumber Mills, Ltd., North Cobalt, Ont., material and supplies....	21 98
Nicholson File Co., Port Hope, Ont., material and supplies .....	66 94
National Drug & Chemical Co. of Canada, Ltd., Toronto, Ont., material and supplies .....	3 50
National Equipment Co., Ltd., Toronto, Ont., material and supplies .....	6 14
Northern Builders' Supply Co., North Bay, Ont., material and supplies ....	48 00
National Grocers, Ltd., North Bay, Ont., material and supplies .....	6 30
Norton, A. O., Ltd., Coaticook, Que., material and supplies .....	16 00
Ohio Brass Co., Mansfield, Ohio, material and supplies .....	58 70
O'Connor, Eugene, Argentite, Ont., donation <i>re</i> alleged injuries .....	200 00
Preston Car & Coach Co., Ltd., Preston, Ont., material and supplies .....	111 50
Pilkington Bros., Ltd., Toronto, Ont., material and supplies .....	46 09
Pion, Theodore, New Liskeard, Ont., services rendered .....	2 00
Providence Hospital, The, Haileybury, Ont., services rendered .....	10 50
Piper, N. L., Railway Supply Co., Ltd., Toronto, Ont., material and supplies	30 00
Page-Hersey Iron, Tube & Lead Co., Ltd., Toronto, Ont., material and supplies .....	28 00
Pratt & Whitney Co. of Canada, Ltd., Dundas, Ont., material and supplies	83
Provincial Secretary, Dept. of (Ontario Reformatory Industries), Guelph, Ont., material and supplies .....	17 30
Preston, F. C., Ltd., Haileybury, Ont., material and supplies .....	5 00
Rice, Lewis & Son, Ltd., Toronto, Ont., material and supplies .....	37 53
Richardson, Bond & Wright, Ltd., Owen Sound, Ont., material and supplies	46 60
Reckin, Charles, & Son, Cobalt, Ont., material and supplies .....	11 00
Steel Co. of Canada, Ltd., Hamilton, Ont., material and supplies .....	32 57
St. Cyr, Albert, North Cobalt, Ont., services rendered .....	4 00
Southam Press, Ltd., Toronto, Ont., material and supplies .....	280 25
Samson Cordage Works, Boston, Mass., material and supplies .....	26 00
Scully, Wm., Montreal, Que., material and supplies .....	89 20
Sheet Metal Products Co. of Canada, Ltd., Toronto, Ont., material and supplies .....	6 12
Smith, Peter, Heater Co., Detroit, Mich., material and supplies .....	108 87
Stewart, W. F., North Cobalt, Ont., commission on land sales and expenses	174 20
Sinclair, R. V., Ottawa, Ont., services rendered .....	600 00
Sharp's Livery, Haileybury, Ont., services rendered .....	6 50
Temiskaming & Northern Ontario Railway, Toronto, Ont., rental facilities, supplies, etc. ....	43,144 58
Temiskaming Telephone Co., Ltd., New Liskeard, Ont., services rendered ..	68 90
Toronto General Hospital, Toronto, Ont., services rendered .....	18 75
Tait, Dr. Nelson, Toronto, Ont., services rendered .....	45 00
Taylor, George, Hardware Ltd., Cobalt, Ont., material and supplies .....	4 30
United Typewriter Co., Ltd., Toronto, Ont., material and supplies .....	1 59
Wabi Iron Works, Ltd., New Liskeard, Ont., material and supplies .....	519 97
Wood, Alexander & James, Hamilton, Ont., material and supplies .....	3 67
Young Lumber Co., North Bay, Ont., material and supplies .....	812 85
	<u>\$121,844 15</u>

## RECAPITULATION ACCOUNTS PAYABLE.

November 1st, 1917, to October 31st, 1918.

General ledger balance as of November 1st, 1917 .....	\$15,113 97
Disbursements as per detailed statement .....	121,844 15
Cash payments by Treasurer .....	\$124,760 25
General ledger balance as of October 31st, 1918 .....	12,197 87
	<u>\$136,958 12</u> <u>\$136,958 12</u>



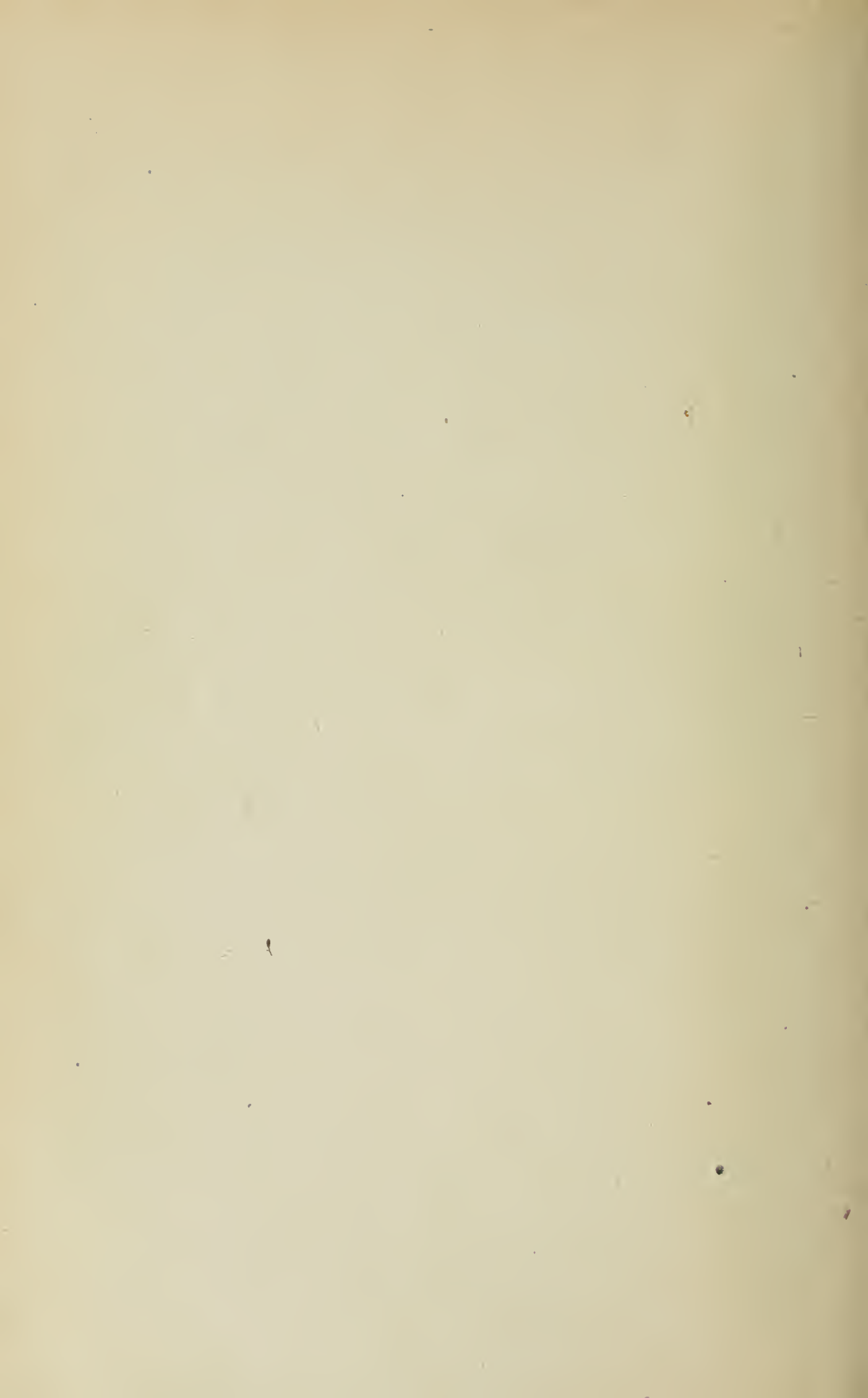
A good patch of strawberries, Englehart, Ont., 1918.

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Temiskaming and Northern Ontario Railway Commission

THE  
MINING INDUSTRY

IN THAT PART OF

NORTHERN ONTARIO

SERVED BY THE

Temiskaming and Northern Ontario Railway

ONTARIO GOVERNMENT RAILWAY

---

CALENDAR YEAR 1918

---

By ARTHUR A. COLE

Mining Engineer

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



TORONTO :

Printed and Published by A. T. WILGRESS, Printer to the King's Most Excellent Majesty

1919

Printed by  
**THE RYERSON PRESS**

TO HIS HONOUR SIR JOHN STRATHEARN HENDRIE, K.C.M.G., C.V.O., a Colonel  
in the Militia of Canada, etc., etc.

*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present to Your Honour Report of the Mining Engineer on the Mining Industry in that part of Northern Ontario served by the Temiskaming and Northern Ontario Railway for the calendar year 1918.

Respectfully submitted,

F. G. MACDARMID,

*Minister of Public Works and Highways.*

HON. FINLAY G. MACDIARMID,

*Minister of Public Works and Highways,*

Toronto.

SIR,—I have the honour, by direction, to submit to you Report of the Mining Engineer on the Mining Industry, in that part of Northern Ontario served by the Temiskaming and Northern Ontario Railway, for the calendar year 1918.

I have the honour to be,

Sir,

Your obedient servant,

W. H. MAUND,

*Secretary-Treasurer.*

**TEMISKAMING AND NORTHERN ONTARIO  
RAILWAY COMMISSION**

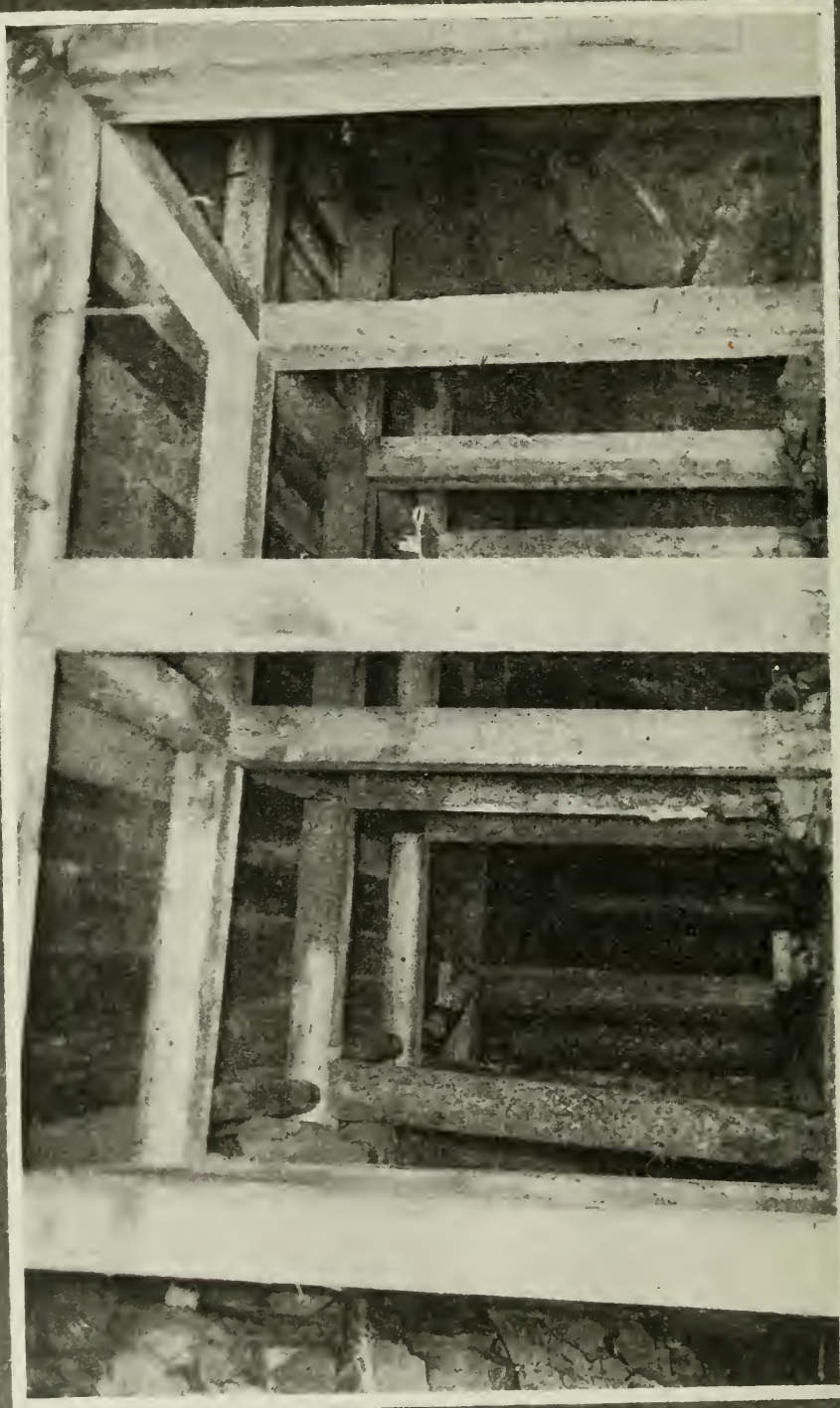
J. L. ENGLEHART, Chairman.

GEO. W. LEE, Commissioner.

HON. DR. R. F. PRESTON, Commissioner.

W. H. MAUND, Secretary-Treasurer.

A. A. COLE, Mining Engineer.



Kerr Lake Mine—Square set timbers—As fast as the stopes are worked out the timber is removed and used over again in new stopes.



## GENERAL

As the production of precious metals continues to be the most important industry in the Temiskaming District, the physical condition of the industry is of vital importance to the Government Railway running through and serving that part of the country.

### GOLD

Gold production has in general been curtailed and the gold mining industry particularly hard hit by war conditions. The result has been the closing down of many properties. Notwithstanding this curtailment, it is encouraging to find that production for 1918 only decreased 2 per cent. from the previous year. It is also remarkable to know that even with the depressed conditions of gold mining, prospecting and interest in gold prospects continued active, proving the faith of the investing public in the ultimate value of this industry. This faith was also reflected in the stock market which began discounting a rise in gold mining shares some time before the signing of the Armistice, although the physical conditions of the mines remained unchanged. With peace in sight, reductions in working costs will soon appear. The effect of the closing of munition plants is already noticeable in the increased number and better class of men seeking employment at the mines. Cuts have already been made in the prices of cyanide, steel, and explosives.)

The necessity for keeping up or even for increasing the production of gold, is conceded by leading world statesmen and financiers, but how to do this in the face of increased costs, is a problem for which the solution is still being sought. It is manifestly unfair to ask the gold mine owner to produce gold at a loss, and he is not likely to do so long, and even if he can continue operations by selective mining and a smaller production, such a proceeding is poor business for both himself and the country at large. The high grade gold property is the only one that can continue operations without much hardship. The question is one of international scope and for that reason Canadians are looking to Great Britain and the United States to make the first moves. In the meantime, now that peace is practically assured, the rational way to help solve this problem would seem to be by bringing the country back to normal peace-time conditions as soon as possible. One great factor in accomplishing this end, will be the quick absorption of our returning army into productive civilian life and in this the mines themselves will be a great assistance. One of the Porcupine mines alone will require 1,500 more men to bring its working force up to capacity.)

With the signing of the Armistice on the 11th November, it is hoped that the gold mines have entered a period of renewed activity. They may now be expected to re-commence operations as normal conditions are more nearly approached.

The following statement showing the capacities of the gold mines in the Temiskaming District of Northern Ontario, discloses some of the latent power of the industry, to increase production when conditions become more favorable.

Camp	Mill	Daily Capacity Tons	Operating 31st Dec., 1918
Porcupine .....	Hollinger .....	3,500	1,800
	Dome .....	1,500	.....
	McIntyre.....	550	550
	Schumacher .....	180	.....
	Porcupine Crown .....	125	.....
	Porcupine V.N.T.....	120	.....
	Dome Lake.....	60	.....
Kirkland Lake.....	Davidson .....	40	.....
	Newray .....	20	.....
	Kirkland.....	150	.....
	Tough-Oakes .....	120	.....
	Teck-Hughes .....	80	80
Boston Creek .....	Lake Shore .....	60	60
	Burnside .....	30	.....
	Patricia .....	40	.....
Munro.....	Miller-Independence.....	35	.....
	Croesus .....	50	.....
Totals.....	.....	6,660	2,490

The only one of the older mills that was closed down for the whole year was the Dome. All the others operated for part of the year except the newly completed mills of the Kirkland Lake and Burnside.

According to the Government returns, production by localities was as follows:

Area	Ore Milled tons	Gold ounces	Silver ounces	Total Values gold and silver	Recovery per ton
				\$	\$ c.
Porcupine .....	816,037	375,806	68,216	7,833,966	9 60
Kirkland Lake...	55,523	30,520	4,865	636,667	11 89
Miscellaneous....	6,033	5,225	674	96,545	.....
	.....	411,551	73,755	8,567,178	.....

The following were the chief producers in 1918:—

Mine	District	Ore Milled tons	Gold ounces	Value
Hollinger Consolidated.....	Porcupine	578,755	276,045	\$5,706,214
McIntyre-Porcupine .....	"	176,976	75,556	1,561,735
Porcupine Crown.....	"	10,907	5,979	123,563
Dome Lake .....	"	11,929	4,894	100,799
Schumacher .....	"	19,098	4,463	92,260
Porcupine V.N.T.....	"	15,134	3,977	82,203
Dome Mines .....	"	.....	3,948	81,618
Lake Shore.....	Kirkland	16,749	20,031	415,230
Tough-Oakes .....	"	22,000	6,620	136,828
Teck-Hughes .....	"	14,774	3,869	79,949
Croesus .....	Munro	692	3,124	64,555

#### PORCUPINE.

Renewed activity in the Porcupine Gold District was already apparent at the end of the year. The only new producer was the Davidson, which operated a small mill for several months.

Condensed reports of the Hollinger and McIntyre given herewith will correctly reflect general conditions during the year.

### HOLLINGER CONSOLIDATED GOLD MINES, LIMITED.

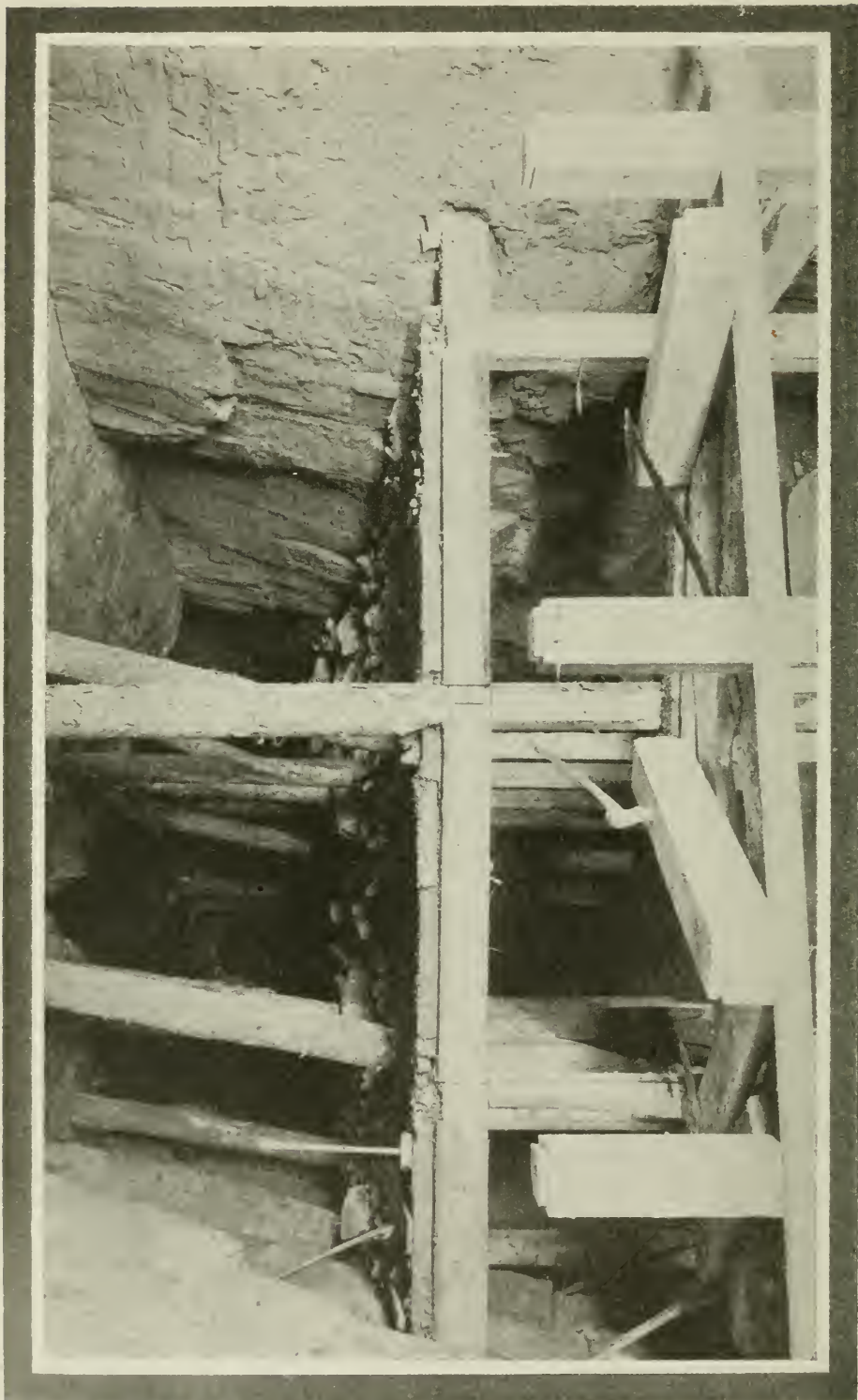
The principal financial operations of the Consolidated Company and its predecessors, are shown below:

#### GENERAL OPERATIONS

Year	Company	Total Income	Net Profits from operations	Paid in Dividends
1912	Hollinger.....	Premium on shares	\$250,000.00	.....
1912	Hollinger.....	\$924,571.44	371,801.69	\$270,000.00
1913	Hollinger.....	2,471,273.19	1,503,882.87	1,170,000.00
1913	Acme.....	22,698.57	.....	.....
1914	Hollinger.....	2,710,432.40	1,611,058.55	1,170,000.00
1914	Acme.....	53,698.24	.....	.....
1915	Hollinger.....	3,249,698.33	1,916,466.77	1,560,000.00
1915	Acme.....	1,036,087.85	560,577.65	160,000.00
1916	Hollinger Consolidated	5,285,862.11	2,676,409.07	3,126,000.00
1916	Premium on Shares	.....	180,000.00	.....
1917	Hollinger Consolidated	4,271,260.10	1,720,314.93	738,000.00
1918	Hollinger Consolidated	5,908,327.87	2,588,563.01	1,230,000.00
		\$25,933,910.10	\$13,379,074.54	\$9,424,000.00

#### THE MILL.

Tons milled .....	578,755
Average value per ton .....	\$10 24
Gross value .....	\$5,924,598 87
Deduct loss in tailings .....	172,228 00
Net values recovered .....	\$5,752,370 87
Average tons per day .....	1,590 tons.
Per cent. of possible time run .....	64.1%
Tons per 24 hours running time .....	2,480 tons.
Stamp duty per 24 hours running time .....	15.5 tons.
Solution precipitated per ton of ore .....	2.38 tons.
Value per ton in tailings .....	\$0.30
Cyanide consumed per ton of ore .....	0.447 lbs.
Zinc consumed per ton of ore .....	0.427 lbs.
Zinc per ton of solution .....	0.180 lbs.
Lime consumed per ton of ore .....	2.41 lbs.
Lead acetate per ton of ore .....	.028 lbs.
Average value pregnant solution .....	\$4.153



Korr Lake Mine—Square set timbers—The high price of silver has made it possible to take out ore previously too low-grade to mine. Much of the mill ore now being mined in the camp is obtained by widening old stopes.

## THE MINE

Development. Progress during the year was as follows:

Level	Shafts	Drifts	Cross Cuts	Raises	Diamond Drilling
	feet	feet	feet	feet	feet
100 feet .....	.....	354	139	82	.....
200 " .....	.....	1,620	1,016	452	2,246
300 " .....	.....	1,317	1,370	275	1,783
425 " .....	.....	2,223	2,016	536	1,329
550 " .....	.....	1,346	3,170	47	2,601
675 " .....	.....	1,813	1,953	330	730
800 " .....	268	307	3,059	474	1,118
950 " .....	8	7	9	196	299
1,100 " .....	.....	.....	356	.....	.....
1,250 " .....	.....	41	827	.....	.....
Totals .....	276	9,028	13,915	2,392	10,106

4 Weeks Ending	Tons Milled	% from Stopes	% from Development	Number of Miners Underground	Feet of Development	Mining Costs per ton	Gross Profits
Jan. 28	47,466	78.2	21.8	774	2,712	\$3 25	\$176,101 23
Feb. 25	51,756	80.8	19.2	793	2,280	3 17	203,095 52
Mar. 25	58,005	87.8	12.2	849	1,825	2 93	190,075 49
April 22	55,167	89.1	10.9	790	1,909	3 08	247,477 87
May 20	47,988	87.9	12.1	741	1,897	3 27	230,583 91
June 17	50,599	89.9	10.1	754	1,605	3 03	297,740 86
July 15	50,576	95.2	4.8	748	1,704	3 00	339,858 38
Aug. 12	45,965	89.8	10.2	739	2,308	3 38	411,706 15
Sept. 9	38,919	88.4	11.6	670	2,444	3 53	215,599 27
Oct. 7	37,128	88.0	12.0	628	2,283	3 46	171,954 22
Nov. 4	35,611	87.4	12.6	520	1,779	3 02	165,874 12
Dec. 2	28,440	87.1	12.9	482	1,527	3 46	133,464 04
Dec. 31	31,135	88.5	11.5	574	1,336	4 11	179,282 01

Recapitulation	Sundries	Labor	Stores	Totals	Per ton of Ore
Total General Charges ..	\$56,629 88	\$162,440 45	\$77,034 51	\$296,104 84	\$0.512
Total Mining Charges ..	.....	1,098,774 49	776,986 26	1,875,760 75	3.241
Total Milling Charges ..	.....	225,820 57	459,824 16	685,644 73	1.184
Grand Totals..	56,629 88	1,487,035 51	1,313,844 93	2,857,510 32	4.937

	Above 425 ft. Level	Above 800 ft. Level	Below 800 ft. Level	Total
Ore hoisted 1918 .....	521,913	57,483	606	580,002
Ore reserves 1st June, 1918, tonnage	2,190,270	1,860,370	224,930	4,275,570
Value .....	\$20,311,230	\$16,751,510	\$1,912,790	\$38,975,530

The tonnage of ore reserves is approximately as shown at the beginning of the previous year.

## PROFIT AND LOSS STATEMENT.

Total 1918 income .....		\$5,908,327 87
Disposal of 1918 Income—		
General charges .....	\$296,104 84	
Mining charges .....	1,875,760 75	
Milling charges .....	685,644 73	
		<u>2,857,510 32</u>
Gross operating profit .....		\$3,050,817 55
Deduct—		
Depreciation .....	\$375,000 00	
Taxes . . . . .	82,404 54	
Donations . . . . .	4,850 00	
		<u>462,254 54</u>
Net profit .....		\$2,588,563 01
Paid out in dividends .....		<u>1,230,000 00</u>
Added to surplus .....		\$1,358,563 01

The bullion is now shipped to the Mint at Ottawa. receiving payment in New York Exchange.

## MCINTYRE PORCUPINE MINES. LIMITED.

The following notes have been taken from the Company's report for the fiscal year ending June 30th, 1918. Since 1912 the property has produced to the end of the fiscal period, 611,525 tons of ore yielding \$5,379,413.56 or \$8.79 per ton.

SUMMARY OF MONTHLY PRODUCTION

Date	Tons Milled	Value Per Ton	Gross Value	Production	Operating Expenses		Operating Profit		
					Per Ton	Total	Per Ton	Total	
1917									
July.....	15,363	\$9 32	\$143,224 90	\$137,790 30	\$4 71	\$72,358 51	\$4 25	\$65,431 79	
August.....	15,410	9 52	146,816 87	141,394 80	4 84	74,654 00	4 34	66,740 80	
September.....	14,555	8 86	129,038 50	123,598 00	5 04	73,365 93	3 45	50,232 07	
October.....	15,418	10 58	163,061 30	155,940 60	5 15	79,410 53	4 96	76,530 07	
November.....	15,006	10 70	160,639 15	153,705 70	5 15	77,349 47	5 09	76,356 23	
December.....	14,055	11 36	159,674 54	152,410 64	5 73	80,613 69	5 11	71,736 95	
1918									
January.....	15,500	10 08	156,262 30	148,710 20	5 70	88,376 28	3 89	60,333 92	
February.....	13,550	9 88	133,970 64	127,752 64	5 60	75,946 85	3 82	51,805 79	
March.....	14,290	10 19	145,479 40	139,338 60	5 16	73,750 50	4 54	65,588 10	
April.....	14,980	10 38	155,525 60	148,189 00	4 86	72,797 13	5 03	75,391 87	
May.....	15,170	10 49	159,224 85	151,479 40	5 05	76,674 74	4 93	74,804 66	
June.....	15,030	9 30	140,279 50	133,948 12	4 85	73,030 94	4 05	60,917 18	
	178,327	\$10 05	\$1,793,197 55	\$1,714,258 00	\$5 14	\$918,328 57	\$4 47	\$795,929 43	

## OPERATING COSTS—YEAR ENDING JUNE 30, 1918.

Mining—	Total.	Cost per ton.
Exploration . . . . .	\$10,200 64	\$ .0572
Development . . . . .	151,442 93	.8492
Breaking and stoping . . . . .	419,045 61	2.3499
	<hr/>	<hr/>
	\$580,689 18	\$3.2563
Crushing and transportation of ore . . . . .	26,519 07	.1487
Milling . . . . .	161,201 40	.9039
Repairs to buildings, etc. . . . .	8,383 73	.0470
Heating, lighting, water supply . . . . .	25,613 43	.1437
Executive expense—head office . . . . .	30,763 97	.1725
Administrative and general expense at mine office. .	38,006 71	.2131
Taxes, insurance and workmen's compensation . . .	39,192 60	.2199
Bullion marketing costs . . . . .	7,958 48	.0415
	<hr/>	<hr/>
	\$918,328 57	\$5.1466

An analysis of the Mining Costs is particularly interesting.



ANALYSIS OF MINING COSTS

	Breaking and Stopping	Drifting	Cross Cutting	Raising	Sinking Stations and Sumps	Winzes	Total Cost	Cost per ton
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Labour .....	149,025 41	36,438 46	8,166 11	3,279 81	17,824 07	1,226 83	215,960 69	1.2110
Explosives .....	58,316 07	15,372 94	3,733 96	1,717 95	3,068 20	873 30	83,082 42	.4659
Supplies .....	9,012 38	2,252 95	290 85	397 55	1,230 48	76 45	13,260 86	.0744
Power .....	26,168 08	6,051 42	1,392 55	1,082 79	3,721 93	630 01	39,046 78	.2189
Workshops .....	2,249 78	311 19	149 71	30 90	108 40	11 00	2,860 98	.0161
Hoisting .....	89,856 29	9,627 46	2,674 29	1,069 72	3,209 15	534 86	106,971 77	.5999
Timbering .....	19,038 52	.....	.....	523 25	5,239 84	132 40	24,934 01	.1398
Rock Drill Maintenance .....	9,375 29	2,163 53	576 94	432 71	1,730 82	144 23	14,423 52	.0809
Sharpening Steel .....	12,314 69	2,841 85	757 83	568 36	2,273 48	189 46	18,945 67	.1062
Pumping and Ventilating .....	17,870 39	1,914 69	531 86	212 74	638 23	106 37	21,274 28	.1193
Assaying and Sampling .....	5,875 30	2,440 51	542 33	45 19	90 39	45 20	9,038 92	.0507
Superintendence .....	6,602 40	628 80	196 50	117 90	235 80	78 60	7,860 00	.0441
Surveying and Engineering .....	8,719 62	934 24	259 51	103 81	311 42	51 90	10,380 50	.0582
General Mining Charges .....	2,056 44	220 33	61 21	24 48	73 44	12 24	2,448 14	.0137
Exploration .....	416,480 86	81,198 37	19,333 65	9,607 16	39,755 65	4,112 85	570,488 54	3.1991
							10,200 64	.0572
							580,689 18	3.2563

The estimated ore reserves amounted to 459,276 tons, valued at \$4,490,432.00 or an average value of \$9.80 per ton. In this amount is included 68,006 tons of broken ore valued at \$617,295.

*Milling.* The mill treated 178,327 tons of ore, recovering 95.6 per cent. at a cost of \$.9039 per ton of ore.

The detailed milling costs are given in the following table.

## MILLING COSTS

—	Labour		Supplies		Power		Workshops		Total		Cost per Ton
	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	
Crushing and Elevating.....	6,227	96	6,528	00	2,516	83	1,192	52	16,465	31	.0925
Hardinge Ball Mills.....	4,247	14	19,463	78	6,681	54	993	16	31,385	62	.1762
Classifiers and Tube Mills ..	4,271	23	10,663	27	13,432	49	485	90	28,852	89	.1618
Reagents .....			22,921	54					22,921	54	.1282
Agitators .....	3,826	15	1,234	36	4,431	97	967	92	10,460	40	.0586
Thickeners .....	3,679	18	410	58	549	20	124	14	4,763	10	.0267
Clarification .....	3,339	83	1,356	98	385	04	225	77	5,307	62	.0297
Precipitation .....	3,627	89	19,049	16	439	76	23	42	23,140	23	.1298
Pumping and Elevating.....	2,410	28	870	33	444	29	193	93	3,918	83	.0219
Refining .....	3,780	14	7,004	90	293	13	388	13	11,466	30	.0643
Assaying .....	1,651	83	664	21	124	39	79	13	2,519	56	.0142
	37,061	63	90,167	11	29,298	64	4,674	02	161,201	40	.9039
Unit Cost .....		.2078		.5056		.1643		.0262		.9039	.....

A modification of the Miller Chlorine Process has been installed which will turn out bullion of .999 fine gold, thereby reducing marketing charges, which are comparatively high on a low-grade bullion. The modification consists of a combination of the Miller Process with Rose's method of toughening gold bullion by means of air. Two clay pipe stems are introduced into the refining crucible. One is connected to an air compressor delivering air at a pressure of 6 or 7 lb. per sq. in. and the other to a chlorine generator. Maximum air and minimum chlorine are used during the initial stages of refining, the amount of air is gradually reduced to nil, and the air pipe is then removed and chlorine used alone. The advantages of the modified process are reduced losses of gold and a shortening of time of operation.

Underground an electric storage battery haulage system with 40 cu. ft. side dumping cars, was installed.

## KIRKLAND LAKE.

Mining and milling costs in this district are higher than in Porcupine, due to physical reasons; war conditions were therefore even more unfavorable. Tough-Oakes and Teck-Hughes were closed down much of the year, but the latter has recently re-opened and the former is now making arrangements to re-open. The Kirkland Lake has a 150 ton mill nearing completion and the Wright Hargreaves and Burnside are both installing mills.

In March the Lake Shore opened its mill and has operated since then continuously. Two thirds of the ore milled has been from development and about 80 per cent. of the drifting was in ore. This means that the ore reserves instead of being depleted, are constantly being increased.

The following notes are taken from the Annual Report of the Company for the year ending 30th November, 1918.

*Mining.* Ore hoisted amounted to 15,175 tons divided as to source as follows:

	Tons.
Surface (stock dump) .....	207
100 foot level .....	1,343
200 " " .....	3,558
300 " " .....	329
400 " " .....	9,738
	15,175

An analysis of the above, distinguishing ore from development, and that from stoping, shows:

	Tons.	%
From stopes .....	4,280	28.20
From raises .....	72	.47
Surface dump .....	207	1.37
Drifting .....	10,616	69.95
	15,175	99.99
Total ore hoisted .....	15,175	
Ore in bins .....	227	
	14,948	
Ore milled .....	14,948	

*Milling.* The following table shows the monthly performance of the mill:

Month	Tons Milled	Recovery per ton	Bullion Production	
			\$	c.
March*	1,050	23 43	24,606	56
April	1,520	27 69	42,090	00
May	1,750	24 57	43,000	00
June	1,761	24 61	43,353	36
July	1,580	24 68	39,000	00
August	1,732	25 40	44,000	00
September	1,860	23 92	44,500	00
October	1,875	24 00	45,000	00
November	1,820	24 49	44,578	49
	14,948	24 76	370,128	41

Two dividends of \$50,000 each were paid during the year.

Aug. 20th, 1918, Dividend No. 1, 2½% .....	\$50,000
Dec. 10th, 1918, Dividend No. 2, 2½% .....	50,000
	\$100,000

#### BOSTON CREEK.

The Patricia Mill was completed early in the summer, but after operating for several months, closed down. A noteworthy find of gold telluride and gold was made on the Miller-Independence and development of the new vein is being vigorously prosecuted. The small mill on the property is soon to start treating

\* Mill operated 24 days in March.

ore, but for some time to come will be run as an experimental mill rather than as a steady producer, until a satisfactory method of treating the telluride ore has been worked out. This discovery of telluride ore has created considerable interest in the vicinity and much activity is already apparent. Several finds have been reported, notably one in Catherine Township, about six miles South East of the Miller-Independence.

#### OTHER GOLD CAMPS.

At Bourkes Station, the development on the 100-foot level of the Bourkes Mines, showed up well. A small plant has been taken into the Howie-Couchenour claim near Lightning River, and shaft sinking and other development is proceeding. The Goldfields Consolidated, of Larder Lake, continue development with small forces of men on the properties formerly known as the Harris-Maxwell, and the Reddick. Considerable diamond drill and other pioneering development work was done in the Matachewan district north of Elk Lake, but these operations had all ceased at the close of the year. It is expected however, that a force of men will re-start operations on the Otisse Claims early in 1919.

\*H. C. Cooke of the Canadian Geological Survey has the following to say of this district:

“The gold discoveries in Powell Township on the Davidson and Otisse claims have excited much interest among prospectors and mining men. The discoveries are of two types, those in porphyry and those in schist. On the Davidson claim the gold impregnates an irregular body of porphyritic syenite intrusive into the basement complex. The porphyry is cut by a network of closely spaced veinlets of quartz. The gold is usually found in or near these veinlets, although Mr. Davidson states that it is occasionally found in the porphyry, several inches from a veinlet. It appears probable that the gold was introduced by the solutions forming the veins. On the Otisse claims gold is found both in the porphyry and in schist. The occurrence in porphyry is similar to that on the Davidson claim. The principal schist occurrence appeared at the time of examination to be in beds of calcareous tuff, which has been heavily impregnated with small grains of pyrite. These have since been reported by engineers examining the property to carry very high values.”

“The area to the west, especially in Argyle, Hincks, and Montrose townships, may well yield similar discoveries if carefully prospected, especially in the neighbourhood of small granite masses. One such small mass crosses the Powell-Bannockburn line between the 3 and 4½ mile-posts. Another granite ridge runs north and south through the centre of Hincks township, and a third, much larger mass, crosses the southern parts of Cleaver and McNeill townships. It is probable that dykes of granite porphyry will be found in the neighbourhood of these masses, and that some of the dykes may have gold associated with them. With the exception of these granite masses, the townships mentioned are underlain largely by “Keewatin” rocks, in which may be expected tuffaceous beds of the type which occur enriched in Powell. The probability of the occurrence of gold in this area is indicated by the statement of Mr. J. Davidson, that he has panned gold in several places during one or two rapid prospecting trips.”

\* Geological Survey of Canada, Summary Report, 1917, Part E, p. 18 E.

## SILVER

## COBALT AND OTHER SILVER DISTRICTS.

The price of silver which at the beginning of the year was 88c. gradually rose till \$1.01 $\frac{1}{8}$  was reached in September, at which level it remained till the end of the year.

The silver production of Cobalt and outlying silver areas amounted to 17,332,804 ounces, valued at \$17,290,826, which makes 1918 second only to the year 1912 in the value of silver production. This is an increase of one million dollars over the 1917 production, but is actually a decrease of two million ounces. The production was made up as follows:—

Cobalt .....	16,558,420
Gowganda, South Lorrain and Casey Township .....	774,403
Total.....	17,332,823

The mines producing over a million ounces during the year were:—

	Ounces.
* Nipissing .....	5,785,739
Kerr Lake .....	2,221,811
Mining Corporation of Canada .....	1,994,061
O'Brien .....	1,074,312
Coniagas .....	1,006,104

The recovery of metallic silver was divided as follows:—

	Ounces.
Bullion at Cobalt .....	9,506,017
Southern Ontario Refineries .....	5,014,469
United States Refineries .....	2,812,318

Total from Cobalt and outlying camps ..... 17,332,804

Since the discovery of silver at Cobalt in 1903, shipments from the camp and outlying silver areas have been as follows:—

	Average Price, cents per ounce	Ounces	Value
	c.		\$
1904 .....	57.2	206,875	111,887
1905 .....	60.4	2,451,356	1,360,503
1906 .....	66.8	5,401,766	3,667,551
1907 .....	67.5	10,023,311	6,155,391
1908 .....	52.9	19,437,875	9,133,378
1909 .....	51.5	25,897,825	12,461,576
1910 .....	53.5	30,645,181	15,478,047
1911 .....	53.3	31,507,791	15,953,847
1912 .....	60.8	30,243,859	17,408,935
1913 .....	57.8	29,681,975	16,553,981
1914 .....	54.8	25,162,841	12,765,461
1915 .....	49.69	24,746,534	12,135,816
1916 .....	65.661	19,915,090	12,643,175
1917 .....	81.417	19,401,893	16,121,013
1918 .....	96.772	17,332,804	17,290,826
Total.....		292,056,976	169,241,387

\* NOTE.—Preliminary Report Bureau of Mines.

Development work on the Adanac in south east Coleman, adjoining the Temiskaming, has produced a little ore, and the future of this part of the Camp has large possibilities.

A leasing company is working the Foster dumps and is obtaining some high-grade ore from underground development. A large pumping plant has been installed by the Mining Corporation of Canada, to handle sands from the bed of Cobalt Lake for retreatment. This is the largest operation of its kind ever undertaken in Canada. It is estimated that there are half a million tons of tailings to be treated. The pumping plant will consist of two 8 inch motor-driven pumps with an estimated capacity of from 1000 to 1200 tons of sand and slime tailing per 24 hours. It is planned to treat 300 tons per day to begin with, increasing later to a maximum of 700 tons.

At North Cobalt, the Green-Meehan Mine has been re-opened by Edwards & Wright, with very satisfactory results.

The Pittsburg-Lorrain worked the Wettlaufer and Currie properties in South Lorrain for part of the year and shipped a little ore, and some work was also done on the Keeley.

The Casey Mine in Casey Township completed its new mill and has recommenced shipping concentrates.

At Gowganda another bonanza find has been made on the Miller-Lake-O'Brien and the Crews-Macfarlane has made a carload shipment of ore from the Bartlett Mine.

ORE SHIPMENTS OVER T. & N. O. RAILWAY, 1917.

Mine	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Aladdin	21.00	39.63	33.44	95.05	68.81	74.75	41.55	78.16	64.35	70.60	64.36	43.50	553.32
Beaver	42.65	32.30	33.60	32.42	55.02	37.38	36.96	42.58	32.80	43.38	33.03	.....	410.28
Bufalo	55.33	101.30	39.34	43.89	121.92	79.57	86.08	77.77	93.27	208.10	728.13	164.98	1,348.20
Comiagus	92.13	64.29	134.19	125.69	109.89	79.20	45.18	84.47	139.61	82.78	118.66	165.14	1,065.05
Crown Reserve	10.24	7.14	14.91	13.97	32.21	8.80	5.02	9.39	15.51	91.96	63.11	117.99	1,147.71
Hargraves	32.61	30.77	76.49	62.79	42.68	33.00	65.98	43.97	32.98	10.22	7.01	13.11	147.53
Hudson Bay	127.94	89.30	229.68	196.11	182.81	152.70	92.23	267.73	254.09	187.75	118.63	224.07	2,123.04
Kerr Lake	131.19	87.40	154.28	71.89	174.36	87.33	169.09	131.46	139.64	148.70	119.11	83.66	1,498.11
La Rose	138.93	38.81	92.54	125.77	31.43	.....	125.33	32.23	27.14	.....	.....	.....	2,230.56
Mining Corporation of Canada	.....	111.22	128.09	.....	124.22	172.29	128.33	128.97	236.53	268.09	164.19	169.10	1,895.73
McKinley-Barragh	.....	.....	.....	.....	.....	20.26	20.00	22.80	27.14	59.06	31.93	33.59	214.78
National	.....	.....	.....	.....	117.94	663.20	684.69	655.72	915.45	371.37	43.82	87.54	3,539.73
Nipissing	25.58	17.86	37.28	34.92	30.52	22.00	12.55	23.47	38.78	25.55	17.53	32.78	318.82
Nova Scotia	85.78	32.86	64.50	86.07	64.11	28.33	64.54	54.45	32.03	64.53	32.47	.....	609.67
O'Brien	83.56	38.15	32.39	.....	60.28	52.98	30.43	.....	53.00	30.86	.....	27.88	409.53
Penn Canadian	41.03	.....	43.89	.....	.....	43.13	.....	.....	51.68	.....	.....	.....	179.73
Right of Way	.....	.....	.....	.....	.....	.....	.....	.....	25.00	.....	.....	.....	25.00
Silver Queen	41.44	28.90	.....	68.03	43.57	36.26	31.21	61.89	32.91	32.04	.....	.....	376.25
Temiskaming	42.80	36.71	33.72	.....	58.92	22.73	58.96	.....	63.35	26.57	72.21	20.76	436.73
Trethewey	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	972.21	756.64	1,148.34	956.60	1,318.69	1,613.91	1,729.20	1,777.26	2,354.35	3,191.44	2,033.93	1,184.10	19,016.67

ORE SHIPMENTS FROM COBALT SILVER DISTRICT FOR CALENDAR YEAR 1918.

Mine	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Aladdin .....	59.60	33.00	68.75	.....	75.45	32.75	32.50	30.00	38.00	.....	.....	.....	370.05
Beaver .....	39.99	.....	32.86	36.23	.....	37.76	32.30	.....	32.66	.....	42.87	.....	254.67
Buffalo .....	363.95	460.76	395.73	296.69	208.66	220.00	121.17	163.98	132.48	494.90	582.59	401.59	3842.50
Coniagas .....	130.50	44.00	164.50	162.05	148.89	88.00	208.22	85.18	154.08	41.76	86.27	177.21	1490.66
Crown Reserve .....	125.41	69.23	84.28	60.84	73.96	72.02	77.44	49.75	76.62	33.28	36.27	30.85	789.95
Foster .....	.....	.....	.....	.....	.....	44.00	.....	.....	.....	.....	43.96	.....	43.96
Green Meehan .....	.....	.....	.....	.....	.....	44.00	32.99	.....	32.99	.....	.....	.....	109.98
Hudson Bay .....	32.47	41.16	32.12	.....	31.70	32.74	51.88	32.89	.....	31.60	.....	32.30	298.86
Kerr Lake .....	175.71	110.20	147.89	130.59	146.25	113.58	150.12	117.12	172.93	38.70	72.78	64.59	1440.46
LaRose .....	119.18	95.38	98.81	64.36	79.32	84.94	102.07	105.18	44.88	69.74	56.66	32.96	953.48
Mining Corporation of Canada .....	.....	.....	.....	.....	359.09	344.96	.....	.....	64.79	.....	255.47	.....	1275.50
McKinley-Darragh .....	42.11	140.32	290.24	149.22	222.94	164.86	245.73	156.70	140.14	364.34	274.07	74.05	2264.72
National .....	.....	.....	.....	.....	22.04	20.93	51.72	30.33	29.61	68.13	.....	.....	222.76
Nova Scotia .....	20.42	11.27	13.72	9.91	12.04	11.73	12.61	8.10	12.48	5.42	5.91	5.63	128.64
Nipissing .....	129.40	32.16	64.68	230.19	457.25	283.97	355.39	117.06	118.87	828.94	150.22	78.04	2619.93
O'Brien .....	31.43	26.45	.....	32.32	125.57	32.04	64.03	64.06	32.00	61.02	64.43	76.03	777.74
Penn Canadian .....	.....	.....	.....	.....	78.62	32.99	23.65	32.34	30.00	33.00	32.53	.....	291.01
Peterson Lake .....	51.54	.....	37.31	41.98	.....	.....	43.99	.....	38.81	.....	35.03	.....	211.35
Right of Way .....	66.52	.....	.....	.....	.....	29.59	.....	.....	.....	.....	.....	.....	37.31
Silver Queen .....	70.35	.....	.....	82.32	.....	33.00	.....	.....	.....	.....	.....	.....	96.11
Temiskaming .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	310.69
Trethewey .....	.....	.....	.....	.....	.....	.....	.....	38.59	.....	43.00	.....	43.43	.....
Totals .....	1458.58	1063.93	1430.89	1296.70	2041.78	1679.86	1585.81	1031.28	1151.34	2365.02	1790.08	1016.08	17911.35



## ORE SHIPMENTS FROM THE COBALT DISTRICT TO END OF 1918

(In tons of 2,000 lbs.)

Mine	Totals to 1917	1917	1918	Totals
1. Aladdin .....	118.02	553.32	370.05	1,041.39
2. Badger .....	27.10			27.10
3. Bailey .....	388.07			388.07
4. Beaver .....	3,179.60	410.28	254.67	3,844.55
5. Buffalo .....	8,389.63	1,348.20	3,842.50	13,580.33
6. Casey-Cobalt .....	1,829.80		119.75	1,949.55
7. Chambers-Ferland .....	3,610.24			3,610.24
8. City of Cobalt .....	2,820.02			2,820.02
9. Cobalt Lake .....	5,930.12			5,930.12
10. Cobalt Townsite .....	8,020.82			8,020.82
11. Cobalt Comet .....	8,692.87			8,692.87
12. Colonial .....	456.12			456.12
13. Coniagas .....	14,161.77	1,065.06	1,490.66	16,717.48
14. Crown Reserve .....	12,083.71	1,147.71	789.95	14,021.37
15. Foster .....	822.58		43.96	866.54
16. Green Meehan .....	251.36		109.98	361.34
17. Hargraves .....	491.92	147.53		639.45
18. Hudson Bay .....	5,230.06	486.90	298.86	6,015.82
19. Imperial Cobalt .....	14.61			14.61
20. Kerr Lake .....	13,386.27	2,123.04	1,440.46	16,949.77
21. King Edward .....	776.22			776.22
22. LaRose .....	35,951.54	1,498.11	953.48	38,403.13
23. Lawson .....	75.73			75.73
24. Lost and Found .....	74.00			74.00
25. Lumsden .....	20.00			20.00
26. McKinley-Darragh .....	22,184.88	1,895.73	2,264.72	26,345.33
27. Mining Corporation of Canada ..	6,408.32	2,230.56	1,275.50	9,914.38
28. Nancy Helen .....	347.74			347.74
29. Nipissing .....	33,491.21	3,539.73	2,619.93	39,650.87
30. North Cobalt .....	9.87			9.87
31. Nova Scotia .....	778.90	318.82	128.64	1,226.36
32. National .....		214.78	222.76	437.54
33. O'Brien .....	10,355.19	609.67	777.74	11,742.60
34. Penn Canadian .....	3,077.25	409.53	291.01	3,777.79
35. Peterson Lake .....			81.02	81.02
(Leases) .....	639.96			639.96
Gould .....	59.65			59.65
Little Nipissing .....	422.50			422.50
Nova Scotia .....	121.15			121.15
Seneca Superior .....	2,298.66			2,298.66
36. Provincial .....	250.65			250.65
37. Princess .....	3.93			3.93
38. Red Rock .....	45.71			45.71
39. Right of Way .....	5,081.21	179.73	211.35	5,472.29
40. Rochester .....	28.30			28.30
41. Silver Bar .....	43.30			43.30
42. Silver Cliff .....	606.69			606.69
43. Silver Leaf .....	252.39			252.39
44. Silver Queen .....	2,214.92	25.00	37.31	2,277.23
45. Temiskaming .....	6,636.73	376.25	96.11	7,109.09
46. Trethewey .....	7,105.64	436.73	310.69	7,853.06
47. Temiskaming Cobalt .....	88.45			88.45
48. University .....	231.51			231.51
49. Victoria .....	.47			.47
50. Violet .....	36.00			36.00
51. Waldman .....	38.81			38.81
52. Wyandoh .....	24.15			24.15
Totals .....	229,686.32	19,911.67	18,031.10	266,734.09

NOTE.—Nova Scotia now shipping under name of Dominion Mine.

Raw ore and concentrates were shipped during the year to the following smelters:—

Canada.

Coniagas Reduction Co., Thorold .....	2,086.11 tons.
Deloro Smelting & Refining Co., Deloro .....	5,238.55 “
Metals Chemical Co., Welland .....	2,474.68 “

United States.

American Smelting & Refining Co., Denver and Perth Amboy .....	8,257.69 tons.
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The following excerpts taken from the annual reports of four of the Cobalt Mining Companies give further details of operations and costs.

Nipissing Mining Company Limited.

SHIPMENTS IN 1918

—	Dry Tons	Fine Ounces Silver	Net Value	Per cent. of total Net Value
Silver Bullion .....	190,1065	5,532,880.87	\$5,485,427.24	131.67
Residue and Concentrates.....	2,292.6948	252,858.54	352,099.20	8.45
Total Shipments .....	2,482.8013	5,785,739.41	\$5,837,526.44	140.12
Less Customs Ore included in above.....	406.9095	1,668,350.23	1,671,462.17	40.12
Shipments of Nipissing Product..	2,075.8918	4,117,389.18	\$4,166,064.27	100.00

HIGH GRADE MILL.

The process which has heretofore been used in the treatment of our high grade ores and which gave satisfactory results for seven years, is an amalgamation process, using a large quantity of mercury. The price of mercury before the war was \$33.00 to \$39.00 per flask of 75 lbs. Demand for war purposes raised the price to \$130.00 per flask.

This so increased the cost of the process that it was decided to discontinue the amalgamation and rely on cyaniding alone, after giving the ore a preliminary treatment with bleaching powder in the tube mill.

The necessary apparatus for this process was installed in the Low Grade Mill at a small cost, and in August last the old High Grade Mill was shut down. The new process is working smoothly and will be used as long as it shows a saving over amalgamation.

The two plants treated during the year 430 tons of customs ore and bullion containing 1,668,350 ounces, 983 tons of Nipissing ore assaying 1,713 ounces per ton, and 513 tons of Nipissing concentrate of an assay value of 1,609 ounces per ton, making a total of 1,926 tons containing 4,178,510 ounces.

Of this the old High Grade Mill treated 1,102 tons, containing 2,733,467 ounces, and the new plant 824 tons containing, 1,445,043 ounces.

The refinery also handled precipitate from the Low Grade Mill containing 846,737 ounces.

The bullion shipped averaged 998 fine and amounted to 190 tons containing 5,532,881 ounces.

Residue shipments were 2,157 tons, assaying 9.03 per cent. cobalt. The demand for this material is good, at much higher prices than ever received before.

## LOW GRADE MILL

	Tons	Assay	Ounces
Ore treated .....	80,274	23.81	1,911,198
By-Products treated .....	43	.....	116,066
	80,317	25.24	2,027,264
Recovered from the above:			
Precipitate .....	35	24,166	846,737
Coarse Concentrate .....	544	1,611	876,471
Fine Concentrate .....	92	800	73,715
Total Recovery .....			1,796,923

Average tailing, 2.84 ounces. Recovery, 87.95 per cent.

In February, 1918, thirteen roughing tables were installed over the tube mills, and in April, sixteen fine sand tables were added.

The ore is crushed by stamps in cyanide solution and goes to the roughing tables without classification. The tailing is classified; the sand is recrushed in tube mills; the overflow from the classifier goes to the fine sand tables. The tube mill discharge is returned to the classifier; the tailing from the fine sand tables is cyanided.

By this method 48 per cent. of the Silver in the ore is recovered in the form of concentrate, 40 per cent. as precipitate from the cyanide plant, and 12 per cent. goes to waste.

The concentrate is re-treated with the high-grade ore in the High Grade Mill and the precipitate from both treatments is sent to the refinery where it is converted into bullion.

This process gives a better extraction and at less cost than can be obtained by cyanide alone on the quality of ore now being produced; due consideration must be given for the value of the cobalt in the concentrate.

Forty stamps ran 323 days, or 88.49 per cent. of the possible running time; they crushed 248 tons per day or 6.98 tons per stamp per day.

Treatment cost on Low Grade Ore amounted to \$5.108 per ton.

## CONSUMPTION OF SUPPLIES AT LOW GRADE MILL

	Total Pounds	Cost per Pound	Total Cost	Pounds per Ton	Cost per Ton
Sodium Cyanide.....	311,938	\$0.332	\$103,710.15	3.885	\$1.2913
Caustic Soda.....	29,025	0.0694	2,016.00	0.361	0.0241
Lime.....	478,940	0.0063	3,040.39	5.966	0.0468
Aluminum Ingots.....	3,750	0.521	1,953.25	0.046	0.0233
Pebbles.....	556,035	0.015	8,716.11	6.926	0.1075
Coal.....	2,157,790	0.0031	8,701.92	26.880	0.1074
Borax.....	7,391	0.123	910.86	0.092	0.0103
Sodium Sulphide.....	54,701	0.0405	2,216.62	0.681	0.0266
Power.....	.....	.....	51,111.44	.....	0.6357
Oil (Gallons).....	13,124	0.137	1,809.51	0.163	0.0215
Coke.....	36,200	0.006	239.38	0.451	0.0029
.....	.....	.....	\$184,425.63	.....	\$2.2974

## DEVELOPMENT.

The total advance in 89 faces worked during the year amounted to 7,815 feet. This is the smallest advance made in recent years and was due to the fact that no large veins were discovered, and the few small veins encountered were opened up with comparatively little drifting. On the other hand, a large amount of exploration work was done, crosscutting likely territory in search of new ore. This comprised fully 85 per cent. of the total footage driven.

Most of this work was barren of favorable results although two new veins, 73/544 and 102/100, were found in new territory and may prove of some importance after development. In the vicinity of 98 shaft a number of small veins opened up well and furnished considerable new ore.

The usual amount of stoping was done, most of the veins fully coming up to expectations. The high price of silver has enabled us to work a much lower grade of ore, so that a considerable additional tonnage was obtained by slabbing off the sides of old stopes, and new stopes were carried wider than heretofore.

This inclusion of low grade rock sent to the mill resulted in a drop of about 7 ounces per ton in the mill heads.

## SUMMARY OF ORE RESERVES

—	Tons	Assay, Ozs.	Ounces
High Grade Ore .....	2,788	1245.	3,473,184
Mill Ore.....	121,049	20.9	2,531,951
Total .....	123,837	48.5	6,005,135

## SUMMARY OF RESULTS.

Although the production of the mine fell off half a million ounces and the cost rose from 25 cents to 39 cents per ounce compared with the previous year, the working profit was almost as much, amounting to \$2,596,096.

This favorable result was made possible only through the increase in the price of silver, which, since August 19, 1918, has been stationary at \$1.011½ New York.

There has been a considerable advance in the labor charge, but the sliding scale arrangement now in force has proved satisfactory to the men and to the company.

Supplies of all kinds continued to advance: the charge for taxes alone amounted to 10 cents per ounce of silver produced.

The production was 3,701,416 fine ounces. The average New York price was 96.87 cents, whereas we received 99.14 cents f.o.b. Cobalt for our shipments.

The search for new ore bodies did not meet with as good results as usual, so that the ore reserves show a falling off of 25 per cent. compared with a year ago. The most favorable localities on the property have already been explored, and while there are always possibilities of striking important new ore bodies, the stockholders should realize that these chances are less now than they have been in the past.

## KERR LAKE MINING COMPANY, LIMITED.

## ORE PRODUCTION FOR YEAR ENDING AUGUST 31st, 1918

Grade of Ore	Net weight	Silver Contents	Average Silver Contents per ton	Cobalt Contents	Mercury Contents
	lbs.	Ounces	Ounces	lbs.	lbs.
1st Class .....	801,867.00	1,318,718.56	4,079.00	69,528.63	.....
Bullion from 1st Class.....	.....	325,689.44			
No. 1 Silver Cobalt Class .....	1,220,055.00	335,579.16	589.00	129,802.65	.....
Bullion from Silver Cobalt Class.....	.....	23,941.75			
No. 2 Silver Cobalt Class.....	14,500.00	809.00	111.00	.....	.....
Mercury from Metallies .....	.....	.....	.....	.....	545.5
Mill Ore .....	27,405.63 tons	578,254.91	21.09	.....	.....
		2,582,992.82	.....	199,331.28	545.5

## DEVELOPMENT.

During the year 3,088.6 feet of development was done by drifting, cross-cutting, raising and sinking, in the more favorable portions of the property. This development footage compares with 3,105.3 feet for last year.

This work failed to encounter new veins of importance, although extensions of ore shoots containing commercial values in known veins were exposed.

Results obtained in developing ground along the No. 21 Vein System on various levels were encouraging, and work done on the Keewatin Vein System produced some high grade as well as a small tonnage of mill ore. Further development will be done along these vein systems during the coming year.

## MILL ORE.

The production was 243,201.99 ounces less than last year, the grade being 21.09 ounces per ton, as compared with 26.26 ounces per ton last year.

The following were the costs:

48,542 tons rock hoisted at a mining cost of \$5.11 per ton.

2,582,992.82 ounces silver at a mining cost of 9 <sup>60</sup>/<sub>100</sub> c. per ounce.

## ORE RESERVES.

The gross production for this year is an increase over that of recent years, although the ore reserves were not decreased to the extent of the year's production. This was due to further extensions to the ore shoots, and to the fact that in most cases the ground stoped during the year has produced better values than the previously exposed horizons had indicated.

Future development will probably expose further extensions of ore shoots in known veins, and may encounter other veins containing commercial values.

The extent of the future production of this property, however, will naturally depend upon the market prices of its products, the treatment costs of same, and more particularly upon the values contained in mill rock of low commercial grade, of which some is now in place underground and in surface dumps. As the ore reserves of the mine are decreasing each year we may expect the grade of future ore extracted to also decrease.

The total estimated reserves given below may be considered positive commercial ore under present conditions, although future development by stoping and otherwise, may somewhat increase the figures given.

	Tons	Milling Ore Gross Ounces	Estimated ozs. Silver in high grade and Silver Cobalt Classes	Total esti- mated ounces Silver
Ore in Place .....	21,480	323,800	997,500	1,321,300
Broken Ore .....	13,250	316,000	.....	316,000
Total.....	34,730	639,800	997,500	1,637,300

MINING CORPORATION OF CANADA, LIMITED.  
PRODUCTION.

*Ore and Waste Rock.* The amounts of ore broken and ore hoisted from the mine were 20,006 tons and 27,270 tons respectively.

Waste rock, amounting to 23,352 tons, was broken in the mine, of which 22,589 tons were hoisted and 763 tons were deposited in old stopes underground.

Of the total ore tonnage hoisted from the mine, 125.90 tons of high-grade were treated in the High Grade Plant of the Cobalt Reduction Co., and 42,355.88 tons were concentrated.

From the Tailing Beds in Cobalt Lake, 47,465.44 tons were pumped in 1918. Of this amount, 17,632.72 tons were treated by the Cobalt Reduction Co., and 29,832.72 tons were stacked for future treatment.

*Silver.* The figures in the table below summarizes the silver production in 1918:

	Tons	Ounces
High-Grade ore .....	125.90	245,895
Milling ore .....	42,355.88	1,421,449
Total .....	42,481.78	1,667,344
Tailings .....	17,632.72	40,908
Total.....	60,114.50	1,708,252

High-grade and milling ore were both of lower grade than in 1917. The high-grade ore produced 1.953.1 ounces per ton, against 3.007.06 ounces in 1917, and the milling ore produced 33.56 ounces per ton, against 36.99 ounces in 1917. Only residues were shipped to the smelter in 1918.

The average silver production from total ore treated, including high-grade and milling ore, but not including tailing, was 39.248 ounces per ton, against 53.346 ounces per ton in 1917, and 38.996 ounces per ton in 1916.

The average silver production from tailing re-treated was 2.32 ounces per ton in 1918.

Both the gross tonnage and silver contents of the high-grade ore again formed a lower proportion of the total output. The proportion of silver produced from high-grade ore as compared with the total silver production of the mines, was 14.75 per cent. in 1918, against 31.15 per cent. in 1917, and 32.85 per cent. in 1916.

#### METALLURGICAL.

Cobalt Reduction Company's Concentrating Mill: This plant ran continuously (excepting holidays), during the year. Stamps ran 292,380 out of a possible 313,771 stamp hours, or 93.18 per cent. of possible running time. The number of stamps dropping at January 2nd, was 70; this was decreased to 40 on February 5th, increased to 45 on April 12th, and decreased to 25 on July 2nd.

Details of treatment follow:

	Ore Milled	Table Concentrate produced	Jigs and Roughing table Concentrate produced	Total Concentrate produced	Slimes sent to Cyanide Plant of Cobalt Reduction Co., Ltd.
Tons .....	42,355.88	525.78	101.34	627.12	27,712.29
Ounces, silver contained ....	1,496,218.17	1,021,225.14	127,484.07	1,148,709.21	316,007.94
	Tailings				
Tons .....	17,632.72	12.35	.....	12.35	4,550.40
Ounces, silver contained ....	71,712.26	25,901.12	.....	25,901.12	18,758.72
<b>Total tons .....</b>	<b>59,988.60</b>	<b>538.13</b>	<b>.....</b>	<b>639.47</b>	<b>32,262.69</b>
<b>Total ounces contained.....</b>	<b>1,567,930.43</b>	<b>1,047,126.26</b>	<b>.....</b>	<b>1,174,610.33</b>	<b>334,836.66</b>

The ratio of ore milled to concentrate produced was 80.6 to 1.

The ratio of tailings treated (by concentration) to concentrate produced was 105.9 to 1.

GENERAL EXTRACTION AND COST DETAILS:  
SILVER PRODUCED FROM ORE SLIME AND CONCENTRATE SLIME BY CYANIDING

	Tons slime from ore and re-treatment of concentrate	Silver Contents		Silver produced by Cyaniding		Percentage Extraction by Cyaniding
		Total	Per ton	Total	Per ton	
Mine Ore .....	27,712.29	316,077.94	11.41	272,739.76	9.84	86.29
Tailing .....	4,550.40	18,758.72	4.12	15,006.98	3.30	80.00
Total .....	32,262.69	334,836.66	10.38	287,746.74	8.92	85.94

The average daily tonnage treated was 89.62 against 120.11 in 1917.

REDUCTION COSTS

	Tons	Concentration				Cyaniding				Total	Per ton			
		Operation including Repairs and Maintenance	Special Expenditure	Total	Concentrated	Operation	Total ore treated including high-grade	Cyanided	Picking, etc.			Total ore treated including high-grade		
High-grade Ore...	125.90													
Milling Ore .....	42,355.88	\$101,789.61	\$27,875.94	\$129,665.55	\$3,061	\$3,052						\$3,363.53	\$3,363.53	\$,079
Milling Ore, slime and tailing from reconcentration.	27,712.29												129,665.55	3,052
Tailing { Concentrated, Cyanided	13,082.32	18,232.82	2,468.58	20,701.40	1,582	.487							66,082.23	1,556
	4,550.40												20,701.40	.487
		120,022.43	30,344.52	150,366.95	2,712	3,540	76,075.11	2,358	1,791	3,363.53	229,805.59	5.410		



## SUMMARIZED COSTS, 1918

—	Labour	Material	Other	Total	Per ton	Per oz.
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	cents.
Extraction .....	107,447 26	26,575 26	17,137 53	151,160 05	3 56	8.85
Development .....	2,732 06	1,267 25	521 72	4,521 03	11	.26
Exploration .....	100,371 34	36,175 94	17,590 48	154,137 76	3 63	9.02
Milling (Mine Ore) .....	3,357 27	6 26	207,433 27	210,796 80	4 96	12.34
Milling (Tailing) .....			32,230 91	32,230 91	76	1.89
Freight and Realization (including selling and smelting charges) .....			175,465 46	175,465 46	4 13	10.27
Administration and General .....	33,329 71	12,377 79	92,263 83	137,971 33	3 24	8.08
Head Office, Royalties, Taxes, etc .....			175,049 42	175,049 42	4 12	10.25
	247,237 64	76,402 50	717,692 62	1,041,332 76	24 51	60.96

The usual comparative summary of material costs is appended and it will be seen that practically every item increased in 1918 over 1917. Since the Armistice, however, a tendency to lower prices is indicated and it is hoped that 1919 will show a general reduction.

## COMPARATIVE COST OF MATERIALS

—	Dec., 1913	Dec., 1915	Dec., 1916	Dec., 1917	Dec., 1918
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
40% Forcite .....	12 98	12 98	20 58	24 75	24 75
60% .....	15 98	15 98	25 58	31 75	31 75
No. 8 Detonators .....	1 19	1 72	2 70	2 70	2 70
Fuse .....	23 85-24 35	26 60	28 60	33 20	43 80
Mine Rails .....	43 50-45 00	48 00	52 00	100 up	100 up
Steel Sheets 3/16 .....	2 90	2 75	5 43	10 00	12 00
" 1/8 .....	3 00-3 20	2 90	6 00	7 25	12 00
Bar Iron, Base .....	2 50	2 50	3 80	5 00	5 25
Solid drill steel .....	8 00-8 50	7 88	10 50	14 00	16 00
Hollow drill steel .....		12 00	12 00 and	23 50	25 50
			14 00		
Nails, Base .....	2 90	3 30	5 10	5 85	6 10
Fuel Oil .....		08½	11	13½	14
Drill Oil .....	0 24-0 26½	22	25	28	26
Waste .....	0 08½-0 09	08¾	15	16½	14¾
Steam Coal .....	5 75-5 87	5 75	6 20-9 80	9 70	10 15
Pipe 1-in. .....	5 41	5 44	9 98	14 00	14 79
" 2-in. .....	11 78	11 90	20 12	30 48	32 12
" 3-in. .....	24 71	24 72	44 89	63 86	67 34

## MINING OPERATIONS AND FUTURE PROSPECTS.

TOWNSITE: Only 205,000 ounces remained in reserve in the Townsite Mine at the end of the year, but it is hoped that this amount may be slightly increased by going over the old stopes in the southern workings, where a little ore was left which would not pay to remove when that work was originally done. Exploration work has been finished on this mine.

LAKE: The full programme of exploration work mapped out in 1916 was completed on this property and further cross-cuts were driven in the higher levels in the north end, but no more ore was discovered and the mine was shut down by the end of the year.

CITY: Vein 32 has been the mainstay of production during the past year and the reserves were largely augmented by the discovery that in some stopes values extended far into the walls, increasing the width of the working places. It is possible that development during the year may somewhat increase the amount of ore at present in reserve, but little opportunity remains for further exploration.

#### SUMMARY OF ORE RESERVES.

	Tons Ore		Ounces Silver	
	1917	1918	1917	1918
High Grade Ore.....	373	314.1	690,600	391,450
Milling Ore .....	30,991	29,257.	854,770	849,100
Total .....	31,364	29,571.1	1,545,370	1,240,550

#### THE CONIAGAS MINES, LIMITED.

The average price realized by the Coniagas Mines, Limited, for silver sold during the year, was 94.14 cents per ounce, as compared with 79.89 cents per ounce in 1917 and 63.11 cents in 1916.

The output of silver from the mine during the year was 974,264 ounces, as compared with 1,344,267 ounces during the preceding year, and the combined sales of ore from the mine and the products of the Coniagas Reduction Company aggregated \$4,099,490.65.

The total shipments of silver from the Coniagas property to October 31st, 1918, aggregate over 26,000,000 ounces.

The net cost of mining and concentrating during the past year was 33.87 cents per ounce, as compared with 21.36 cents per ounce during the previous year. This cost includes all overhead expenses, royalties and other general expenses, but excludes cost of smelting, refining, shipping and marketing, which amount to 7.98 cents per ounce, as compared with 4.31 cents per ounce for the preceding year: and includes a War Profits Tax estimated at \$25,332.54. The average cost per ounce of silver produced during the past 12 years, including all charges above mentioned, has been 16.306 cents.

During the year the following dividends, amounting to 7½ per cent. were paid:

No. 39.	Feb. 2nd, 1918,	2½%	\$100,000 00
No. 40.	May 1st, 1918,	2½%	100,000 00
No. 41.	Aug. 1st, 1918,	2½%	100,000 00

and a dividend of 2½ per cent. with a bonus of 2½ per cent., was declared, payable on Nov. 1st, 1918. These disbursements make a total distribution to the shareholders to date, of \$9,240,000.00, of which \$7,200,000.00 or 180 per cent. of capital was paid as dividends, and \$2,040,000.00 or 51 per cent., as bonuses.

#### CONCENTRATING MILL.

The tonnage of ore milled was 68,597.0 tons, or an average of 3.38 tons a stamp for 24.0 hours, as compared with 60,928.8, averaging 3.07 tons per stamp

for the previous year. There were 529.51 tons, dry weight, of high-grade, concentrates shipped and 866.77 tons, dry weight, of low grade slime concentrates, the former averaging 1,164.10 ounces per ton, and the latter 244.81 ounces per ton. Mill heads for the year averaged 15.94 ounces per ton as compared with 18.56 ounces per ton for the previous year.

The Cyanide Plant, which had been operating solely on canvas table concentrates and primary mine slime, was shut down on November 20th, 1917. Such action was necessitated by the fact that the canvas tables had been discarded and the Callow Flotation Process had been installed.

The Callow Flotation Plant, to which another unit was added during the year, treated all tailings from the concentrating mill, effecting a material recovery therefrom. Final tailing, ran 1.75 oz. per ton as compared with 2.98 oz. for the previous year.

Re-treatment of the sand tailing pile was begun in May and continued satisfactorily until November, treating 21,886.9 tons during that time. Further operations were then curtailed on account of the non-delivery of machinery necessary to carry on operation during the winter.

There still remains, stacked on the property, 155,113 tons of sand tailing, averaging 3.5 oz. to the ton, and 40,000 tons of slime tailing, averaging 6.0 oz. to the ton. The total silver contents of sand and slime tailings, is 782,895.5 ounces.

### MINE.

Mining work during the year has developed a large tonnage of low grade milling ore. The broken rock on stulls in the mine has been increased 13,825 tons.

#### SHIPMENTS FROM THE MINE.

Year November 1st to October 31st.

—	Mine Ore		Concentrates		Total	
	Tons	Ounces	Tons	Ounces	Tons	Ounces
1917-18.....	63.2	145,642.68	1,396.3	828,621.49	1,459.5	974,264.17
Total shipments, 1905 to 1918 inclusive ...	6,776.6	13,574,866.74	8,976.2	11,222,153.94	16,380.3	26,254,260.68

### NICKEL

The Alexo Mine near Porquis Junction, is still the only nickel mine in the district. This mine only operated for six months of the year shipping during that time 11,389 tons. All shipments were consigned to the Mond Nickel Company, at Coniston, Ontario.

### BARITE

The Premier Langmuir Mine near Night-Hawk Lake completed its mill and has started shipment of high grade powdered barite from Connaught Station on the Porcupine Branch of the railway. The material is brought from the mine to the railway in bags over Night-Hawk Lake and down the Frederickhouse River.

### MOLYBDENITE

A mining plant and small mill have been taken in and installed at the St. Maurice property, 25 miles south of the Transcontinental Railway at Amos, Quebec. A little work was done during the summer on a property near Temagami Station.

### COPPER

An option on the Fallahy property at Cedar Lake north of Temagami Station has been taken by the National Mines of Cobalt, and work has commenced.

### IRON

Interested parties have been taking samples from the iron range near Temagami during the summer.

### LIMESTONE

Shipments from the Farr Quarry, near Haileybury, continued to be made regularly during the year to the Abitibi Power & Paper Company's Plant at Iroquois Falls.

### PEAT

A short preliminary examination of some of the peat bogs in the vicinity of Cochrane along the line of the Temiskaming & Northern Ontario Railway, was made by Mr. A. Anrep, Peat Expert, for the Dominion Government, in the fall of 1917. During the summer of 1918, Mr. Anrep made a more detailed survey and his notes embodied in the Summary Report of the Geological Survey, 1918, are given herewith:—

“In 1917 the Engineers of the Temiskaming & Northern Ontario Railway made a topographical survey of the following bogs, under the supervision of Mr. Arthur A. Cole, M. E.

1. Maybrooke peat bog.
2. Drinkwater pit peat bog.
3. St. John peat bog.
4. Brower peat bog.
5. Cochrane peat bog.

They also made a survey of the small portion of the Nellie Lake peat bog which lies north of the Temiskaming and Northern Ontario Railway.

*Nellie Lake Peat Bog.* Situated in the townships of Newmarket, Aurora, Calvert, and McCart, Temiskaming district, Ontario, containing a total area of 2,090 acres with a varying depth of from 4 to 11 feet. The bog is situated about one mile west of Nellie Lake station on the Temiskaming and Northern Ontario Railway, which traverses its northern corner between the mileages 231 and 232.

The approximate tonnage available from this bog is 3,050,000 tons of fairly well humified peat fuel, containing 25 per cent. of moisture.

The bog is composed, practically, of sphagnum mosses, slightly intermixed with Eriophorum and Carex plants.

*Maybrooke Peat Bog.* This bog is situated in the townships of Kerns and Darley in Temiskaming district, Ontario, and is traversed about medially by the Temiskaming and Northern Ontario Railway, between mileages 121 and 123. It contains a total area of 1,281 acres with a depth varying from 4 to 10 feet.

The quality of the peat is, comparatively speaking, poor, but it could be utilized for the manufacture of peat powder, producing approximately 1,388,000 tons of peat fuel with 25 per cent of moisture.

*Drinkwater Pit Peat Bog.* This bog is situated in the township of Matheson, Temiskaming district, Ontario. It is traversed by the Porcupine branch of the Temiskaming and Northern Ontario Railway between mileages 13 and 15, the railway passing through the centre of the bog.

The bog contains a total area of 250 acres with a depth varying from 3 to 12 feet and would produce approximately 256,000 tons containing 25 per cent. of moisture.

The peat in this bog is fairly well humified and by proper treatment could be utilized for the manufacture of peat powder.

*St. John Peat Bog.* This bog is situated in the township of St. John, Temiskaming district, Ontario, and is traversed through the west corner by the Temiskaming and Northern Ontario Railway between mileages 239 and 241. The bog has a total area of 2,048 acres with a depth varying from 4 to 8 feet and contains approximately 2,000,000 tons of peat fuel with 25 per cent. moisture.

The peat in the bog is very poorly humified and would hardly be suitable for the manufacture of peat fuel.

*Brower Peat Bog.* This bog is situated in the townships of Brower and St. John, Temiskaming district, Ontario.

The total area of the bog is, approximately, 2,206 acres, with a depth varying from 5 to 8 feet.

The Temiskaming and Northern Ontario Railway traverses the western corner of the bog between mileages 243 and 244.

The peat in the bog is not very well humified, but, by proper treatment, could be utilized for the manufacture of peat powder and would produce approximately 2,600,000 tons of peat fuel, containing 25 per cent moisture.

*Cochrane Peat Bog.* This bog is situated in Lamarche township, Temiskaming district, Ontario. The northern section of the bog is traversed by the Temiskaming and Northern Ontario Railway between mileages 249 and 251.

The total area of the bog is, approximately, 870 acres, with a depth varying from 5 to 14 feet. The peat is fairly well humified and if properly drained would produce a fairly good machine peat fuel, specially in the southern part of the bog.

This bog will yield, approximately, 1,180,000 tons of peat fuel with 25 per cent. of moisture.

All the above mentioned bogs were examined by the writer and the quality of the peat ascertained, and all with the exception of Maybrooke bog were drilled.

## POTTERY AND FIRE CLAYS

As the Ontario Government has decided to place exploratory field parties in the district between Cochrane and Moose Factory, the natural resources of this section of country become more interesting. Further notes have been supplied on the Pottery and Fire Clays of the Mattagami River by Mr. Joseph Keele, Chief Engineer of the Ceramic Division of the Mines Branch, Department of Mines, Ottawa.

In the Summary Report of the Mines Branch for 1917, the chemical analysis and physical tests were recorded of certain high grade clays which occur on the Mattagami and Missinaibi Rivers.

During the summer of 1918 Mr. C. M. McCarthy, of Elk Lake, examined and sampled the deposits on his property on the Mattagami river located near the lower end of the Long Portage.

The test pits and trenches dug by Mr. McCarthy on the sloping river bank revealed several different beds of clay hitherto concealed by the drift from the top of the bank. The clay beds are found to a height of 75 feet above the river. A seam of lignite a few feet thick lies above the clay and glacial drift lies above this to the top of the bank about 125 feet above the water.

### PROPERTIES OF THE CLAYS,

According to description the clay beds lying below the glacial drift vary in thickness from 2 to 25 feet but no accurate measurements were made. Ten samples were sent to the Mines Branch laboratories for examination. This is the first time that the deposits were sampled in detail.

The clays are smooth and free from coarse grit with good plasticity and working qualities. Only sample No. 10 contained a quantity of coarse quartz grains which had to be separated by washing. The contrast in colour and texture of these materials to the ordinary glacial clays of the region is very striking.

The following table shows the character of the various clays when burned in a commercial stoneware kiln to cone 7.

A portion of each sample was dipped in Albany slip glaze before firing. The glaze was found to be fully matured when the samples were drawn from the kiln.

Number of Sample	Raw Colour	Burned Colour	Cone 7 1270°C-2318 F	
			Percentage of Total Shrinkage	Percentage Absorption
1	Pink	Buff	16	2
2	Pink	Cream	15	2
4	Buff	Pink	16	3
5	Orange	Red	13	13
6	Orange	Red	12	12
7	Black	White	9	15
8	Drab	Cream	12	8
10	White	White	12	12
11	Light Grey	Cream	13	6
12	White	Cream	.....	10

### USES OF THE CLAYS.

These clays fall into two groups; those that are high in iron and those that have a low iron content. The iron has an effect on the colour, particularly in the burned state and also on the refractoriness. The first group, however, are fire clays with the exception of number 5 which begins to soften at cone 20—1,530°C—and is the least refractory of the group. The others do not begin to soften until the deformation point of cones 26 and 27—1,650 to 1,670°C—are reached.

The samples 7 to 12 are highly refractory, 10 and 12 being No. 1 fire clays as they do not deform at cone 33—1,790°C. This is the first record of the occurrence of No. 1 fire clays in Canada.

Owing to their variety of character these clays are suitable for the manufacture of quite a wide range of clay products. Numbers 1, 2 and 4 are vitrified at the temperature indicated, but have a very high shrinkage, which would require to be corrected by mixtures. These are suitable for the manufacture of stoneware goods and sewer pipes or other vitrified products as well as fire brick. Clays 7 to 11 are high grade materials which would be suitable for retorts, crucibles or fire brick in the crude state and if washed for the manufacture of electric or sanitary porcelain as well as floor and wall tiles.

### AGE OF THE CLAYS.

As these clays occur in such a remote region and isolated from all other known deposits of a similar kind it is desirable to compare them with clays which are accessible and which are being used in the clayworking industry.

These clays lie near the northern margin of the crystalline rocks of the Precambrian upland. The rocks exposed in the river bank a short distance north of the clays are of Devonian age. A heavy cover of glacial drift lies above the clays. The bottom of the clays was not seen.

The only other clays so far known in Canada which resemble those on the Mattagami river are those which occur in the Musquodoboit valley in Nova Scotia. Samples No. 1 and 2 from the Mattagami are similar in all respects to certain beds of the Nova Scotia clays which are used in the manufacture of stoneware goods in the pottery at St. John, N.B.

The Nova Scotia clays are similar to the cretaceous clays worked so extensively on the Atlantic coastal plain in New Jersey for use in many branches of the clayworking industry.

The clays in the Mattagami river are certainly pre-glacial, and may be of Cretaceous age. No fossils have yet been found in them.

### CLAYS IN NORTHERN ONTARIO.

The Clays of Northern Ontario have been investigated by J. Keele, of the Ceramic Division of the Mines Branch and the following notes have been taken from the Summary Report of the Mines Branch of the Department of Mines for the year 1917.

"The stoneless clays found at or near the surface in Northern Ontario, are nearly all composed of sediments deposited in glacial lakes which were formerly of large dimensions. Lake Abitibi may be taken as an example of the shrunken remnant of a once extensive lake of this character. The distribution of the clays are governed therefore, by the extent of territory covered by these lakes and the height to which the water encroached on the land surface, and to the subsequent drainage which extinguished or partly extinguished these lakes and made their sediments available as land surface. Considering the land area of northern Ontario as a whole, the areas underlain by stoneless clay sediments are very small and widely scattered.

The stoneless glacial clays in northern Ontario differ from the marine clays in the Ottawa and St. Lawrence Valley in being almost always stratified in thin layers and frequently interlaminated with layers or films of silt instead of being massive and uniform in texture like the latter. They are similar in regard to their uses, being low grade, easily fusible clays, suitable only for the manufacture of common brick and field drain tile, and not for vitrified wares.

### CLAYS ALONG THE TEMISKAMING AND NORTHERN ONTARIO RAILWAY LINE.

The rugged region between North Bay and North Cobalt, traversed by the Temiskaming and Northern Ontario Railway, appears to be absolutely devoid of clay of any description, even boulder clay. The unconsolidated surface materials are sand and gravel, and boulder drift. At North Cobalt stratified glacial clays begin and continue in an almost unbroken stretch to Mindoka station, a distance of 50 miles. Between Mindoka and Bourkes stations the railway traverses the upland containing the watershed between the Hudson Bay and Ottawa waters, in which clays are absent or confined to the bottom of the narrow valleys, between steep rock ridges. Between Bourkes and Porquis, a distance of 40 miles, there are extensive patches of lands underlain by lake clays. Between Porquis and Cochrane there

are no clays, the superficial deposits being either sand or gravel. Samples collected at the following points will serve to illustrate the character of these materials in general.

**HAILEYBURY:** A visit was made to the brick plant at this point in the summer of 1915 when the plant was in full operation. The clay bank, which is about 30 feet high, consists of alternating clay and silt layers; the clay layers are brown in colour and one-half inch to one inch thick, and the silt layers vary from half an inch, to mere films, the silt bands are ash-coloured, and are wider toward the top of the bank. Numerous concretions of hard limy clay occur in the upper 6 feet, but below this the clay is free from them. The lime content of this deposit is rather large, the silt layers being very limy. The bank is weathered to a brownish colour to a depth of 10 to 12 feet below the surface, but beneath the weathered zone the colour is dark grey. The sample taken for testing included an average of 20 feet from the surface, the results of the test being given in the table.

In working the clay for brickmaking, about 25 per cent. of rock tailings from the mines at Cobalt is added instead of sand. This mixture is passed through two pug mills, with a pair of rolls set between, and sent to a soft-mud machine for moulding. A stiff-mud machine was formerly used, but was found to be unsuitable as too much loss occurred from cracked brick made by the process. It is found that the best results are obtained by moulding the clay as wet as possible in the soft-mud machine; but even then a considerable number of checked brick occur in every burning. The loss from checking could probably be still further reduced by the addition of a small amount of common salt to the wet clay. The bricks after moulding are sent to a dryer heated with steam pipes, and some of the checking appears to occur here, especially in the lower part of the dryer cars nearest the steam pipes.

The burning is done in up-draft scove kilns, two of which are supplied with permanent side walls, the fuel used being wood. There is some loss in the fire arches from cracked and slagged brick, and others show fire checks above the arches. The best brick are hard, and ring when struck together, the color is a good red, which is mostly imparted by the coating of moulding sand as the body is somewhat pale or salmon color. The Court House, Armouries, and Central Methodist Church, in Haileybury are built of these brick, the latter being a specially good example of brickwork.

The use of Cobalt tailings for mixing with the clay should be noted. This is a crushed diabase and slate conglomerate and is the refuse from the mills of the mines around Cobalt. This material stands a little more heat than the clay without fusing, but it undergoes incipient vitrification along with the clay at the temperature of burning the brick, consequently it is sintered in the body and becomes part of it. An ordinary sand which is mostly composed of quartz grains is inert at this temperature and consequently if much is used becomes a source of weakness, and makes the burned brick punky. It would be useless to add it even in small quantities to a silty clay such as the above. Rock tailings of different grades of fineness can be obtained from the waste piles at the mines. The finest of all remains suspended in water for some time without settling. Experiments made with this material proved that it could be used as a dark brown glaze such as that produced by the Albany slip clay which is used so much for glazing stoneware goods. It matures between cone 7 and 9, and is a richer color than the Albany slip.

**HEASLIP:** According to borings made for water at the railway station at



Heaslip, the depth of clay in the clay plain at this point was 110 feet. In some places low ridges of rock or boulder clay protrude through this plain, so that the depth to which stoneless clay extends in the district is very variable. There appears, however, to be an abundance of stratified stoneless clay available at many points. The sample for testing was taken on the bank of a creek alongside the wagon road, opposite 133-mile post on the railway, about  $1\frac{1}{2}$  miles south of Heaslip station. The clay here is brownish on top, grading to yellow to blue-grey below. It is well stratified, and contains films of silt between the clay layers. An average sample of 15 feet in thickness from the surface downward, a separate sample including only the bottom blue clay, and a small sample of the top brown clay, were taken at this point.

The clay at Heaslip does not contain such a large proportion of silt as that at Haileybury, it is consequently rather more plastic, and has the same drying shrinkage. Its drying qualities are not good, so that it must be dried slowly to avoid cracking. The working qualities of the average sample (No. 345) are fair, so that it can probably be used for making field drain tile except in the larger sizes. It burns to light red porous, but strong body at the lower temperatures, but turns lighter if burned higher. This clay would be suitable for making common brick, preferably by the soft-mud process. A moulding sand which burns to a good red color should be selected, as the body color is not good. About 25 per cent. of sand should be added to this clay to improve the drying qualities and lower the shrinkages.

The bottom clay No. 346a is more silty than the average sample, consequently its working qualities are not so good, and it carries a higher percentage of lime. The higher content of lime causes it to burn to a buff color and a more porous body. This material would make good buff building brick if used alone. It would not need the addition of sand as the shrinkages are low.

The top clay to a depth of about 2 feet below the surface is the most plastic and best portion of the deposit. It has good working qualities, burns to a strong red color, and good dense hard body.

A layer of ash-colored silt overlies the surface clay in the vicinity of Heaslip. It varies in thickness from a thin veneer to nearly 3 feet thick, and grades into a fine-grained sand or sandy loam in places. This material has a low plasticity, and can be moulded by hand. It burns to a pale red, very porous body, at low temperature, and in this form can be used for scouring purposes like bath brick. It gives better results as a polisher than most of the commercial bath brick on the market.

**MATHESON:** The village of Matheson and the immediate vicinity is underlain by stratified stoneless clay. Records of borings of two wells near the railway station showed 60 feet of clay, another showed 46 feet, and a fourth only 16 feet. Bed-rock crops out under the clay in the bank of Black River, in the village.

The clay rises in terraces to a height of 60 feet above the railway track a short distance south of the village. This clay is generally brownish in color in the upper portion, but is bluish-grey below the weathered zone, and appears to be absolutely free from pebbles, concretions, or coarse grit. There is a layer of light grey silt scarcely a foot thick on the surface.

The sample of clay for testing was taken about a quarter of a mile east of the station, near the railway line, in a depression, where about 8 or 9 feet in depth were exposed. This clay, Lab. No. 344, when mixed with water to the proper consistency, has good working qualities, being very smooth and plastic.

Its drying qualities are not good, so that it must be dried slowly after moulding to avoid cracking, and there is also too much shrinkage in drying.

The clay burns to a salmon-colored porous body at the lower temperatures, but owing to its high lime content turns to buff when fully fired.

The addition of 25 per cent. of sand improves the drying qualities and reduces the drying shrinkage by 2 per cent. With this amount of sand a very fair buff building brick can be produced, and it could also be used for making field drain tile. There is a certain amount of sand available in the high ridge near the village, but as the ridge carries a good deal of coarse and fine gravel mixed with the sand, it can only be obtained by screening.

The rock tailings from the mines at Porcupine added to this clay would make a better material for the purpose than sand, but the distance to the mines is too great to make this economically possible.

**PORQUIS JUNCTION:** About half a mile south of the station, at Porquis Junction the railway cutting exposes a section consisting of 5 feet of brownish weathered and crumbling clay, underlain by 6 feet of banded brown and grey clay, with silt films, below which is 2 feet of dark grey stratified clay, the whole being free from stones or concretions. This clay is similar to the deposit at Matheson in its qualities, having the defective drying qualities and high shrinkages which are characteristic of most of this area. A fairly good common brick, however, could be made from it by the soft-mud process, using about one part sand to three parts clay. The colors obtained are salmon to buff, depending on the heat of burning. Sand for mixing is not available in the vicinity of the deposit but can be obtained about a mile or so to the north.

**TIMMINS:** A sample of clay from this vicinity was shipped to the laboratory for examinations, accompanied by a sample of sand. The clay was similar to that described from Porquis Junction, except that the sample appeared to be taken only from the upper weathered portion, and consequently, was rather more plastic and sticky when wet than if some of the bottom silty clay had been included.

Mixtures were made of three parts clay to one of sand, and two parts clay to one of sand. Both mixtures worked fairly well in the machine, the hollow tile coming perfect through a die without lubrication. The brick tore a little at the corners when passing out of the die.

In the drying tests the bricks made of three to one mixture cracked in the dryers at 120 degrees Fahr. Bricks kept at room temperature indoors for 2 days, and then exposed to wind and sun, were found to be checked shortly after exposing.

The samples of 4-inch drain tile and brick made by hand from the same mixture did not crack under the above conditions of drying.

Bricks made by hand from a mixture of two parts clay to one part sand, set to dry outdoors exposed to sun and wind, immediately after moulding cracked inside of one hour. When protected from the sun, but exposed to the wind, cracking ensued within two hours after exposure.

Samples of soft-mud hand made brick, of three to one mixture, kept continually indoors at room temperature, dried in 7 days, and stiff-mud brick made on the machine required 9 days to dry.

The drying qualities of this clay are decidedly poor, and much care and patience would have to be exercised at this stage of the manufacture in order to avoid excessive losses. A clay of this type is known as a tender clay by brick-makers, and the deposits at South Porcupine, Porquis and Matheson have the same defect.

The sand which was sent with this clay was rather fine-grained, 85 per cent. of it passing through the 100-mesh screen. It is suitable for a moulding sand for use in making soft-mud brick, but a coarser grade of sand would be more suitable for mixing. The coarse rock tailings from the gold mines in this district would give better results than sand, especially in the quality of the burned ware.

### NATIONAL TRANSCONTINENTAL RAILWAY

COCHRANE TO HEARST: The region traversed by this railway is a slightly undulating boulder clay plain, still covered with much forest and swamp growth. Occasional shallow cuttings along the line show the generally stony character of the clay which unfits it for the most part for purposes of brick and tile making. The principal areas of stoneless clay appear to occur in the depressions through which the larger streams of the region flow. At many other points the surface clay contains so few pebbles or stones that they may be used for brickmaking, although the deposits are not deep as a rule and pebbles are invariably encountered at depth. Such clays may not be more than 1 to 3 feet deep. In this respect the deposits are of a similar character to those found in south-western Ontario, particularly in Essex county, where the clay worked for brick and tile is a surface layer of only 18 inches, lying upon stony clay. Most of the clays found in these stoneless patches contain a high percentage of lime and are buff burning, showing that the leaching processes of weathering which in time remove the excess of lime did not penetrate very deeply in this region. Some of these clays found in Brower and Lamarche Townships will make as good buff stock brick and drain tile as any produced in the older parts of the Province.

### FIRECLAYS ON MISSINAIBI AND MATTAGAMI RIVERS

MISSINAIBI RIVER: The occurrence of deposits of fire and pottery clays on the Missinaibi River in Northern Ontario, have long been known, and were described by J. M. Bell in the annual report of the Ontario Bureau of Mines for 1904. These deposits outcrop on the bank, about 8 miles above the mouth of the Wabiskagami river, and are also exposed on the banks of the latter river. According to borings made by the holder of the property in 1913, the greatest thickness of clay was said to be 74 feet, measured from the river level to the top of highest portion of the bank where clay was found. The deposit consists of beds of white, pink, buff, and grey plastic clays, with sandy clay, or white sand layers.

A sample of this clay was secured from Mr. W. Tees Curran, of Montreal—one of the owners of the deposit. This sample, Lab. No. 620, was of the light grey or white beds, with a few pieces showing pink color. In a washing test, 70 per cent. passes through a 200-mesh screen, the material coarser than this being little worn and angular quartz grains. The dry clay requires 27 per cent. of water to bring it to the best working consistency for moulding. The plasticity and working qualities are good, and the shrinkage on drying is about 5 per cent.

This clay burns white up to cone 3, but when burned to cone 9, (1,310 deg. C.) the color darkens, but the body is still porous. The softening point is about 28 (1,690 deg. C.) which classes it as a fireclay. The chemical analyses of this clay shows it to contain iron and titanium in appreciable amounts, which are responsible for the darker color of the clay at high temperatures, which unfits it for use in white pottery ware, but there are probably some beds of white clay in the deposit free from this defect. The buff and pink clays contain still more iron and are not refractory enough to be classed as fireclay.

A mixture of the clays could probably be used for making pottery of the stone-ware type.

**MATTAGAMI:** Fireclay was first discovered on the Mattagami river during the summer of 1917, by C. M. McCarthy, of Elk Lake, who reports the occurrence in the river banks, a short distance below the foot of the long portage; and sent a sample to the Mines Branch Laboratory for examination. This clay, Lab. No. 618, is nearly white in color when dry. When washed and passed through a 200-mesh screen, only 10 per cent. remains behind, composed of small quartz grains. It requires 23 per cent. of water to bring it to the best wet condition for moulding, and is then very plastic and smooth, with excellent working qualities. It dries readily with a drying shrinkage of 6 per cent. The clay burns white up to cone 3, but some dark specks show in the body when burned to cone 9. At the latter temperature it is still porous, the absorption being 9 per cent. This clay is still intact when raised to the softening temperature of cone 31 (1,750 deg. C.) in a carbon resistance electric kiln, and softens at cone 33, so that it is a number one fireclay.

When submitted to a washing and settling process, about 75 per cent. of fine pottery clay can be obtained from the crude material. The washed clay was dried and made up into a standard porcelain body of the following proportions:

Washed Mattagami clay .....	50 per cent.
Ground feldspar .....	20 "
Ground quartz .....	30 "

This mixture was made into a slip, and cast in the form of small cups. These were biscuited in a commercial china kiln at cone 10, then glazed and re-fired at cone 4. The pieces turned out had a beautiful ivory tone, but as the china trade demands whiteness, the clay would require the addition of a little cobalt stain in order to meet the requirements of that industry.

This clay would probably be suitable for the manufacture of crucibles, used in the metal melting processes. The following analyses shows the chemical composition of these clays:

	I.	II.
Silica .....	58.90	53.10
Alumina .....	26.63	31.92
Ferric oxide .....	1.40	1.52
Titanic oxide .....	1.25	Not determined
Lime .....	0.56	0.51
Magnesia .....	0.16	Trace
Manganese .....	0.01	Not determined
Potash .....	0.31	0.28
Soda .....	0.42	0.54
Water .....	10.30	12.35
	99.94	100.22

I. Missinaibi clay No. 620. Analysis by M. F. Connor, Mines Branch.

II. Mattagami clay, No. 618. Analysis by W. K. McNeill, Ontario Bureau of Mines.

High grade clays of this description have not been found so far in any other place in Ontario, although they have been diligently sought for. It is unfortunate that the above deposits are located in such a remote region, without transportation facilities, and 50 miles from the nearest point on the National Transcontinental Railway. It is possible that in further prospecting other valuable deposits of this kind may be found nearer the railway line.

## FREIGHT RATES.

Effective January 1st. 1919.

*Silver or Gold Ore*, in straight carloads, minimum 60,000 lbs. per car, subject to the following conditions and release when destined to Canadian points only.

To North Bay from	A When valuation is under \$50.00 per net ton.	B When valuation is \$50.00 and not over \$100.00 per net ton.	C When valuation is over \$100.00 and under \$500.00 per net ton.	D When valuation is \$500.00 and over per net ton.
Rates in cents per 100 pounds.				
Cobalt.....	17½	20	25½	33
North Cobalt.....				
Haileybury .....				
New Liskeard.....	17½	20	27½	34½
Elk Lake.....	20	23	30	37½
Poreupine .....	25½	29	37½	47½
South Poreupine .....	25½	29	39	49
Schumacher .....				
Timmins .....				
Swastika .....	22	24½	30	37½
Boston Creek.....	20	23	30	37½

*Silver or Gold Ore*, in straight carloads, minimum 60,000 lbs., subject to the following conditions and release when destined to points outside Canada.

To North Bay from	A When valuation is under \$50.00 per net ton.	B When valuation is \$50.00 and under \$100.00 per net ton.	C When valuation is \$100.00 and under \$500.00 per net ton.	D When valuation is \$500.00 and over per net ton.
Rates in cents per 100 pounds.				
Cobalt.....	17½	22	29	36
North Cobalt.....				
Haileybury .....				
New Liskeard.....	17½	23	30	37½
Elk Lake.....	19	24½	32	40
Poreupine .....	22	29	38	47½
South Poreupine.....				
Schumacher .....				
Timmins .....	19	24½	32	40
Swastika .....				
Boston Creek.....				

NOTE.—Agent must waybill shipments at the highest rate (Column D.). On presentation of paid expense bill and signed assay certificate from the smelter showing the value of the ore to be less than \$500.00 per net ton, charges will be adjusted in accordance with the valuation to the rates herein authorized, the smelter returns to the mine or owner, before deducting transportation charges, will be the value used in determining the freight charges under the provisions of the tariff.

The rates fixed by this tariff are made in consideration of the shipper giving an undertaking and guaranty to the Railway that in case of any loss or damage to the ore, the Railway shall not be held responsible for an amount exceeding the actual value of the ore lost or damaged, which value, however, shall not exceed in any case the sum of \$500.00 per net ton.

*Silver or Gold Ore*, in straight carloads, minimum 60,000 lbs.

North Bay to	A.	B.	C.	D.
Marmora.....	23	25½	33	42
Thorold.....	22	24½	32	40
Welland.....	23	25½	33	42
Suspension Bridge.....	19	22½	29½	37
Denver.....	56½	65	77½	90

	C.L.
Suspension Bridge	Value up to 5c. per lb..... 20
to	Value 5c. to 40c. per lb..... 24.5
Perth Amboy and	Value 40c. to \$1.00 per lb..... 34
Newark	Value over \$1.00 per lb..... 44.5

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