ALBERTA. DEPT. OF AGRICULTURE.

ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

OF THE

PROVINCE OF ALBERTA

FOR THE YEAR

1955

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON
PRINTED BY A. SHNITKA, QUEEN'S PRINTER
1956

ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

OF THE

PROVINCE OF ALBERTA

FOR THE YEAR

1955

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON
PRINTED BY A. SHNITKA, QUEEN'S PRINTER
1956

TABLE OF CONTENTS

To His Honour,
J. J. BOWLEN,
Lieutenant-Governor of the Province of Alberta.

Sir:

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1955.

I have the honour to be, Sir,

Your obedient servant,

L. C. HALMRAST,
Minister of Agriculture.

DEPARTMENT OF AGRICULTURE
1955

HON. L. C. HALMRAST, Minister of Agriculture

R. M. PUTNAM, Deputy Minister of Agriculture
and
Superintendent, Schools of Agriculture and Home Economics

HEADS OF BRANCHES

A. M. Wilson, Field Crops Commissioner.

W. H. T. Mead, Live Stock Commissioner.

D. H. McCallum, Dairy Commissioner.

R. H. McMillan, Poultry Commissioner.

W. G. leMaistre, Provincial Apiarist.

R. W. Gillies, Fur Farm Supervisor.

F. L. Grindley, Director of Water Resources.

F. H. Newcombe, Director, Extension Service.

E. E. Ballantyne, V.S., D.V.M., Director, Veterinary Service.

J. E. Birdsall, Principal, Olds School of Agriculture.

N. N. Bentley, Principal, Vermilion School of Agriculture.

J. E. Hawker, Principal, Fairview School of Agriculture.

G. S. Black, Supervisor, 4-H Clubs.

E. B. Swindlehurst, Supervisor, Radio and Information Branch.

P. D. Hargraves, Superintendent, Horticultural Station.

Report of the Deputy Minister

(R. M. Putnam)

The Honourable L. C. Halmrast,
Minister of Agriculture.

Sir:

I have the honour to submit herewith the forty-ninth Annual Report of the Alberta Department of Agriculture for the year ending December 31st, 1955.

In submitting this report I wish to record the retirement, on June 30th, of Dr. O. S. Longman, as Deputy Minister. Dr. Longman served the people of Alberta faithfully and sincerely almost continuously from the time he joined the staff in 1913 until his retirement this year. Since May 1942 he had held the position of Deputy Minister.

The year 1955 was one of Alberta's good farm years. Growing conditions in almost all areas of the Province were good and high yields of all crops were obtained. In the production of live stock and live stock products new records were established.

Unfortunately, however, the buoyant atmosphere created by high yields was offset by the inability of farmers to market their grains and by lower price levels in other farm products. This decline in prices, at a time when the rest of the Canadian economy was enjoying a high level of prosperity, was most distressing to those engaged in Agriculture.

To alleviate the situation in Western Canada the Federal Government announced a policy in November under which farmers could borrow up to $1,500.00 from a bank using their stored wheat as security.

During the Special Session of the Legislature in August a Marketing of Agricultural Products Act was passed to provide for the formation of Producer Marketing Boards. The Land and Forest Utilization Act was also passed this session. During the year regulations to provide for the licensing of Auction Marts and Buying Stations were passed and provision was made for the bonding of Live Stock Dealers, dairies and creameries, and dealers in poultry products.

The staff of the Department did not change in total numbers during the year. At December 31st the staff consisted of 366 employees, classified as 171 technical and 195 non-techincal. During the year the following promotions, resignations and retirements of technical staff occurred:

Promotions:

R. M. Putnam, appointed Deputy Minister of Agriculture
E. R. McCrimmon, appointed Executive Assistant to the Deputy Minister
E. B. Swindlehurst appointed Supervisor of the Radio and Information Branch
H. J. Fulcher appointed District Agriculturist at Olds
E. W. Walker appointed District Agriculturist at Stettler

Retirements:

A. A. Campbell, District Agriculturist at Evansburg
O. S. Longman, Deputy Minister of Agriculture
Hugh McPhail, District Agriculturist at Olds
A. Ross, Dairy Inspector, Edmonton

Deaths:

J. L. Eaglesham, District Agriculturist at Red Deer
F. B. Young, Hydraulic Engineer, Calgary

Resignations:

R. C. Bocking, District Agriculturist, Evansburg
M. M. Breton, District Home Economist, Wataskiwin
I. G. Collins, Dietitian and Dean of Girls, School of Agriculture, Vermilion
Eileen Crookes, Laboratory Technician, Edmonton
M. E. Dixon, District Home Economist, Red Deer
J. P. Donaldson, District Home Economist, Claresholm
L. E. Engberg, District Home Economist, Edmonton
M. C. Fargey, District Home Economist, Stettler
O. M. Gerrard, Instructress, School of Agriculture, Fairview
P. M. Holt, Assistant District Agriculturist, Athabasca
E. H. Horton, Assistant District Agriculturist, Edmonton
W. Kadzilauskas, Laboratory Technician, Edmonton
J. E. Kirk, District Home Economist, Wainwright
D. O. Low, Instructor, School of Agriculture, Fairview
F. E. Low, Instructress, School of Agriculture, Fairview
M. I. McCrimmon, District Home Economist, Edmonton
J. McCutcheon, District Home Economist, Westlock
F. L. McRae, Instructress, School of Agriculture, Olds
M. E. Nielson, District Home Economist, Westlock
N. K. Patson, Instructress, School of Agriculture, Vermilion
G. B. Perriam, Instructress, School of Agriculture, Vermilion
L. Popoff, District Home Economist, Calgary
W. D. Ratcliff, Instructor, School of Agriculture, Olds
T. H. Rawson, Instructor, School of Agriculture, Olds
L. A. Rae, District Home Economist, Hanna
B. M. Reed, District Home Economist, Wetaskiwin
E. M. Sanford, Instructress, School of Agriculture, Fairview
E. M. Sears, Secretary-Writer, Edmonton
W. G. Tuck, Instructor, School of Agriculture, Vermilion

I wish to express on behalf of my predecessor and myself sincere appreciation to the members of the staff for their loyalty and service during the year. I also wish to acknowledge the assistance given by officials of the Federal Department of Agriculture, the Faculty of Agriculture of the University of Alberta, the Alberta Research Council, Municipal Councils and all other organizations and individuals who have in any way aided this Department in the performance of its duty.

Respectfully submitted,

R. M. PUTNAM,
Deputy Minister.

Report of the Field Crops Branch

A. M. WILSON, Commissioner

R. L. Pharis, Crop Improvement
P. D. McCalla, Horticulture
G. R. Sterling, Soil Conservation and Weed Control
W. Lobay, Crop Protection

GENERAL

Throughout the greater part of the province yields of cereal crops were considerably above the long time average. The quality, too, was uniformly good. Only north of the Peace River were crops generally light due to insufficient moisture. Late seeded barley in all districts was also low in yields, due partly to high temperatures during early stages of growth and partly to a severe aphid infestation in the third and fourth weeks of July.

Seeding was general by early May except in north eastern Alberta where two to three week delays occurred because of contined snow and rain. Crops matured uniformly and quickly and combining was general by late August. Then came a prolonged period of wet and damp weather which delayed harvest for a full three week period. Grain combined prior to this wet period was ripe and bright, while crops combined after the wet period were severely weathered and discolored.

Hay and pasture crops were excellent and much of the hay was stacked or baled in good condition. A much smaller quantity of straw was baled due to a heavy snow cover over all fields which occurred on October 30th. The continued cold weather and heavy snows necessitated early feeding of all livestock. Reserves of feed from previous mild open winters, and the better than average current crop of forage has averted what otherwise might have been a disastrous year for cattle owners. Isolated cases of insufficient hay and straw have occurred, and asking prices for such feed range from $20.00 to $30.00 per ton for hay and $15.00 or higher for straw.

Losses from hail were less than in 1954 and much less than in 1953. Storms, although widespread, were much less severe, and many partial losses occurred in comparison to total losses in the two previous years.

The following table compares 1955 crops with 1954 production:

Estimated Acreage, Yield and Production of Principal Crops for 1954 and 1955

Crop	'000 Acres		Bushels per Acre		Production in Million Bushels	
	1954	1955	1954	1955	1954	1955
Wheat	5,782	5,514	17.9	23.1	103.4	127.4
Oats	2,354	2,649	31.4	39.6	74.0	105.0
Barley	3,053	3,702	22.9	27.0	70.0	100.0
Fall Rye	181	133	19.5	21.1	3.5	2.8
Spring Rye	34.3	41.0	13.8	15.9	0.48	0.65
All Rye	215.3	174.0	18.6	19.8	4.0	3.45
Flaxseed	215	248	10.0	12.1	2.15	3.00
Mixed Grain	120	176	25.7	33.0	3.08	5.80
Peas, dry	8.3	10.4	17.4	23.3	0.144	0.242
Potatoes	15.4	15.9	123.4	154.0	1.90	2.45
			lb.	lb.	Million lb.	
Mustard Seed	66.8	78.2	415	673	27.733	52.645
Rapeseed	.....	8.0	.....	400	.....	3.2
			tons	tons	Million tons	
Tame Hay	1,343	1,422	1.49	1.69	2.0	2.4
					tons	tons
Sugar Beets	37.0	36.5	11.97	11.62	442,607	424,000

The restricted marketing of grain due to accumulated surpluses on farm and in country and terminal elevators has continued to be of grave concern to farmers and to those businesses dependent on the welfare of the farmer. Farm optimism which has prevailed since the early forties has given way to an attitude pessimistic in nature because of increasing costs of farm operations and because of limited grain markets at lower prices.

In forage crop seeds the greatest production was from creeping red fescue grown in western areas of the Peace River district. This crop amounted to six and one-half million lbs., which is a decrease due to insufficient rainfall, of approximately three million from the previous year.

Other grass seed crops including brome, crested wheat and timothy remained fairly constant.

In legume seed production very satisfactory yields were obtained from red and alsike clover, whereas the alfalfa seed crop was the smallest in many years. The double cut LaSalle Red Clover multiplied from a few pounds of foundation stock produced an estimated 100,000 lbs, of registered and certified seed.

The canning crop industry of the irrigated areas of southern Alberta continued to expand. On the whole, good yields and returns were obtained by growers. A portion of the early pea run was damaged by rain, and some acreage of late corn was rendered useless by killing frosts on September 21st.

The green vegetable trade is not extensive, however, major expansion to supply such vegetables to Alberta and other markets throughout a large part of the year is considered feasible. In addition, tomatoes and asparagus might be added as a canning crop.

The following acreages are estimates of each kind of vegetable grown for either the green vegetable or canning crop trade:

Asparagus	15 acres
Beans (snap)	500 acres
Beans (dry)	1,000 acres
Beets (table)	60 acres
Cabbage	175 acres
Carrots	100 acres
Corn (sweet)	3,500 acres
Cucumbers	400 acres
Onions	10 acres
Peas	7,500 acres
Potatoes	4,500 acres
Pumpkin	125 acres
Rutabaga	250 acres

CROP IMPROVEMENT SERVICE

Crop Improvement Demonstration Policy

Five crop improvement projects made up the policy, which is designed to aid District Agriculturists in demonstrating the value of better crops and better farming practices.

Project A: Forage Seed Production

This project was used to introduce forage seed production in areas where this type of enterprise might become important.

Seventy-five applications were received from 15 District Agriculturists. 3,586 pounds of seed and 500 lbs. of fertilizer were used in this project.

Project B: Pasture Improvement

This project was continued to increase farmer interest in the need for better pastures.

Two hundred and sixty-four applications were received from farmers in 34 District Agriculturists' territories.

A variety of forage seed totalling 33,521 pounds was used in this project.

In addition, fertilizer was supplied to applicants who had established pasture under the project in previous years. The following quantities were used:

Ammonium Sulphate	80 lbs.
Ammonium Phosphate	600 lbs.
Ammonium Nitrate	1,000 lbs.

Project C: Balanced Farming

This project was set up to encourage farmers to adopt suitable crop rotations. Assistance by providing forage seed was given in the second year of the rotation, at a discount of 25% for 1/6 of the acreage up to a maximum of 25 acres. There were 28 applications from 8 District Agriculturists' areas; 8,061 pounds of forage seed and 300 lbs. of fertilizer being distributed.

Project D: Field Demonstrations—Crops and Fertilizers

This project was designed to demonstrate the value of different kinds and varieties of field crops, and, where advisable, the value of fertilizer on these crops. Seed and fertilizers were supplied direct to District Agriculturists without cost. Seventeen District Agriculturists used the project.

The following quantities of seed and fertilizer were distributed:

Total Forage Seed	887 lbs.
Ammonium Phosphate (11-48)	1,600 lbs.
Ammonium Phosphate (16-20)	2,640 lbs.
Ammonium Sulphate	800 lbs.
Ammonium Nitrate	200 lbs.
Complete	100 lbs.
	6,227 lbs.

Project E: Crop Variety Demonstration Plots

This project was used by District Agriculturists to demonstrate the varietal differences in cereals and the growth habits of forage crops. Seed and fertilizer for 35 rod-row demonstrations were provided to 17 District Agriculturists.

Forage Crop Seed Production

Alfalfa seed production was below average for Alberta, both yield and quality were affected by frost damage.

The sweet clover seed production estimates compare favorably with the average but the crop was damaged by frost.

Alsike and red clover seed producers harvested an average crop.

Estimated brome seed production slumped for the third successive year; a reflection of the lower prices that had been received in previous years.

Production of creeping red fescue seed was below the record crop of 1954.

Prices to growers of all legume seeds and fescue are substantially lower than those received last year. Brome grass and crested wheat grass seed are slightly higher in price. The follow-

ing figures give the estimated seed production of the most important forage crops in the years 1951-1955 inclusive:

	Thousand Pounds				
	1951	1952	1953	1954	1955
Alfalfa	1,900	6,900	6,700	1,815	1,500
Sweet Clover	3,200	7,500	5,250	5,825	4,000
Red Clover	600	1,900	2,600	1,635	2,000
Alsike	1,100	7,500	9,000	7,000	7,000
Timothy	154	359	235	300	400
Crested Wheat	220	300	235	220	250
Brome	4,500	7,000	6,000	4,775	4,000
Creeping Red Fescue	1,350	2,425	6,100	9,800	6,500

Alberta Crop Improvemnt Association

This Association is primarily concerned with improvement in quality of commercial grain through the use of registered and certified cereal seed. As in preceding years, participating elevator companies and the Alberta Seed Growers' Co-op handled the distribution.

Bushels of registered and certified seed, marketed in this manner in 1955, as compared with prior years, were as follows:

	1951	1952	1953	1954	1955
Wheat	24,445	39,007	31,334	72,906	44,828
Oats	46,216	47,123	19,309	27,120	60,914
Barley	18,464	14,886	13,704	21,108	15,580
Flax	2,411	4,130	1,247	4,866	3,286

The Association was directed by a committee of representatives from the following organizations: North-West Line Elevators Association; the farmer-owned elevator companies; Plant Products Division, Canada Department of Agriculture; the Alberta Seed Growers' Co-operative; The Canadian Seed Growers' Association, Alberta Branch; the University of Alberta, and the Alberta Department of Agriculture.

Production of Registered Seed

Cereals and Flax

In the following table, a summary is given of estimated yields of cereals and flax, inspected for registration and certification:

	Estimated Yield (Thousand Bushels)				
	1950	1951	1952	1953	1955
Wheat	375	1,000	1,270	1,204	2,000
Oats	414	1,775	1,200	1,017	1,800
Barley	153	620	570	362	1,000
Flax	14	113	115	73	243

1954 estimates were not given due to extensive frost damage.

These figures indicate that production of registered seed and certified seed was far above the distribution of sacked and sealed seed. Some of this seed was sold in bulk in farm-to-farm transactions. No doubt a large quantity was marketed commercially or fed on the farm.

Forage Seed

The table below is a summary of reported acreage of grass and legume crops inspected for registration, 1955.

	Registered Acres
Brome (Parkland)	10
Creeping Red Fescue	52
Crested Wheat Grass (Summit)	31
Timothy (Climax)	20
Alfalfa (Grimm)	30
(Ladak)	67
(Vernal)	9
Red Clover (Alaskland)	2
(Altaswede)	97
(La Salle)	604
Sweet Clover (Erector)	10

The Alberta Varietal Zonation Committee

This is an advisory committee to the Provincial Seed Board. Its purpose is to co-ordinate the findings of the various experimental agencies in the province with respect to grain varieties, and to recommend those best suited to the various soil climatic zones. The committee is composed of representatives from the following: Department of Plant Science, University of Alberta; Canada Experimental Farms, Science and Production Services; and the Provincial Field Crops Branch. The annual meeting of the Committee was held in December. The following recommendations were made:

Zones	Spring Wheat	Winter Wheat	Barley	Oats	Flax
1	Chinook Rescue Thatcher	Yogo	Compana Vantage	Eagle Exeter	Redwood
2A	Chinook Rescue Thatcher	Kharkov MC22 Yogo	Compana Vantage	Eagle Exeter	Redwood
2B	Chinook Lake Rescue Thatcher		Husky Vantage Velvon 11	Eagle Rodney Victory	Redwood Rocket
2C	Chinook Rescue Thatcher	Kharkov MC22	Compana Husky Vantage Wolfe	Eagle Rodney Larain	Redwing Redwood Rocket
2D	Thatcher		Gateway Vantage	Eagle Rodney Victory	Redwing Redwood Rocket
Irrigated Areas	Selkirk Thatcher		Harlan Titan	Eagle Rodney	Redwood
3A	Saunders Thatcher	Kharkov MC22	Gateway Husky Olli Vantage Wolfe	Eagle Larain Rodney	Redwing Redwood Rocket
3B	Saunders Thatcher		Gateway Olli Vantage Wolfe	Eagle Larain Rodney	Redwing Redwood Rocket
3C	Saunders Thatcher		Gateway Olli Vantage	Abegweit Victory	Redwing Rocket
4A	Saunders Thatcher		Gateway Olli Vantage	Eagle Beaver	Redwing Rocket
4B	Saunders Thatcher		Gateway Olli Vantage	Abegweit Beaver	Redwing Rocket
4C	Saunders Thatcher		Gateway Olli	Abegweit Victory	Redwing Rocket

(Varieties are listed in alphabetical order, not according to merit or desirability.)

The recommendations of the Committee were prepared for printing in leaflet form, and distributed by the Field Crops Branch throughout the province.

Forage Crops Advisory Committee

This is an advisory committee to the Provincial Seed Board. The purpose of this committee is to co-ordinate the findings of experimental agencies in respect to forage crops. Leaflets and bulletins dealing with forage crops are prepared for the use of the farming public.

The Committee completed a mimeograph on the handling of silage in Alberta.

At the December annual meeting reports were given on the effects of fertilizer on forage crops. New recommendations will be included in the fertilizer bulletin.

Realizing that varietal differences are becoming more important in successful forage production the committee is beginning a program to further farmer acceptance of variety names. A leaflet describing the commonly grown forage varieties is to be prepared.

Seed Drill Surveys

Seed drill surveys were conducted in several Municipal Districts in 1949 to 1955 to determine the purity and quality of seed being sown. Seed samples were taken by Field Supervisors, Weed Inspectors and District Agriculturists, direct from farmers' seed drills at seeding time. The following is a summary of seed grades obtained on the samples taken:

Year	No. of Districts	No. of Samples	No. 1 Seed	No. 2 Seed	No. 3 Seed	Rejected
*1928	Province Wide	1,225	13.3%	15.4%	22.3%	49.0%
1949	23	1,939	21.5%	10.0%	17.5%	51.0%
1950	12	835	32.0%	9.0%	19.0%	40.0%
1951	9	630	26.0%	17.0%	17.5%	39.5%
1952	10	702	28.3%	15.3%	15.2%	41.2%
1953	15	1,199	33.0%	12.0%	17.5%	37.5%
1954	19	1,540	31.5%	14.0%	17.0%	37.5%
1955	17	1,362	38.0%	11.0%	17.0%	34.0%

*Carried out by Seeds Branch, Dominion Department of Agriculture.

There has been a gradual improvement in the quality of seed sown throughout the years of the survey. This is due in part to recognition of the need and provision for more and better cleaning facilities. In 1955 the necessity of shipping seed from one area to another caused a marked improvement in seed sown in at least one district.

Comparison of Seed Grades Obtained From Different Cleaning Facilities

Method	Year	Percentage No. 1	No. 2	No. 3	Rejected
Elevator	1953	24	7	24	45
	1954	23	12	15	50
	1955	22	5	28	45
Farm	1953	29	12	18	41
	1954	31	16	17	36
	1955	31	11	17	41
Local Plants	1953	33	9	15	43
	1954	41	7	20	32
	1955	53	14	16	17
Portables	1953	60	20	5	15
	1954	48	13	12	27
	1955	58	6	19	17
Municipal Plants	1953	70	17	7	6
	1954	65	17	17	1
	1955	66	10	11	13

Cleaning Methods Used in 1955

Elevators 8%; Farms 58%; Local Plants 10%; Portables 9%; Municipal Plants 13%; Not Cleaned 2%.

Some interesting conclusions are suggested in comparing the efficiency of various cleaning methods over the past three years.

The elevator and on the farm cleaning results have shown little change over the three years. 65-75% of the seed cleaned in elevators is of low purity—rejected or Commercial No. 3. Farm cleaning is superior showing 50-60% grading rejected or Commercial No. 3.

Private and local plants have steadily improved from 33% grading No. 1 seed in 1953 to 53% in 1955.

Portable Units have given good results but are restricted mainly to areas where wheat is the main crop grown.

Municipal plants continue to hold the lead in quality of seed turned out. The greater percentage rejected in the 1955 survey is due to the poor quality of grain that had to be cleaned for seed. 10 of the 17 rejected samples graded so because of wild oats in oats, a difficult cleaning job. Certainly the efficiency of the Municipal Plants has caused local and privately owned plants to improve their cleaning methods.

Comparison of Seed Treatments for 7-Year Period

Year	No. of Samples Reported	Treatment Formalin	Percentage Mercurials	Non-Mercurials	None
1949	926	44.6	44.5	.....	10.9
1950	570	35.0	44.2	5.6	15.2
1951	601	36.6	45.8	2.0	15.6
1952	151	33.3	46.7	1.3	18.7
1953	862	21.7	59.1	8.1	11.1
1954	1,286	13.0	67.0	4.0	16.0
1955	1,117	15.0	56.0	11.0	18.0

Canadian Forage Seeds Project

This project is sponsored by the Canada Department of Agriculture in co-operation with Provincial Departments. Recognizing the lag between the production of new forage varieties, and their acceptance by and availability to farmers, this project was designed to make larger quantities of pedigreed seed available. Approximately thirty-five Alberta growers are co-operating in this program in the production of registered approved seed of five different varieties. They are Lasalle red clover, Vernal alfalfa, Erector sweet clover, Climax timothy and Summit crested wheat.

In the Spring of 1954, the Department aided in the distribution of 8,000 lbs. of registered approved Lasalle clover. This fall an estimated 100,000 lbs. of seed was produced from the seeding made in 1954.

Foundation Stock Seed Allocation Committee

This Committee attempts to allocate the limited stocks of foundation seed to seed growers who will take the greatest advantage of it, and who are prepared to undertake production of elite seed. In this manner, registered stocks of the common varieties are maintained at high levels.

The Agricultural Relief Advances Act

Due to the severe frost damage to grain crops in central Alberta in 1954, it is necessary to put this Act into operation.

The following amounts of seed and feed were advanced under this Act to necessitous farmers in Local Improvement Districts extending from Rocky Mountain House to Cold Lake.

Seed Wheat	11,253 bushels
Seed Oats	34,608 bus. 12 lbs.
Seed Barley	25,807 bus. 11 lbs.
Feed Wheat	13,495 bus. 40 lbs.
Feed Oats	17,087 bus. 14 lbs.
Feed Barley	38,781 bus. 31 lbs.
Mixed Feed	140,308 lbs.
Fodder	186,240 lbs.

In addition the Department purchased 57 steel bins (2,000 bus. size). These were located at central points throughout the area of shortage. These bins were used by Municipal and private plants for storage of grain after cleaning.

The Department has in store 40,256 bushels and 31 pounds of seed oats as an emergency seed reserve.

Freight assistance amounting to $20,466.76 was paid to farmers.

The facilities of the Municipal Plants and the provision for extra storage made it possible to distribute seed of a higher grade than has been possible in past emergencies.

Other Activities:

Talks were given at nineteen meetings, attendance being approximately 1,200. Ten radio talks were given and eight articles prepared for Agricultural Notes and assistance was given the editor of Agricultural Notes in the preparation of at least five other articles.

Judging of seed was done at the Junior Seed Fair in Calgary, one summer fair and at twelve 4-H Grain Clubs at six Achievement Days. The five oat plots entered in the Provincial 4-H plot competition were judged.

Fifteen trips were made in connection with seed and feed relief.

Two Newsletters were prepared for registered and certified seed growers.

In addition numerous enquires regarding crops, varieties and crop production were answered personally and by letter.

International Seed Shows

Since the value of international shows as show windows for farm products is recognized, the Department has for many years given assistance to exhibitors in the seed classes at the Royal Agricultural Winter Fair, Toronto, and the International Grain and Hay Show, Chicago. Exhibits were assembled and shipped to the shows by the Field Crops Branch, with shipping costs both ways being paid by the Branch. The exhibits were supervised at the shows, and in 1955 special premiums were paid as follows: (All prizes monies won at the International were duplicated and they were increased by 50% at the Royal.) A special honorarium of $25.00 for each first prize won at the Royal in the classes of wheat; oats; barley; rye; flax, alfalfa; alsike; red clover; sweet clover; brome; red fescue; timothy and crested wheat; and russet (Netted Gem) seed potatoes was paid. A similar honorarium was paid for each first prize at the International, in the classes for red clover; sweet clover; alsike clover; alfalfa; timothy; crested wheat; brome; creeping red fescue; wheat; oats; barley; rye and flax. Such honoraria were increased to $100.00 for championships won with exhibits of hard red spring wheat; white oats; barley and forage seed at both shows and for the championship in rye at Toronto.

The names of the 1955 winners are as follows:

Royal Agricultural Winter Fair:

World Championship:		
Wheat	Robert Cochrane	Grande Prairie
Barley	R. W. Hummel	Milk River
Rye	Jack McBride	Benalto
Championship:		
Beans	I. B. Roberts	Raymond
Reserve Championship:		
Wheat, Spring	Ronald R. Leonhardt	Drumheller
Barley, 2-rowed	F. J. Schulz	Milk River

First Prize:

Oats, Early	Geo. A. Lamb	Cherhill
Wheat, Spring (Jr.)	Barbara Thomas	Indus
Oats, Late (Jr.)	Arnold Jones	Ponoka
Barley, 6-rowed (Jr.)	Lawrence McGillvray	High River
Sweet Clover	Geo. W. Jordan	Wembley
Alsike Clover	Tom Corlett	Clairmont
Brome Grass	Jas, Pringle	Coronation
Fescue	P. G. Harris & Son	Beaverlodge
Potatoes, Cooking	E. R. Lewis	Winterburn

In addition, 7 seconds, 12 thirds and 65 other awards were won by Albertans.

International Grain and Hay Show—Chicago:

Championship:

Wheat	Jerry J. Leiske	Beiseker
Barley	F. J. Schulz	Coutts
Oats	Grace Koshman	Abee

First Prize:

Alsike Clover	Holley Reed	Camrose
Brome	Jas, Pringle	Coronation
Wheat, Durum	Alfred Erdman	Barons
Barley, 6-rowed	Lawrence McGillvrary	High River
Fescue	Peter G. Harris & Son	Beaverlodge

In addition, 8 seconds, 7 thirds and 24 other awards were won by Albertans.

Alberta Winners at World's Grain Shows 1876-1954

CENTENNIAL EXPOSITON, PHILADELPHIA—1876

Championship:

Wheat	French Mission	Fort Chipewyan
Barley	French Mission	Fort Chipewyan

WORLD'S FAIR, CHICAGO—1893

Championship:

Wheat	Rev. J. G. Brick Shaftbury (Settlement on the Peace River south of Berwyn)	

INTERNATION DRY FARMING CONGRESS, LETHBRIDGE—1912

Championship:

Wheat	Henry Holmes	Raymond

INTERNATIONAL GRAIN AND HAY SHOW, CHICAGO—1919-1933

1919

Championship:

Oats	J. W. Lucas	Cayley

1920

Championship:

Oats	J. W. Lucas	Cayley
Peas	E. H. Buckingham	Claresholm

1921

Championship:

Oats	J. W. Lucas	Cayley

First Prize:

Alfalfa	G. McNaughton	Brooks

1922

Championship:

Oats	J. W. Biglands	Lacombe
Barley	Nick Taitinger	Claresholm
Rye	J. W. Lucas	Cayley

First Prize:

Peas	J. T. Hill	Lloydminster

1923

Championship:

Wheat	H. G. L. Strange	Fenn

First Prize

Oats	J. W. Biglands	Lacombe
Peas	H. G. L. Strange	Fenn
Red Clover	Nunemaher Bros.	Brooks

1924

First Prize

Peas	J. T. Hill	Lloydminster
Alfalfa	Nick Clyelte	Brooks

1925

Championship:

Peas	J. T. Hill	Lloydminster

1926

Championship:		
Wheat	Herman Trelle	Wembley
Oats	Herman Trelle	Wembley
Peas	J. T. Hilll	Lloydminster

1927

Reserve Championship:		
Wheat	Herman Trelle	Wembley
Championship:		
Oats	Herman Trelle	Wembley
Peas	Herman Trelle	Wembley

1928

Championship:		
Peas	Herman Trelle	Wembley
Reserve Championship:		
Wheat	Herman Trelle	Wembley
First Prize:		
Timothy	A. Lougheed	Bowden

1929

Championship:		
Wheat	Jos. H. B. Smith	Wolf Creek
First Prize:		
Peas	P. U. Clubine	Wembley
Oats	E. J. Shank	Athabasca

1930

Championship:		
Wheat	Herman Trelle	Wembley
Peas	Herman Trelle	Wembley
First Prize:		
Timothy	Robert Cochrane	Grande Prairie

1931

Championship:		
Durum Wheat	Herman Trelle	Wembley
Alfalfa	O. P. Anderberg	River Bow
Peas	Herman Trelle	Wembley
Reserve Championship:		
Oats, Early	Herman Trelle	Wembley
Peas	P. U. Clubine	Wembley
First Prize:		
Oats	Herman Trelle	Wembley
Rye	Herman Trelle	Wembley
Barley	Herman Trelle	Wembley
Flax	Herman Trelle	Wembley
Timothy	Herman Trelle	Wembley

1932

Championship:		
Wheat	Herman Trelle	Wembley
Oats	Fred Hamm	Goodfare
Alfalfa	Fred W. Ohman	Scandia
Reserve Championship:		
Peas	Erick Anderson	Wembley
First Prize:		
Timothy	Erick Anderson	Wembley

1933

Championship:		
Oats	Ian Smith	Wolf Creek
Barley, 6-rowed	Nels Linden	Wetaskiwin
Field Beans	George Bathgate	Diamond City
Alfalfa	C. Sorenson	Scandia
First Prize:		
Barley, 2-rowed	Jos. H. B. Smith	Wolf Creek
Winter Wheat	S. B. Allsop	Grande Prairie
Flax	R. A. Meeks	Mannville
Timothy	A. Mongeon	Pincher Creek

WORLD'S GRAIN EXHIBITION AND CONFERENCE, REGINA, SASK.—1933

First Prize:		
Wheat, Hard Red Spring	Freelen Wilford	Stavely
Wheat, Hard Red Spring 10 bus.	Herman Trelle	Wembley
Oats, Late	Fred Paschetag	Goodfare
Oats, Late (Yellow)	Herman Trelle	Wembley
Alfalfa	C. Sorenson	Scandia
Timothy	Robert Cochrane	Grande Prairie
Brome	Edward Harron	Huallen
Slender Wheat Grass	School of Agriculture	Olds

INTERNATIONAL GRAIN AND HAY SHOW, CHICAGO—1934-1941

1934

Championship:		
Wheat	Jack Allsop	Wembley
Field Beans	H. Graham	Iron Springs
Timothy	A. Mongeon	Pincher Creek
Reserve Championships:		
Oats	Herman Trelle	Wembley
Beans, (A.O.V.)	A. Giffin	Brooks

1935

Championship:		
Wheat	Freelan Wilford	Stavely
Field Peas	J. W. Shearer	Morrin
Field Beans	H. Graham	Iron Springs
First Prize:		
Field Beans, Great Northern	J. Hamilton	Coaldale
Timothy	A. Mongeon	Pincher Creek
Sweet Clover	W. J. Bryant	Boyle

1936

Championship:		
Wheat	Herman Trelle	Wembley
Oats	Herman Trelle	Wembley
First Prize:		
Sweet Clover	W. J. Bryant	Boyle

1937

Championship:		
Field Peas	John Hamilton	Coaldale
Reserve Championship:		
Oats, Late	George Topolnisky	Andrew
First Prize:		
Field Beans	John Hamilton	Coaldale
Crested Wheat	Soren Peterson	Tilley
Soy Beans	John Hamilton	Coaldale

1938

Championship		
Wheat	F. Lloyd Rigby	Wembley
Oats	Wm. Justyn Rigby	Wembley
First Prize:		
Wheat, (Milling and Baking Test)	H. P. Wright	Airdrie

1939

Championship:		
Wheat	F. Lloyd Rigby	Wembley
Oats	Wm. Skladan	Andrew
Field Beans, (A.O.V.)	J. Hamilton	Coaldale
First Prize:		
Field Beans, Great Northern	J. Hamilton	Coaldale
Barley, 6-rowed	Eli Lastiwka	Willingdon

1940

Championship:		
Wheat	F. Lloyd Rigby	Wembley
Oats	Paul F. Pawlowski	Vilna
Field Beans, (A.O.V.)	John Hamilton	Coaldale
Reserve Championship:		
Barley	Eli Lastiwka	Willingdon
Field Beans	John Hamilton	Coaldale
Field Beans, (A.O.V.)	James Herlihy	Edmonton

1941

Championship:		
Wheat	William Miller	Edmonton
Oats	William Skladan	Andrew
Barley, 6-rowed	Paul F. Pawlowski	Vilna
Reserve Championship:		
Barley, 2-rowed	Tom Mynzak	Willingdon
Field Peas, (A.O.V.)	James A. Herlihy	Edmonton
First Prize:		
Barley	Jack Brindley	Lethbridge
Field Beans, Great Northern	Jack Brindley	Lethbridge
Soy Beans	Thos. E. Brown	Cassils
Alsike Clover	George Morden	Telfordville

No International Grain and Hay Shows held 1942-1945

ROYAL AGRICULTURAL WINTER FAIR, TORONTO—1946

Championship:		
Wheat	Wm. Miller	Edmonton
First Prize:		
Wheat (Reg. or Cert.)	Fred Paverly	Wembley
Creeping Red Fescue	James Murray	Fogelvik Farm, Innisfail
Wheat, (Jr.)	Majorie Roppel	Rockyford

INTERNATIONAL GRAIN AND HAY SHOW, CHICAGO—1946

First Prize:

Barley, 6-rowed	T. E. Brown	Cassils

ROYAL AGRICULTURAL WINTER FAIR, TORONTO—1947

World Championship:

Barley	B. & C Brown	Cassils

Championship:

Early Oats	T. E. Brown	Cassils
Winter Wheat	T. E. Brown	Cassils

First Prize:

Spring Wheat (Reg. or Cert.)	T. E. Brown	Cassils
Spring Wheat, (Jr.)	B. Hendricks	Rockyford

INTERNATIONAL GRAIN AND HAY SHOW, CHICAGO—1947

Championship:

Wheat	S. J. Allsop	Red Deer

First Prize:

Alsike Clover	T. Corlett	Clairmont

ROYAL AGRICULTURAL WINTER FAIR, TORONTO—1948

World Championship:

Wheat	S. J. Allsop	Red Deer
Oats	J. Boulton	Abee
Rye	R. Wennerstrom	Camrose

Reserve Championship:

Barley, (Western Region)	T. E. Brown	Cassils
Oats	V. Watson	Airdrie
Oats (International Division)	E. Mohler	Camrose
Rye	T. E. Brown	Cassils
Alfalfa	J. Tell	Brooks
Clover	T. Corlett	Clairmont
Grass	V. Watson	Airdrie

First Prize:

Wheat, Soft White Spring	T. E. Brown	Cassils
Wheat, Hard Red Winter	S. J. Allsop	Red Deer
Wheat, (Jr.)	L. Mason	Warner
Spring Wheat (Domestic Div.)	William Miller	Edmonton
Winter Wheat (Domestic Div.)	T. E. Brown	Cassils
Barley, (Trebi type)	T. E. Brown	Cassils
Oats, Early	N. Frederick	Busby
Oats, (Jr.)	N. Boulton	Abee
Flax	C. K. Rosdal	Rolling Hills
Alsike Clover	T. Corlett	Clairmont
Sweet Clover	L. C. Anderson	Camrose
Brome Grass	J. Pringle	Coronation
Creeping Red Fescue	V. Watson	Airdrie

INTERNATIONAL GRAIN AND HAY SHOW, CHICAGO—1948

Championship:

Wheat	S. J. Allsop	Red Deer
Oats	J. T. Eliuk	Hairy Hill

Reserve Championship:

Oats	J. Boulton	Abee

First Prize:

Sweet Clover	L. C. Anderson	Camrose

ROYAL AGRICULTURAL WINTER FAIR, TORONTO—1949

World Championship:

Oats	J. T. Eliuk	Hairy Hill
Barley	J. T. Eliuk	Hairy Hill

Reserve Championship:

Wheat	R. Sharpe	Drumheller
Oats	Gordon S. Moyer	Elmworth
Rye	T. E. Brown	Cassils
Small Seeded Legumes	N. J. Enns	Gem

First Prize:

Wheat, White Spring	T. G. Wall	Coaldale
Alsike Clover	T. Corlett	Clairmont
White Field Beans	T. E. Brown	Cassils
Sweet Clover	S. Harker	Glenwood
Oats, Early (Jr.)	Henry Unruh	Vauxhall
Oats, Late (Jr.)	Norman Boulton	Abee
Barley, 6-rowed (Jr.)	V. Lewis	Bon Accord

INTERNATIONAL GRAIN AND HAY SHOW, CHICAGO—1949

Championship:

Oats	S. H. Pawlowski	Spedden

Reserve Championship:

Alfalfa	E. Laganiere	Rosemary

First Prize:

Alsike Clover	T. Corlett	Clairmont
Barley, Trebi	T. E. Brown	Cassils
Sweet Clover	Mrs. Emma Inda	Brooks
Brome	H. M. Bailey	Fairview

ROYAL AGRICULTURAL WINTER FAIR, TORONTO—1950

World Championship:

Wheat	Rickey Sharpe	Drumheller
Oats	J. T. Eliuk & Son	Hairy Hill
Rye	Chris Morck	Dickson
Clover, Red	McCabe Grain Co. Farm	Brooks

Reserve Championship:

Barley	T. E. Brown	Cassils
Oats	Matt B. Schnurer	Sangudo
Wheat	Howard Roppel	Rockyford

First Prize:

Wheat, Red Spring	Alfred Walner	Coaldale
Wheat, White Spring	T. E. Brown	Cassils
Oats, White Early	Ronald Robinson	Ponoka
Oats, White Medium	Henry Unruh	Vauxhall
Barley, 6-rowed	J. T. Eliuk & Son	Hairy Hill
Alfalfa	T. E. Brown	Cassils
Sweet Clover	H. H. Jansen	Rosemary
Alsike Clover	T. Corlett	Clairmont
Potatoes, Netted Gem	Toni Ohama	Rainier
Field Beans, Small	T. E. Brown	Cassils
Field Beans, Large	T. E. Brown	Cassils

INTERNATIONAL GRAIN AND HAY SHOW, CHICAGO—1950

Championship:

Barley, 6-rowed	J. T. Eliuk & Son	Hairy Hill
Rye	Chris Morck	Dickson

First Prize:

Red Clover	McCabe Grain Co. Farm	Brooks
Alsike Clover	T. Corlett	Clairmont
Sweet Clover	Stanley Walker	Boyle

ROYAL AGRICULTURAL WINTER FAIR, TORONTO—1951

World Championship:

Wheat	Howard Roppel	Rockyford
Oats	Matt B. Schnurer	Sangudo
Barley	T. E. Brown	Cassils

Reserve Championship:

Wheat	S. J. Allsop	Red Deer
Oats	Gordon S. Moyer	Elmworth
Barley	Harry V. Holt	Peace River
Rye	Chris Morck	Dickson
Grass, Brome	R. Goodall	Coronation

First Prize:

Alsike Clover	E. W. Coxe	Grande Prairie
Sweet Clover	E. A. Levens	Spirit River
Oats, Early Maturing	Stainor Valli	Sylvan Lake
Oats, Early White (Jr.)	Gunder Sveinunggaard	Belloy
Oats, Medium (Jr.)	Henry D. Unruh	Vauxhall

INTERNATIONAL GRAIN AND HAY SHOW, CHICAGO—1951

Championship:

Oats	Gordon S. Moyer	Elmworth
Barley	Harry V. Holt	Peace River

First Prize:

Wheat, Hard Red Spring	S. J. Allsop	Red Deer
Alsike Clover	E. W. Coxe	Grande Prairie
Sweet Clover	E. A. Levens	Spirit River

ROYAL AGRICULTURAL WINTER FAIR, TORONTO—1952

World Championship:

Wheat	Ronald Leonhardt	Drumheller
Oats	Matt B. Schnurer	Sangudo
Beans	Peter H. Friesen	Coaldale
Small Seeded Legumes	G. S. Moyer, Sr.	Elmworth

Reserve Championship:

Wheat	R. R. Sharpe	Munson
Rye	T. Brown & Sons	Cassils
Flax	Gus Reghr & Robt. V. Hall	Brooks

First Prize:

Potatoes, Netted Gem	Toni Ohama	Rainier
Oats, White Early	Helen Sveinunggaard	Belloy
Oats, Medium Early	Roy Warren	Hylo
Barley, 6-rowed	Norman Bieber	Rimbey
Wheat, Hard Red Spring	Ted M. Allen, Jr.	Taber
Wheat, White Spring	T. Brown & Sons	Cassils
Beans, Canning	T. Brown & Sons	Cassils
Sweet Clover	F. H. White	Spirit River
Brome Grass	R. Goodall	Coronation

INTERNATIONAL GRAIN AND HAY SHOW, CHICAGO—1952

Championship:

Barley	George S. Snow	Milk River
Oats	Matt B. Schnurer	Sangudo

First Prize:		
Wheat, Soft White Spring	Jas. Allen	Grantham
Alsike Clover	T. Corlett	Clairmont
Sweet Clover	F. H. White	Spirit River
Barley, 6-rowed	T. Brown	Cassils
Rye	Jas. Allen	Grantham

ROYAL AGRICULTURAL WINTER FAIR, TORONTO—1953

World Championship:		
Wheat	Ronald Leonhardt	Drumheller
Oats	Thos, F. Rhatigan	S. Edmonton
Barley	George S. Snow	Milk River
Rye	Chris Morck	Dickson
Small Seeded Legumes	Tom Corlett	Clairmont
First Prize:		
Crested Wheat grass	Andrew Giffen & Son	Okotoks
Brome Grass	R. Goodall	Coronation

INTERNATIONAL GRAIN AND HAY SHOW, CHICAGO—1953

Championship:		
Wheat	Fred W. Hallworth	Taber
Oats	John T. Eliuk	Hairy Hill
Barley	George S. Snow	Milk River
First Prize:		
Alsike Clover	T. Corlett	Clairmont
Creeping Red Fescue	A. Giffen & Son	Okotoks
Rye	Chris Morck	Dickson

ROYAL AGRICULTURAL WINTER FAIR, TORONTO—1954

World Championship:		
Wheat, Hard Red Spring	Ronald Leonhardt	Drumheller
Barley	George S. Snow	Milk River
Rye	Thos. E. Brown	Cassils
Championship:		
Legume Seeds	Grotkowski Bros.	Grande Prairie
Reserve Championship:		
Wheat, Hard Red Spring	Norman Johnson	Granum
Potatoes, Table	T. Ohama	Rainier
Legume Seeds	T. Corlett	Clairmont
First Prize:		
Wheat, Durum	F. J. Schulz	Milk River
Sweet Clover	George Jordan	Wembley
Oats, Early	George Jordan	Wembley
Oats, Late	Thos. F. Rhatigan	S. Edmonton
Potatoes, Cooking	T. Ohama	Rainier
Barley, 6-rowed	Thos. E. Brown	Cassils
Barley, 6-rowed (Jr.)	Hella Delfs	Woking

INTERNATIONAL GRAIN AND HAY SHOW, CHICAGO—1954

Championship:		
Barley	Geo. S. Snow	Milk River
Oats	Tom Corlett	Clairmont
Reserve Championship:		
Beans	I. B. Roberts	Raymond
First Prize:		
Wheat, Hard Red Spring	Norman Johnson	Granum
Red Clover	Grotkowski Bros.	Grande Prairie
Alsike Clover	Grotkowski Bros.	Grande Prairie
Brome	J. Oster	Hemaruka

HORTICULTURE BRANCH

Tree Planting

In 1955 Alberta farmers planted 1,682,314 trees. The Canada Department of Agriculture supplied 41% of the trees and the Alberta Government Nurseries at Oliver and Brooks supplied the rest.

The two Government mechanical tree planters were used again for demonstration purposes. Planning demonstrations were held at Lac La Biche, Westlock, Strathmore, Brooks and Edmonton districts.

The majority of trees were used for Farmstead shelterbelts although each year more and more farmers are planting field windbreaks and roadside shelterbelts to assist in controlling soil erosion and for highway beautification and protection.

The weather in 1955 was excellent for tree planting. The heavy snow fall in the early spring insured the trees being planted

under ideal conditions. While July was hot and dry, most of the trees had become well established by this time and losses were low. As in previous years, the highest losses were with hardwood cuttings of poplar and willow. The Nurseries took every precaution to see that only strong healthy wood was used in the propagation of these cuttings.

Forest Nursery Station—Edmonton

In 1955, 688,350 trees and 130,525 hardwood cuttings of poplar and willow were supplied to 1,462 applicants. This was an increase over 1954 of 197,125 in the number of trees supplied and an increase of 244 in the number of farmers receiving trees from this Nursery.

At the end of the year there are in the transplanted fields, 304,000 white spruce, 339,000 Colorado spruce, 97,000 lodge pole pine, 36,000 Scotch pine. In addition to the Evergreens, there are 1,374,750 Caragana, 136,575 Manitoba maple, 113,224 Green ash, 65,000 Siberian larch, 70,000 Common Lilac, 13,000 Native mountain ash, 45,000 Manchurian elm, 47,250 Tartarian honeysuckle, 5,000 Rosybloom crabapple, 500 White birch, and 750 Hansen hedge rose. The total number of trees on the nursery at the end of 1955, is 4,498,475. This is an increase of 1,439,800 over the previous year. In addition to the trees the Nursery staff prepared 125,000 hardwood cuttings of poplar and willow

In 1955, 100 sacks of spruce cones were gathered yielding 100 pounds of clean seed worth $1,000.00. In addition to the evergreen seed the Staff picked several hundred pounds of Manitoba maple and Green ash seed. The Seed bed area of the Nursery was increased and now is 24,588 square feet in size.

The Nursery employs a staff of three permanent men. In the summer, five extra men are hired plus patients from the Oliver hospital. Five extra men were hired at shipping and transplanting time.

A further two acres of land were cleared and broken and the dams on the local creek were improved to increase the water supply for irrigation. A cone shaker was built by the Staff and other seed cleaning equipment improved. A new concrete gasoline and oil shed was built and additional roads were graded and gravelled. More trees were planted on waste land for a future seed supply.

The weeds were controlled by intensive cultivation during the summer. As in 1954, trials were established to determine the feasibility of controlling weeds by some of the newer chemicals. A few of these appear promising and this work will be continued in 1956.

An outbreak of spruce sawfly and red spider was controlled by spraying with Aldrin.

Potato Production

It is estimated that 16,000 acres were planted to potatoes in 1955. This is an increase of 400 acres over 1954.

Seed Potato Production

The following table is a six-year summary relative to seed production in Alberta.

	1950	1951	1952	1953	1954	1955
No. of growers	156	114	81	86	70	67
No. of Fields Inspected	293	212	177	200	223	228
Acres Inspected for Certification	1,684	975	702	942	1,022	1,004
No. of fields receiving certification	247	183	163	168	198	214
Acres passed for certification	.....	.....	578	844	905	965

Tuber Indexing of Foundation Seed

The service of indexing foundation potatoes was continued jointly by the Field Crops Branch, University of Alberta and the Canada Department of Agriculture. 1,637 tubers, a small reduction from 1954, were grown in the green houses at the Brooks Horticultural Station and disease readings taken late in March by a Plant Pathologist. 63% of the tubers qualified as suitable for production of foundation seed. The remainder were disqualified for the following causes: 21% showed very slight mosaic, 2.7% showed mild mosaic, 2.4% showed leaf roll, 7.2% were weak, 3.5% were misses and 0.4% indicated spindle tuber.

Potato Production Improvement Committee

This Committee appointed by the Horticultural Advisory Board is composed of potato farmers and Government personnel. It has the responsibility of assisting and advising the potato industry in the Province and acting in an advisory capacity to the Horticultural Advisory Board.

Two meetings were held in 1955, the Annual Meeting in Calgary and the second one in conjunction with a field day in the Edmonton area in early August. A well illustrated bulletin "Potato Storage Houses" was published and well received by the growers of the Province. Committee members spoke on the radio and in the press on timely subjects.

Potato Fertilizer Trials

The tests to determine the value of fertilizer on potatoes were continued in 1955. Two farms in the Lacombe area and two in the Edmonton district were chosen for these trials. All four farms are on black loam soil. The results were presented to the Fertilizer Committee. It is anticipated these trials will be carried out again in 1956.

Other Activities

The Supervisor of Horticulture in 1955 spoke at 23 public meetings. In addition to these meetings he spent some time in 25 District Agriculturists' areas assisting with Farmstead Planning, checking and advising regarding Demonstration Orchards, advising on Tree Planting and other horticultural matters. He acted as judge at 6 Horticultural Bench Shows and assisted at 6 4-H Garden Club Achievement Days. 8 radio talks were given and 16 press releases on timely subjects were published in the Department's weekly release, Farm Notes.

Nursery Inspection

In co-operation with personnel of the Canada Department of Agriculture, the Supervisor of Horticulture inspected 12 Commercial Nurseries in Alberta in 1955. This inspection is carried out each year to check the Nurseries for disease and insects. Imported stock is given a careful check and to date nothing serious has been found in any Alberta Nursery. As a result of this in-

spection, the Department in co-operation with the other Prairie Provinces publishes a list of Prairie Nurseries.

Alberta Horticultural Association

The Association held its third Annual Meeting in Calgary on August 27th. The meeting was held in conjunction with the First Provincial Horticulture Show. This Show was an outstanding success and it is planned to hold the next one in Edmonton in 1956.

Twelve local Societies had accredited delegates at the meeting.

The meeting heard reports from each Society represented. An informal discussion took place on the advisability or otherwise of admitting commercial concerns into the Association.

Horticultural Advisory Board

This Board, appointed by the Minister of Agriculture, is composed of representatives of the Field Crops Branch, University of Alberta, Experimental Farms Service, the Science Service of the Canada Department of Agriculture and the Canadian Nurserymen's Association. The Board meets once a year and is charged with the responsibility of recommending to the Minister regarding all matters pertaining to horticulture.

SOIL CONSERVATION AND WEED CONTROL

Weeds

Weeds were controlled better during 1955 than 1954 because weather conditions allowed for better summerfallowing and farmers were able to spray their crops at the proper growth stage. Weeds were generally held in check other than Toadflax. This perennial was reported in every district except I.D. 138.

Weed Survey

The following outlines the results of a survey conducted during 1955 in the areas served by the 38 Agricultural Service Boards. The degree of infestation of five persistent perennial weeds is indicated.

	No. of M.D.'s Reporting Infestations	No. of Farms With Infestations 1 Patch and Upwards	No. of Acres Infested
Hoary Cress	18	174	2,286
Russial Knapweed	10	48	115
Field Bindweed	98	60	193
Toadflax	37*	5,166	17,193
Leafy Spurge	26	168	1,714

*All but one M.D. out of 38 have Toadflax.

	No. of M.D.'s Where Weed Is Increasing	No. of M.D.'s Weed Held In Check	No. of M.D.'s Where Weed Is Decreasing
Tartary Buckwheat**	21	8	1
Wild Oats	13	21	2
Couch Grass	5	29	4
Thistles	18	13	7

**Only 8 of the 38 M.D.'s are free of Tartary Buckwheat.

Chemical Weed Control

More acres were treated with selective herbicides for weed control during 1955 than in any year previous. The 1955 treated acreage was 142% of the 1954 acreage. More MCP was used, particularly in oats and crops underseeded to legumes, during 1955

than in 1954 or any previous year. Approximately 94.5% of all selective herbicides used were ester formulations of 2,4-D or MCP. 98.5% of the acreage was treated with spray applications. Most of this material was applied by ground equipment.

The following figures show the acreages treated with selective herbicides during the last three years:

1953	3,420,000
1954	2,981,000
1955	4,250,000

A total of 26,734 pounds of TCA was used largely for Couch Grass control.

The Branch continued to distribute Sodium Chlorate and Polybor Chlorate through Municipalities to farmers at cost. The largest percentage was used for Toadflax control. Total distribution of soil sterilants decreased during the season.

Pounds of Soil Sterilant Distributed for the Last 5 Years

	1951	1952	1953	1954	1955
Sodium Chlorate	290,000	330,626	333,088	414,948	347,784
Polybor Chlorate	.....	25,784	36,600	24,984	21,450
Total	290,000	356,410	369,688	439,932	369,234

The above figures do not include the Sodium Chlorate—borate mixtures, CMU and other soil sterilants which were used to control weeds around industrial establishments, oil well batteries etc.

Weed Control Demonstrations

The Tartary Buckwheat control demonstrations at Royal Park and Stony Plain were continued. Trials at Ponoka and South Edmonton were placed for Toadflax control using soil sterilants. 2,4-D was supplied for a Toadflax control demonstration in the Didsbury area. Under the direction of the Field Crops Branch, the Mountain View Service Board applied the material to Toadflax growing in sod. Three trials for Buckbrush control were placed at Hanna, Coronation and Consort. A demonstration for roadside weed control was placed along Highway No. 2 in co-operation with the Department of Highways. One hundred gallons of 2,4-D were used for the above work.

The Branch assisted District Agriculturists and Field Supervisors in establishing 148 weed control demonstrations. A total of 229 meetings or Field Days were held in connection with weed control demonstrations.

Roadside Seeding and Spraying

The Branch continued its policy of seeding government highways for the Department of Highways. A total of 43 miles were seeded using 23,796 pounds of forage seed. The fall seeding program under this policy was cut short due to the early snow fall.

The Branch encouraged Municipalities to seed down newly constructed roads. A total of 30,908 pounds of forage seed was supplied to Municipal Districts for this purpose.

The Department sprayer was used to place one dormant brush control demonstration and one foliar demonstration. The need for such demonstrations were not as great as in the past because many of the Counties and Municipal Districts now have roadside spraying equipment. M.D.'s and Counties sprayed a total of 6,500

miles of roadsides for weed and brush control. Local governments throughout the province mowed a total of 7,500 miles of roadsides for weed control and to prevent snow drifting.

Crown Lands

The Branch continued to supply 2,4-D for weed control on Crown Lands. Farmers affected by the weeds on the Crown Lands applied the chemical. A total of 12 gallons of 2,4-D was distributed by the Branch for this purpose. The Branch made grass seed available for Crown Lands accrued lakeshore areas.

Agricultural Service Boards

The Municipal Districts of Smoky River, Taber and the County of Stettler, formed Agricultural Service Boards in March. A total of 38 Service Boards operated during the year. Six Field Supervisors resigned during the year but were replaced almost immediately.

Boards hired a total of 59 extra men as Weed Inspectors for the summer season.

The Service Boards had a total of 188 parcels of land under supervision during the year. A total of 13 were released from supervision. Forty-two parcels were under reclamation and 3 released. Field Supervisors and assistants issued notices to destroy weeds covering 28,072 acres. Notices prohibiting seeding covered 28,303 acres.

Service Board Agreements

The General Service Board Agreement provided assistance towards operating each Board to a maximum of $1,800.00. There was additional assistance for Bangs control. In addition, several Municipal Districts, Counties and Improvement Districts had special Toadflax control agreements with maximum payments varying from $150.00 to $2,500.00. The following is a copy of this special agreement:

1. The Department of Agriculture will pay:
   (a) One-half the cost of Sodium Chlorate in excess of $5.00 per drum or half the cost of chlorate-borate mixture in excess of $4.50 per 100 lbs. when each or either are used on farm land.
   (b) One-half the cost of Sodium Chlorate or other soil sterilant for control of Toadflax and other persistent perennials on Municipal roads.
   (c) One-half the cost of cultivation; maximum 20 acres, assistance to farmers not to exceed $5.00 per acre.
2. The assistance as contained herein is available provided the Municipal District agrees:
   (a) That there shall be no special areas within the Municipality but local authorities will concentrate on badly infested areas.
   (b) To supply the Department of Agriculture with the name of land owner or occupant, address, land location and quantity of chemical used on each farm.
   (c) To limit the amount of Sodium Chlorate per quarter section to 3 drums, 112 lbs. each, or 336 lbs of chlorate-

borate mixture. Any additional quantity to be supplied at the full price or on written recommendation of the Board and approval of the Field Crops Commissioner.

(d) To make all cultivation subject to Section 14 of The Agricultural Service Board Act.

(e) To limit cultivation grant to five dollars ($5.00) per acre for a maximum of 20 acres per quarter section.

(f) To supply the Department with the farmer's name, address and land location where cultivation is given.

The Department will not continue aid for Toadflax control in any Municipal District beyond a period of three (3) years unless just cause can be shown by the Municipal District for the continuation of such a program. In any event, those farmers who received aid during the first three (3) year period will not be eligible again for additional assistance.

The following Districts were given assistance for Toadflax control as outlined above:

Municipal District of Foothills No. 31
Municipal District of Vermilion River No. 71
Municipal District of Peace No. 135
Municipal District of Lacombe No. 64
Municipal District of Kneehill No. 48
Municipal District of Flagstaff No. 62
Municipal District of Minburn No. 72
Municipal District of Athabasca No. 103
Municipal District of Red Deer No. 55
Municipal District of Leduc No. 75
Municipal District of Camrose No. 63
County of Stettler No. 6
Improvement District No. 132

Seed Cleaning Plants

Assistance under the Agricultural Service Boards Act has now provided for the construction of seventeen farmer operated Municipal, Provincial, Centralized Seed Cleaning plants. Five were completed late in 1954, so that during the '55 season, fifteen were operating.

The five new plants operating for the first year were located at Willingdon, Myrnam, Paradise Valley, Lougheed and Stony Plain. The total handling for the season was 2,837,000 bushels. This figure is considerably below the capacity of the plants. There were three factors contributing to this. First, the late starting of some plants. Second, a light crop of low grade seed in some areas. Third, an unusual amount of time lost while truck bans were in force on municipal roads and highways. One plant lost 27 days operation.

In spite of this, all plants except one were in a position to pay all expenses, both operating, and overhead, and set aside further amounts in reserve funds. The one plant met all expenses but was unable to add any reserve. This plant was located in one of the '54 low crop areas.

Two plants were built in 1955, one at Leduc, and one at Blackie. There have been very few major changes in plant layout or equipment during the past three years, although there have

been some minor changes. All grain legs are now equipped with steel heads, and all legs, including the screening legs are equipped with safety drives. These drives protect the leg and belting and also minimize the fire hazard.

Ventilating fans in basement and cupola have proved their value in dust removal. This feature, along with other factors, has had a favorable effect on Insurance rates, which have been substantially reduced in most cases.

An attachment, for the Calkins Powder treaters, has been developed to handle liquid treatments. This attachment is comparatively inexpensive, and laboratory and field tests show that it is working quite satisfactorily.

There has been a noticeable increase in the amount of grain treated for wireworm control. Farmers are checking their fields more carefully, and the cost of treatment is now less than fifty cents per acre, so if a farmer suspects wireworms in his fields, he treats for their control.

During the year, a Provincial Association was formed representing the Boards of Directors of all the seed cleaning plants. The object of this Provincial Board is to deal with matters affecting all plants, such as Insurance rates, purchase of treating material, etc., as well as matters of general policy.

The construction program for 1956 is not definite as yet, however, it is expected that possibly four new plants will be built during the year.

Field Staff

The Branch employed 17 Weed Inspectors to enforce the Noxious Weed Act in Improvement Districts. Three Weed Supervisors were employed to assist Weed Inspectors in both Municipal and Improvement Districts. During the summer a total of 117 men worked on weed control throughout the Province.

Extension Meetings, Field Days, Etc.

The Supervisor of Soil Conservation and Weed Control spoke at 24 short courses or Extension meetings arranged by District Agriculturists, judged 7 Junior Seed Fairs, went on 7 Field Tours in as many Municipalities or Counties, made 37 Field Trips investigating weed problems or helping to establish demonstrations, spoke at 5 Field Days and attended 12 Agricultural Service Board Meetings.

Miscellaneous

The Branch held a two day Service Board Conference at Edmonton in the Spring of 1955. It was attended by at least three from each Service Board.

The Supervisor of Soil Conservation and Weed Control was appointed as an alternate on the committee set up by the Department of Lands and Forests to approve loans to farmers under the Homestead Lease Loan Act. Several half days were spent working with this committee.

Four radio talks were given and several items prepared for Agricultural Notes.

Soil Conservation

The summer of 1955 was wet throughout the Province excepting parts of the Peace River Region and the Bluffton-Winfield area. Water erosion took its toll in the spring and during flash storms throughout the summer. Most of the damage was either rill or sheet erosion and the scars easily covered with cultivation machinery. This type of erosion caused more damage than many farmers realized. Publicity drawing farmer's attention to the erosion problem continued throughout the year. A questionnaire completed by Field Supervisors indicated that 1,058 parcels were damaged by wind erosion and 4,031 damaged by water erosion during 1955. District Agriculturists placed 152 soil conservation demonstrations and held 168 meetings or Fields Days on conservation.

Thirteen districts held gully filling demonstrations. The Branch assisted with 4 of these projects.

Projects 1 and 2 demonstrating Soil Conservation and Weed Control with forage crops were continued. Project 1 was designed to assist Distict Agriculturists to establish soil conservation demonstrations on farms. Thirteen District Agriculturists used this policy to establish demonstrations on 54 farms. A total of 5,363 pounds of forage seed and 24 bushels of cereal seed were distributed under this policy.

Project 2 designed to assist Municipalities in handling farms placed under supervision or reclamation by authority of the Agricultural Service Board Act, was continued during 1955. Six Municipalities or Counties took advantage of this policy for assistance on 15 farms. Eight of the farms were in the Brooks area where the farms were under supervision because of a weed problem. A total 4,260 pounds of forage seeds were distributed under this policy.

Farmers in the Claresholm and Calgary areas continued to show interest in contour cultivation. One hilly farm in the High River area was contoured during 1954 and stood up well in spite of heavy rains and the fact that a number of the areas between the grassed contours were being summerfallowed. Considerable contour work was planned for the fall of 1955 but was prevented by the early snow fall.

Save the Soil Campaign

The Branch continued to assist District Agriculturists with "save the soil" competitions. "Save the Soil" certificates were issued to 21 farmers whose score was 80% or more. A total of 227 farms were entered in the "Save the Soil" campaigns.

Fertilizers

Six fertilizer trials were reported to the Advisory Fertilizer Committee. Three other fields were sampled for farmers who had tried liquid fertilizers. Ten trials with Anhydrous Ammonia were established in the fall of 1955. District Agriculturists placed a total of 62 fertilizer demonstrations. The fertilizer bulletin was revised in December, 1955.

CROP PROTECTION AND PEST CONTROL SERVICE

Crop Insects

Grasshoppers

There was a slight increase in the grasshopper infestation in 1955. The following table shows the extent of this increase and the general picture since 1951:

Year	Estimated Acreage Affected	Degree of Infestation
1951	10,000,000	From Moderate to severe
1952	3,000,000	From normal to light
1953	500,000	Sub-light
1954	830,000	Light
1955	2,500,000	From moderate to light

The infested area extended from Manyberries in the east, through Foremost, Taber, Retlaw, to Carmangay in the west, averaging about 7 townships in width along this line. A moderate infestation, comprising about 4 townships was centered north of Chin extending about 6 miles north of the Oldman River.

In spite of the increase in the infested acreage over 1954, grasshoppers were only of economic concern in a few localized areas. The hatch was unusually late with the crop advanced to withstand damage. About 50% development of the species in the south was not reached until July 20.

A light infestation of grasshoppers again appeared in the Peace River region in localized areas, but damage was negligible. Rather heavy infestations did damage to legume crops in the Fort Vermilion district. A grasshopper station was maintained at the Experimental Farm Sub-station making control supplies available to farmers. About 500 acres were sprayed with Aldrin in that area.

The grasshopper policy was changed this year, to systematically withdraw bait materials from the program. Baits which were in stock, however, were still available. Aldrin Sprays and Dusts were available through Municipalities to farmers at cost. Materials for distribution were stock-piled at Lethbridge, Edmonton, Youngstown, and in strategic places in the Peace River country.

The following table shows the extent of the control materials used in 1955 and gives other pertinent information regarding the grasshopper campaign. Data for the two preceding years is supplied for comparison purposes:

	1953	1954	1955
Acres of land infested	500,000	830,000	2,500,000
Acres of crop land menaced	5,000	7,000	10,000
No. stations operated	10	16	16
Bus. poisoned bait spread	50	0	0
No. farms receiving bait	1	0	0
Estimated acres crop destroyed	100	150	200
Estimated lb. technical Aldrin used (spray)	65	2,060	875
Estimated lb. 2½% Aldrin used (dust)	50	500	100
Acres treated with Aldrin spray	600	15,000	7,000
Acres treated with Aldrin dust	8	60	16

The figures on insecticides indicated in the above table are those used under the grasshopper policy and do not include materials purchased by farmers outright from commercial concerns. No bait whatsoever was used by any person in Alberta during 1954 and 1955. The grasshopper forecast maps for 1955 were printed by this Branch in January and supplied to all regions where problems were anticipated. Elevator companies co-operated in posting these in their elevators. Newer trends in grasshopper

control were discussed at Agricultural Short Courses in areas where 'hoppers were a problem.

The following further information was issued in the spring of the year to all District Agriculturists, Field Supervisors, Station Operators and Municipalities.

(1) The 1955 Grasshopper Control Policy.
(2) Bulletin on "Baits, Sprays and Dusts for Grasshopper Control".
(3) Revised mimeograph on "Application of Aldrin Spray and Dusts".
(4) Chart on "Precautions on the Use of Aldrin for Grasshopper Control".
(5) Instructions to Station Operators on "The Preparation and Distribution of Baits".
(6) Station Record Books for use in Sale and Distribution of Baits, Sprays and Dusts.

Provincial Fieldmen who assisted in the grasshopper control work, in addition to carrying out other duties, were stationed at Fairview, Youngstown, Medicine Hat and Lethbridge.

Wheat Stem Sawfly

Sawfly damage in Alberta this year was not as severe as in 1954. The flight was very late, June 14 to July 20—however, the crop was late too, and considerable damage still resulted. Regions of heavier infestations were mainly between Lethbridge and Seven Persons around Grassy Lake, Warner and Hilda. Light infestations occurred in the Claresholm-Barons area and around Chinook.

There has been a considerable acreage increase planted to Chinook and Rescue Wheat during the last two years to cut down sawfly losses. At every opportunity through the press, radio and Short Courses, this Branch has advocated the use of sawfly-resistant crop in the infested area, and/or to use other recommended practices to avoid losses.

Cutworms

(1) **Pale Western Cutworm:**

This pest caused only light and patchy damage to grain in southern Alberta for the second successive year. Information regarding the use of spray materials for the control of this insect was released to all District Agriculturists.

(2) **Red-backed Cutworm:**

Damage done to gardens by this insect was reported by a number of persons from the Wooded and Parkland regions in Alberta. This pest also caused some severe damage in several small fields of sugar beets in the Barnwell and Cranford districts. In other fields in the same area less severely affected, damage varied from 20 to 50%. Light infestations were present in 1954 in the irrigation area near Lethbridge.

(3) **Army Cutworm:**

There was a severe outbreak of the army cutworm during May and early June extending from the International Boundary north to Lethbridge, Vauxhall, and Medicine Hat. Damage was mainly

confined to mustard crops (many of which were re-seeded), although a few fields of fall wheat and barley were affected.

This Branch established 3 depots in the outbreak area (Milk River, Foremost, Lethbridge) where Aldrin bait and dust were stocked. Information on the proper application of Aldrin was also made available. Some use was made of this service by local farmers.

Wireworms

Wireworms were one of the serious pests of gardens and cereal crops in 1955. Noticeable damage to cereal crops was noted in southern and central Alberta as well as the Peace River country. Damage to potato crops in Lethbridge, Brooks, Calgary and Edmonton was reported by many growers.

One potato grower from Glenwood, who has never treated his land or reported damage before, lost an estimated 50 to 60% of marketable tubers from a 10 acre stand.

Recommendations made by this Branch and other Agricultural authorities to use insecticide-fungicide seed dressings in cereal crops in areas where wireworms were a problem has resulted in a provincial wide use of this method to control this pest. All of the 16 large municipal seed cleaning plants are now equipped to do this work. This Branch continued to conduct a number of demonstration plots in wireworm infested areas and co-operated with a commercial firm in setting out extensive experimental trials.

Sweet Clover Weevil

Infestations and damage by this pest were significantly less than during the last two years. A cold spring allowed the sweet clover crops to get ahead of the weevil. Aldrin supplies for spraying were available at Municipal offices throughout the infested area but very little was used.

Lygus Bug

Lygus bug infestations in some fields in southern Alberta were severe (10 + per sweep). Infestations generally, however, were about the same as last year.

Aphid

(a) **Corn Leaf Aphid:**

This insect was the most serious and widespread pest in Alberta in 1955. The infestation of the corn leaf aphid was also the earliest and the most serious in the history of the province. Late-seeded barley was the only crop affected. Estimated acreage of barley in 1955 was 3,700,000 and of this about 3,000,000 acres were seeded after the late spring rains, making most of it vulnerable to attacks by this aphid, as well as the English grain aphid and the green-bug. Fall survey showed that about 41% of the total barley crop was infested with about 8% of the total actually lost. Barley losses varied, however, from 1% in some districts to 40% in others. Because of early seeding in the Peace River country losses due to this pest were insignificant in that area.

With the first report of the aphid outbreak, this Branch ordered 400 gallons of the insecticide, Malathion, and within 3 days this material was in the hands of municipal authorities ready for distribution to the farmers. During the time the provincial supply

was used, commercial concerns stocked their warehouses to more than take care of the outbreak.

An estimated 4,000 gallons of Malathion was used as spray material in the aphid control campaign. About 2% of the infested crop was sprayed. Satisfactory control was obtained where the damage was not yet beyond the point of recovery. Damage by this pest to spring seeded barley ceased by about the middle of August.

(b) **English Grain Aphid:**

There was a threatening infestation of aphids (including the greenbug) in cover crops in the area including Okotoks, High River, Nanton, Claresholm and Granum towards the end of August. Cover crops were late and practically all fields contained colonies of aphids. Fall rains held these pests in check so that losses were not heavy. There was practically no chemical control applied.

The English grain aphids were present in about 20% of the barley fields in the Berwyn district—causing one of the heaviest infestations in years in that area.

Stored Grain Insects

The extent of infestations of stored grain by mites, Rusty and Saw-Tooth Grain beetles and Fungus beetles has remained about the same in the last 3 years. Most of the cases investigated in northern Alberta showed only mites or fungus beetles present. In southern Alberta all the known grain infesting insects were present in occasional stored grain lots at scattered points. Infestations in all cases were largely restricted to tough or heated grain.

For the first time in Alberta the granary weevil was located in two cases in the Lethbridge and Medicine Hat areas. This pest is as serious in stored grain as the other stored grain pests.

Much publicity was given to this problem in 1955. A number of demonstrations were conducted by this Branch to show fumigation methods and the safety precautions to be observed. Approved gas masks and new canisters were provided to all District Agriculturists to be made available to farmers who wished to fumigate.

A conference regarding the handling of stored grain and the control of pests in grain was held in Calgary in July with Engineers, Entomologists and Fieldmen present. Two mimeographed releases were prepared as a result of the conference deliberations. These had a wide circulation in Alberta and requests for these were received from Manitoba, Saskatchewan, Montana and Washington. Four other releases on this problem were also available to farmers from this office.

The services of a special Fieldman to help farmers with their problem of insect pests in stored grain were maintained at Lethbridge.

Thrips

Thrips caused much concern this year (July) in a number of areas in the Peace River country. Barley fields affected were centered at Hythe, Spirit River, Buffalo Lake, Sexsmith and Valhalla Centre. Damage to heads ranged from 10% to 80%. All infested fields were bordered with native grasses and dandelions on which large populations of thrips were also found. This infestation

was more severe than that which occurred in the Worsley area in 1953.

Insects of Conifers

The year 1955 showed a continuation of last season's damage by the yellow-headed spruce sawfly. There were increased reports of the spider mite and spruce aphids. Numerous established shelter belts were severely damaged at such points as Edmonton, Vermilion, Lacombe, Calgary, Provost, Coronation and other points in north-central Alberta.

This Branch supplied Aldrin, and to some extent, Malathion, at cost to various centres for the spraying programs wherever used. Malathion was difficult to obtain at most country points in small package form. The Department sprayer was used in a number of areas to demonstrate and assist more extensive spraying campaigns.

A new release "Insects Attacking Conifers" was prepared and distributed to farmers throughout the province.

Root Maggots

Root maggots of cabbage, cauliflower, radish and onions caused considerable damage in many gardens throughout Alberta. Co-operative trials were conducted in 1955 with the Agricultural Service Boards of Lamont and Eagle to test and demonstrate the preventive effects of Aldrin and DDT.

A new publication "Control of Garden Pests in Alberta" was prepared but due to printing difficulties, was not released.

Corn ear worm

Corn ear worm was severe in early corn at Medicine Hat, Scandia and Barnwell.

Sugar-beet root maggot

Infestation was general in light soil area and was most severe since the 1934-36 outbreak.

Sugar-beet webworm

Sugar-beet webworm was most severe and general since 1946. Over 5,000 acres were sprayed for this insect.

Alfalfa Weevil

This pest increased its range in 1955 and was much easier to locate than last year in the known infested area. Apparently the infestation exists only in fields lying south of the St. Mary's and Oldman Rivers. This insect has increased its numbers but it is still uncommon in alfalfa fields even in those areas where it was found in 1954.

This was the second year of its known existence in Alberta and Canada.

Crop Diseases

Diseases of Cereal Crops:

Root Rots and Smuts were not unusually prevalent in southern and northern Alberta.

Stem and Leaf Rusts developed slowly during the warm, dry weather in late July and August but both doing much less damage than in 1954. Some severe infection of leaf rust in late oat crops was noted in the Edmonton area.

Loose Smut of barley was widespread and severe in the central and northern areas, particularly in the smooth awned varieties.

Ergot was found in only a few fields in wheat and barley. Nine of the 11 fields of rye examined in the area north of Calgary carried ergot and one field west of Olds had 40% of the heads infected.

Rust of Flax appeared in 46 out of 50 fields examined in the Peace River district particularly in the Manning and Fort Vermilion areas. Continuous cropping to flax over wide areas in northern Alberta has led to the build-up of large amounts of inoculum. This disease was less common in the south, causing very little damage.

Streak mosaic caused less damage in winter and spring wheat than in 1954. This was due to weather conditions and because farmers avoided early seeding of winter wheat, following the recommendation to destroy diseased volunteer wheat in the vicinity of fields to be planted.

Diseases of Forage Crops:

Bacterial Wilt was more severe than in 1954. It was mostly confined to southern and central Alberta. Abundant soil moisture early in the season favoured the development of this disease. Damage to the Grimm variety was quite pronounced.

Crown bud rot was also prevalent in many fields. In the area north of Calgary 100 out of 137 fields examined showed damaging incidence of this disease.

Leaf and **Stem** diseases of legumes and grasses developed to an unusual degree early in the season, but their progress was arrested by the warm dry weather starting in July.

Black stem was most serious in the dry areas of the Peace River district.

Northern Anthracnose appeared in 47 out of 50 fields examined in the red clover fields in the Peace River area.

Diseases of Potatoes:

(a) **General**

The most common potato diseases this year were black-leg, rhizoctonia, leaf roll and wilts. The late-blight infection which appeared so widely in the Edmonton area in 1954, did not reappear this year. Only two fields were found partially infected at Winterburn and Thorsby districts. No damage was suffered as this disease appeared late and did not spread. Most of the potato crop went into storage in good condition.

Meetings and Field Days were held with growers in the Edmonton, Rosemary and Lethbridge regions regarding potato diseases and their control. About 150 growers were contacted at that time.

(b) **Bacterial Ring Rot and Its Control** (1955 Program)

The use of good quality seed potatoes has contributed to the decrease in the incidence of Bacterial Ring Rot. This spring a list of available sources of potatoes was prepared and mailed to all the commercial growers. Good use was made of this service.

For the first time in many years, the Department did not purchase any seed stocks in southern Alberta. All orders received from growers in the Lethbridge area were channelled through the Southern Alberta Certified Potato Growers Association, while in other districts growers were directed to approved growers. A few tons were purchased from Lacombe for the Brooks area.

All the 1954 stocks infested with Ring Rot were disposed of by March 1955, although a high percentage were moved right off the fields in 1954. All storage premises on farms where Ring Rot appeared were thoroughly fumigated prior to the bringing in of any new seed, and again before the new crop was stored this fall. Fumigation is another service which this Branch provides in the Ring Rot Control program.

This year there were 16 inspectors employed in making the survey in the fall. Training schools were held at Edmonton and Lethbridge where detailed instruction and field practice were provided to make appropriate surveys. The number of inspectors operating in the pest areas during the last three years, and the acreage inspected were as follows:

	No. of Inspectors			Acreage Inspected		
	1953	1954	1955	1953	1954	1955
Edmonton	4	5	7	2,202	2,291	2,160
Calgary	2	2	2	191	271	308
Brooks	2	2	2	1,230	1,130	1,110
Lethbridge	6	5	5	3,977	3,911	4,100
Total	14	14	16	7,600	7,603	7,678

Inspection services commenced on August 29 at all points. The potato crop was sufficiently advanced and the weather conditions excellent allowing for a very thorough inspection. The majority of inspections were completed before the first killing frost on September 9. Some re-inspections followed till September 16 when all work was completed.

The table below shows the number of fields and the acreage inspected in the pest areas in 1955. The 1951-54 results of the survey are also included for comparison purposes:

Results of the 1955 Ring Rot Survey by Pest Areas
Also Showing Years 1951-1955 Inclusive

Pest Area	Year	No. Farms Inspected	No. Farms Diseased	Acreage Inspected	Acreage Diseased	% Diseased of Total Farms	% Diseased of Total Acreage
Lethbridge	1951	313	31	4,000	220	9.9	5.5
	1952	282	59	3,284	759	20.6	23.1
	1953	281	58	3,977	1,144	22.4	28.7
	1954	276	17	3,911	144	6.2	3.7
	1955	285	47	4,500	1,111	16.5	24.7
Calgary	1951	111	4	235	15	3.6	6.4
	1952	64	0	144	0	0	0
	1953	66	5	191	26	7.5	13.6
	1954	87	0	271	0	0	0
	1955	68	9	308	44	13.2	14.2
Brooks	1951	92	2	1,230	24	2.2	1.9
	1952	69	2	1,055	5	0.03	0.5
	1953	61	3	1,160	65	4.9	5.6
	1954	58	7	1,131	134	12.0	11.8
	1955	56	8	1,110	151	14.3	13.6
Edmonton	1951	255	22	2,008	219	8.6	10.9
	1952	187	14	1,802	56	7.6	3.1
	1953	195	9	2,202	144	5.2	6:5
	1954	210	3	2,291	39	1.5	1.8
	1955	190	14	2,050	101	7.4	4.9
Total	1951	771	59	7,473	478	7.7	6.4
	1952	601	75	6,286	819	12.5	13.0
	1953	603	75	7,530	1,379	12.4	18.3
	1954	631	27	7,604	317	4.3	4.2
	1955	599	78	7,968	1,407	13.0	17.6

There were a total of 599 potato fields examined which was less than any year since 1951. The total acreage was 7,968, or 364 more acres than in 1954. This indicates a tendency towards larger fields. Each inspector averaged 37 fields and 497 acres.

In the overall picture, the situation with regard to Ring Rot remained about the same as in 1952 and 1953 in the percentage diseased of total farms but was somewhat better than 1953 in percentage diseased of total acreage. It would appear as if there was some deterioration over 1954, but one must remember that the 1954 crop was very late, exposed to exceptionally poor growing conditions, and the proper inspection was difficult to make. With a thorough combing of fields this year under ideal conditions, the reduction in Ring Rot next year should be quite noticeable.

In the Edmonton area, the incidence of Ring Rot climbed again to a little under the 1953 level. Three large fields of the 14 infected accounted for this rather higher percentage infection. One lot of seed potatoes distributed in the Edmonton area and later found to be infected did not help the situation. Another lot of commercial Pontiacs showed a high per cent of Ring Rot .

It is interesting to note that only 2 growers in the Calgary area proper had Ring Rot. In both cases the acreage involved was small so that the stocks were consumed on the premises. The increase of Ring Rot in this area was due to the four Hutterite colonies having this disease in their crop. Arrangements are already made, however, to obtain good seed for next year, and with proper management of this year's crop, Calgary should be near the elimination point next year.

The incidence of Ring Rot in the Brooks area was about the same as in 1954, with the exception that it was more widespread to cover Gem, Rainier, and Scandia. A number of the growers in the Rosemary area not only cleared their fields of Ring Rot which they had in 1954, but also grew seed plots for their own seed. The seed plot idea which was started in 1954, and carried into 1955 in the Rosemary area, is being encouraged in other adjoining potato growing regions. Efforts are already being made by some growers to obtain their seed for the 1956 planting.

Although there is some increase in Ring Rot over 1954 in the Lethbridge area, the figure is well below the 28.7% in 1953. A smaller percentage of new growers coupled with much extension work on potato improvement are two factors which are contributing to a brighter picture for Lethbridge. The Seed Potato Growers' Association is also aiding materially in a wider distribution of quality seed.

Livestock Pests

Cattle Grubs (Warble Flies)

Cattle grubs are considered as one of the major problems facing the cattle industry. The incidence of infestation were about the same as last year in the cases observed in northern Alberta. However, the numbers of warbles appearing in the backs of cattle in south-western Alberta in March averaged less than half the numbers that appeared during a similar period in 1954.

There was increased interest in warble fly control this year. The Municipal Districts of Wainwright, Turner Valley and Lacombe conducted special programs through their Agricultural Service

Boards. Five spraying districts were organized in the Lacombe Municipal District. A pest control association was also organized at Flagstaff Municipality resulting in a purchase of a power sprayer and some 3,000 head of cattle treated.

Estimates indicate that there were about the same number of cattle treated as last year. The table below shows the estimated figures for the last six years:

	1950	1951	1952	1953	1954	1955
No. cattle treated for warble fly ...	300,000	300,000	375,000	375,000	375,000	375,000

Spraying demonstrations were encouraged in many new districts. The program started in the M.D. of Stony Plain in 1954 was continued this year. All demonstrations were attended by officers of this Branch.

Cattle Lice

Ranchers and farmers showed concern over the lice problem in cattle. Organized spraying campaigns made some headway with a number of Agricultural Service Boards and Associations throughout the province playing an active part. Meetings and demonstrations conducted with the co-operation of R. H. Painter stimulated interest.

RODENT CONTROL

Pocket Gophers

Numerous complaints were received from many parts of the province about the losses of pasture and damage to lawns by the pocket gopher. A larger number of releases on control methods were mailed out to farmers and gardeners.

A rather extensive trial on control methods and its effectiveness was set out by this Branch in an area north of Bruderheim on a pasture where about 50% of the hay was destroyed due to numerous mounds. This work will be continued next year.

Columbia Ground Squirrel

This pest continued to be on the increase in the foothills of south-western Alberta.

Norway Rats

The general area of infestation along the Saskatchewan boundary remained unchanged, with the exception of a slight expansion northward. A number of rats were found at Sputinow in Township 57, marking the northern extremity. The infested area extends south along the 4th meridian to the Cypress Hills. Rats, are for the largest part, confined to Ranges 1 and 2 and no significant advance westward has been made over the year.

Colonies are being exterminated as they converge at farmsteads and urban premises for winter quarters. Interest and co-operation are improving—premises in and near the infested area are being cleaned up to eliminate basic rat food and shelter; construction and maintenance of rat-proofed buildings is being encouraged; residents are setting out permanent bait stations to poison off existing or migrating rats.

The following table shows the rat situation as at December 31st, 1955.

	Farms Checked	Farms Infested	Farms Infested But Exterminated	Farms Exterminated But Reinfested
Vermilion River M. D. No. 71	731	65	64	2
Wainwright M.D. No. 61	519	2	34	1
Provost M.D. No. 52	500 (+)	13	83	6
Special Areas No. 2 and 3	476	35	140	0
Acadia M.D. No. 34	156	26	33	3
L.I.D. No. 11	464	21	57	7
TOTALS	2,846	162	411	19

Infestation has been reduced from 573 infested farms to 162 farms. Most remaining infestations have been reduced to a small number of rats. Troublesome areas were Lloydminster, Provost, Acadia Valley and Hilda-Schuler.

Warfarin and Pival poison baits, plus carbon monoxide, are the main control measures in use. The above poisons are supplied, free of charge, in the concentrate, ready-to-use and water bait forms. During 1955, 36 pounds of concentrate, 6,850 pounds of ready mixed bait and 3,800 packages (making 3,800 quarts of water bait) were distributed. Most formulations are the results of trials conducted on caged rats and at infested premises. The water baits especially have proven very effective under summer conditions.

Most municipalities, cities, towns and villages have appointed Pest Control Officers to handle local rat reports and problems. A total of 240 officers have been appointed throughout the province. Two full-time provincial Pest Officers supervised the campaign in the border area, demonstrating and applying control measures, distributing poisons, etc. As initiated in 1954, the Department continued a grant of 50% toward the salary and expenses of full-time pest officers on rat control in border municipalities. The following municipalities have appointed officers under this plan: Municipal Districts of Vermilion River No. 71, Wainwright No. 61, Provost No. 52, Acadia No. 34, Special Areas No. 2 and 3, and Local Improvement District No. 11. These men make farm-to-farm checks, demonstrating and applying control and preventive measures.

Rat posters and various literature were distributed through District Agriculturists and Pest Control Officers to get the public more "rat conscious". All appointed officers were kept posted on the situation and control measures. Seven meetings were attended where rat control was the main topic discussed. About ten demonstrations and displays were conducted during summer fairs and other public gatherings.

Coyote Control

During 1955, the following approved poisons were supplied free of charge for coyote control in the settled areas of the province:

(a) cyanide—in the form of "coyote getters"

(b) Strychnine—as special pellets, each containing 2 grains of strychnine

(c) sodium fluoroacetate—known as "compound 1080" and used in preparing meat baits.

One new district accepted the provincial coyote control policy in 1955, making a total of 83 Municipalities, including Counties, Improvement Districts and Special Areas. The following table

shows the number of districts and the years in which they accepted the policy:

	1951	1952	1953	1954	1955	TOTAL
Counties	.....	1	1	.....	.....	2
Municipal Districts	26	12	13	1	1	53
Improvement Districts	5	12	8	.....	.....	25
Special Areas	3	.....	.....	.....	.....	3
Total Distrists	34	25	22	1	1	83

Since 1951, when the Department of Agriculture undertook the control of coyotes in the settled areas, a total of 38,400 coyote getters, 101,100 cyanide cartridges and 503,500 strychnine pellets have been distributed by provincial and municipal Pest Control Officers. Demands for material continued at the high level of the last two years. Coyote getters, scent, strychnine and other allied materials, posters and various necessary forms were supplied to the field force, almost daily. As an example of the extent of material released, there were 6,340 jars of scent shipped and 35,000 warning signs, which were posted as a safety precaution to indicate sets. More strychnine pellets were used as compared to coyote getters. This form of control is easier to apply for the average farmer and gives satisfactory results. The following table shows the amounts of major materials supplied since 1951 and the estimated coyotes killed by all materials distributed.

	1951	1952	1953	1954	1955	TOTAL
Coyote Getters	5,560	4,530	18,800	5,410	4,080	38,380
Cyanide Cartridges	11,510	12,460	46,030	20,110	10,990	101,100
Scent (2 oz. jars)	1,050	1,350	8,120	7,370	6,340	24,230
Strychine (pellets)	.....	.....	116,000	192,000	195,500	503,500
Estimated Coyote Kills	8,400	12,300	56,300	62,100	57,200	196,300

This Branch continued to assume its share of responsibility in the campaign to control rabies. Ten provincial Pest Control Officers were fully employed on predatory animal control campaigns during the summer, 17 men worked part time on predator control, along with their other duties. Coyote control, as evidenced by the amount of material used and the estimated kills was kept at a high level in most regions.

The poison 1080 was restricted to sparsely settled areas of the province. As requested by Municipalities and approved by the Minister, the following 1080 baits were prepared and set during November and December in areas as shown with a comparison of sets dating back to 1951, when 1080 was first tested in the province:

District	No. Baits Prepared and Set				
	1951	1952	1953	1954	1955
Cardston M.D. No. 6	.....	.....	.....	55	34
Willow Creek M.D. No. 26	.....	.....	.....	9	12
Pincher Creek M.D. No. 9	25	27	18	29	10
Forty Mile M.D. No. 2	.....	.....	.....	22	30
County of Warner No. 5	.....	.....	.....	..	7
L.I.D. No. 11	.....	2	8	9	19
L.I.D. No. 22	.....	23	19	12	13
Taber M.D. No. 14	.....	.....	.....	..	18
County of Newell No. 4	.....	.....	.....	28	19
Blackfoot Indian Reserve	.....	.....	..	..	9
Blood Indian Reserve	.....	.....	9	9	.....
L.I.D. No. 50	.....	.....	.....	..	10
L.I.D. No. 46	.....	.....	.....	20	10
L.I.D. No. 58	.....	.....	.....	.....	10
L.I.D. No. 101	.....	.....	.....	.....	2
Calgary M.D. No. 44	.....	.....	.....	.....	10
Kneehill M.D. No. 48	.....	.....	.....	.....	12
Wetaskiwin M.D. No. 74	.....	.....	.....	.....	11
Special Areas No. 2 and No. 3	.....	10	.....	57	43
L.I.D. No. 65	.....	.....	.....	.....	11
Raven M.D. No. 57	.....	.....	.....	.....	9
Mountain View M.D. No. 49	.....	.....	.....	.....	20
Lac Ste. Anne M.D. No. 93	.....	.....	13	31	12
Bonnyville M.D. No. 87	.....	9	10	14	12
County of Grande Prairie No. 1	.....	9	10	.....	11
Stony Plain M.D. No. 84	.....	.....	.....	7 (Jan./55)	9
Wheatland M.D. No. 40	.....	.....	.....	.....	pending
Lethbridge M.D. No. 25	.....	.....	.....	.....	pending
Foothills M.D. No. 31	.....	.....	.....	18	pending
L.I.D. No. 1	.....	18	8	9	.....
Bow Valley M.D. No. 40	.....	.....	.....	18	.....
Army Experimental Range	.....	10	10	9	.....
Cochrane M.D. No. 6	25	22	21	.....	.....
Sugar City M.D. No. 5	.....	21	20	.....	.....
Burlington M.D. No. 2	.....	10	20	.....	.....
L.I.D. No. 23	.....	.....	8	.....	.....
Wainwright Military Camp	.....	.....	.....	32	15

The number of areas using 1080 baits increased from 19 in 1954 to 30 districts in 1955.

The publication "Poisons for Coyote Control" was in strong demand. Pest Control Officers continued holding coyote control "schools" in most regions of the province.

Extension, Field Days, Meetings, Educational Publicity

In co-operation with the District Agriculturists, Field Supervisors, and some technical personnel of the trade, wireworm and cereal disease control trials were set out at Stony Plain, Morinville, Vegreville, Vermilion, Camrose, Sedgewick and Rosebud, all supervised by this Branch. In addition seven fungicide trials were set out in different soil zones and field days held at each point. All of these plots were harvested and results tabulated for use at meetings.

The Crop Protection and Pest Control display was prepared and exhibited at Agricultural Short Courses at Calgary and Lethbridge. Features at the display were (1) Bacterial Ring Rot Control Program in Alberta, (2) Field Crop Insect Control, (3) Rat Control and (4) Coyote Control.

The Supervisor of Crop Protection and Pest Control and his Assistant spoke at 26 Agricultural Short Courses, 2 Service Clubs and 25 other meetings. Twelve Agricultural Service Board and Council meetings were attended on various pest control matters. Four special "Rat Control" meetings were organized and held. Seventy rat reports were investigated and recommendations made. Potatoes were judged at 4 Achievement Days, and cereal grains at 4 others. Five days were taken to survey the army cutworm and the aphid outbreak in southern Alberta, and two weeks were taken on Bacterial Ring Rot survey. There were 18 radio talks and inter-

views made and the Supervisor presented a paper on Pest Control at the Agricultural Institute of Canada Annual Convention, Edmonton. Twenty-four articles on timely topics were prepared and released in the "Farm Notes". A total of 109 field investigations on crop protection problems were made during the year. There were 139 insect and plant disease specimens received for identification and control measures recommended.

Acknowledgment

Sincere appreciation and grateful acknowledgment is hereby made to the many Entomologists and Pathologists of the Canada Department of Agriculture, and the University of Alberta, for providing this Branch with the results of various surveys and for their assistance and information in planning and conducting programs for the control of plant diseases and insect pests.

Appreciation is also gratefully acknowledged to the Department of Zoology, University of Alberta, for the assistance provided in identifying various rodents and other specimens submitted.

Report of the Live Stock Branch

W. H. T. MEAD, Live Stock Commissioner

W. C. Gordon, Live Stock Supervisor
I. A. Coles, Supervisor of Feeder Associations
A. J. Charnetski, Live Stock Supervisor
H. Bauer, Brand Recorder

There was an increase in the number of marketings of all classes of live stock over numbers marketed in 1954. The price situation was not as favorable especially toward the end of the year. Increased marketings of hogs and increased feed supplies resulted in some apprehension on the part of cattle feeders and some decline in feeder prices, but in view of the number of unfinished cattle offered the extra feeder demand created by farmers holding large volumes of unmarketable grain held the prices surprisingly well. Again in a year of difficult grain marketing the sale of live stock was the main source of cash income to many farmers, and those farmers with little or no stock were exceptionally hard pressed for operating expenses.

CATTLE

With a few exceptions in northern districts, cattle came through the winter of 1954-55 in good condition. However, due to the late spring pastures showed little growth until about the middle of May. Losses of young calves were slightly above normal.

Pasture and cattle conditions improved throughout the summer period in most areas and most cattle went into the early winter of 1955-56 in good condition.

Grain supplies are ample and of good quality, but hay and straw are going to be in short supply particularly in northern districts due to the early winter. Farmers were forced to commence feeding in early November and by the first of December fields were heavily blanketed with snow.

Alberta's cattle population reached an all time high in 1954, and there was a further increase in numbers in 1955. Marketing at public stock yards and packing plants increased by 9.03% over 1954. Prices for top slaughter cattle were satisfactory and remained quite constant throughout the year although below 1954 prices at the year's end.

Again, as in 1954, many pure bred breeders held private auction sales and many of these are now established as annual production sales. This appears to be a natural development for the disposal of surplus stock, particularly females, and is indicative of the growth of the Pure Bred industry in the province.

At the eleventh annual Gallinger sale of Shorthorn bulls, thirty head averaged $725.00. The bull "Killearn Alberta Grand 4th" brought the high price of the sale, selling at $3,050.00 to Henry Martin, Steamboat Springs, Colorado.

At the 55th Annual Calgary Bull Sale 785 head averaged $603.85. This was an increase of more than $100.00 per head

over the 1954 average but on 785 bulls as compared to 1,059 the year previous. Most other sales were equal to or slightly higher that the 1954 average prices.

At the Calgary sale Claude Gallinger paid the record price of $10,000.00 for the Shorthorn bull "Rothney Goldenrod"—347158—bred by A. R. Cross, Midnapore. The Hereford bull "Pelican Lake Del Zento 8H"—378834—bred by M. & A. Simonet, Clandonald sold for $6,200.00 to A. T. Hines & Sons, Marwayne. The Aberdeen Angus bull "Blackbird of Coaldale 4th—128447—bred by James Mantler, Coaldale sold for $1,075.00 to P. P. Konschuk of Cluny.

The third Annual Futurity Show sponsored by the Edmonton Exhibition Association was held in conjunction with the bull sale in March. A shorthorn bull owned by Emile Cammaert & Son, Rockyford, won the interbreed grand championship. The female interbreed grand champion was an Aberdeen Angus heifer bred and exhibited by Highland Stock Farm, Calgary.

Formation of an Alberta Polled Hereford Club, with arrangements to sell polled bulls separately at the 1956 Calgary Sale, results from an increasing demand for polled bulls in commercial herds.

Pure bred breeders sold 2,446 beef bulls through fifteen consignment sales at Calgary, Edmonton, Lethbridge, Lacombe, Lloydminster, Medicine Hat, Stettler, Camrose, Olds, Fairview, Vermilion, St. Paul and Sangudo as follows:

	No. Sold	Total Value	Av. Price
Hereford	1,749	$798,870.00	$456.75
Aberdeen Angus	257	104,790.00	407.75
Shorthorn	440	182,832.00	415.53

Estimated number of cattle and calves on Alberta farms at June 1st:

Year	No. of Head
1951	1,563,000
1952	1,754,000
1953	1,910,000
1954	2,010,000
1955	2,085,000

The official reports of the Canada Department of Agriculture show for Alberta the following cattle and calf marketings and total value for 1951 to 1955 (inclusive):

Year	No. of Cattle	Value	No. of Calves	Value
1951	385,660	102,007,070.00	92,649	11,320,781.00
1952	377,032	71,116,000.00	82,223	6,506,000.00
1953	463,424	67,020,000.00	107,107	6,322,000.00
1954	552,296	74,245,151.00	123,732	6,133,395.00
1955	575,570	78,691,930.00	124,949	7,185,817.00

CATTLE AND CALF SHIPMENTS OUT OF THE PROVINCE

	1951	1952	1953	1954	1955
British Columbia	64,869	78,570	95,811	92,560	86,478
Saskatchewan	4,175	1,800	1,865	1,223	1,051
Manitoba	14,047	8,942	16,833	20,558	19,079
Ontario	44,398	16,525	53,931	69,623	58,776
Quebec	13,841	15,122	35,231	43,301	34,941
Nova Scotia	6	60	.....	29	.....
New Brunswick	.....	.....	.....	.....	26
U.S.A.	63,287	2,896	15,779	34,954	12,459
Newfoundland	.....	.....	.....	.....	.....
Prince Edward Island	21	.....	.....	40	.....
	204,644	153,915	219,450	262,288	212,810

THE CATTLE IMPROVEMENT POLICY

The following regulations applied to this policy in 1955.

1. Any bona-fide farmer except a pure bred breeder was eligible to apply for assistance in the purchase of a bull.
2. A total of two bulls may be obtained calcluated from inauguration in 1938.
3. At least two years must elapse between purchase of a first and second bull.
4. Assistance is 10% of the purchase price to a maximum of $50.00 except in pure bred sire areas where assistance is 15% to a maximum of $75.00.
5. (a) An applicant may apply to have the Department purchase a bull of stipulated breed, age and price, in which case, the bull is purchased and freight is prepaid to the applicant's nearest shipping point.
   (b) An applicant may apply on a specific bull from a specific breeder in which case the bull is appraised on the breeder's premises. Freight is not paid by the Department on this type of application.

Five hundred and fifty-eight bulls were placed in 1955. These were by breeds; 309 Hereford, 156 Shorthorn, 69 Aberdeen Angus, 7 Red Poll, 12 Holstein, 3 Ayrshire, 1 Jersey and 1 Galloway.

Four hundred and five bulls were appraised at applicant's request on breeder's premises. One hundred and fifty-three bulls were selected by the Department and shipped prepaid to applicants. Of this number one hundred and five were purchased at bull sales and forty-eight were purchased direct from breeders.

Including bulls purchased at the Edmonton bull sale approximately one hundred bulls were handled through the Live Stock Depot at the Exhibition Grounds.

The following table shows the placement of bulls for the years 1951 to 1955 inclusive:

1951	309
1952	526
1953	677
1954	630
1955	558

LIVE STOCK LISTING BUREAU

This Policy makes provision for placing pure bred breeding stock, male or female, with pure bred breeders and others not eligible to come under the Cattle Improvement Policy. There is no financial assistance on purchase price or freight prepayment on such placements. During 1955 five bulls and four females were placed.

Messrs. Kallal and Gordon visited 370 breeders premises and appraised approximately 980 bulls in connection with the Cattle Improvement Policy. Selections for the Toronto Royal Winter Fair Exhibit required an additional fifty farm calls. They presented part of the program at nineteen Short Courses and meetings. Members of this Branch judged at twelve Summer Fairs, thirty-one 4-H Beef Club Achievement Days at which there were a total of seventy-one Clubs, and four bull sales and two fall female sales.

In the spring of 1955 five field days were organized by District Agriculturists in co-operation with this Branch for discussion and demonstration of dehorning, castrating, branding and vaccination programs. Approximately two hundred and twenty cattle producers attended. Dr. J. G. O'Donoghue, Extension Veterinarian assisted with the program at these field days.

DAIRY HEIFER CALF POLICY

This policy is designed to assist 4-H dairy clubs in obtaining suitable heifer calves for club project work. A club may obtain one calf for each member for three years, so at the end of the project each member should have a calf, a yearling and a two year old. The club forwards an order to the Department together with the purchase price of the calves, the names and location of members and shipping advice. This Branch then arranges to pick up heifer calves in the Edmonton milk shed area, assemble them for shipment, milk feed where necessary and ship either by truck or crated express, prepaid.

The club members pay the full purchase price of the calves which during 1955 was $32.50 each. The Branch personnel makes the selection and the Department pays the cost of assembling, the cost of feeding and delivery charges to the club district.

This policy has made possible the successful operation of dairy clubs in many districts where good dairy heifers were not available locally. During the year 233 calves were assembled and delivered to clubs as compared to 238 calves handled in the previous year.

The supply of calves was good. This permitted a little more careful selection. It also indicated that the price was adequate to attract a good offering.

ARTIFICIAL INSEMINATION

Artificial breeding service conducted at the School of Agriculture at Olds was continued to provide service to pure bred Holstein-Friesian herds in various parts of the Province and grade herds in the Olds district. This service was again endorsed by the Alberta Branch of the Holstein-Friesian Association, but has become a lesser factor in the over all picture of artificial insemination in the Province as other breeding Units come into operation.

The Holstein bull Sovereign Masterpiece was sold for slaughter because his extensive use in the Province had slackened demand, and his vicious nature made it inadvisable to sell him to a private breeder. A replacement bull "Acme Silver Chevron" was purchased in November from Pickard and Clark of Carstairs. This is the first Alberta bred bull to be used in this service.

The following table shows the number of services provided in grade and pure bred herds each year since 1950.

	1951	1952	1953	1954	1955
Grade Herds					
No. of Herds	51	51	58	61	60
No. of cows bred	210	200	195	310	332
Pure Bred Herds					
No. of Herds	119	96	97	87	67
No. of crows bred	436	411	457	367	280
Total grade and pure bred	646	611	652	677	612

A new breeding unit started operation in May in the Lethbridge district. This Unit, along with units at Edmonton and Ryley is obtaining semen from British Columbia. It is also being assisted

for the first year of operation by the Department to the extent of seventy-five cents per service to cover the cost of semen. The Edmonton Unit has continued to operate very successfully.

This Department assisted in the organization of a Unit in the Lacombe district which started operation in February. This unit has operated exclusively on frozen semen obtained from the Ontario Association of Artificial Breeders and shipped by air in bulk shipments from Guelph. It is believed to be the first unit in North America operating entirely on frozen semen shipped any considerable distance. The success of this unit has been beyond the expectations of most observers. The Department is assisting this unit for the first year to the extent of $1.50 per first service to cover the semen cost.

Successful use of frozen semen shipped across Canada may change the whole pattern of possibilities for artificial insemination in the prairie provinces. It may easily eliminate the need of maintaining bull studs in areas of low cattle concentration. Frozen semen allows cattle owners to make a more positive selection of bulls and is very popular for that reason.

As in the previous year, the Department contracted to purchase semen for twelve months for any association that organized on a co-operative basis and had a sufficient sign up of cows to indicate the development of a self-sufficient operation after the initial stage. Units at Lethbridge and Lacombe qualified for this assistance. Small units starting operation under private promotion in the Calgary and Stettler districts did not qualify for assistance.

LIVE STOCK AUCTIONS OTHER THAN PUBLIC STOCK YARDS

Facilities for auction selling of live stock other than public stock yards continued to expand. The expansion was largely in the form of privately operated weekly auctions. At the year end approximately twenty-five such auctions were in operation.

The purely co-operative sales of ranch cattle continued at the same points but fewer cattle were sold than in 1954. A total of 30,649 cattle and calves were inspected through these sales, compared to 37,355 the previous year. Most of the reduction took place in the South Western part of the Province.

Privately owned weekly auctions were inspected only at those points where volume was sufficient to attract other than local farmer buyers. The inspection covered, on the average five sales per week. Totals inspected through these sales were 41,260 cattle and 1,474 horses.

LIVE STOCK FEEDER ASSOCIATIONS

Twenty-four associations operated under The Feeder Associations Guarantee Act in the 1954-55 feeding season. These associations had 559 members who fed 13,307 cattle and 10,434 sheep, utilizing a credit of $1,232,701.01.

Cattle feeders received good profits from the season's feeding operations, but lamb feeders received only a small margin.

All loans under the 1954-55 guarantees have been repaid.

Outstanding loans under the 1952-53 guarantees amounted to $4,031.86 as at September 1st, 1955. This amount was owing by

the Wainwright-Edgerton-Chauvin Association Limited. This Association has not operated since the 1952-53 season and has resolved to go into voluntary liquidation.

Outstanding loans under the 1951-52 guarantees at September 1st, 1955 totalled $73,877.74 as compared to $95,779.07 as at September 1st, 1954. This amount includes $22,396.60 paid to the Treasury Branch, Red Deer by the Provincial Treasurer through implementation of the 1951-52 guarantee to the Condor Feeders' Association Limited by Order-in-Council 69/55 and represents the unpaid balance of borrowings authorized by Order-in-Council 1113/51, as at January 20th, 1955, and represents the losses sustained by the members of the Condor Feeders' Association Limited from their 1951-52 operations.

Outstanding loans under the 1951-52 guarantees, resulting from market conditions following the diagnosis of Foot and Mouth disease in Saskatchewan in February 1952, have necessitated continuation of a policy whereby associations with outstanding loans under the 1951-52 guarantees could continue to operate under certain conditions and therefore would be able to reduce these outstanding loans by continued feeding operations.

Total loans outstanding under the 1951-52 guarantees amounted to $493,827.09 as at September 1st, 1952 and were reduced to $73,877.74 as at September 1st, 1955 as a result of the above policy. In the same period the number of associations with outstanding loans under the 1951-52 guarantee were reduced from 25 to 14.

FEEDER ASSOCIATION OPERATIONS 1954-55 SEASON

Association	Members	Cattle	Sheep	Amount of Credit
Andrew-Willingdon	12	206	.....	$ 14,932.56
Battle River	46	1,281	.....	101,667.71
Bowden	13	322	.....	32,944.80
Bow Valley	39	1,131	919	98,250.58
Carstairs	21	465	135	48,398.88
Central Alberta	12	342	350	30,454.04
Eagle Hill	23	521	.....	44,995.99
East Bow Valley	34	1,071	547	92,202.15
East Central	28	813	154	70,422.44
East Olds	19	499	.....	42,881.00
Garden City	16	261	1,016	36,113.06
Horse Shoe Lake	10	262	.....	25,025.39
Innisfail	9	202	.....	18,311.10
Kneehill Valley	26	729	.....	67,096.63
Mannville	43	939	.....	68,105.92
Marwayne	23	568	.....	47,522.29
Ponoka	25	537	.....	52,962.06
Raven	17	287	.....	19,375.01
Raymond-Magrath	20	705	955	69,563.46
South Slope	30	550	1,796	64,818.07
Taber	14	249	1,140	43,989.75
Tilley-Rolling Hills	48	737	3,422	98,042.93
Vermilion	28	584	.....	41,783.86
Westlock	3	46	.....	2,841.33
	559	13,307	10,434	$1,232,701.01

FEEDER ASSOCIATION OPERATIONS 1938-39 TO 1954-55

Feeding Season	No. of Associations	Members	Cattle	Sheep	Credit
1938-39	6	180	9,239	19,187	$ 368,421.45
1939-40	12	351	16,248	20,287	775,125.21
1940-41	12	451	17,056	37,863	954,489.50
1941-42	15	408	14,945	41,157	1,117,186.08
1942-43	17	437	13,279	31,452	1,092,768.43
1943-44	16	395	11,639	53,768	1,191,641.50
1944-45	15	257	7,968	46,537	834,347.71
1945-46	15	319	9,556	60,845	1,098,291.77
1946-47	13	245	7,057	37,036	729,447.90
1947-48	13	239	8,088	26,241	859,922.29
1948-49	13	212	4,784	13,020	837,732.21
1949-50	10	237	4,978	8,948	622,759.22
1950-51	11	291	5,615	4,381	917,400.70
1951-52	26	642	11,236	6,750	2,328,596.59
1952-53	25	447	9,704	7,068	1,178,834.14
1953-54	23	428	9,538	8,250	919,327.06
1954-55	24	559	13,307	10,434	1,232,701.01
		6,098	174,237	433,224	$17,059,102.76

SHEEP AND SWINE

Swine

Swine production in Alberta gained slightly over the previous year. Marketings indicate an increase of approximately 19% over 1954. Large quantities of low quality grains no doubt contributed to this increase despite lower hog prices. Hog marketings for the whole of Canada increased by 17% over 1954.

The weekly hog prices at Edmonton for Grade A carcasses fluctuated between a high of $27.85 per cwt. during the week of June 25th, (1954 high was $35.75) and a low of $20.00 for the week of December 17th, (1954 low was $22.50). The average for the year was $23.35 per cwt. Grade A basis for coast shipments.

The export of pork products to markets outside of Canada are to be credited with the holding up of hog prices, as our Canadian pork production considerably exceeded domestic consumption. Export of pork products was based on the high quality product and not because the importing countries required more pork. This angle of high quality product should be realized by all of our hog producers. Canadian exports consisted of approximately 8,000 live hogs and 55 million pounds of dressed pork—this would approximate a total of about 558,000 live market hogs, or almost ten per cent of the total Canadian hog marketings. If it is our sincere desire to increase pork consumption at home and also to provide sufficient top quality product for export, the hog producers of this province must make every effort to produce a higher percentage of Grade A hogs from the present level of eighteen per cent.

Larger off-grade price discounts became effective in April 1954, which remain at the following differentials:

Grade	Discount Basic Price
A Grade	
B1 Grade	$1.00 per cwt.
B2 Grade	1.25 " "
B3 Grade	1.60 " "
C Grade	3.00 " "
Heavy Grade	3.25 " "
Extra Heavy Grade	4.75 " "

Apparently, the above wider discounts were necessary because of heavier fat trims indicated when preparing pork cuts for retail trade from lower grading hogs as compared to the top grade. This wider price differential has had practically no effect on the grade of hogs marketed in 1955. The 1954 percentage of Grade "A" 's was 18.22% and this year it is 18.90%; grade "C" 's were 13.88%

compared to the 1955 percentage of 15.01%. As recently as 1950, Alberta had 25% A grade hogs and only 6.28% C grade hogs.

Considering the prices of commercial market hogs, purebred breeders had a good year. Demand for good breeding stock was high. The Calgary Spring Sale was very good. The average for Yorkshire boars was $167.00 and for gilts, $73.00; bred sows averaged $136.00. Tamworth gilts averaged $82.50 and Tamworth bred sows averaged $103.00. The high for Yorkshire boars was $335.00, and for sows $295.00. The high Tamworth sow sold for $180.00. The Calgary Fall Sale averaged $85.06 for all boars and $65.21 on gilts. Calgary had a high of $420.00 on Yorkshire boars and $160.00 on a gilt. The high Tamworth boar at Calgary sold for $105.00 and the high gilt sold for $95.00. The Edmonton Spring Swine Sale had an average of $111.75 on Yorkshire boars and $97.21 on Yorkshire sows. The high boar was $290.00 and high sow sold for $250.00. Tamworth boars averaged $91.66 and sows averaged $71.62. The high Tamworth boar sold for $177.50 and high Tamworth sow sold for $97.50. The Edmonton Fall Sale averaged $81.50 on Yorkshire boars and $73.21 on Yorkshire gilts. Tamworth boars averaged $93.75 and gilts $66.32. The high at the Edmonton Sale for Yorkshire boars was $245.00 and the high gilt sold for $135.00. The high Tamworth boar sold for $145.00 and high Tamworth gilt sold for $100.00

Apart from Calgary and Edmonton, purebred swine sales on a regional basis were held. These local sales are serving a good purpose by providing a broader outlet for breeding stock. With the exception of one, all local sales took advantage of the Department's revised Swine Improvement Policy "B". Prices at these regional sales ranged from $30.00 to $115.00.

The following table gives the total number of boars and sows sold through consignment sales in 1955 in Alberta:

Price Averages Covering All Alberta Purebred Swine Sales

	1955	
	No.	Av. Price
Yorkshire boars	387	$87.67
Yorkshire sows	537	86.88
Tamworth boars	63	83.09
Tamworth sows	68	72.63
Total and average	1,055	$86.02

Two special swine field days were held, at which type, quality, feeding, and diseases were discussed. Members of the Veterinary Services Branch co-operated in these field days. Despite unfavorable weather conditions, attendance was good, and interest was excellent.

Considerable time and travelling was necessary during the year in attending meetings, culling swine herds; advising and outlining clean-up programs and in judging at various sales and shows. At the conclusion of the sheep report, statistical data is included to cover part of this work.

SWINE IMPROVEMENT POLICY

The Swine Improvement Policy in Alberta came under close scrutiny during the early part of the year, resulting in major revisions and broadening in scope and application to include various

practical methods for distribution and production of desirable and healthy swine seed stock.

The original Swine Improvement Policy was revised into Sections "A" and "B", which became effective on July 1st, 1955.

In order to encourage wider distribution of desirable bacon type boars, the new section "A" provides for the supplying of boars, selected by the Department, to eligible applicants (one boar to each bona fide applicant in each two-year period) at cost; prepayment of shipping charges and a bonus allowance of $5.00 on boars costing $50.00 or less, and $10.00 on boars costing over $50.00.

Section "B" of the Policy provides for payment of similar scale of bonus on boars purchased in each two-year period by bona fide farmers personally attending regularly organized swine sales. The purchaser, at time of settlement for the boar selected and purchased by himself, completes an application form which is submitted by the Sales Association to the Department for review and payment of bonus, if applicant is eligible in accordance with the rules and regulations. Policy "B" is confined to sales conducted by an Exhibition Association, Agricultural Society or Live Stock Association, and before it is applicable, the sale agency must agree to inspection for quality of all boars accepted for sale, by a committee of two or three persons, one of whom is appointed by the Department. The sale agency must also require veterinary inspection of each contributor's herd for infectious diseases within thirty days prior to the date of sale. These are practical, precautionary measures to assure that only boars of desirable bacon type from disease-free herds are distributed under the Alberta Swine Improvement Policies. Those who do not qualify under any of the above policies are serviced under the Live Stock Listing Bureau (L.L.B.) which may include placement of selected boars in purebred swine herds.

ADVANCED REGISTRY SWINE ASSISTANCE POLICY

This is a new policy of the Alberta Department of Agriculture. It became effective on April 1st, 1955. It has been reasoned that before Swine Improvement Policies "A" and "B" can become more effective, we must have more breeders with larger and more consistent output of superior quality boars of known and tested ancestry for production of larger percentage of A grading pigs. It is felt that the Federal Department of Agriculture's policy of Advance Registry testing of pure bred seed stock is sound. Unfortunately, a sufficient number of breeders have not been testing their stock. Therefore, the policy in question was brought out to encourage more consistent testing by offering bonuses on qualified sows on the following basis:

(a) Sows qualifying under Advance Registry with a score of 87 or over are bonused at $50.00 each.

(b) Sows qualifying under Advance Registry with a score of 81 to 86 inclusive are bonused at $40.00 each.

(c) Sows qualifying under Advance Registry with a score of 75 to 80 inclusive are bonused at $30.00 each.

However, each applicant for a bonus must agree to periodic veterinary inspection of his herd for freedom of infectious swine

diseases. Bonuses are paid only on disease free herds. Veterinary inspection is made by a member of the Alberta Veterinary Services, free of charge to the farmer.

Tables given hereunder indicate statistical figures of swine placements under the various policies. The following table gives placement of pure bred swine from 1950 to 1955 inclusive (1955 to July 1st, when Policy "A" became effective):

	Live Stock Listing		Impro. Policy	Total
	Gilts	Boars	Boars	Boars
1950	8	4	119	123
1951	5	5	129	134
1952	15	6	135	141
1953	6	16	107	123
1954	16	24	136	160
1955 (to July 1st only)	12	14	65	79

Boars Placed Under Swine Improvement Policy "A" and Live Stock Listing Bureau from July 1st to December 31st, 1955

Breed	Policy "A" Bonuses at $5.00	Policy "A" Bonuses at $10.00	L.L.B. Boars	L.L.B. Gilts	Total Boars	Total Bonuses Allowed
Yorkshire	0	74	8	15	82	$750.00
Tamworth	0	12	1	0	13	120.00
Total	0	86	0	15	95	$870.00

Total boars placed in 1955—174.
This total inclues 24 Tamworth boars.

Policy "B" Bonus Paid on Inspected Boars Through Sales

1955 Sale Bonus		Calgary $5	Calgary $10	Camrose $5	Camrose $10	Edmonton $5	Edmonton $10	Sangudo $5	Sangudo $10	St. Paul $5	St. Paul $10	Total Boars Placed	Total Bonuses Paid
Yorkshire	No.	.....	44	.....	19	.....	90	4	9	6	7	179	$1,740.00
Tamworth	No.	.....	7	.....	.....	.....	16	3	5	.....	2	33	315.00
TOTAL	.....	.....	51	.....	19	.....	106	7	14	6	9	212	$2,055.00

The Advanced Registry Swine Assistance Policy

Year	Breed	Bonus Paid On Yorkshire Sows $30.00	$40.00	$50.00	Total No. Sows	Total Paid Out
1955	Yorkshire	10	3	7	20	$770.00

Estimated Number of Swine on Farms in Alberta at June 1st

1951	1,088,000
1952	1,170,000
1953	1,180,000
1954	1,408,000
1955	1,620,000

ALBERTA HOG GRADING FOR YEARS 1951 TO 1955 INCLUSIVE

	1951 %	1952 %	1953 %	1954 %	1955 %
Grade A	25.12	21.43	19.92	18.22	18.90
B1	43.04	42.86	44.70	44.26	42.77
Grade B B2	3.77	3.52	4.00	3.80	4.47
B3	7.12	7.87	6.80	6.31	5.58
Grade C	6.69	8.81	11.90	13.88	15.01
Light	1.06	1.18	1.20	1.25	2.01
Grade D	0.51	0.48	0.05	0.56	0.71
Heavy	3.00	3.74	3.00	2.79	2.53
Extra Heavy	2.56	3.32	2.40	2.26	1.94
Injured	0.05	0.04	.....	0.04	0.03
Rgl.	0.54	0.53	0.05	0.54	0.53
Stags	0.49	0.41	0.05	0.47	0.47
Sows	6.05	5.81	4.60	5.62	5.05

SUMMARY OF ALBERTA HOG CARCASSES GRADED AT ALL INSPECTED PLANTS, 1951-1955

Year	"A"	"B1"	"B2"	"B3"	"C"	"D"	Light	Heavy	Extra Heavy	Injured	Ridg-lings	Stags	Sows	Total No.	Total Sales Value
1951	240,605	412,267	36,098	68,194	64,057	4,888	10,121	28,703	24,558	446	5,188	4,727	57,921	957,773	$49,411,433.00
1952	291,912	583,855	47,949	107,172	119,983	6,547	16,031	50,904	45,262	522	7,248	5,570	79,187	1,362,142	52,674,108.00
1953	285,359	640,296	56,566	97,929	169,898	7,298	17,075	43,138	34,007	257	7,728	6,821	66,066	1,432,438	66,659,142.00
1954	266,366	647,052	55,523	92,205	202,913	8,151	18,217	40,754	33,003	544	7,882	6,950	82,210	1,461,770	66,829,792.00
1955	318,653	721,081	75,311	94,125	253,021	11,950	33,875	42,588	32,758	600	8,919	7,856	85,150	1,685,887	60,324,854.00

Sheep

Sheep producers experienced an uneventful year. Sheep expansion appeared to slow down, possibly because of recession of market prices, also because of publicity given to importation of mutton and lamb, which shows progressive increase from year to year. The greatest production increase is observed in sub-marginal areas. There was an increase of enquiries regarding feasibility of sheep production in irrigated land. There were several enquiries from eastern Canada regarding suitable areas for sheep ranching. It is too early to predict trends in this direction if grain marketing does not improve. No doubt much will depend upon trends in beef cattle markets.

The matter of black fibres in black-pointed sheep is giving some concern to many owners of grade flocks. For this reason, white faced rams are becoming more popular for crossing with the black faced ewes.

An importation of over one hundred pure bred Columbia ewes and several rams was made by Mr. & Mrs. Curt Smith of Wetaskiwin. This importation came from the famous White Ranching Company of Montana. These are large bodied, rather upstanding, heavy wool producing sheep; displaying considerable docility under grazing and yarding conditions. They appear to be nearer to the kind and type of sheep to fit the average central and northern Alberta requirements for a utility sheep.

The accompanying pictures indicate the general type and conformation of the Columbia ewes and rams.

Purebred Columbia sheep imported into Alberta from U.S.A., 1955.

Purebred Columbia Rams.

The price of good market lambs at the Edmonton Stock Yards varied from an average high of $23.40 for the week-end of July 9th, to a low of $15.90 per cwt. for the week-end of October 15th. The average for the year was $18.92 per cwt. In 1954, the high was $24.00 and low $16.00, therefore, for all practical purposes, it can be said that lamb prices remained at about the same level for the past two years.

The finishing of lighter lambs and of thin ewes in feedlots continues to be popular, although price spreads of feeder lambs compared to finished lambs has narrowed in the past two years. The practical price range of feeder lambs going into feedlots this year was from $15.50 to $16.00 per cwt, and of feeder ewes, $3.50 to $5.00 per cwt. It is estimated, on fairly reliable information, that there are approximately 57,000 lambs and 2,800 feeder ewes on feed this winter. The movement of sheep and lambs into Alberta was reported as 13,835 head.

On the average, wool clips were somewhat higher in 1955. The average wool clip per head in Alberta was approximately 8.2 pounds, compared to the Canadian average of 7.4 pounds per head. Those who fed their flocks on better quality feed reported heavier clips compared to poorly wintered flocks. Wool prices averaged about thirty-four cents per pound for domestic wool and thirty-six cents per pound for range wool. The total wool clip for Alberta in 1955 was 2,214,000 pounds and for Canada 6,810,000 pounds.

Two 4H Sheep Clubs completed their projects in 1955. They were Okotoks and Abee Clubs. This Branch had rams on loan to these clubs which provided for greater uniformity in the lambs shown on Achievement Days.

The quality of sheep offered at the Calgary and Edmonton sales was not outstanding when compared to previous years. Too many lower quality rams were on offer at Edmonton. The Calgary Sale was somewhat better. Demand for grade breeding ewes was very good, for the quality offered. Edmonton rams averaged $46.41 compared to $45.65 in 1954. Purebred ewes averaged $27.53 compared to the 1954 average of $30.34. There were no grade ewes at the Edmonton Sale this year.

SUMMARY OF PUREBRED AND GRADE SHEEP SALES AT CALGARY AND EDMONTON

	1955	
	No. Sold	Average Price
Suffolk Rams	136	$ 73.69
Suffolk Ewes	150	55.91
Hampshire Rams	52	56.83
Hampshire Ewes	18	31.94
Cheviot Rams	15	51.50*
Cheviot Ewes	16	26.22
N.C. Cheviot Rams	3	115.00
N.C. Cheviot Ewes	4	90.00
Corriedale Rams	21	71.67
Corriedale Ewes	6	43.75
Southdown Rams	4	49.25
Southdown Ewes	13	25.23
Oxford Rams	6	33.33
Oxford Ewes	0	.....
Total Purebred Sheep and Average	444	$ 59.30
Grade Ewes	107	16.80

*North Country Cheviot Rams included at Edmonton Sale.

Sheep Shearing Schools required more time this year. The popularity and demand for this type of service increased. There was a total of twelve schools with an average attendance of thirty-nine by count, at the following points: Beach Corner, Lac La Biche, Hays, Stavely, Caroline, Warburg, Heath, Vermilion, Mallaig, Bonnyville, Flatbush, and Hythe in the Peace River district. These are conducted as working schools where all participants take actual part in shearing and preparing of wool for market under experienced supervision. Management of flocks and disease are also dealt with and demonstrated under farm conditions. As in previous years, the University of Alberta, Dominion Production Services and the Alberta Provincial Sheep Breeders, represented by Mr. Robert Shopland, co-operated. Mr. Shopland especially deserves much credit for his personal help at all of these schools. Power sheep shearing was demonstrated by Charles Stephens and hand shearing was demonstrated by Mr. Harry Sams.

There was considerable demand for service to this office in connection with sheep work from all parts of the province. Problems in feeding and management were of foremost importance. Work in connection with 4H Sheep Clubs and judging at various fairs occupied considerable time. Many meetings on sheep and swine were addressed and illustrated by means of appropriate slides at the request of the various District Agriculturists, who at all times, showed excellent co-operation and assistance.

The following table indicates actual meetings or Field Days addressed from 1951 to 1955 inclusive.

Year	No. of Meetings	Total Attendance	Average Attendance	No. Farm & D.A. Visits
1951	34	2,909	85	109
1952	35	3,173	90	295
1953	40	1,826	45	246
1954	92	4,413	48	214
1955	58	3,000	52	219

THE SHEEP IMPROVEMENT POLICY

There were no revisions or changes in the Sheep Improvement Policy in 1955. It continued to operate on the basis of providing at cost either one or two rams in each two-year period per each bona fide applicant, including prepayment of express or freight shipping charges. Those not qualifying under the policy were serviced under the Live Stock Listing Bureau (L.L.B.) which does not provide for prepayment of shipping charges.

The following table indicates sheep placement for 1952 to 1955 inclusive.

	Live Stock Listing Bureau		Impr. Policy	Total
	Ewes	Rams	Rams	Rams
1952	36	2	38	40
1953	33	2	28	30
1954	4	5	35	40
1955	164 (Grades)	7	34	41

Of the rams, 23 were Suffolk, 6 Romnelet, 1 Southdown, 1 Columbia, 6 Hampshire, 3 Cheviot and 1 Oxford.

ESTIMATED NO. OF SHEEP ON FARMS IN ALBERTA AT JUNE 1st

1948	448,600	1952	387,000
*1949	441,800	1953	432,000
1950	414,500	*1954	440,000
1951	330,500	1955	460,000

*Corrected estimates.

ALBERTA SHEEP AND LAMB MARKETING

	LAMBS				SHEEP	
	Good	Common	Bucks	Feeders	Good	Common
1953	81,108	10,287	1,813	5,994	5,106	2,050
1954	91,071	11,102	622	8,646	3,436	2,536
1955	110,037	12,535	1,278	10,138	4,015	2,376

ALBERTA COMMERCIAL SHEEP MARKETING AND VALUES

Year	Stock Yards	Plants	Direct Export	To Country Points	Total	Value
1950	36,520	59,283	68,323	4,051	168,177	$3,745,302.00
1951	36,062	51,658	5,044	4,160	96,924	2,674,386.00
1952	43,749	84,862	87	4,388	133,086	2,432,392.00
1953	33,101	73,257	822	5,343	112,523	1,833,850.00
1954	37,230	80,183	46	4,766	122,225	1,800,646.00
1955	44,102	96,277	4,833	2,138	147,350	2,107,026.00

EXPORT OF PURE BRED SHEEP FROM ALBERTA TO U.S.A.

Year	No. of Head
1952	44
1953	316
1954	192
1955	452

CANADIAN EXPORT OF SHEEP AND LAMBS

	To United States		Total Export	
Year	No.	Value	No.	Value
1951	31,387	$1,072,332	31,727	$1,078,406
1952	357	14,323	611	20,140
1953	2,004	140,267	2,347	145,910
1954	1,798	81,901	2,402	91,732
1955	8,537	232,942	8,874	239,263

CANADIAN EXPORT OF MUTTON AND LAMB

	To United States		Total Export	
Year	No. of lbs.	Value	No. of lbs.	Value
1951	2,677,700	$1,657,845	2,737,200	$1,697,897
1952	11,100	4,527	46,300	30,307
1953	2,900	879	51,900	28,664
1954	23,100	9,491	53,000	28,225
1955	238,100	94,120	272,600	110,553

CANADIAN IMPORT OF MUTTON AND LAMB
(Pounds)

Imported From:	1951	1952	1953	1954	1955
United Kingdom	7,660	2,270	5,900	5,356	5,544
United States	51,877	86,843	1,796,700	622,307	245,369
Australia	1,839,748	980,281	989,737	2,759,391	3,374,279
New Zealand	1,554,839	1,422,431	1,952,752	3,907,796	7,176,008
Other Countries	54,080	169,524	.....	.....	.....
TOTAL	3,499,204	2,661,349	4,745,089	7,294,850	10,901,200

HORSES

Demand for horses by processors became stronger and resulted in higher prices. The practical average price for meat horses was around four or five cents per pound. Approximately 27,800 horses were inspected by all brand inspectors. About 27,000 of these horses went direct to killing plants.

About three hundred horses sold through the Calgary horse sale in April with about half of them going to processors. The average price was slightly higher than the previous year largely because of a higher price on the meat horses.

Letters of enquiry regarding the horse business indicated a little stronger interest in breeding, than has been evident for a number of years. Deep snow in the early fall created a stronger demand for chore teams.

The horse population was estimated at June 1st to be 176,000 head compared to 197,000 head the previous year.

TORONTO ROYAL WINTER FAIR

The 1955 Toronto Royal Winter Fair was held November 11th to 19th. Nineteen carloads of Alberta live stock were shipped via Canadian Pacific Railway leaving Edmonton October 31st and picking up the balance of the shipment in Calgary November the 1st.

This is the largest shipment ever essembled in Alberta for exhibition at the Royal Winter Fair. The increase from twelve cars in 1954 to nineteen cars in 1955 was accounted for by larger entries in the car load and groups of five steer classes, Shorthorn and Red Poll cattle, and the sheep and hog exhibit. Some increase in numbers can undoubtedly be attributed to the greater number of live stock fitted for the 1955 Jubilee shows.

The shipment comprised 23 horses, 83 market cattle, 57 beef breeding cattle, 24 dairy cattle, 11 dual purpose cattle, 62 sheep and 33 hogs.

Breed associations selectors completed their work by mid-September to allow exhibitors to have their entries made by closing date which was October 8th.

Freight costs were borne seventy-five per cent by the Dominion Department of Agriculture and twenty-five per cent by the Provincial Department. The Alberta Department of Agriculture paid cost of selection, decking and feed costs in connection with the shipment.

The exhibit was of good quality as well as size and took five grand championships, five reserve grand championships, six championships and six reserve championships.

The following table shows the prizes won by Alberta Exhibitors:

	Horses	Cattle	Sheep	Swine	Total
Grand Champion	1	4	1*	.....	5
Reserve Grand Champion	1	3	.....	1	5
Senior Champion	1	3	.....	1	5
Reserve Senior Champion	1	1	.....	.....	2
Junior Champion	.....	4	.....	.....	4
Reserve Junior Champion	1	3	.....	.....	4
Championships	1	3	2	.....	6
Reserve Championships	.....	1	5	.....	6
1st Prize	5	24	13	2	44
2nd Prize	5	17	12	5	39
3rd Prize	2	12	9	1	24
Other Prizes	8	74	29	16	127
	26	149	71	26	272

*The Champion Suffolk ewe exhibited by Grenville & Trentham was named Supreme Champion of the show in competition with the Champion ewes of all other breeds.

Hardy E. Salter, Calgary, exhibited the Grand Champion Percheron mare. Lloyd Lohr, Erskine, exhibited the Champion Percheron gelding. Richard Brothers, Red Deer, exhibited the Grand Champion Ayrshire bull and T. G. Hamilton, Innisfail, the Grand Champion Shorthorn female.

J. A. Paul, Okotoks, had an outstanding Hereford exhibit winning the awards for Grand Champion bull, Reserve Grand Champion female and Premier Exhibitor and Premier Breeder banners.

P. J. Rock & Son, Drumheller, exhibited the Champion Suffolk ram and Grenville and Trentham, Morrin, showed the Champion Suffolk ewe. This ewe was also named Supreme Champion of the show winning the Government of New Zealand Trophy.

The Alberta steer exhibit was very strong. E. F. Noad, Pincher Creek showed the Champion Hereford steer which went on to win the Grand Championship. Alan G. Wilson, Duhamel, showed the Champion Shorthorn steer and T. J. Noad, Olds, the Champion car load of steers.

The Grand Champion Ayrshire bull at the Royal Winter Fair exhibited by Richards Brothers of Red Deer.

THE STOCK INSPECTION ACT

Further increases in the number of stock marketed coupled with the trend of decentralizing the cattle markets placed a heavy burden on the brand inspection service. The increased tempo of marketing, brought about by more country auctions and swift movement of more and more stock by truck shipment has not only increased the need for vigilance but has also increased the difficulty of making the services of qualified inspectors available at all times when requested.

Inspection was conducted continously at the Edmonton, Calgary, Lethbridge, Lloydminster and St. Boniface stockyards. All stock going direct to plants at these points were also inspected. Deputy brand inspectors conducted all inspections in the Pincher Creek area and at weekly or semi weekly sales at Olds, Red Deer, Ponoka and Stettler.

Inspections in the Medicine Hat area including the Walsh sales, were conducted by a fully qualified member of the R.C.M. Police. Members of the regular R.C.M. Police detachments carried out inspections at certain points where infrequent service was required, particularly on out of Province shipments.

All inspectors, deputy inspectors and R.C.M. Police worked approximately 300 sales held at points other than public stockyards and packing plants.

A total of 849,903 inspections were made into all markets as compared to 779,528 head in 1954, for an increase of about eight per cent over the previous year.

Inspection of cattle going back to feedlots, cover crop and pasture, on which buyers were given brand clearance totalled 142,572 head, an increase of 20.3% over the previous year.

The total of all inspections in and out of markets covered 992,475 head of stock, an increase of 10.5 per cent over all inspections in the previous year.

The proceeds of sale of approximately 1,000 cattle were held up by various inspectors at the different markets for further proof of ownership. Thirty-five separate cases were forwarded to the Live Stock Commissioner's office for final determination of ownership.

Close and effective co-operation was maintained between inspectors and R.C.M. Police personnel.

A meeting between head office personnel and the inspectors in charge at Edmonton, Calgary, Lethbridge and Lloyminster was held in December and brought out possibilities for further adjustments for improvement of the service. Present day marketing methods apparently require greater concentration of attention by all enforcement agencies to truck movement of stock within the Province and to movement along and across the Alberta-Saskatchewan border. It was agreed that special attention be given to bringing this about in the coming year.

During the year a much improved system of tabulating butcher and hide dealer reports was inaugurated. An inspector made at least one visit to all butchers and hide dealers. During the process of these visits the inspector contacted all R.C.M. Police detachments to discuss movement of stock, brands, stock inspection and

use of local butcher's records. A total of 327 butchers and hide dealers were licensed throughout the Province.

THE IMPROVEMENT DISTRICT STRAY ANIMALS ACT

The operation of pound districts in local improvement districts continued with very little difficulty. While the Act has been very satisfactory, indications are that there is need for clarification of eligibility of signers for a pound district. An amendment to clarify that section and to include goats under "Mischievous Animals" was requested in 1956 legislation. As the Province develops and new areas are brought into Municipalities a certain number of pound districts are absorbed. At the year end there were approximately 110 pound districts in operation as compared to 130 the previous year.

During the year poundkeepers were reimbursed $10.00 per head on nine horses that were left in pounds as useless or unsaleable.

ALBERTA LIVE STOCK AND LIVE STOCK PRODUCTS ACT

Amendments to this Act, providing authority for classification and licensing of stockyards, and clarification of authority for bonding live stock dealers were passed in 1954 and 1955. During 1955 regulations providing for licensing and governing the location and construction, and the operation and health inspections, of two classes of stockyards were drawn up and passed to become effective at January 1st, 1956. The two classes affected are buying stations located apart from packing plants and public yards, and country auction markets selling live stock on a weekly or semi-weekly basis. These are designated respectively as "Class C" and "Class D" stockyards.

Regulations were drafted and passed to become effective January 1st, 1956 which clarified the definition of a live stock dealer and require that all live stock dealers be licensed and bonded. A bond in favor of the crown in the amount of $2,000.00 where no agents are employed; $5,000.00 when agents are employed, or for a greater sum in either case if required by the Minister, must be submitted before a license is issued.

During the year 485 live stock dealers and 158 live stock dealers agents were licensed under the old regulations. No dealers were bonded. Two licenses were cancelled, one license was suspended and several applications were rejected for failure to establish suitable financial responsibility.

Licenses were issued to three wool warehouses and six wool collectors and buyers. A number of investigations of complaints from producers and shippers were made under authority of the Act and in all cases a satisfactory settlement was arrived at.

RECORDING OF BRANDS

Interest in registered brands remained high. New registrations were only slightly below the high figure of the previous year. Following is a record of brand transactions carried out during the year. While renewals appear to be low at the end of December in

relation to the number of renewal notices mailed out, it is anticipated that renewals by March 31st will be as high as the previous year.

	Cattle	Horses	Sheep	Poultry	Fox	TOTAL
New Brands Issued	1,810	123	.....	2	.....	1,935
Transfers registered	248	29	.....	.....	.....	277
Certified Extracts issued	.....	.....	.....	.....	.....	9
Searches conducted	.....	.....	.....	.....	.....	39
Brands Renewed	2,346	360	1	2	1	2,710
Brands cancelled	121	52	.....	.....	.....	173
Total transactions	4,525	564	1	4	1	5,143

Brand renewal notices mailed.

Cattle ..... 5,686 Horses ..... 1,084 Total 6,770

The approximate number of brands in good standing as at December 31st, 1955:

Cattle	25,349
Horse	4,051
Sheep	19
Poultry	24
Fox	9
Total	29,452

A record of the number of letters forwarded from this office was kept for the period January 1st, 1955, to and including November 30th. For the most part these letters dealt with information on brands and instructions regarding brand transfers.

Jan.	253	May	356	Sept.	93
Feb.	311	June	231	Oct.	131
Mar.	385	July	147	Nov.	208
Apr.	344	Aug.	181		

The total for this eleven month period is 2,640.

The 1954 edition of the brand book was received from the printer early in January.

During the year work was started in transferring the brand record from the old ledger system to a Remington Rand Kardex filing system. Due to late arrival of equipment the transfer could not be started until July and was discontinued when renewal notices had to be prepared in October. Transfer was made of current cattle brands in good standing from the letter A to the letter P. This work was greatly handicapped by lack of office space which prevented the services of any additional help to that required for the regular brand office duties. Typing of cards was largely carried out in the general live stock branch office.

It is estimated that when the new system is functioning the various steps necessary in recording brands will not require more than one half the time and effort needed under the old system.

Notice of resignation to take effect on January 20th, 1956, was submitted by Mr. H. Bauer, brand recorder. Mr. Bauer's excellent service during his relatively short period in the position of brand recorder assisted greatly in making possible the design, and initial steps in the change over to a more efficient recording system. Mr. A. Johnson was appointed to succeed Mr. Bauer as Brand Recorder.

THE HORNED CATTLE PURCHASES ACT

Figures compiled from the stock inspection records indicate a gradual reduction in the number of horned cattle marketed. It is evident however, that in mixed farming districts producers are more inclined to neglect dehorning of calves, thereby putting the responsibility on feeders who buy their cattle and in some cases

prefer to leave the horns rather than risk loss by dehorning at the age of yearlings. A great many producers either fail to realize that feeder buyers discriminate against a horned calf or yearling to a greater extent than the horn penalty, or are prepared to accept the price reduction rather than dehorn their calves.

The demand for natural polled bulls is stronger each year. The Hereford breed in particular is noticeable in this respect. This trend is undoubtedly going to have an increasing effect on reducing horns in the future.

The following table shows the percentages of cattle with horns, marketed at the main market centres in the years listed.

	1949	1952	1953	1954	1955
Calgary	15.6	13.8	12.7	10.2	9.5
Edmonton	19.9	19.7	18.4	15.7	14.6
Lethbridge	.....	11.9	11.6	9.4	9.8
St. Boniface (Alta. cattle)	13.0	16.8	10.5	8.0	6.5
Community Co-op Auction Sales	10.4	5.3	4.9	3.2	4.1
Lloydminster	.....	.....	.....	.....	8.0
Country Auction Marts	.....	.....	.....	.....	8.3
Provincial average	17.4	16.2	15.0	12.5	11.4

PURE BRED SIRE AREAS

Scattered interest was evident in a few areas but no additional pure bred sire areas were organized. The sire areas in operation in the Municipal Districts of Vermilion and Athabasca continued to operate satisfactorily.

Acknowledgments

Good co-operation was received from the various live stock organizations. These include the various breed associations, the sale associations, exhibitions, agricultural societies, the Western Stock Growers and the trade in general.

The R.C.M. Police again gave excellent support in matters of investigation and enforcement. One inspector of this branch visited nearly all detachments during the year and was welcomed in discussion of matters related to live stock regulations.

The co-operation and support of all such organizations is greatly appreciated and hereby acknowledged.

Report of the Dairy Branch

D. H. McCALLUM, Dairy Commissioner

L. M. Silcox, Supervisor, Dairy Factory Inspection and Instruction
J. B. Linneboe, Supervisor, Dairy Branch Laboratory
R. P. Dixon. Supervisor, Dairy Cattle Improvement
B. J. McBain, Supervisor, Farm Cost Studies
L. H. Arnold, Supervisor, Locker Plant Inspection and Instruction
A. F. Bennett, Dairy Statistician

GENERAL REVIEW

The activities of the Dairy Branch were again directed towards the promotion and development of the Dairy and Frozen Food Locker industries. To fully outline the work of the various divisions of this branch it becomes necessary to make detailed references to the changes occurring in these industries.

Milk production continued to increase and amounted to 1.430,982,000 pounds during the year, an increase of about 3% above the 1954 total. This is the highest milk production recorded since 1945. Increased milk cow population and a good production season were responsible for the additional milk output. Pasture conditions were considered good to excellent in most parts of the Province. While the first cutting of hay was smaller than normal it was put up in excellent weather and was of higher feeding value than that of recent years. Early snow and severe weather during the fall resulted in dairy cattle being placed on winter feed earlier than usual. This has caused many specialized dairy producers concern as to whether sufficient feed is available for winter use. Increased prices of good quality roughage will undoubtedly be paid early in 1956.

The number of milk cows on farms at June 1st, 1955 was 315,000, an increase of 12,000 head or 3.6% over the corresponding date a year earlier. Production per cow was practically the same as 1954 and amounted to 4,543 lbs. This is based on the total number of cows and the total quantity of milk produced. The number of cows on test with the provincial cow testing service was 5,283, an increase of 1,493 from the previous year.

Of the total milk production 55.7% was utilized in the manufacture of butter. Increased quantities of creamery butter, ice-cream, cottage cheese, and concentrated milks were manufactured. Sales of fluid milk and cream on a milk basis were approximately 15,000,000 pounds above the 1954 levels and now constitute 20% of the total milk produced. Decreases in the output of cheddar cheese and farm dairy butter were recorded.

With prices approximately the same as 1954 the estimated farm value of all milk produced amounted to $39,760,000, representing an increase of almost $1,157,000 over the previous year. The total value of all factory products in addition to the value of that portion of milk and by-products retained on farms amounted to $51,313,000.

The quality of graded products such as creamery butter and cheddar cheese again showed a slight improvement to reach the highest quality in the history of the Province. Other products such as fluid milk, ice-cream, and cottage cheese showed considerable improvement when measured by laboratory tests and scoring panels.

ESTIMATED FARM VALUE OF ALBERTA MILK PRODUCTION 1955

The following table shows the quantity, farm value and utilization of Alberta milk production during 1955 in comparison with 1954.

	Year	Pounds	Milk Equivalent Pounds	Percent Total Milk	Price	Value
Butterfat for Creamery Butter	1955	25,695,000	733,239,000	51.2	$ .601 per lb.	$15,443,000
	1954	24,903,000	710,635,000	51.1	.595 per lb.	14,815,000
Farm Dairy Butter	1955	2,741,000	64,139,000	4.5	.56 per lb.	1,535,000
	1954	2,943,000	68,866,000	5.0	.56 per lb.	1,648,000
Milk and Butterfat for Ice Cream (milk basis)	1955	.....	46,784,000	3.3	2.39 per 100 lbs.	1,119,000
	1954	.....	42,279,000	3.0	2.36 per 100 lbs.	999,000
Milk for Cheesemaking and Concentrating	1955	.....	58,685,000	4.1	2.40 per 100 lbs.	1,411,000
	1954	.....	62,344,000	4.5	2.41 per 100 lbs.	1,502,000
Milk and Cream Fluid Consumption (milk basis)	1955	.....	286,155,000	20.0	4.27 per 100 lbs.	12,217,000
	1954	.....	271,206,000	19.5	4.27 per 100 lbs.	11,582,000
Milk Farm Home Consumed	1955	.....	137,100,000	9.6	2.39 per 100 lbs.	3,277,000
	1954	.....	132,400,000	9.5	2.40 per 100 lbs.	3,178,000
Fed Farm Animals	1955	.....	104,880,000	7.3	2.39 per 100 lbs.	2,507,000
	1954	.....	102,970,000	7.4	2.40 per 100 lbs.	2,471,000
Kept on Farms: Skimmilk from Creamery Butter and Skimmilk and Buttermilk from Dairy Butter	1955	703,340,000	.....	.....	.32 per 100 lbs.	2,251,000
	1954	688,095,000	.....	.....	.35 per 100 lbs.	2,408,000
Total	1955	.....	1,430,982,000	100	.....	39,760,000
	1954	.....	1,390,700,000	100	.....	38,603,000

ESTIMATED PRODUCTION AND VALUE OF FACTORY DAIRY PRODUCTS 1955 (Preliminary) COMPARED TO 1954

The following table shows the production and value of dairy products manufactured and processed in Alberta.

	Year	Quantity	Price	Value
Creamery Butter, lbs.	1955	31,335,000	$ .58 per lb.	$18,174,000
	1954	30,369,000	.5737 per lb.	17,423,000
Cheddar Cheese, lbs. (including net increase in processing)	1955	2,151,000	.361 per lb.	776,000
	1954	2,580,000	.360 per lb.	929,000
Ice Cream, Gallons*	1955	2,752,000	1.62 per gal.	4,458,000
	1954	2,487,000	1.63 per gal.	4,054,000
Fluid Milk Sales, lbs. (including processing charges)	1955	219,850,000	5.77 per 100 lbs.	12,684,000
	1954	207,200,000	5.73 per 100 lbs.	11,874,000
Cream as Milk, lbs. Fluid sales (including processing charges)	1955	66,305,000	4.35 per 100 lbs.	2,882,000
	1954	64,006,000	4.29 per 100 lbs.	2,746,000
Skimmilk and Buttermilk Sales for Human Consumption (including processing charges)	1955	10,827,000	3.35 per 100 lbs.	363,000
	1954	10,169,000	3.32 per 100 lbs.	338,000
Skimmilk, Buttermilk, lbs.	1955	35,934,000	.32 per 100 lbs.	115,000
	1954	35,775,000	.35 per 100 lbs.	125,000
Whey, lbs.	1955	17,779,000	.16 per 100 lbs.	28,000
	1954	21,304,000	.175 per 100 lbs.	37,000
Miscellaneous Manufactured Products**	1955	.....	.....	2,263,000
	1954	.....	.....	2,364,000
Total	1955	.....	.....	41,743,000
	1954	.....	.....	39,890,000

*Mix converted to Ice Cream on basis of 100% overrun.
**Includes concentrated milk products, cottage cheese, whey butter, Yoghurt and cheese other than cheddar.

DAIRY FACTORY INSPECTION AND INSTRUCTION SERVICE

The field staff responsible for inspection and instruction service with the 131 dairy plants of the Province consists of nine full-time dairy plant inspectors, one part-time appointee, and one cheese plant inspector. The following changes in personnel became effective this year: Alex Ross, Edmonton City inspector, was retired on superannuation. E. V. Hamula, Edmonton No. 1 district was transferred to the Radio and Information Branch. They were replaced by W. E. Duncan and J. R. Findlay, both graduates in Dairy Science. The former is in charge of the Vermilion district, and the latter took over the Edmonton No. 1 district, as well as instructional duties at the Six Months' Short Course held at the Dairy Department of the University. During the year under review some relocation of field staff was effected. In addition to dairy plant inspection, all field staff personnel carry out inspection duties at the frozen food locker plants located in their respective districts. These districts have established headquarters at Fairview (Part-time inspector), Edmonton (3 inspectors, city and rural), Ponoka, Red Deer, Calgary (2 inspectors, city and rural), Lethbridge and Vermilion. Inspectors at Ponoka and Red Deer are giving considerable time promoting and actual testing for the Dairy Herd Improvement Service.

Inspection

Enforcement of the Dairymen's Act and its regulations make up an important part of inspectors' regular duties. A total of 1,406 inspections was made at all dairy plants. Official grading was carried out on 69,074 shipments of cream for buttermaking and a total of 25,888 samples of cream and milk were tested for butterfat officially. Inspection reports show that only 1.9% of both grades and tests required adjustment for payment. This speaks well for the accuracy of work being done by plant personnel licensed for these duties.

Instruction

Where quality defects occur in finished products, due either to contaminants or to errors in workmanship details, information provided by Federal Produce Graders and from analyses at the Dairy Branch Laboratory, have assisted in effecting improvements. The scope of such investigation is increasing for all segments of the industry. Constant checking and discussing manufacturing or processing methods by inspectors with plant personnel together with regular sampling for bacteriological analyses, has combined to contribute largely to the improved quality of our processed dairy products. Officers of the Dairy Branch cooperated with the Plant Section Alberta Dairymen's Association in holding 8 regional conferences throughout the Province for dairy plant employees. These meetings were held during March, April, and May. Discussions on problems affecting manufacture and processing were conducted by staff members.

Licensing

Yearly operating licenses are issued to all dairy plants concerned with processing of raw milk or cream in addition to those manufacturing butter, cheese, ice cream and concentrated milk. Sanitary conditions and state of repair of plants and equipment are

regularly reported on and must meet minimum standards before licenses can be renewed.

Issue of licenses for grading of cream and operation of the Babcock test for butterfat in milk and cream is also on a yearly basis. These are issued to those previously qualified and also to new applicants after successful examination and experience determined by officials of the Dairy Branch. There were 263 licenses renewed and 19 new licenses issued to candidates qualifying on that basis.

Quality Program

A significant improvement in quality of milk and cream delivered to dairy plants has to a large extent been responsible for improved finished products. The field staff engaged in routine quality tests regularly at dairies and cheese factories. Reductase and sediment tests, as well as organoleptic checking, have served to point up the wisdom of purchasing on a quality basis. Adoption by individual plants of quality buying systems based on the results of these tests has improved quality of both raw and processed products. Officially recorded Methylene Blue Reductase tests totalled 3,314 and sediment tests made principally at cheese plants totalled 2,077. Plants are encouraged to make quality tests on milk received regularly. Most milk purchasing plants have now installed standard equipment for such work. Inspectors have extended this quality program by forwarding samples of both raw and processed products to the laboratory for analyses. On this basis the annual Milk Plant Quality Control Competition is conducted. The Department of Public Health also co-operate by directing improvements to producers premises and methods of handling.

Locally arranged dairy meetings in co-operation with the Extension Branch and Health Units were also aimed to further encourage improved quality for raw milk received at plants. Milk and cream quality competitions for producers were conducted by inspectors at dairy field days held in mid-summer.

Butter and Cheese Quality

The highest percentage of First Grade butter yet recorded by Federal Graders was made at Alberta Creameries during the year. Of the 96.4% first grade made, 46.9% was 93 score or better. Cheese grading totals also show that a new high of 90.6% first grade cheese was made during the year.

While these products created new records for quality on the basis of grade, the showing of Alberta butter in five major Canadian Exhibitions was also most successful in winning top awards. Four grand championships, one reserve championship, one tie for highest aggregate score, and four special prizes for best finish, make up the excellent showing in special prizes. The total prizes won for butter at these same exhibitions were 185 while cheese factories were awarded 12 prizes, mostly in competition with Ontario's best on straight placings.

Nine entries were sent for the first time to the Scottish Dairy Show held at Galsgow, Scotland during February. At this show two classes were open to British Empire countries. In the salted class Jasper Dairy, Edmonton, was awarded third prize and special mention was made on the sample submitted by Central Alberta

Dairy Pool, Red Deer. In the unsalted class Northern Alberta Dairy Pool, Edmonton, placed first and the Camrose Branch of the same company placed third. Unsolicited comment from the judges indicated that the butter from the Northern Alberta Dairy Pool, Edmonton, had the finest texture they had seen at any show. The Alberta entries competed with Australia, New Zealand, which countries shared the remaining three prizes.

Convention Competitions

A provincial cream quality competition has now become an annual event. It is held two weeks previous to the Dairy Convention. All grading and scoring is carried out by members of the Dairy Branch staff. A trophy and ten cash prizes are awarded the successful competing producers. The 1955 first prize winner was H. A. McCarthy, of Irricana.

The annual Convention program includes a Dairy Products Judging Competition which is open to all plant men in attendance at the Convention. Samples of butter, cheese, milk, cream and ice cream are selected and submitted for scoring by members of the Dairy Branch staff with the co-operation of the Federal Produce Graders. In addition to cash prizes for each class a silver challenge trophy is awarded for the highest aggregate score, which in 1955 was won by J. W. Wordie of Didsbury.

Check Weighing of Butter and Cheese

There were 14,950 boxes of butter weighed, representing 833,408 pounds of creamery butter compared to 23,319 and 1,273,446 pounds during 1954. This was considerably less than last year owing to fewer offerings being made to the Agricultural Products Board. A total of 40 boxes of cheese was check weighed in shipments totalling 295 boxes.

Courses in Dairying

A two weeks short course for operators of milk pasteurization plants, conducted from January 17th to 28th, 1955, had a registration of fourteen from all parts of the Province. The study of theory and practise in modern milk handling, with special emphasis on sanitation and its importance to final quality, were stressed by University and Dairy Branch instructors. Considerable time was allotted to explanation of standard procedures for quality tests and interpretation of results for both raw and finished products.

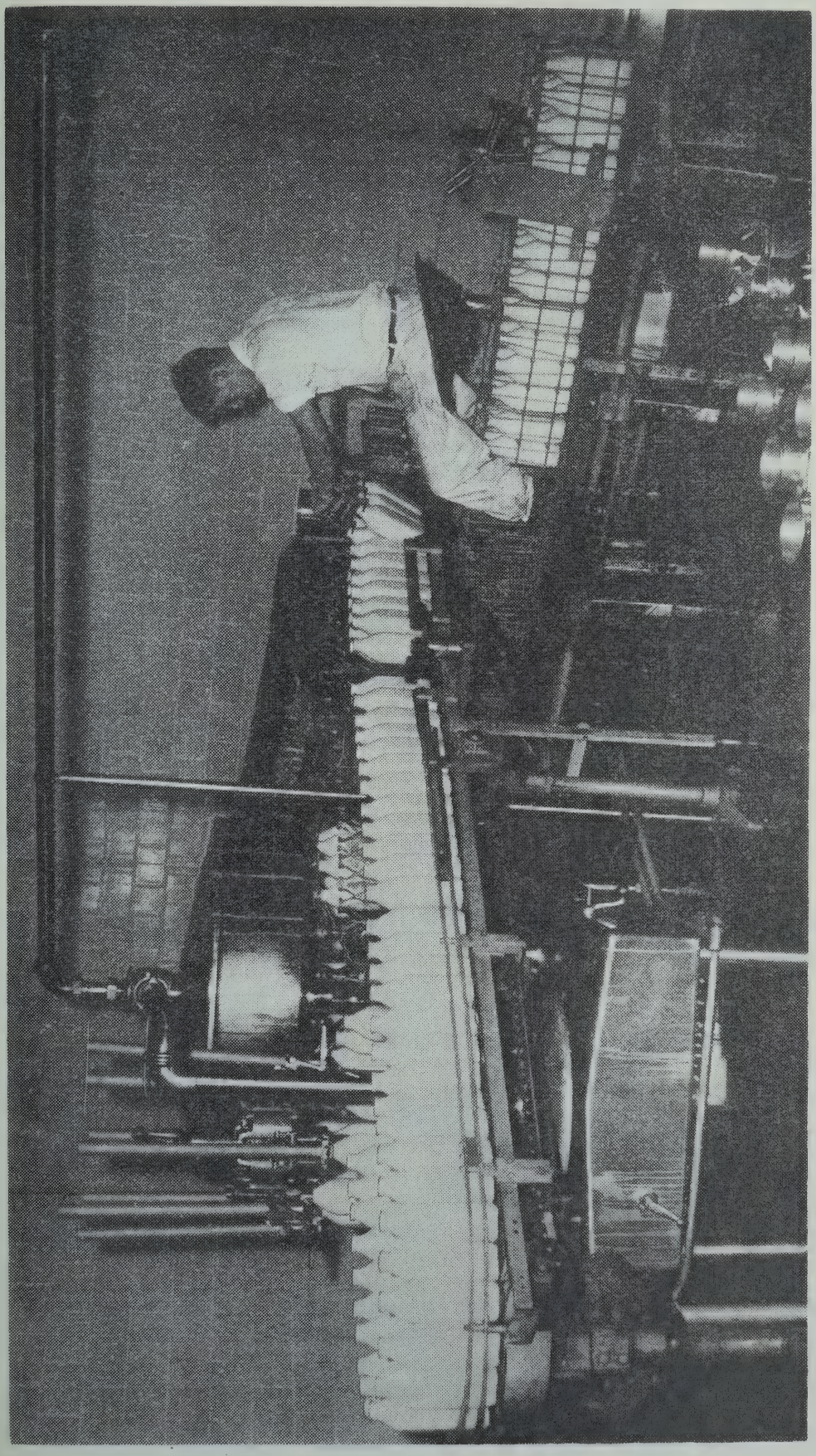
A total of 17 students registered on October 31st, 1955 for the Diploma Course in Dairying held at the University of Alberta every second year. This course extends over a six month period with the last month spent on plant engineering at the Vocational Training School, Calgary. The Dairy Branch again co-operated by supplying a full-time instructor and part-time lecturers.

Dairy Plant Changes

Edson Dairy Co. Ltd. changed ownership on March 1st and is operated under the name of Edson Dairy Ltd.

Davidson's Dairy, Wainwright, was sold by J. Davidson on May 1st and is now operated under the name of the Wainwright Dairy Ltd.

Modern building materials plus neatness and good planning.



Equipment and interior construction for efficiency and strict sanitation.

Grand Centre Creamery was purchased by the Northern Alberta Dairy Pool Ltd. on August 1st.

Milk pasteurizing plants were established at Valleyview on June 1st and at Excel on November 1st. Raymond Dairy was re-opened on May 10th.

High Prairie Dairy was destroyed by fire on April 30th and was replaced by a new modern plant which went into operation on August 9th.

Late in the year Pass Dairy, Bellevue, moved their operations into their new plant.

Palm Dairies Ltd. completely rebuilt the Tofield Creamery and the new plant was put into operation on December 1st.

LABORATORY SERVICE

The activities of the Laboratory were continued along similar lines to previous years. It is encouraging to note that more samples were submitted for analysis than ever before.

In the early years of the laboratory service the emphasis was on analysis dealing with butter. The mould and yeast count, which measures the sanitary condition under which butter is manufactured, was the principal activity during that period. While such tests still form a very important part of the laboratory service the demand for assistance by the market milk industry has increased to a point where the examination of fluid milk products has become of equal importance to that of butter.

The following tabulation indicates the number and type of samples analysed. For comparison similar figures for the year 1954 have been included.

	No. of Samples	
	1955	1954
Butter samples for moulds and yeasts	3,713	3,480
Butter samples for pH.	1,757	1,585
Water samples from Dairy Factories	23	20
Bacteriological creamery survey samples	104	104
Milk control service	5,803	5,259
Mastitis and Bang's control service	2,160	1,608
Cheese for extraneous matter	114	258
Egg products	501	428
Miscellaneous samples	264	333
	14,439	13,075

When the mould and yeast count of butter was introduced in Alberta in 1925, 3.6 per cent of the churnings examined qualified for the rating "Excellent" (10 or less moulds and yeasts per cubic centimeter of butter). During 1955 81.4% of the churnings had counts within that range. The present high standard of sanitation at Alberta creameries is reflected in a nearly complete absence of butter defects related to sanitation.

Another important factor in butter quality is the pH level of the product. To assist creamery personnel in this respect numerous pH determinations of butter from all creameries in the Province were made at regular intervals during the year. Undoubtedly this service has been of great assistance in securing a uniform product having the desired acidity.

Inspectors of the Dairy Branch, as well as the sanitary inspectors of the various Health Units, by means of farm inspections and quality tests conducted a very active program to improve the quality

of raw milk. Although progress in this respect will naturally be slow, it is gratifying to note that there was tangible evidence of improvement during the year. This is more significant when consideration is given to the fact that the summer was one of the warmest on record, which made it very difficult for the producers to maintain a satisfactory low temperature during the holding period of the milk. The improvement in the raw product was particularly noticeable for milk received at country milk plants where little work of this nature had been done previously.

The interest in the Mastitis Control Program offered to herd owners appears to be on the increase. It was observed that practically all the samples received were submitted through a veterinarian, many of which came from herds that had not previously been tested.

The following table gives the incidence of mastitis in samples received:

No. of Samples	Positive	Negative	Questionable
2,160	27.6%	62.8%	9.6%

Since the economy of milk production as well as the quality of the milk is very dependent on Udder Health it is of utmost importance that mastitis be controlled. The result obtained for herds under test suggests the desirability of a more general acceptance of the Mastitis Control Program by herd owners.

On June 1st, 1955 the Canada Department of Agriculture, Dairy Products Division, commenced testing for extraneous matter all cheddar cheese eligible for the cheese quality bonus. From that date this service was discontinued by the Dairy Branch Laboratory.

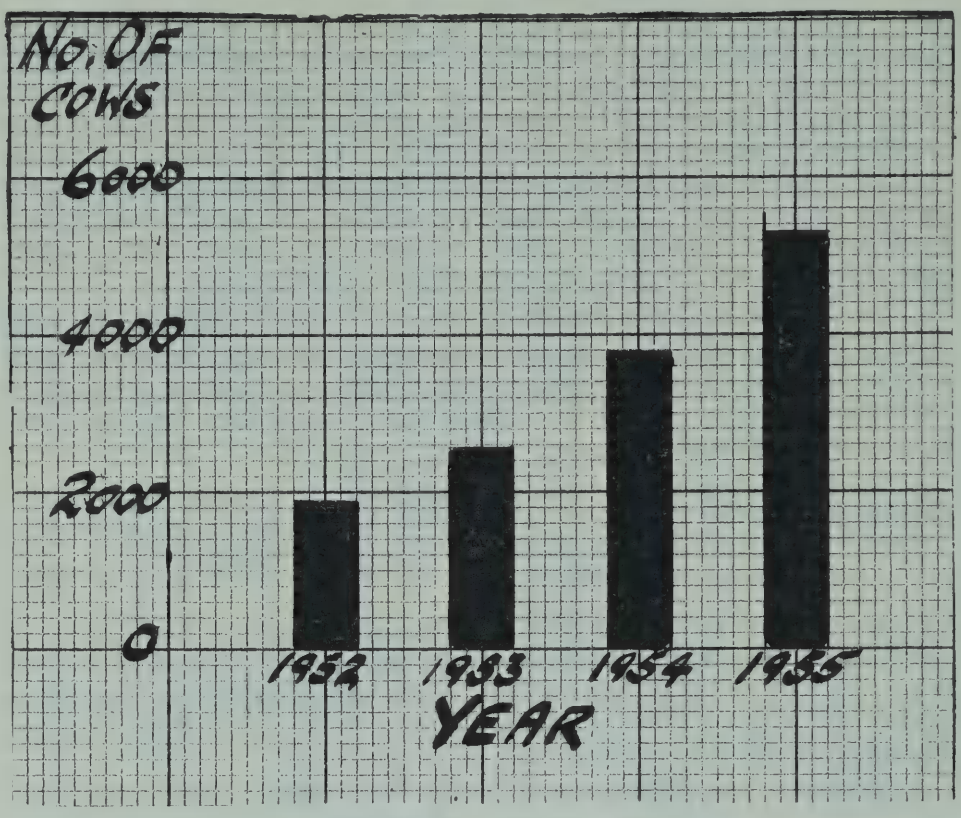
A certain number of samples not connected with dairying were received during the year. Under this category were 501 samples of egg products submitted through the Poultry and Marketing Service, Canada Department of Agriculture.

Numerous other services have been performed by the Laboratory during the year including the maintenance and distribution bi-monthly of starter culture to all the cheese factories and some market milk plants handling fermented milk. The preparation and distribution of solutions and indicators used at Dairy Plants was another service provided by the Laboratory.

Finally the Laboratory has functioned as a clearing house for technical information related to dairying and as a consulting agency on problems of a dairy nature.

DAIRY CATTLE IMPROVEMENT SERVICE

The number of herds and cows under test increased greatly during the year. 71 new herds and 1,493 cows were placed under test. Of this number 48 herds and 733 cows were under the "Mail Order System," and 23 herds and 760 cows were under the "Owner Sampler Route Plan System." 29 herds that were under test in 1954 were not continued on test in 1955. The report therefore shows a net increase of 42 herds and 1,493 cows over the previous year. There has been a steady increase in the number of herds and cows tested in recent years. The following graph indicates the rapid growth that has taken place during the past four years.



This continued growth has increased the work of this Division considerably. Extra office assistance was obtained during the year, but with the likelihood of additional herds being placed under tests during 1956 further help will be required. In order that maximum benefits can be derived from the testing by the herd owners, it is most essential that details such as testing, posting results, and issuing certificates be discharged promptly.

(a) **Mail Order Testing**

Two plans of mail order testing are offered herd owners. Plan 1 is based on daily weighing and monthly tests, while Plan 2 is based on a record which is computed from the weight of milk given on the 15th day of each month. Samples for butterfat tests are lifted monthly. Weights and samples in both plans are taken by the herd owners and the butterfat tests made by officials of the Dairy Branch.

The following table shows the number of herds and cows tested under the two mail order plans.

	No. of Herds		No. of Cows	
	1954	1955	1954	1955
Plan 1	62	61	932	1,015
Plan 2	114	129	2,525	2,853
Total	176	190	3,457	3,868

(b) **Owner-Sampler Route Plan Testing**

This system of testing was started on June 1st, 1954 and was made available to producers in the Edmonton Milk Shed. This program is merely a different method of collecting samples by

means of personal contact with the herd owner, who keeps records under both plans. A full-time fieldman visits monthly all herd owners under test. Sample boxes are delivered on one day and the samples are picked up the following day. Ear-tagging calves, checking accuracy of scales, instructing herd owners on correct sampling procedure, and assisting herd owners with their record keeping was done at the time of these visits. A total of 865 farm calls were made, with 161 calves and 70 cows ear-tagged by the fieldman. The following table shows the number of herds and cows tested under the Owner-Sampler Route Plan program.

	No. of Herds		No. of Cows	
	1954*	1955	1954	1955
Plan 1	3	7	48	133
Plan 2	10	34	285	1,282
Total	13	41	333	1,415

*June 1st, 1954 to October 31st, 1954.

(c) **Testing Centres**

Testing Centres were in operation at Edmonton, Red Deer, Ponoka, and Calgary. The number of cows under test at each centre is shown in the following table.

	1954	1955
Edmonton	1,743	2,839
Red Deer	861	1,246
Ponoka	925	923
Calgary	261	275

Assistance, particularly during the summer months, in testing samples was given by the fieldman to the Dairy Inspectors at Red Deer and Ponoka.

To indicate the extent to which the Cow Testing Service has been utilized by herd owners, the following table has been prepared showing average production under each plan, as well as the Provincial average for all cows under test. The previous years figures are shown in brackets:

	*Plan 1	**Plan 2	Total
No. of herds under test	68 (65)	163 (124)	231 (189)
No. of cows under test	1,148 (980)	4,135 (2,810)	5,283 (3,790)
Ave. No. of cows per head	16.9 (15.0)	25.4 (22.6)	22.9 (20)
Herd Ave on basis of cow years (T)			
No. of cow years	820 (663)	2,878 (1,780)	3,698 (2,443)
Ave. production of milk lbs.	9,272 (9,028)	8,979 (9,138)	9,044 (9,110)
Ave. production butterfat lbs.	325.1 (321.5)	306.1 (312.3)	310.3 (310.8)
Ave. Test			3.43 (3.41)

*Plan 1 Daily weighing and monthly tests.

**Plan 2 Computed records from one day's weighing and monthly tests.

(T) The total number of cows on test during the year is used in determining the herd average, except where new cows are placed on test, or a cow is sold or dies; in these cases only that part of the year in which she produces is used.

The average production of all cows under test shows a slight decrease of 66 lbs. of milk and .5 lbs. of butterfat from 1954. This decrease is in line with the general decrease for all milk cows in the Province.

It is interesting to note that the 1,415 cows that were tested under the Edmonton Route Plan System show an average production of 9,689 lbs. of milk and 315.5 lbs. of butterfat. This is 5,136 lbs. of milk and 156.1 lbs. of butterfat higher than the Provincial average.

The average number of cows per herd again shows an increase, and for the year amounted to 22.9.

Every herd owner having his herd tested receives an annual report. These reports show that total milk and butterfat produced by the herd for the year. A pictorial graph is also supplied which shows the butterfat production of each individual cow for the year together with the herd average. Copies of both of the above reports are sent to all District Agriculturists in whose areas the herds are located.

Competitions based on the production records stimulate interest in higher production per cow and in herd improvement. Winners of the competitions are recognized at the Annual Alberta Dairymen's Association Convention.

Certificates of production are issued on all cows completing a lactation with the required standards. These certificates are well received by the herd owners and are used in herd selection and culling. They also serve a valuable purpose when selling or purchasing milking stock.

The "Honour Roll" which lists all herds of five cows or more that have been on test a full eight months' recorded period, with an average of 300 lbs. of butterfat or over, contained 104 herds. This represents an increase of 24 herds over the previous year.

Extension Work

In addition to the supervision of the Cow Testing Service policy, the Supervisor carried out dairy cattle promotional activities in the field.

Farm visits to herd owners under test were made throughout the year. When possible these visits were made with the District Agriculturists. In addition to the above herd owners, a number of dairy farmers that had requested information through the District Agriculturist's Office were also visited, in most cases, in company with the local District Agriculturist.

Twelve dairy field days were organized and held during the summer months; twelve 4H Dairy Club "Achievement Days" were judged, and twenty-one meetings were attended. At these meetings feeding, care and management of dairy cattle were discussed.

Radio talks and articles for "Farm Notes" were prepared throughout the year. All correspondence relative to dairy cattle, exclusive of matter pertaining to animal health, were directed through this office. Assistance was given in the preparation of a 4H Dairy Club Project Book.

As a member of the Dairy Cattle Housing Committee of the Canadian Farm Building Plan Service, the supervisor studied plans for dairy barns and made a submission on "Management Factors in Dairy Cattle Housing."

All dairy bulls placed under the "Cattle Improvement Policy" were secured by the Supervisor. Assistance was also given to farmers in locating both bulls and females of the dairy breeds with purchase being made direct by the buyer. Eighty-seven females were secured when the supervisor accompanied the purchaser.

Assistance was given the Lacombe Artificial Breeding Association in selecting the bulls from which semen for the dairy breeds would be most suitable.

Following an unsuccessful attempt to purchase a bull for the Olds Artificial Breeding Centre at the National Sale in Oakville, Ontario in May, purchase has now been made of a bull of breeding age from Pickard & Clark of Carstairs, Alberta.

A monthly newsletter release "Dairy Herd Improvement News" was started in October. This goes forward to all herd owners on test and carries news items of interest and value to dairymen.

Dairy Cattle Sales

Three consignment sales of dairy cattle were held during 1955 at Edmonton, Calgary, and Red Deer. 59 head of Purebred Holstein cattle were offered; 31 heifers averaged $276.00, while 25 cows averaged $337.00.

The Calgary and Red Deer sales consisted of essentially grade cattle. However, some registered Guernsey females from Ontario were consigned.

Artificial Breeding

Artificial breeding of dairy cattle was carried out at Edmonton, Lacombe, Wetaskiwin, Calgary, Lethbridge, Stettler, Ryley, and also from the Olds breeding centre.

The Edmonton Artificial Breeding Unit had a very successful year of operation. Service was given to approximately 400 farmers in the Edmonton area and 3,980 cows were inseminated.

The Lacombe Artifical Breeding Unit was organized in January, 1955 using frozen semen from the Ontario Veterinary College at Guelph, Ontario. By December approximately 2,000 cows had been inseminated and there were 302 active members. The first calves in this unit began to arrive late in the year with the first calf being born on November 28th, 1955. Present indications are that the Lacombe Unit will continue to grow and provide excellent service to the farmers in that district.

The Artificial Breeding Units at Calgary, Wetaskiwin, Lethbridge, Stettler and Ryley have been using fresh semen brought in from the Milner Unit in British Columbia, the same unit that is supplying the Edmonton Artificial Breeding Unit.

With the increased interest in artificial breeding being shown, there is every indication that an increased number of herd owners will place their herds on test during 1956. This was particularly true in the Lacombe-Ponoka area following the organization of the Lacombe Artificial Breeding Unit.

FARM COST SERVICES

The work of this division continued to follow its expanded program of recent years. In addition to completing another year's results on the long term studies for the four major fluid milk markets, the Mixed Farm Study and the Canning and Specialty Crop Study have been continued. In all, some 163 farms are being carried with detailed cost accounts. The net income for each total farm unit is worked out as well as showing a cost of production breakdown for 278 of the major farm enterprises on these same farms. The following table shows the extent and nature of these studies during the past two years:

(A) NUMBER OF FARMS UNDER STUDY

Year	Fluid Milk	Mixed	Canning Crops	Total
1955	83	50	30	163
1954	96	50	25	171

(B) NUMBER OF ENTERPRISES UNDER STUDY

Year	Mixed Farm Study					Fluid Milk	Canning Crops	Total
	Cream	Beef	Hogs	Poultry	Grain			
1955	24	5	27	16	30	83	99	278
1954	24	5	27	16	30	96	72	293

To compensate for farms dropping out within the various groups an additional 15 farms were serviced over the number reported above. The number dropping out the first year of any study is high; this applied to the Taber Canning Crop Study. In the Edmonton Fluid Milk area industry and other uses of the land is displacing many of the dairy farms close to the city.

Fluid Milk Studies

The Board of Public Utility Commissioners and producers organizations continue to request and assist financially the fluid milk studies. Formal, continuous cost of production studies are being continued in four of the principal fluid milk markets of the Province. The field staff also made periodic checks on conditions having the greatest effect on production costs for the milk sheds of Red Deer, Ponoka and Camrose. This information is related to the more complete data for the principal markets.

Accounts were closed for 83 farm records in the 4 major milk sheds during the summer and the four reports were completed during December. Each co-operating farmer will again be supplied with a complete analysed record of his own operations. The same report contains similar information on the group average for farms under study in that particular area. This affords the farmer an opportunity to compare his position with the average for the same type of business in that district.

The continuation of these studies has provided continuous and comparable data for 17 and 13 years respectively for the milk sheds of Edmonton and Calgary. Studies in the milk sheds of Lethbridge and Medicine Hat have been carried for about ten years. These reports provided valuable material on changes in management practices and its effect on costs as well as on farm income. A report on the trends over this period is proving valuable to producers, price fixing boards and extension workers. During the past year a special request was received from out of the Province for a copy of each year's report since the beginning of Alberta Dairy Cost Studies in 1939.

Mixed Farm Studies

This study, comprising 50 farms in the Leduc-Wetaskiwin area has now completed five years of cost records for mixed farms. These farms represent various production combinations of grain, beef, hogs, churning cream or poultry. It was possible to cost 102 separate enterprises from the 50 completed farm accounts for 1954. Detailed records made it possible to accurately divide feed and labour charges and to allocate overhead charges.

It is planned to have a bulletin printed in 1956 after the data from the 1955 calendar year has been analysed. In the interim a mimeographed report has been prepared covering the main

features of the first four years of the study. This report will be presented to the District Agriculturists for discussion at the Annual Conference during January, 1956. The many requests for information on this particular study required the mimeographing and distributing of 200 reports during the year.

Canning and Specialty Crop Study

The findings of the first year of this study were made available to the growers executive. Enterprises for which information was obtained as to cost and conditions of production included sugar beets, string beans, and canning peas and corn. The growers requested a continuation of the study and promised fuller co-operation to make the farm records more easily attainable. Time did not permit providing individual farm reports for the first year of this study. However, the general policy of supplying a farm management report to each co-operating farm will be attempted for the second year's records.

Following a presentation of some of the findings from the first year of this study to the annual meeting of the Horticultural Zonal Committee a motion was unanimously passed asking for its continuation and expansion for at least five years.

Extension Work

Requests for information from all of these various studies continue to increase. Extension workers, milk control agencies, university students and representatives of the Federal and University Economics staffs have all utilized data available from the farm accounts under study.

There was an increase in the amount of time spent providing material and attending farm bookkeeping and management short courses sponsored by District Agriculturists.

The many requests received from individuals included: advice in making certain adjustments in their farm business, assistance in drafting father-son rental or purchase agreements, and guidance to new immigrants in starting farm operations. Radio talks and addressing farm groups were other forms of extension work carried on by staff members of this division.

During the past year an attempt was made to release weekly to the Radio and Information Branch some findings from the various studies. This allowed earlier publicity through Department radio and newspaper releases.

LOCKER PLANT INSPECTION AND INSTRUCTION SERVICE

The inspection of Frozen Food Locker Plants, including sanitation, temperature control, packaging and handling of food products for storage was carried out by eleven inspectors under direction of a supervisor.

During the year all inspectors spent considerable time instructing plant operators on the proper methods of packaging products with approved wrapping materials. Results indicate that products came out of storage in a more satisfactory condition than in previous years.

The standard of service and operation has improved in the majority of the plants. This improvement is mainly due to regular

inspections. During the year there were 1,133 inspections made by officers of the Dairy Branch.

Considerable improvement was made at many plants in slaughtering conditions and facilities. The supervisor rendered assistance to several operators by drafting plans for new slaughter houses and for renovating or remodelling existing plants and slaughter houses. Improvements to existing slaughter houses included; the installation of refrigerated chill rooms and the addition of new walls and floors of an impervious material to assure more sanitary conditions. Officials of the Dairy Branch have encouraged all locker operators who offer slaughtering services to provide facilities which assure a high standard of sanitation, ease in handling, together with satisfactory temperatures for food products.

The supervisor gave a number of meat cutting and carving demonstrations at short courses and at the Schools of Agriculture. Addresses were given at short courses on "Proper Methods of Slaughtering Animals on the Farm." "The Advantages of Frozen Food Lockers and Home Freezers", and "The Preparation of Food for Freezing."

The scoring of all plants for the Merit Award Competition and for the Proficiency Certificates was conducted by the Inspectors of the Branch. The top plants in each district were given a second and final score by the supervisor and the Dairy Commissioner. Awards were presented at the Alberta Quick-Freeze Locker Ass'n. Annual Convention held in the Macdonald Hotel, Edmonton, February, 1955. The top plants for Section A (over 400 lockers) in the Merit Award Competition were Hanna's Frozen Foods Ltd., Calgary; Sturdy's Quick-Freeze Ltd., Edmonton; and Western Locker & Storage Co. Ltd., Medicine Hat, in that order. In Section B (400 or less lockers), Peace River Meat Co., Peace River; Milk River Frozen Foods, Milk River; and Frosted Food Centre, Beiseker placed first, second and third respectively.

Proficiency Certificates being offered for the first time by the Department of Agriculture were presented to nineteen operators. These certificates were awarded to operators of plants that received a score of at least 750 points in the Merit Award Competition and met rigid requirements for services offered, facilities provided and plant operations. These certificates created an incentive for better plants and operations. They are displayed with pride by operators who were successful in meeting these standards.

A new plant was constructed by Mr. Tom Harding of High Prairie and was officially opened on October 20th. This plant has a capacity of approximately 300 lockers; it is fully modern and will provide a much needed service to residents of High Prairie and district.

A fire in February completely destroyed the locker plant and all food in storage at Two Hills. It is not likely that this plant will be rebuilt.

The Edmonton Cold Storage discontinued locker plant operations on April 30th, converting that space to commercial storage. Locker patrons of this plant were accommodated by other plants in the city.

Construction of another plant is underway at Warburg and will be placed in operation early in 1956.

The following statistics are tabulated from information received by monthly reports and cover the 12 month period ending November 30th, 1955. Products processed for home freezers as well as for storage in lockers are included. For comparison statistics for the previous 12 month period are included.

LOCKERS

Products	1955 Pounds	%	1954 Pounds	%
Fresh Meat	10,827,281	79.1	12,090,284	81.0
Cured and Smoked Meat	1,050,220	7.6	992,890	6.7
Lard Rendered	146,389	1.0	135,136	.9
Fish	68,229	.4	99,440	.7
Poultry	938,286	6.8	1,011,360	6.8
Big Game	236,041	1.7	117,437	.8
Game Birds	73,426	.5	64,535	.4
Fruits and Juices	96,317	.6	110,116	.7
Vegetables	250,688	1.8	205,441	1.4
Miscellaneous	73,247	.5	92,416	.6
Total	13,760,124	100.0	14,919,055	100.0

HOME FREEZERS

Products	1955 Pounds	%	1954 Pounds	%
Fresh Meat	1,536,050	76.0	1,928,235	83.8
Cured and Smoked Meat	128,241	6.3	93,843	4.1
Lard Rendered	9,867	.5	6,656	.3
Fish	19,363	1.0	14,857	.7
Poultry	33,090	1.6	30,428	1.3
Big Game	12,635	.6	4,794	.2
Game Birds	843	.1	267	.0
Fruits and Juices	103,795	5.1	68,859	3.0
Vegetables	94,591	4.7	82,511	3.6
Miscellaneous	83,181	4.1	69,341	3.0
Total	2,021,656	100.0	2,299,791	100.0
Total for Lockers and Home Freezers	15,781,780		17,218,846	

It will be noted that the quantity of frozen food processed for lockers and home freezers by frozen food locker plants decreased by nearly 1½ million pounds from the previous year. The quantity of fresh meat processed actually showed a greater decrease than all food. This may be explained by the fact that many farm people using home freezers slaughtered, wrapped and stored their product on the farm and did not utilize the facilities of the locker plant. Another development which took place found the retail meat merchant entering the business of cutting, wrapping and even freezing meat for the benefit of those owning home freezers. These firms are not licensed as locker plants and consequently submit no statistics to the Department on quantities processed.

Other items stored such as cured and smoked meat, big game, and vegetables showed a considerable increase over the previous year, indicating that these services offered by the locker plant were in demand.

	1955	1954
Number of plants reporting	153	154
Number of lockers installed	51,488	51,984
Average number of lockers installed	337	338
Number of lockers rented, December 1st	43,608	46,560
Percentage of lockers rented, December 1st	84.7	89.6
Average lbs. food stored per locker, with complete service	329.7	334.5
Average lbs. food stored per locker, with incomplete service	163.9	177.9
Average poundage per locker, all plants	315.6	320.4
Average lbs. per locker on the basis of lockers rented for 12 months	307.9	316.9
Inspections during the year	1,133	1,210

One less plant and 500 less lockers were available for handling frozen food during the year. It will also be noted that the per-

centage rented at December 1st was only 84.7 as compared to 89.6 the previous year. There has been a steady decline in this respect since 1953 when 93% of all lockers installed were rented. Undoubtedly the large number of home freezers put into operation during this period was responsible for this decline.

The average pounds of food stored per locker, on the basis of all lockers rented for 12 months, shows a decrease of 9 lbs. per locker which has again adversely affected the income of the locker plant.

Milk Control Report

Submitted by the

BOARD OF PUBLIC UTILITY COMMISSIONERS
J. B. Moore, Administrator of Milk Control

Seven of the eight controlled areas reported upon show increases in fluid sales ranging from 1.85% to approximately 13% The two major areas of Calgary and Edmonton both show increases of slightly better than 6%. One area—the Crow's Nest Pass— indicates a decrease of less than ¼ of 1%.

While sales in the eight areas indicate a better than 6% increase, production indicates an increase of over 9%.

Licensed milk producers now total 910, an increase of nearly 5% over the number in 1954.

The Board, after due inquiry, deemed it in the public interest to consolidate, revise and extend existing Orders into Regulations. Such regulations becoming effective April 30th, 1955.

Two applications—one by the Edmonton Distributors' for the elimination of Wednesday deliveries—and an application by Alpha Jersey Dairy, Red Deer, for a reduction in the price paid to Producers, were granted.

The Board continued to actively assist in the Dairy Cost Survey and to provide the necessary funds.

Two representatives of the Board attended at the International Milk Control Agencies' Convention in Hartford, Connecticut.

Report of the Poultry Branch

R. H. McMILLAN, Poultry Commissioner
G. R. Milne, Poultry Supervisor

INSPECTORS:

G. O. Johnson ..... Edmonton
L. J. Semple ..... Edmonton
E. E. Kitchen ..... Red Deer
W. Hutchison ..... Calgary

GENERAL REVIEW

Conditions in the poultry industry were in general somewhat improved over those of 1954. The price of eggs steadily increased during the late spring, summer and early fall months allowing a satisfactory margin of profit, with the average price paid producers considerably higher than last year. Production of both eggs and poultry meats approached that of 1953. The Agricultural Prices Support Board continued for the year and some eggs were taken over by the Board. It has been announced that this program is to continue throughout 1956.

Egg and poultry meat production as indicated by receipts at registered stations are shown in Table I. Eggs passing through registered egg grading stations represent an estimated 55% of all eggs sold, and poultry meat passing through registered processing plants represents an estimated 35% of all poultry meat sold.

TABLE I

	Egg Receipts at Registered Egg Grading Stations (30 dozen cases)	Dressed Poultry Receipts at Registered Stations (pounds)
1951	.....	8,590,483
1952	508,868	10,748,356
1953	533,814	9,874,287
1954	531,433	12,163,248
1955 (estimate)	548,271	12,660,000

TABLE II

TOTAL NUMBER OF WHOLESALE POULTRY PREMISES OPERATING IN ALBERTA

Year	Fully Registered	Tentative Registration	Total Operating
1944	.....	.....	160
1945	.....	.....	188
1946	177	12	189
1947	168	17	185
1948	167	3	170
1949	163	3	166
1950	167	.....	167
1951	165	.....	165
1952	157	.....	157
1953	154	.....	154
1954	152	.....	152
1955	146	.....	146

TABLE III

WEIGHTED EGG PRICE TO PRODUCERS

Average Egg Paying Price Weighted by Grade For Alberta and Canada (per dozen)

	Alberta	Canada
1950	30.8 c	34.9 c
1951	43.3 c	48.1 c
1952	30.0 c	35.1 c
1953	36.8 c	43.0 c
1954	30.2 c	33.7 c
1955 (estimate)	36.9 c	43.2 c

FLOCK APPROVAL

This program continues to be a major project of the Poultry Branch, keeping twenty temporary inspectors, in addition to four permanent inspectors, fully engaged during the fall and winter months.

The development of the Alberta flock approval program has increased steadily during the last ten years to the present status of 1,043 flocks under approval, consisting of some 320,000 birds. This is an increase of 65% in number of flocks and 71% in number of birds. The expansion of the broiler industry, while providing an all season program for flock owners and hatchery operators is increasing the work of the branch in flock supervision.

TABLE IV

SUMMARY OF FLOCK APPROVAL 1930-1955

Year	Method of Testing	No. of Flocks	No. of Birds	% Reaction
1930-31	Tube Agglutination	148	18,608	20.2
1931-32	" "	232	31,177	12.9
1932-33	" "	188	26,381	8.6
1933-34	" "	205	33,295	7.3
1934-35	" "	645	104,858	11.2
1935-36	" "	615	94,536	5.5
1936-37	" "	815	136,228	5.5
1937-38	" "	677	108,908	4.8
1938-39	" "	534	92,355	4.51
1939-40	Whole Blood	437	80,927	5.1
1940-41	" "	412	81,868	2.6
1941-42	" "	510	120,198	2.12
1942-43	" "	460	120,841	0.35
1943-44	" "	664	165,903	0.716
1944-45	" "	694	198,877	0.736
1945-46	" "	632	186,992	0.798
1946-47	" "	792	248,666	0.526
1947-48	" "	862	276,716	0.645
1948-49	" "	708	231,255	0.234
1949-50	" "	826	255,561	0.193
1950-51	" "	930	291,660	0.189
1951-52	" "	1,057	294,320	0.261
1952-53	" "	1,078	302,599	0.229
1953-54	" "	1,039	307,866	0.242
1954-55	" "	1,043	319,501	0.211

NOTE: The above reaction is on the first test.

TABLE V

SUMMARY OF FLOCK APPROVAL BY BREED 1954-55

Breed	No. of Flocks Tested	No. of Birds Tested
White Leghorns	315	110,259
New Hampshires	224	72,343
White Plymouth Rocks	136	35,099
Light Sussex	220	63,619
Barred Plymouth Rocks	70	18,999
Rhode Island Reds	4	1,507
White Wyandottes	1	446
All Other Varieties	73	17,229
Total	1,043	319,501

HATCHERY OPERATIONS

The chick production of Alberta hatcheries was reduced from the previous year, but was greater than 1953. Most hatcheries report a satisfactory season. A few hatcheries are operating all year providing chicks for the production of broilers.

TABLE VI

DEVELOPMENT OF HATCHERIES AND CHICK SALES

Year	Breeder Hatcheries	Commercial Hatcheries	Egg Setting Capacity	% of 1936	Chicks Hatched	% of 1936
1936	.....	.....	924,300	.....	1,028,881	.....
1937	.....	.....	1,036,526	112.1	1,068,056	103.8
1938	.....	.....	1,033,906	111.9	1,171,082	113.8
1939	.....	.....	1,052,759	113.9	1,394,194	135.5
1940	.....	.....	1,203,368	130.2	1,538,597	149.7
1941	.....	.....	1,269,117	137.3	1,939,052	188.4
1942	.....	.....	1,407,280	151.2	2,631,468	255.8
1943	.....	.....	1,408,070	152.3	3,607,372	250.6
1944	.....	.....	2,102,434	223.1	5,476,476	532.3
1945	.....	.....	2,208,938	238.9	4,917,366	477.9
1946	.....	.....	2,445,750	264.6	5,711,423	555.1
1947	15	44	3,404,773	390.0	7,452,785	724.3
1948	20	45	3,638,704	393.7	6,265,620	608.9
1949	15	47	3,736,510	404.2	6,595,620	641.0
1950	9	51	3,862,436	417.9	5,940,992	577.4
1951	8	55	3,601,633	389.5	7,685,478	746.9
1952	7	51	3,900,055	421.9	7,484,064	727.4
1953	10	48	4,397,743	475.7	7,261,434	705.7
1954	11	49	3,917,388	423.8	8,466,258	822.8
1955	12	49	4,103,088	443.91	8,212,591	798.2

TABLE VII

CHICK PRODUCTION

Year	% Hatchability	Chicks Hatched	Chicks Not Sold	Chicks Exported	Chicks Imported	Chicks remaining in Province
1951	67.8	7,685,478	205,396	176,133	839,026	8,142,975
1952	66.8	7,484,064	453,816	232,321	487,710	7,285,637
1953	69.2	7,261,434	397,280	241,384	454,757	7,077,545
1954	70.4	8,466,258	434,060	318,474	853,676	8,567,400
1955	69.3	8,212,591	497,055	298,997	369,423	7,785,962

TABLE VIII

CHICKS HATCHED BY BREED

	1952	1953	1954	1955
S.C. White Leghorns	1,547,949	1,516,603	1,959,290	1,726,607
New Hampshires	1,832,305	1,548,907	1,605,400	1,476,922
Barred Plymouth Rocks	579,609	422,511	383,873	372,463
Rhode Island Reds	30,864	29,962	4,506	8,248
White Plymouth Rocks	503,191	528,471	710,829	787,955
Black Australorps	.....	201,189	264,847	332,501
Light Sussex	1,418,429	1,533,148	1,579,723	1,393,610
Crosses	1,362,807	1,401,103	1,820,941	1,992,265
Miscellaneous	79,983	79,540	136,849	121,563

THE TURKEY INDUSTRY

Because of lower price of commercial turkeys last season turkey production and sales were reduced in 1954. Poults produced in Alberta hatcheries were reduced from 606,118 in 1954 to 538,014 in 1955, and poults imported reduced from 227,689 in 1954 to 64,994 in 1955, making a total reduction of poults raised by Alberta farmers of an estimated 27%. The paying price for light and heavy turkeys was eight to ten cents above that paid in 1954.

Evisceration of turkeys increased this year with 2,905,717 pounds being eviscerated, compared with 1,100,000 lbs. last season. Eviscerated poultry has been in demand in the larger consuming areas of Canada for a number of years and is being demanded in Alberta in an ever increasing amount.

TABLE IX

TURKEY MARKETINGS THROUGH REGISTERED STATIONS

Year	Dressed Turkey Receipts (lbs.)	Turkeys Exported (lbs.)	Turkeys Eviscerated (lbs.)
1953	4,351,491	3,083,391	255,000
1954	7,039,110	3,737,759	1,100,000
1955	5,904,921	2,350,030	2,905,717

TURKEY APPROVAL

The turkey approval and banding policy is being continued the same as previous years. Specialization in breeder flocks is becoming more evident as the number of flocks owners is decreasing and the number of birds under approval is increasing markedly. Turkey raising is a integrated part of the economy on more Alberta farms, as indicated by the increasing number of turkey poults placed on farms.

TABLE X

SUMMARY OF TURKEY APPROVAL 1940-1955

Year	Flocks	Birds
1940-41	38	974
1941-42	43	1,078
1942-43	40	1,178
1943-44	63	1,461
1944-45	56	2,162
1945-46	79	3,475
1946-47	97	5,386
1947-48	95	7,384
1948-49	62	8,630
1949-50	80	15,000
1950-51	69	12,308
1951-52	62	12,587
1952-53	79	15,721
1953-54	65	16,677
1954-55	77	22,892

TABLE XI

POULT PRODUCTION

Year	Eggs Set	Eggs Imported	Poults Hatched	% Hatchability	Poults Exported	Poults Imported	Poults on Alta. Farms
1953	832,064	368,917	449,225	53.2%	9,337	65,483	505,371
1954	1,133,001	533,144	606,118	53.5%	8,383	227,689	825,424
1955	1,070,690	374,573	538,014	50.3%	6,905	64,994	596,103

PROVINCIAL POULTRY PLANT

The poultry flock at the Provincial Poultry Plant consists of 1,500 S.C. White Leghorn females and 350 New Hampshire females. Of these 495 S.C. White Leghorn pullets and 210 New Hampshire pullets are being trapped under the Dominion R.O.P. Policy.

Hatching eggs were sold to commercial hatcheries, representing about 26,500 S.C. White Leghorn and 3,350 New Hampshire Oliver strain chicks being made available to Alberta farmers. This is an increase of 354% S.C. White Leghorn hatching eggs and a decrease of 248% New Hampshire hatching eggs as compared to 1954. There were no cross bred matings at the Plant in 1955. Total hatching egg sales increased by 31.8%.

The strain cross test as reported last year was completed. Brooding and rearing mortality were comparable between the strain cross and the pure Oliver strain. The hatchability of the strain cross eggs was slightly higher. Egg production of both groups was also comparable, however, laying house mortality of the strain cross group was considerably higher, mainly due to a greater susceptability to leucosis.

	Strain Cross	Oliver Strain
Production (302 days)	172	169.6
Egg Weight	25.3	25.2
Mortality	26%	17%

Full scale feeding of pullets on range by use of a mechanical spreader was carried out this year. This method of feeding proved very satisfactory, but is not recommended as a labor saving device except on large poultry farms.

CHICKS HATCHED

		Hatchability
S.C. White Leghorn Individual Pedigree	1,927	65.4%
S.C. White Leghorn Pen Pedigree	775	60.6%
S.C. White Leghorn female	7,682	82.6%
Total	10,384	
New Hampshire Individual Pedigree	720	
New Hampshire R.O.P. Bred	1,731	66.0%
Total	2,451	

Total chicks hatched 12,835—increase over 1954—2.7%.

CHICKS SOLD

S.C. White Leghorn Pedigree cockerel	253	
S.C. White Leghorn female	728	
		981
New Hampshire Pedigree cockerel	201	
New Hampshire R.O.P. Breed pullet	312	
		513
Total chicks sold		1,494

HATCHING EGGS SOLD

S.C. White Leghorn	3,165 dozen
New Hampshire	422 dozen
Total	3,587 dozen

Value—$2,409.44. Average price—67.1 cents per dozen.

MATURE BIRDS SOLD

Cockerels	60
Females: S.C. While Leghorn pullets	1,650
New Hampshire pullets	250
S.C. White Leghorn hens	450

R.O.P. Entry 1954-55

Birds entered	595
Birds certified	292
Percent certificed	49.0%
Average production (305 days)	181
Average egg weight	25.8
Percent mortality	11.2%
Sexual maturity	198
Average body weight	4.46

POULTRY SHOW

The Toronto Royal Winter Fair was again held in November with entries being made by commercial firms and producers. Alberta entries of dressed poultry made a creditable showing. This dressed show is considered the show window of the industry, and exhibiting here is of value to Alberta producers as a whole as eastern Canada is our major market of surplus poultry. The Moose Mountain 4-H Club made two entries in the open classes and were successful in placing both entries.

The Alberta Provincial Poultry Show was held at Calgary in December. It was voted that increased interest is evident in the dressed poultry section. The winning eviscerated bird of the show sold for a record $337.50 at the auction.

STAFF ACTIVITIES

The Poultry Commissioner attended the annual meetings of the Canadian Produce Association (Western Division) and the Western Canada Hatchery Federation. The Poultry Commissioner and/or members of the Poultry Branch staff attended meetings of poultry producers, hatching egg shippers, turkey breeders, produce dealers, feed dealers, hatchery operators and committees dealing with various phases of the poultry industry.

Short courses, culling and caponizing demonstrations, judging of poultry shows, 4-H Club Achievement Days as arranged by the Extension Branch, were attended by members of the Poultry Branch staff. The annual short course for hatcherymen was held in November.

A conference of members of the Poultry Branch, Canada Department of Agriculture poultry inspectors, and temporary inspectors was held in August. Addresses were given by Dr. A. Robblee of the University of Alberta, Dr. C. H. Bigland, Provincial Veterinary Laboratory, and the Poultry Commissioner.

A joint meeting of Provincial and Federal poultry inspectors was held in October to discuss poultry regulations and grade interpretations.

Report of the Apiculture Branch

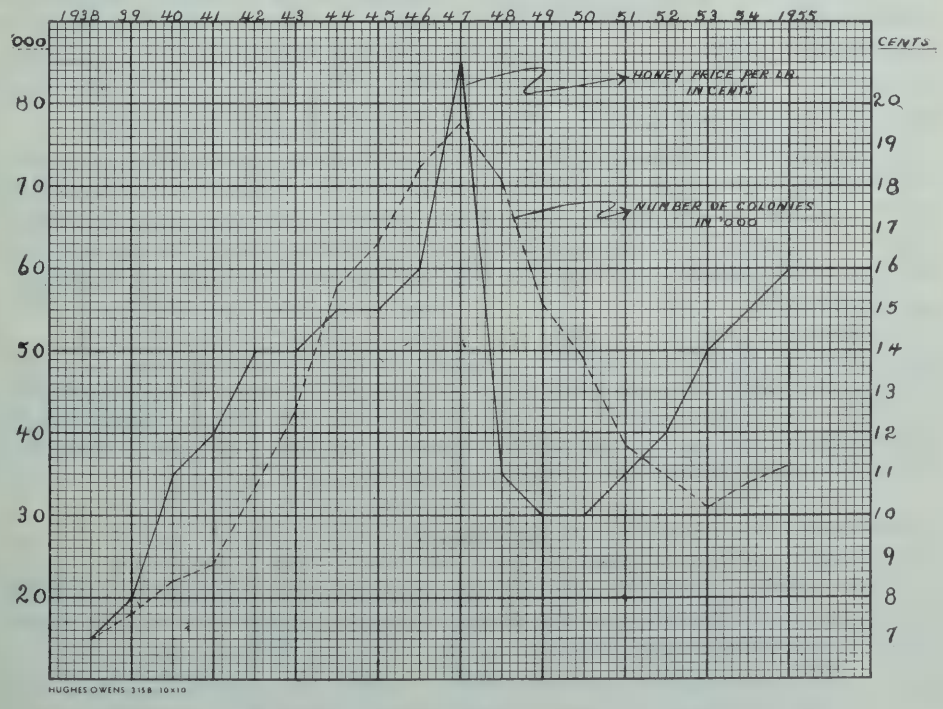
W. G. leMAISTRE, Provincial Apiarist

J. W. Edmunds, Supervisor of Apiary Inspection

The Alberta honey crop of 4,500,000 pounds was 73% greater than that of the previous year. The main reason for this increase was better weather during the honey flow. The yield per colony was 127 pounds compared to only 78 pounds in 1954. This 127 pounds is 18% larger than average.

The quality of the honey is of the highest. It commands the highest market price. Density or percentage of sugar was uniformly good in the honey from all districts. The flavour is mild and pleasing. The colour, though in some localities slightly darker than usual is, nevertheless, very light.

There has been a slight increase (3%) in the number of colonies. This is the second consecutive year in which the number of colonies has been increased. While there is sufficient accommodation in the way of suitable flora, expansion in beekeeping was discouraged by the low returns from this enterprise. It is worthy of note that when the returns to producers reached 14 cents per pound this expansion began. At 12 cents per pound the number of colonies declined.



Nnmber of colonies in Alberta 1939-1955 _____

Returns to producers 1939-1955 in cents per pound ————

SEASON

Early spring weather was unusually severe for the establishment of colonies. Very large amounts of feed were required as natural sources were delayed in yielding. So slow was colony build-up that most were not in condition to take advantage of the early July flow.

The main honey flow began in July in most districts but wet or inclement weather about mid-July put an end to honey storing.

This same wet weather brought on an exeptionally abundant August flow of which colonies took good advantage. The fact that the normal honey flow was prolonged in August was most opportune considering the retarding effect of the early season's weather

GENERAL

Importations of bees in packages comprise 98% of all the colonies used by Alberta beekeepers.

These bees begin to arrive the first week in April and are generally all in hives by the first week of May. This season it was difficult to obtain sufficient supplies of bees at the desirable time. Many shipments were delayed because of inclement weather in California. A large proportion of the bees arrived two weeks or more later than they should have.

The cost of two pound packages of bees varied from $3.50 to $5.50 delivered in Alberta.

Though 1,136 colonies were prepared for winter, 456 died (25%). This is a rather better record than usual. Winter mortality is often in the neighborhood of 40%.

Alberta beekeepers have been successful in winning important awards at major national honey shows. Winners at the Pacific National Exposition were Mrs. A. C. Bradley, Athabasca, and Louis Regamey, North Edmonton; at the Royal Agricultural Winter Fair were Louis Regamey, A. C. Bradley and A. S. Bird, Edmonton.

A peculiar situation made itself evident as a result of the very pronounced corn aphis infectation on barley fields. These aphids secret a substance called honeydew which, in the absence of nectar, bees will gather. Large surpluses of this stored by colonies will be noticeable in honey. There is also an aphis that works similarly on legumes.

Beekeepers were warned that honey grades might be affected by the honeydew unless precautions were taken. There was in fact in some districts, evidence that honeydew had been gathered in limited amounts. It is believed most of this was from pea aphis on legumes rather than from barley straw.

GRADING

Inspection of honey under the regulations conducted in conjunction with Marketing Services, Canada Department of Agriculture, showed the following:

Total Inspections	4,690
Containers	40,559
Violations	3
Containers under violation	92

The violations involved were improperly marked containers. No honey was put under detention since the necessary markings were added.

This Branch maintains a classifying and grading service. A producer may take representative samples from his extractions and send them in for readings. These readings involve a colour classification and a moisture test. Both of these readings are included in proper grade designations on honey containers. In many cases a producer can guess at his grading, however, in some seasons and in borderline cases guessing is not good enough. Samples received this year classified and graded as follows:

Class:	White	Golden	Amber	Dark
	9	.....	.....	1

Grade	No. 1	No. 2	No. 3
	6	.....	4

EXTENSION

Meetings, field days and lectures are used to keep beekeepers informed of matters affecting their operations.

A new departure was tried with respect to bringing about improved practices. It involved working closely with one or two individuals in an area. This seemed to produce excellent results as all producers in the area followed the example set.

A series of circular letters concerning important phases of beekeeping were sent to all beekeepers. Bulletins and correspondence are used to give information on various phases of beekeeping. Lectures were given at the three schools of agriculture. Articles, radio talks and reports were released on beekeeping and pollination with honey bees.

DISEASE CONTROL

Drugs were used in practically all cases for the control of the two bee diseases which at the present time, are considered malignant.

Sodium sufadiazine gave excellent results as a cure for American foulbrood. It was also used as a preventative where disease was suspected.

Terramycin (TM 25) was used in the control of European foulbrood. It gave satisfactory results. An anticipated outbreak of European foulbrood occurred. Beekeepers had been advised of the probability of such an outbreak, and were given instructions in the use of terramycin against European foulbrood. The result of these steps was to minimize the effect of this disease in 1955.

In order to insure beekeepers of an adequate and immediate supply of these drugs this Branch undertook to supply beekeepers with the drugs. This policy also aided the Branch to obtain reports and determine the results being obtained from using the drugs.

There were 121 pounds of terramycin distributed, sufficient to treat 7,000 colonies twice. 34½ pounds of sulfa were distributed. This was sufficient for treatment of 17,000 colonies.

Fourteen apiary inspectors were appointed under the Bee Diseases Act. Inspectors carried supplies of drugs and were re-

quired to give instructions on the proper use of same. If disease existed and treatment of colonies recommended, the inspectors were required to check results of treatments.

	1954	1955
No. of colonies inspected	8,272	12,403
No. of apiaries inspected	387	306
No. of colonies diseased (AFB)	391	157
No. of colonies diseased (EFB)	650	346
Percentage of colonies inspected	25 %	34.4 %
Diseased hives (AFB) (% of total)	.86%	.44%
Diseased hives (EFB) (% of total)	1.9 %	.99%

Microscopic examination of suspected disease samples are made by this Branch. Beekeepers are becoming more competent at microscopic diagnosis therefore the number of samples submitted has been reduced considerably during the past three years.

No. of samples containing AFB spores	18
No. of samples containing EFB spores	8
No. of samples containing no spores	8

The Bee Diseases Act requires the issuance of permits for moving or selling used bee equipment. Seasonal permits are also required for beekeepers to move used equipment to their various apairies.

Selling and Moving permits issued	52
Seasonal permits issued	40

Beekeepers apairy locations are registered on a map with this Branch; 109 beekeepers registered 900 locations. These locations are registered annually in an attempt to prevent overcrowding of any one area, and also reduce the spread of disease from one apiary to another.

The percentge of colonies affected by American foulbrood was reduced from .86% in 1954 to .44% in 1955. The percentage of colonies affected by European foulbrood showed a marked decline from 1.9% in 1954 to .99% in 1955. The amount of European foulbrood in 1954 was abnormally high due to an outbreak that occurred and beekeepers were not inclined to consider it serious. However a reduction in honey production in 1954 resulted in beekeepers taking necessary steps to prevent it in 1955.

A marked increase in sacbrood was noted in 1955. As yet scientific research has not found a cure for this virus disease. Data must be collected on the disease and attempts made to find a cure. In several cases honey production was reduced considerably by this disease.

INVESTIGATIONS

1. Trials were made on a method of multiple installation of package bees. It was thought this might conserve heat and aid colony build-up. Colony strength seemed much greater in the experimental colonies than in check colonies. The resultant honey crop however, was no greater.

2. **The effects of wrapping newly installed packages in tar paper.** Increased production fully justified the expense. The wrapped colonies were better than the unwrapped.

3. **The use of dry sugar for feeding newly installed package bees.** This was unsatisfactory in this trial. The bees failed to build up as well as those fed sugar syrup. However, no water was available to the colony thus fed. In a season when flight to obtain water was possible dry sugar feeding might be satisfactory.

4. **Development of practical equipment for honey extracting in small apiaries.** Some equipment for heating and straining honey was assembled. Trials will be made during the 1956 season.

STATISTICS

	*1954	**1955
Honey Production ('000 lbs.)	2,636	4,600
Average net price to producer (cents)	15	16
Value of honey (dollars)	395,400	720,000
Value of beeswax (dollars)	18,450	31,500
No. of beekeepers	1,300	1,330
No. of hives	34,000	36,000
No. of hives per beekeeper	27	27
Average production per hive (lbs.)	78	127

*Revised.
**Preliminary.

Report of the Fur Farms Branch

R. W. GILLIES, Supervisor

General

Mink represent approximately 97% of the animals maintained on Alberta fur farms. As, has been the trend over the past few years, the number of standards produced has been less and the number of mutations has been greater. This again has increased the pelt returns over the previous year's operation by approximately $160,000.00. This increase was due mainly to the large volume of mutations pelted, and also to a slightly firmer pelt market.

During 1955, the dollar value of live mink exported from Alberta (1954—$136,900.00 and 1955—$215,850.00) increased $78,950.00. This export of live animals has been from a few of the larger ranches but reflects the fact that some types of mink produced in Alberta are in demand the continent over.

This year, there has been a decrease of 95 licensed fur farmers. The trend to larger individual operation on remaining ranches has kept production fairly constant as compared to previous years. Many of the smaller ranchers due to higher cost of feed have dropped out of business. A number of the larger ranchers have moved to the West Coast. There are many more of our Alberta ranchers talking of transferring operations to the West Coast where feed seems more plentiful. During the past year, very close co-operation has been effected with the Fisheries Branch and an increased supply of rough fish available for mink feed does appear possible. Continued effort along this latter line may be the salvation of the mink industry in Alberta.

Breeding Stock

63,448 animals were retained on fur farms as breeding stock. This is a decrease of approximately 1¼% compared to the previous year. Of the mink retained approximately 60% were mutations, which is a very desirable trend since the mutation pelt returns give the fur farmer a more comfortable margin of profit.

There has been a steady improvement in the quality of breeding stock. The amount of live stock exported and major awards won by ranchers at leading National and International Shows upholds this viewpoint.

Extension Work

1. Field Days

Field days and Field Day Meetings were held at Calgary, Lacombe, Canyon Creek-Widewater, Seba Beach and Cold Lake. These field days were well attended and afforded a wonderful opportunity for ranchers in these isolated areas to compare their mink on the show table and also get some outside advice from the judges and visiting ranchers. A total of 470 mink were exhibited by 47 ranchers at field days. The field day scheduled for Lac La Biche was cancelled due to some distemper in the area. Due to inclement

weather, the Faust field day was called off but numerous ranches in this district were visited by the judges and association members.

Messrs. Len Gorham and John Caine acted as judges at the field days and their comments on the judging and ranch problems were well received.

The Veterinary Services Branch was represented by Dr. G. S. Wilton at Calgary and Lacombe; Dr. J. O'Donoghue at Canyon Creek-Widewater and Faust; and Dr. H. Vance at Seba Beach and Cold Lake. They covered subjects of disease control, nutrition and other problems pertaining to the health of animals.

Mr. Lindsay French of Calgary, President of the Alberta Fur Breeders Association, along with Otto Rigel of Calgary, represented the Association at the above field days. Mr. D. R. Fraser, Executive-Secretary of the Alberta Fur Breeders Association, took care of records and gave a forecast on the pelt market for the coming year. It was the first year for many of the gentlemen mentioned above at our field days and they were highly impressed with the extent of the mink industry in Alberta.

The Fur Farm Supervisor was in charge of the organization of the Field Days and Field Day Meetings.

Office Extension Work

Ranch inspections and personal visits are made by the Fur Farm Supervisor where advice is given on problems arising from time to time. Numerous requests for information concerning the raising of chinchilla and mink were answered and necessary literature and information given. Visits to different areas where fur farms are located were made as far as possible to coincide with local association meetings so that the Supervisor could be on hand to discuss problems with as large a group of ranchers as possible.

Fur Breeders Association

Most of the districts have very aggressive Fur Breeders Associations and this Branch has done what it could to assist in making these meetings interesting and educational. Canada Mink Breeders, under President Mr. Ken Montgomery of Edmonton, has done a great deal for the Fur Farming Industry. Their very aggressive advertising of Canada Majestic Dark Mink and EMBA Mutation has done much to maintain the fine prices received for mink pelts. The Supervisor had the privilege of attending the Annual CMB Meeting in Toronto in July and found it very instructive.

The Alberta Fur Breeders Association is issuing a periodical Fur Paper to all mink farmers. This Branch has assisted in the publication of this paper. The Supervisor has used it as a medium to reach fur farmers with timely and seasonal information.

Live Animal Show

The Alberta Fur Breeders Eighteenth Annual Live Mink Show was held in Edmonton, November 23rd and 24th. This Branch takes an active part in aiding the association with the arrangement of this show. A very severe cold snap occurred the week of the show, with the result that many farmers from outlying districts were unable to attend. Not withstanding the obstacles, 270 mink were

in competition. Some of the winners at this show have gone on to win awards at other shows outside this Province.

Health

Diagnosis and advice to fur farmers on diseased animals is available through the Veterinary Services Branch of the Department. There were 15 cases of distemper outbreaks reported on fur farms this year as compared to 18 last year. Due to knowledge now available on distemper, vaccine was administered and minor losses in most cases were reported. The general health was good, as the report by the Veterinary Services Branch shows. Some cases of food poisoning, nursing sickness, nutritional anaemia and yellow fat were among conditions diagnosed from animals sent to the Laboratory.

Feed

Feed still continues to be the major problem to Alberta Fur Farmers. Horsemeat is still available but at higher prices. Fish from the West Coast is quite reasonably priced, but will have to be ordered and stored when surpluses can be obtained. West Coast fish was very hard to obtain during months of October and November. The extending of limits on certain lakes by the Fisheries Branch did help this situation somewhat.

Many ranchers are trying feed supplements, i.e. chicken and turkey heads, cooked cracked wheat and potatoes with marked success.

With a little ingenuity, the fur farmers will find more economical ways to feed their mink.

Marketing

The mink market remains firm, particularly for most mutations; excepting whites and silver blues which are meeting with some buyers resistance.

Chinchilla skins have been placed on the pelt market during the past year and some of top quality have brought good prices Unfortunately there has not been enough of the good quality pelted. Now that the chinchilla farmers realize they have to establish a pelt market, increased activity should be forthcoming.

Special

By the end of the year, it was interesting to note that the number of mink declared on Alberta Fur Farms was in excess of 208,432 made up of 78,741 standards and 129,691 mutations. This denotes a substantial increase of approximately 12,000 mink for this current marketing season. When it is realized that this number of additional mink were produced from less breeding females, it indicates that the mink farmers have had a good production year and a greater percentage have been successfully raised to maturity. The final pelt returns when received during the next few months should afford the fur farmers additional income.

FUR FARM STATISTICS FOR YEAR ENDING AUGUST 31st, 1955

NUMBER OF ANIMALS DECLARED ON FUR FARMS IN ALBERTA 1954-55

Kind of Animal	Total No. of Animals	Av. Value Per Animal Sept. 1/54	Total Valuation
Mink, Standard	81,274	$ 15.00	$1,219,110.00
Mink, Mutation	114,965	21.00	2,414,265.00
Fox	973	10.00	9,730.00
Marten	48	16.00	768.00
Chinchilla	3,518	36.00	126,648.00
Nutria	2	3.00	6.00
	200,780		$3,770,527.00

NUMBER OF ANIMALS PELTED ON FUR FARMS IN ALBERTA 1954-55

Kind of Animal	Total No. of Animals	Av. Value Per Animal Fall 1954	Total Valuation
Mink, Standard	58,418	$ 15.00	$ 876,270.00
Mink, Mutation	76,772	21.00	1,612,212.00
Fox, Fresh Pelts	681	10.00	6,810.00
*Fox, Stale Pelts	150	10.00	1,500.00
Marten	15	16.00	240.00
Chinchilla	209	36.00	7,524.00
Nutria	Nil	.....	.....
	136,245		$2,504,556.00

*Denotes approximate number of pelts declared in previous years but merchandised during this period.

NUMBER OF LIVE ANIMALS EXPORTED FROM ALBERTA 1954-55

Kind of Animal	Total No. of Animals	Av. Value Per Animal	Total Valuation
Mink, Standard	595	$ 50.00	$ 29,750.00
Mink, Mutation	1,771	100.00	177,100.00
Fox	Nil	.....	.....
Marten	Nil	.....	.....
Chinchilla	60	150.00	9,000.00
Nutria	Nil	.....	.....
	2,426		$ 215,850.00

NUMBER OF ANIMALS RETAINED FOR BREEDING STOCK IN ALBERTA 1954-55

Kind of Animal	Total No. of Animals	Av. Value Per Animal Dec. 31/54	Total Valuation
Mink, Standard	23,451	$ 15.00	$ 351,765.00
Mink, Mutation	36,422	21.00	764,862.00
Fox	292	10.00	2,920.00
Marten	32	16.00	528.00
Chinchilla	3,249	36.00	116,964.00
Nutria	2	3.00	6.00
	63,448		$1,237,045.00

FUR FARM LICENSES 1954-55 SEASON

Mink	531	Chinchilla	114
Mink and Fox	9	Nutria	1
Mink, Fox and Marten	1		
Mink and Marten	5		668
Fox	7		

Report of the Water Resources Branch

F. L. GRINDLEY, Director of Water Resources

In the water resources field there were two notable developments in the year 1955. The first of these was the shift in irrigation construction forces from the St. Mary-Milk Rivers Development to the Western Block of The Bow River Development. The low line canal of the St. Mary-Milk Rivers Development has been completed to Medicine Hat and additional water supply will be required before proceeding with the construction of the high line canal. The Prairie Farm Rehabilitation Office (Dominion Government) is now arranging to secure additional water supply from the Waterton and Belly Rivers.

The second notable development has been the continued expansion in the use of water for domestic and industrial purposes. Studies are continuing on the ultimate necessity of controlling our rivers with the primary objective of augmenting low winter flow.

Calgary Power Limited completed two new hydro-electric projects on the Kananaskis River with a combined output of 10,500 h.p. The total installed turbine capacity on the Bow River watershed is now 281,000 h.p. The production of this electrical energy has had the beneficial effect of increasing the low winter flow of the Bow River for industrial and domestic use and for pollution abatement. A program of this type is now needed on the North Saskatchewan River and Calgary Power Limited is studying a large hydro proposal on the river near Nordegg.

Considerable financial assistance was given to municipal districts in solving vexing flooding problems. These problems have arisen as the result of five consecutive years of above average precipitation and less than average evaporation.

Ducks Unlimited of Canada has under construction a large wild life conservation project at Hay Lakes in the extreme northwest corner of the province. It is believed that this will rank as one of the largest projects of this type on the continent.

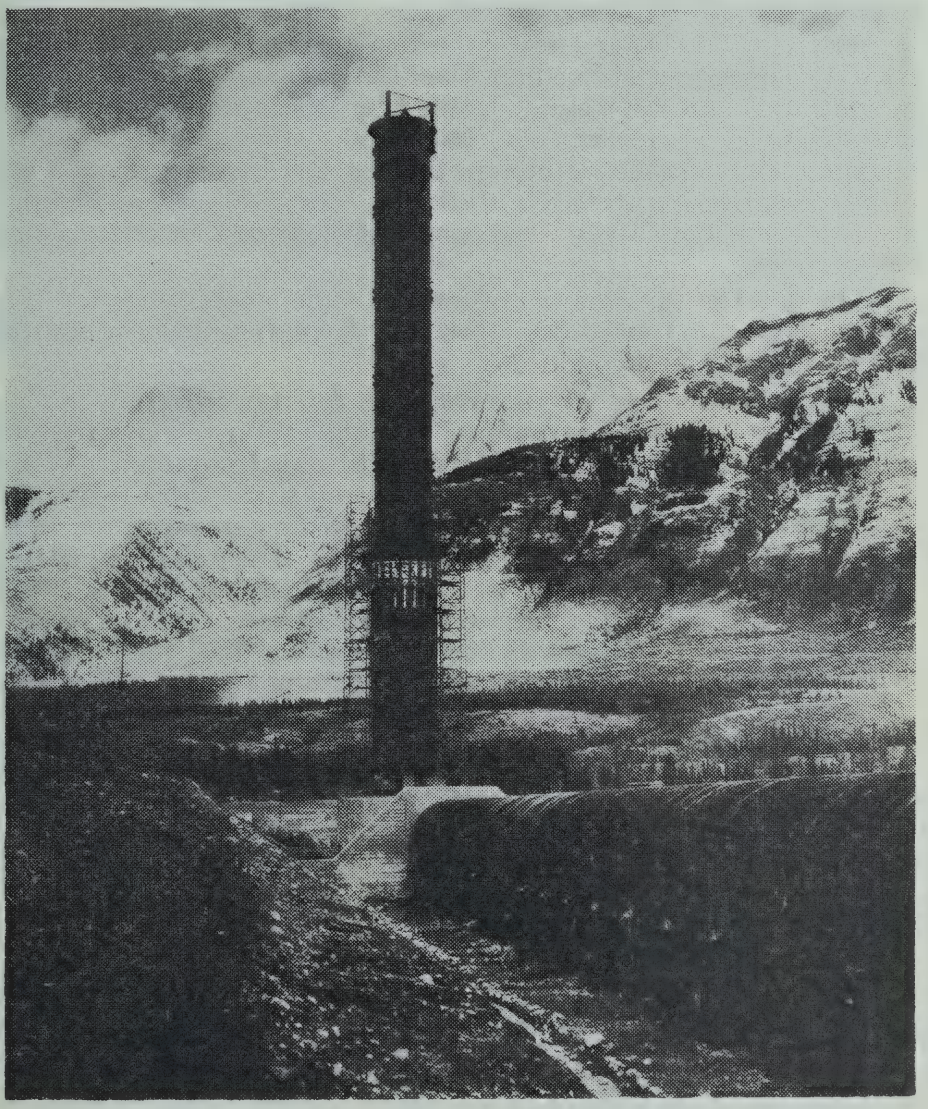
Northland Utilities Limited is installing an additional 1,000 h.p. generator at its plant on the Astoria River at Jasper.

Canadian Utilities Limited is building a large dam on the Battle River to supply cooling water for the condensers of its 30,000 h.p. steam generating power plant near Forestburg.

The drought area of the province again received adequate supplies of rainfall and although this has caused a slackening of interest in irrigation, the government feels that, from the point of view of long range planning, it is necessary to continue financial assistance to irrigation and water supply development. The Prairie Farm Rehabilitation Office is also continuing finincial assistance in the drought area and the beneficial effects of their work becomes more apparent each year.

A short brief was submitted by the Water Resources Office to the Gordon Royal Commission on Canada's Economic Future. This

submission pointed out the wide discrepancies between the high and low flow of our rivers and recommended that upstream storage sites on our major rivers should be surveyed for eventual construction to meet the growing demands for water. The Agricultural Institute of Canada and the Alberta Institute of Agrologists suggested to the Royal Commission that the large capital expenditure for irrigation developments should be curtailed and indicated that the market for specialty crops was limited.



Surge Tower at Pocaterra on the Kananaskis River.

Over a period of years the Water Resources Office has received complaints that the use of the Milk River channel as a means of transporting the American share of the St. Mary River water was causing accelerated erosion on the Milk River and was endangering houses and buildings near the river. Investigations revealed that there was some foundation for these complaints and in 1955 two major diversions were made of the Milk River to save valuable farmsteads. Three smaller projects were also constructed, but these were in the nature of groynes for deflection of the current of the river.

River protection work was continued in the vicinity of Blairmore and the use of limestone rock from the Frank slide resulted in the production of an excellent piece of work.

Surveys were made of the proposed extension of the water supply canal of the Heart River project from McLennan to Girouxville.

The Daysland, Dickson and Hay Lakes Drainage Districts all completed ditch renovation projects with financial and engineering assistance from the Department.

Mr. Earl T. Dean, well known Construction Engineer, was appointed Manager of The Bow River Development (Western Block). In spite of the early onslaught of winter, the progress on the construction work was excellent. It is interesting to note that this irrigation development is being built entirely by the province with its own engineering staff. Both the St. Mary-Milk Rivers Development and the Bow River Development (Western Block) are Crown corporations.

The descriptive summary of meteorological conditions for 1955 at Calgary is reprinted here because it represents a fair cross-section of provincial conditions.

"The Calgary's Mean Temperature for the year was 34.9, or 3.7 degrees below normal. It is interesting to note that the 1955 mean temperature is the fifth lowest on record. Three out of the five low years have occurred since 1950. The year began with sunny weather and moderate temperatures which continued to the third week in February. The months of March, April and May were cold and dull with heavy snowfalls. A record snowfall of 25 inches was recorded for April. The summer was pleasant and cool with below normal rainfall. New monthly records were set for total hours of sunshine in June and August. Rainfall was light in June, but heavy rains early in July were sufficient to ensure a good crop. September was a month of violent changes. Early killing frosts were recorded on the 9th, 10th and 11th. The last ten days of the month were 10 degrees below normal. October was sunny and mild. Winter set in on the 30th of October continuing cold to the end of the year. The months of November and December back to back were the coldest on record since 1885. The mean temperature for the 61 day period was 7.3 degrees or 17 degrees below normal. Fifteen low daily minimum records were established in 1955 against one high maximum record. Total precipitation for the year was 15.84 inches (normal 16.87 inches), snowfall amounted to 87.9 inches (normal 50.3 inches), rainfall was 70.05 inches (normal 11.84 inches).

Total hours of bright sunshine was 53.8 hours below normal with 2,138.3 hours.

Wind speeds were normal in 1955 with the highest wind reaching a speed of 69 miles an hour on the 24th of October. The prevailing wind was from the northwest."

Studies of the topography of the headwaters of the Pembina River were continued for the purpose of devising a plan for upstream storage of flood waters. It is now obvious that there is a confliction between this plan and the oil development program in the Pembina Oil Field. An excellent storage site was found on the Brazeau

River and it would be feasible to divert the Pembina into this site. The Brazeau offers excellent possibilities for hydro-electric power production.

All of the river protection works built in previous years at Fort Macleod, Walsh, Medicine Hat, High River, Canmore, Lethbridge Northern Intake, and Drumheller served their purpose very well.

During the winter months the Construction Office has been working on the design of structures to control erosion. While these structures will have special reference to the problem at Glen Leslie (near Grande Prairie) they will have much wider applicability. Mr. R. E. Bailey, Construction Engineer, has approached the problem not only from the hydraulic design point of view, but also with a view of economics. The control of erosion by structures may be necessary in some instances, but the possibilities of soil conservation practices should also receive attention.

EXPENDITURE BY THE PRAIRIE FARM REHABILITATION OFFICE IN ALBERTA FROM THE INCEPTION OF PROGRAM TO MARCH 31st, 1955

(1) Financial Assistance to Small Water Development (nearest dollar):	
Dugouts	$ 375,982
Stockwatering Dams	211,972
Small Irrigation Schemes	218,074
Total	$ 806,028
(2) Intermediate sized projects	$ 1,507,553
(3) Major Projects:	
Bow River Project	$18,405,034
St. Mary-Milk Rivers Development	9,018,473
Belly River Diversion	53,901
Total	$27,477,408

Grand total approximately 30 million dollars.

NOTE: It should be pointed out that the above figures do not include administration costs and the figure quoted by P.F.R.A. for expenditure on the St. Mary-Milk Rivers Development is $14,821,000 (March 31st, 1955).

Construction Costs of The St. Mary-Milk Rivers Development

The "Meek" Report of 1942 on the St. Mary-Milk Rivers Development estimated the total cost of irrigating the 465,000 acres of the project based on 1939 prices as follows:

Reservoirs	$ 5,349,734
Main Canals	4,841,410
Distribution Canals	2,195,520
Power Development	327,470
Total	$12,714,314

NOTE: Approximately 30 million dollars have now been expended on the development by the Dominion and Province on what amounts to a 50-50 basis.

The project is not yet completed and only a guess can be made of final cost. It would appear that the actual cost will be at least three times the estimated cost. Construction costs are still rising, but not at the same rate as has prevailed over the past ten years.

BOW RIVER DEVELOPMENT—STATISTICAL DATA

1954		
1. Miles of canal constructed as of March 31st, 1955:		
(A) Distribution System	50 miles	
2. Expenditure as of March 31st, 1955:		
(A) Construction Contracts		$ 644,094.08
(B) Materials		97,215.32
(C) All other expenses, excluding wages		42,477.82
Total		$ 783,787.22

1955

1. Miles of canal constructed as of December 31st, 1955:

(A) Lomond Main Lateral	5 miles
(B) Distribution canals constructed in 1955	45 miles
(C) Total milage constructed in 1955	50 miles
(D) Total mileage constructed to date	103 miles

2. Committed Expenditure as of November 30th, 1955:

(A) a. Construction Contracts 1955	$ 685,111.38
b. Materials 1955	98,154.01
c. All other expenses excluding salaries 1955	53,025.54
Total	$ 836,290.93
(B) a. Construction Contracts to date	$1,329,205.46
b. Materials to date	195,369.33
c. All other expenses to date excluding salaries	95,503.36
Total	$1,620,078.15

3. Area under ditch during 1955—6,000 acres.

1956

1. **Construction**
Proposed construction for 1956 consists of the following:
(A) 26 miles of main canal
(B) Distribution system F & G
(C) Bridges on the main canal including one railway bridge and bridges on Distribution Areas D, E, F, and G
(D) Machine Shop and Storage Building
(E) Three Staff Houses
(F) Communication System

2. **Expenditure**

(A) Estimated expenditure on construction contracts	$1,600,000.00
(B) Estimated expenditure on materials	300,000.00
(C) Other expenses excluding salaries	144,500.00
Total	$2,044,500.00

3. Area which can be served with irrigation in 1956—18,500 acres.

Probable date of completion

A construction schedule is at present being prepared to facilitate maximum efficiency and minimum loss of time. Until this is finalized the date of completion can only be a guess. Such a guess, however, would estimate that by the end of 1958 construction of the Western Block will be virtually completed. No estimate can be made at this time as to the completion date of the Eastern Block.

It is estimated that there will be approximately 75,000 irrigable acres in the Western Block upon its completion, the total cost of the project being in the vicinity of six or seven million dollars.

ST. MARY AND MILK RIVERS DEVELOPMENT

The majority of the construction on the S.M.R.D. this year consisted of completing unfinished 1954 contract and constructing miscellaneous small works.

A. Unfinished 1954 Contract

1. Distribution Systems

$81,205.32 was spent in 1955 on contracts awarded in 1954 for over 100 miles of distribution canals. These included the South Grassy Lake, Bow Island and North Rattlesnake Tracts. The total cost of these works exclusive of materials was $424,446.02.

2. Chin and Raymond Chute Repairs

These repairs were begun in 1954 and completed early in 1955 at a total cost of $219,862.42; $89,415.55 of this expenditure occurring in 1955.

3. **Bridge Replacement**

One of the timber bridges in the District was destroyed by fire in 1954. This was replaced by a precast concrete bridge at a cost of $16,306.00 which was spent out of 1955 appropriations.

4. **Chin Bridge**

This contract was completed this year for a total cost of $736,000.00. This year's expenditure on this contract amounted to $270,583.00.

CONTRACTS AWARDED IN 1955

	Works	Location	Estimated Total Cost	1955 Expenditure	Completion Date
1.	Drainage	South Grassy Lake Tract East Horsefly Tract	$ 55,274.50	$18,396.63	1956
2.	Chin Dam Completion	Chin Reservoir	120,045.00	70,996.77	1956
3.	Reinforced Concrete Turnout on Main Canal	Southwest of Taber	7,690.00	4,360.00	1956
4.	Texas Gates	Throughout the Project	15,630.00	13,548.00	1956
5.	Houses	Medicine Hat—Seven Persons Area	79,143.00	7,259.00	1956
6.	Murray Spillway Alterations	Murray Reservoir	16,688.30	3,181.00	1956

Approximately 200 miles of main canal has now been completed on the St. Mary and Milk River Development and about 710 miles of distribution canals. These figures apply only to the Provincial Government section which is below Ridge Reservoir.

About 30,000 acres were irrigated in 1954. 55,000 additional acres were irrigted in 1955, making a total of 85,000 acres.

A potential of 90,000 additional acres will be under ditch in 1956, however possibly only about 50,000 acres of this will receive water since many of the farmers have not yet converted to irrigation farming.

YEARLY EXPENDITURE ON S.M.R.D.

1949-50	$ 94,762.23
1950-51	1,682,517.42
1951-52	2,367,016.64
1952-53	3,907,921.62
1953-54	3,282,309.06
1954-55	2,963,321.75
1955-56 (estimated)	1,138,760.62
	$15,436,609.34

PUBLISHED ARTICLES

(1) The October 1955 issue of "Construction in Western Canada" featured an article by R. E. Bailey—Chief Construction Engineer—on "Harnessing the Heart River". The eastern half of the main diversion dam rests on a glacial "dump" and the solution of the problem presented by the pervious material in the dump is regarded as a first rate contribution to engineering knowledge. Aerial photographs were used in analyzing the basic layout.

(2) The submission of the Water Resources Branch to the Royal Commission on Canada's Economic future has also been published. The submission points out the need for the construction of dams in the foothill areas for flood control, hydro electric power and domestic and industrial water supplies. It is felt that unless definite plans are formulated soon we may lose all our good dam sites to road construction and oil development. In an area such as the Province of Alberta where the average annual precipitation is less than 18" the need for conservation of water can never be secondary to any other phase of human endeavor.

THE ST. MARY AND MILK RIVERS DEVELOPMENT COLONIZATION MANAGER

P. M. SAUDER

The first large irrigation project undertaken in Alberta was started by the Alberta Irrigation Company, a corporation promoted by Sir Alexander Galt who played a very important part in the early development of coal mines, railways and irrigation works in Southern Alberta. His corporations were finally amalgamated into the Alberta Railway and Irrigation Company and the irrigation development of this company became known as the A.R. & I. project.

The Company received a block of land as a subsidy for building railways from Lethbridge to Dunmore, a junction on the C.P.R. near Medicine Hat, to Cardston and to Great Falls in Montana. It was decided to build works to divert water from the St. Mary River at Kimball near Cardston to provide irrigation for portions of these lands that could be covered by gravity. As the Company's capital was limited it induced Mormons in Utah to come to Alberta to build the original works on an arrangement by which they were paid half their remuneration, including the hire of horses and equipment, in cash and the balance in land at $5.00 per acre. The main works of the project were completed by the spring of 1901 and irrigation provided for about 600 acres of land near Lethbridge and about 3,000 acres in the Magrath district.

In 1902, the Company was authorized to extend its works and to purchase an additional half million acres of land. The original main canal had a capacity of 500 cubic feet per second which was later enlarged to 1,200 cubic feet per second and in 1945 served close to 120,000 acres of irrigable land comprising the original tract and subsequent extensions including Taber, Magrath and Raymond Irrigation Districts.

In 1912, the Canadian Pacific Railway Company acquired control of the Alberta Railway and Irrigation Company and operated the irrigation project until 1946 when the railway company transferred the irrigation project and $100,000.00 in cash to the Government of Alberta which by the St. Mary and Milk Rivers Development Act created a Crown Corporation to operate and maintain the existing works and to operate and maintain the contemplated additional distribution system until the water users become well enough established to form and operate irrigation districts.

In 1942, committees appointed by the Governments of Canada and Alberta recommended that the two governments jointly construct works to augment the water supply for the existing works and to also provide a water supply for a large additional area. This scheme which is really an extensive enlargement of the project developed by the Alberta Railway and Irrigation Company is now commonly called the St. Mary and Milk Rivers Development.

This development includes the construction of a reservoir with a capacity of 285,000 acre-feet on the St. Mary River between

Spring Coulee and Cardston and smaller supplementary Reservoirs. It also includes the diversion of water from the Belly and the Waterton Rivers and the ultimate development of 510,000 acres including the old system.

This project, it was estimated in 1942, would cost at little over $15,000,000.00 to complete but is now estimated will cost considerably more than this sum. The federal Government is, according to present plans, to construct and operate the St. Mary and Ridge reservoirs and the connecting main canal. The Province is to finance the construction of the balance of the reservoirs and main canal and the distribution system, bear the cost of the operation and maintenance deficit during the development period, the cost of colonization and land settlement and agricultural services. The expenditures of the two governments will work out about 55 per cent of the total cost by the Federal Government and 45 per cent by the Provincial Government. About one-quarter of the outlay of the Provincial Government will be recoverable from the owners of the land and new settlers but time will have to be allowed for the payment of same.

In order to augment the water supply to the present water users, the Provincial Government provided the funds and constructed Jensen reservoir on the East Pothole Coulee near Magrath. This was finished in the fall of 1948 and has been used since the spring of 1949. The Federal Government has since refunded the cost of this reservoir to the Provincial Government.

In 1948, the Federal Government through the Director of the Prairie Farm Rehabilitation started the construction of the reservoir on the St. Mary River near Spring Coulee. This reservoir was finished and brought into use in the spring of 1952.

After several years of negotiation and consideration, the Government of Canada and the Government of Alberta entered into an agreement in writing on May 31st, 1950, setting forth the responsibility of each Government in the construction, maintenance and operation of the necessary works to complete the St. Mary and Milk Rivers Development.

Among other things, the Government of Alberta agreed that upon completion of the works, it will have formed and will be ready to carry out its program for the establishment of settlers on the irrigable lands in the project and to provide certain agricultural services.

In March 1950, the St. Mary and Milk Rivers Development Act was amended by the Legislature of Alberta to provide for the establishment of a Colonization Branch and the appointment of a Colonization Manager and Assistant Colonization Manager. Mr. P. M. Sauder became the Colonization Manager on the first of April of that year and Mr. G. S. Brown was appointed to act as Colonization Manager during the absences of Mr. Sauder.

In August, 1950, arrangements were made with the Municipal Districts of Eureka No. 14, (now Taber No. 14) and Bow Island No. 13 (now Forty Mile No. 2) to transfer tax recovery land to the St. Mary and Milk Rivers Development Colonization Manager for land settlement purposes.

By an Order-in-Council dated September 6th, 1950, the Executive Council of the Government of Alberta authorized the Honourable the Minister of Lands and Forests to sell vacant and available public lands in the St. Mary and Milk Rivers Development to the St. Mary and Milk Rivers Development Colonization Manager.

Following these arrangements, the Colonization Manager discussed regulations, terms and conditions for the sale of the public and tax recovery lands with Messrs. Stewart Ellis, Regional Counsellor, Soldier Settlement and Veterans' Land Act; Stuart S. Graham, Supervisor of District Agriculturists; Mark Mann, Administrative Officer, P.F.R.A.; Harry Rowley, Farmer of Coaldale; Thomas H. Wyman, Assistant Lethbridge Northern Colonization Manager and George S. Brown, Assistant St. Mary and Milk Rivers Development Colonization Manager. All agreed that opportunities are greater on irrigable land and that years of experience in the settlement of irrigable land has shown that irrigation farming requires higher qualifications than dry land farming and that it is very important to make sure that applicants are fully qualified before allotting land to them. After very careful consideration and discussion, recommendations were made to the Minister of Lands and Forests.

On February 27th, 1951, Order-in-Council 308/51 of the Executive Council of the Government of Alberta advised the St. Mary and Milk Rivers Development Colonization Manager that when selling lands he is to give prior consideration to persons certified by the Director, Veterans' Land Act 1942 (Canada), and shall sell such lands which are determined by the Advisory Committee to be suitable for the establishment of veterans in the manner hereafter provided: (As the regulations promulgated by this Order-in-Council are rather lengthy, only the main conditions are recited hereunder.)

1. Veterans are given first consideration but land not sold to veterans may be offered to civilians and preference being given to the resettlement of farmers from sub-marginal lands, such as the dried-out areas of Alberta and Saskatchewan. Applications can be turned down if the veteran applying is already a renter, purchaser or owner of other land.

2. Successful applicants will be granted a maximum area of one-quarter section at a nominal purchase price which in the case of veterans is $10.00.

3. The settler must present a program of his proposed farming operations for the next year and a statement of production for the current year to the Advisory Committee for approval.

4. Settlers should establish a proper home on the land and other buildings required to house farm implements and livestock.

5. Purchasers must pay all taxes, water rates and other charges assessed against the land. They must agree to pay $10.00 per acre for water rights either by annual cash payments or by assigning a share of the crop. Interest on the unpaid balance is three and one half per cent per annum.

6. The Advisory Committee may refuse an application if it considers the applicant is not qualified for irrigation farming or has not sufficient cash, capital, livestock or equipment.

7. After ten years, the settler may apply for title to the land and if all the requirements have been satisfied will receive a transfer of the land.

On the same date Honourable D. A. Ure, the Minister in Charge of the Administration of the St. Mary and Milk Rivers Development Act, 1950, formally appointed Mr. Stewart Ellis, Mr. Stuart S. Graham, Mr. Mark Mann and Mr. Harry W. Rowley, members of the Advisory Committee to assist the St. Mary and Milk Rivers Development Colonization Manager. Mr. Stewart Ellis, who resigned, has been replaced by Mr. D. T. LeBaron of the V.L.A. and Mr. Harry W. Rowley, who died, has been replaced by Doctor V. A. Wood, Director of Lands.

The Colonization Manager and the Advisory Committee then considered and discussed regulations, terms and conditions for the sale of the balance of the public lands, the tax recovery lands and such other lands as may from time to time be acquired by the Colonization Manager and made recommendations to the Minister charged with the Administration of the St. Mary and Milk Rivers Development Act, 1950. Order-in-Council 541/51 dated April 24th, 1951, promulgated regulations similar to those contained in Order 308/51 for these lands but did not specify prices.

Order-in-Council 636/52 dated May 5th, 1952, ordered that when selling lands, under Order-in-Council 541/51, the Colonization Manager shall with the assistance of the Advisory Committee, determine the selling price or prices to veterans as follows:

The irrigable land in any parcel shall be valued in general in proportion to the soil rating shown on classification maps furnished by the Department of Agriculture of the Government of Alberta using the basic value of $7.50 per acre for areas rated at 50%. The non-irrigable land in any parcel shall be valued in proportion to the soil rating shown on said classification maps using the basic value of $2.50 per acre for areas rated at 50%.

To these quantities may be added a sum or sums for land levelling, canal right-of-way, and other improvements. The amount to be added for land levelling and the terms of payment shall be determined by the Advisory Committee and may be less than the acutal cost if the Advisory Committee considers that the actual cost would make the price of the land excessive. The Advisory Committee shall also determine the amount, if any, to be charged for the land occupied by a canal or canals crossing the parcel to serve another parcel. The sum to be added for other improvements shall be the sum considered by the Advisory Committee to be just and fair.

The selling price or prices of the land sold to non-veterans shall be determined by the Colonization Manager, with the assistance of the Advisory Committee, in a similar manner, but the basic value of 50% irrigable land shall be $15.00 per acre and for 50% non-irrigable land $5.00 per acre. The Advisory Committee shall determine the amount to be added for land levelling and the terms of payments. The Advisory Committee shall also determine the amount, if any, to be charged for the land occupied by a canal crossing the parcel to serve another parcel. The sum to be added for other improvements shall be the sum considered by the Advisory Committee to be just and fair.

The selling price of lands sold to a private owner to compensate for areas expropriated for right-of-way or to compensate for damage to property shall be the prices determined by the Colonization Manager as fair and just prices for the land involved after studying and comparing values in the locality.

The distribution works having been completed, it was possible in 1951 to give water service to eight thousand acres of irrigable land including public and tax recovery lands in the Big Bend, a tract North of Taber. The Colonization Manager and his Advisory Committee therefore examined and rated forty-seven veterans and five non-veterans at Lethbridge and Taber during January, February, March and April, 1951.

Each man, and if married his wife also, was carefully examined and rated for age, health, agricultural experience, education, capital resources, personality and character, service record, wife's personality, wife's aptitude and children. Before April, fourteen quarter sections were allotted to veterans and one to a non-veteran. Several others were found qualified but land with water was not available for them at that time. During the year, eight quarter sections were allotted to owners who had to give up land, of which they were registered owners, for the Horsefly Lake Reservoir site.

During the balance of the year, nineteen veterans and four non-veterans were examined in Lethbridge, Taber, Grassy Lake and Burdett but no allotments were made because of lack of lands that would get water at an early date.

During 1952, thirty-seven applicants for land were examined and rated and land was allotted to ten veterans and five non-veterans.

In June 1952, the Colonization Manager was asked to advertise and receive applications for seventeen parcels of land near the townsite of Hays, twenty-two miles East of Vauxhall in the Bow River Development. During 1952, twenty-two veterans were examined and parcels were allotted to fourteen. Additional applicants were examined early in 1953 and the other three parcels were allotted in time for the purchasers to sow a crop in the spring of 1953.

During 1953, thirty applicants for land were examined and rated, and land was allotted to twenty-six veterans, including the seventeen placed in the Hays district, and twelve non-veterans.

In view of the fact that there is no possibility of obtaining contracts for sugar beets or canning vegetables and it is advisable to go into mixed farming with livestock as the main product in some areas, such as the area North of Grassy Lake, a half section of land was allotted to some of the settlers in 1954.

During 1954, forty-eight applicants for land were examined and rated, and land was allotted to twelve veterans and eight non-veterans. Eleven of these received quarter sections and nine received half sections.

During 1955, ninety applicants for land were examined and rated, and land was allotted to twenty veterans and nine non-veterans. Twenty of these were allotted quarter sections and nine received half sections.

Altogether, eighty-two parcels of quarter and half section lands were sold to veterans of World War II and thirty-five parcels of

quarter and half section lands were sold to non-veterans in the years 1951, 1952, 1953, 1954 and 1955, making a total of 117 new settlers. At the end of 1955, we had a large number of veterans and non-veterans who were qualified for land settlement, but had not been placed because we had no land where water was available and that had been leveled and classified. We find that it is not advisable to allot land until the irrigation works are ready for use, water is available and the irrigable land has been properly levelled and classified. Water will become available to quite a number of parcels in 1956 but in most cases it will not be available until summer or fall.

A number of veterans have been found to be highly qualified and when it is found that they also have considerable capital resources or can obtain assistance from a parent, we advise them to purchase improved land from private owners through the Veterans' Land Act.

It should be explained that if the land allotted by the Colonization Manager and his Advisory Committee is approved by the Director of the Veterans' Land Act, the veteran is qualified to receive a grant of $2,320.00, when water becomes available for the land. If the veteran has drawn any re-establishment credits, he must re-pay these to become eligible for the land grant.

The total allotment of land to date does not look very much on a project as large as the addition to the St. Mary and Milk Rivers Development. However, owing to the fact that the new main canal was not available for use until 1954 and even then there were interruptions in the service, and a lot of land had to be levelled before it was suitable for irrigation, the allotments to date have been relatively small. In any case, it is better to make haste slowly and be sure of success than to rush settlers on to the land and have a high percentage of failures.

Almost all of the new settlers did not have enough capital to purchase land from private owners and to start farming without the Veterans' Land Act assistance. By letting them have land at a low price, they were given an opportunity to get started and will at the end of ten years be well established. Ultimately the Colonization Manager will allot over 300 quarter sections in the area between Taber and Medicine Hat.

In addition to the increase in population in the new areas due to new settlers placed by the Colonization Manager, there has been an increase due to the sale and transfer of privately owned lands. One owner allotted nine quarter sections to five sons and daughters. Another, a widow, seventy years of age, sold four quarter sections of land to five persons from outside the area, and has allotted two quarters to sons.

School lands are not available for settlement by the Colonization Manager and must be sold by public auction. Four quarter sections of school land near Purple Springs containing irrigable land were sold in February, 1952. Four quarter sections of school land near Bow Island were sold in February, 1953, and one quarter south of Burdett and one south of Grassy Lake were sold in February, 1954. One quarter section near Chin, two quarters near Purple Springs, eight quarters near Grassy Lake, three near Burdett and two near Bow Island, a total of 16 quarter sections of school

land, were sold by public auction in February, 1955. A few additional school lands will be sold in February 1956.

While in the early development of irrigation in Canada, it was expected that the farmer would pay all of the cost of diverting the water from the stream to the land, it has been found that the farmer cannot bear all the cost. The Alberta Railway and Irrigation Company, the Canadian Pacific Railway Company, the Canada Land and Irrigation Company, and the Alberta Government had to absorb a portion of the capital cost of the early projects sponsored by them. It is admitted now that increased production on irrigation projects not only increases business in the locality of the project but throughout Canada. Irrigation is simply a method of making up for a deficiency in natural rainfall. After careful consideration, the Government of Alberta agreed that it would only charge $10.00 per irrigable acre for a water right, or the farmers' contribution to the cost of the works, in the addition to the St. Mary and Milk Rivers Development.

The Colonization Manager is responsible for signing up the private owners of land before works for irrigation are constructed. He has a fieldman who canvasses all of the owners before the distributaries are constructed. Should the majority of the owners on any distributary not sign up for water, i.e., to pay ten dollars ($10.00) per acre for a water right, or the right to obtain water service, and to pay the cost of maintenance and operation each year, the distributary will not be constructed. The sign-up in the Low Line Canal system has been close to one hundred per cent. A few of the elderly people, i.e., persons over sixty-five years of age, have said that they do not want irrigation. We realize that these people cannot change over to irrigation farming, and do not try to persuade them to sign. When the land changes hands, the new owners will most likely sign up. Even if they do not, they can be forced to pay water rates where the majority of the farmers in the area have signed up. At the end of 1955, 710 private owners (i.e. individuals, partners, corporations and estates) had applied for water for about 131,532 acres on 1,420 parcels (i.e. quarter sections or less of land) and agreed to pay the water charges on same.

Of the 710 owners who have signed for 1,400 parcels, 1 has 20 acres, 2 have 40 acres each, 1 has 50 acres and 15 have 80 acres each, 570 have 160 acres or more each, with an average of 1.96 quarter sections each. The largest owner owns ten quarter sections. There are only 30 who own 5 or more quarter sections each. The 30 own a total of 180 quarter sections.

Although the Federal Government has paid thousands of dollars under the Prairie Farm Assistance Act in the areas being developed, the grain crops during the years 1951 to 1953 were very good and many of the farmers made money during these years. A number of them used their profits to pay off debts, purchase equipment and increase their improvements. Generally the yields were not as good in 1954 and while the yield was good in 1955, only a small amount of grain has been sold. Many of the farmers therefore have not the necessary cash to purchase seed, extra equipment and livestock to get into mixed farming under irrigation. There is grave danger that some of the present owners will be swamped before they receive any benefit from irrigation, par-

ticularly those who have not had previous experience in irrigation and have always been straight wheat growers. It takes time and capital to change over from straight wheat farming to mixed farming under irrigation. High prices for equipment and materials and high wages increase the difficulties for the farmers with very little capital. Many did not realize how easy it is to use up their surplus funds. Other farmers with this necessary cash will have no difficulty in adjusting themselves to the changed conditions.

Right now there are quite a lot of people who came to Southern Albert to work as hired help on irrigation farms and farmers' sons who have capital and equipment and wish to rent or purchase irrigable land. Some of the larger owners in the extension of the St. Mary and Milk Rivers Development plan to continue farming but will rent a portion of their irrigable land. Experienced farmers, some with experience on irrigated land, are available and will help the present owners to farm their large areas. Other owners have started herds of cattle and will become mixed farmers. Most farmers will heed the advice of the District Agriculturists, grow alfalfa and hay and diversify their farming. There are also quite a lot of different farm products that can be grown quite successfully and profitably but so long as wheat and cattle are selling at high prices these products will predominate. Many of the farmers on the St. Mary and Milk Rivers Development have quite a lot of capital and will not have to worry much, come what may, during the next two or three years. By that time, they will have adapted themselves to the new conditions and worked out a solution. The present settlers have succeeded in spite of adverse conditions and I predict that with irrigation they will very materially increase and vary their production.

In order to provide guidance and advice for new settlers the Department of Agriculture has located Mr. Robert Simmons as District Agriculturist at Taber to give service to that portion of the St. Mary and Milk Rivers Development lying between Chin reservior and the range line East of Grassy Lake. Mr. J. L. Anderson, District Agriculturist at Medicine Hat gives service to that portion of the St. Mary and Milk Rivers Development lying between the Range line East of Grassy Lake and Medicine Hat. Each of these men will have an assistant in 1956 so that greater assistance can be given to the irrigation farmers.

The Department of Agriculture had also engaged Mr. C. J. McAndrews, Extension Irrigationist, to give the farmers assistance and service in getting started with irrigation. This includes surveying and staking field ditches and levelling the irrigable land so that water can be spread more easily and efficiently. Survey parties have been in the field during the open season in 1951, 1952, 1953, 1954 and 1955, to survey field ditches and make plans showing the location and boundaries of the irrigable areas.

The Department purchased a TD 18 tractor, bulldozer, scraper and scraper plane in 1951 and a D7 tractor, bulldozer, scraper, and scraper plane in 1952 to do land levelling under Mr. McAndrew's supervision. In 1953 a MH55 tractor and scraper was added and in 1954 the TD 18 tractor was replaced by a D7 tractor. For a while in 1952 and 1953, the equipment worked two nine hour shifts each day but this was not altogether satisfactory and was discontinued. The Department's equipment was supplement-

ed in 1954 and 1955 by hiring privately owned equipment. During 1951 to 1955, the Department's equipment improved 9,215 acres in 215 quarter sections and privately owned equipment improved 4,400 acres in 95 quarter sections. Land levelling puts the land in good shape for irrigating and makes it much easier to do the irrigating and to do it more efficiently.

No charge is made for the survey of the ditches but the Colonization Manager pays for the land levelling done on land owned and allotted by him. He adds the cost of land levelling to the selling price of the land but absorbs part of it when the land needs quite a lot of work. The Government therefore is really giving some assistance in this work. Private owners pay a rate per hour for the equipment that is a little above the actual cost but less than the rate charged by commercial concerns. The Colonization Manager and the Advisory Committee set the charges per hour for the equipment and are responsible for seeing that the surplus will be sufficient when the equipment wears out, to replace it.

The Agreement between the Government of Canada and the Government of Alberta regarding the construction of the works for the addition to the St. Mary and Milk Rivers Development provides that all of the engineering work will be done by the Government of Canada. For some time, the Colonization Manager was responsible for checking the bills for material purchased by the Government of Alberta for its portion of the works. He also checked all estimates of work done by contractors on the Provincial work submitted by the Supervising Engineer of the Prairie Farm Rehabilitation Administration. This work was transferred to Mr. Ronald Francis on the first of July, 1955.

The Colonization Manager still checks and approves all expenditures for right-of-way and in some cases negotiates settlement with the original owner of the land.

When the works for the supply of water to any portion of the addition to the St. Mary and Milk Rivers Development are completed and tested, said works are taken over, operated and maintained by the Manager of the St. Mary and Milk Rivers Development.

The Colonization Manager collects the water right payments and transmits them to the Deputy Provincial Treasurer. The charge which, as stated above, is ten dollars ($10.00) per irrigable acre may be paid in cash not later than the date designated by the Minister of Agriculture, but one dollar ($1.00) per acre is all that is required. The balance together with interest at the rate of three and one half percent per annum on the unpaid balance may be paid in one dollar per acre annual instalments starting on November 30th, in the year following the initial payment.

If an area petitions to become part of an organized irrigation district or to form an irrigation district, such applications will be given careful consideration and if it appears desirable, the application will be approved and the Manager of the St. Mary and Milk Rivers Development will transfer the ownership of the works involved. The Big Bend area was transferred to the Taber Irrigation District in the spring of 1952.

When planning the addition to the St. Mary and Milk Rivers Development, it was realized that the farmers would not get much

benefit from irrigation during the first two years and would not be in shape to pay water rates right from the very start because it takes two or three years to change from dry land farming to irrigation farming. It was therefore decided, and provision has been made, that the Alberta Government will pay the service charge for the first two years of service.

While it is desirable to have experience in irrigation farming it is not necessary. Many settlers without any previous experience have been quite successful irrigation farmers. It is not hard to learn how to spread water on the land and many new settlers like to see how good a job they can do. It is quite easy to get experience or education in methods of irrigating and farming. A District Agriculturist is always within reach and ready to give instructions and advice. Agricultural courses are held during the winter in the larger centres where talks and lectures are given on all kinds of agricultural subjects. The local newspapers also publish up to date articles and pamphlets are available from both the Provincial and Federal Governments. Field days to demonstrate ditching and irrigating are arranged by the District Agriculturists during the irrigation season.

In examining applicants for land in the St. Mary and Milk Rivers Development, we pay considerable attention to the amount of capital they have. In the past, if a young couple was satisfied with a two to four roomed low priced house and to start with the minimum of equipment and could qualify for the Veterans' Land Act grant of $2,320.00, we thought that the qualified veteran could get started provided he had about $3,500.00 in assets himself. We now think that he should have more assets. Of course, the veteran promises to live on the quarter section allotted to him and to make his livelihood on it. At the end of the ten year probation period, he should be clear of debt and well established. If he wishes to make a profit as well as his livelihood, he should have more capital and acquire a half section of land.

Before allotting land to a new settler on the St. Mary and Milk Rivers Development, the Colonization Manager and his Advisory Committee, make quite an exhaustive investigation of the applicant, his wife and family. They get their history and references. The references are asked their opinion of the applicant's character, ability, experience and financial status. The applicants who do not seem to have the right kind of record, or have never gone ahead are weeded out. It is not difficult to get well qualified new settlers at present. The greatest drawback is lack of a supply of land. The supply will however increase in 1956.

The Municipal Districts receive greater revenue through higher assessments but their expenditures are increased for roads, schools and public utilities. The population, however, becomes much more dense after irrigation and provides more people to pay taxes.

It is estimated that the production from 730,000 acres of irrigable land in Southern Alberta in 1953 was worth about $32,700,000.00 or approximately $44.80 per acre. Quite a lot of this produce was processed and turned into food for human consumption in sugar factories, canning factories and plants manufacturing meat, poultry, and dairy products.

An idea of the effect of irrigation on agricultural and industrial development may be obtained from the fact that in 1954, 37,580 acres of land in Southern Alberta seeded to sugar beets produced 442,607 tons of beets which in turn produced 1,092,667 pounds of sugar. The farmer who grew the sugar beets received a total of about $6,160,000.00 for the beets and the merchants who sold the sugar received about $10,000,000.00 for it.

The tendency in the dry land areas is for the population to decrease and in the irrigated areas to increase, and after all, prosperity in Canada depends very largely on increased population.

One of the problems in the addition to the St. Mary and Milk Rivers Development is land settlement. In the past, whenever a new area was brought under irrigation, the promoters of irrigation owned a large tract of land and made it available for land settlement. New settlers flocked to the new project and were offered lands at low prices and easy terms. It is hard to realize that there are no large tracts of land available for new settlers at present. Some of the present owners hold fairly large tracts but many of them do not wish to sell at present. Some are turning over part of their holdings to members of their families but are not offering any land to the public, except by renting. It is believed that these owners will eventually sell large portions of their lands. In the meantime, prospective settlers from all parts of Alberta and Saskatchewan are writing to the Colonization Manager asking about such lands. The project has received a great deal of publicity and the magic of irrigation appeals to many people who wish to acquire farm land at low prices. It is believed that many parcels will eventually be offered for sale. Many of the owners who are past middle age will soon sell to younger men who are better able to take on the strain of intensive farming under irrigation. There are lots of opportunities for diversifying and increasing production. There will also be a big increase in industrial development.

The industrial development resulting from irrigation is contributing, in a very substantial measure, to the general welfare of Southern Alberta and to the country as a whole. The main developments of this nature include sugar factories, canning factories, where a wide assortment of products from irrigated lands are processed, in addition to pickling plants, seed cleaning plants, alfalfa meal mills, commercial apiaries, cheese factories, creameries, plants for producing dairy and poultry products and other sundry enterprises resulting directly or indirectly from irrigation and increased trade.

We are all quite aware of the fact that only a small portion of the canned vegetables consumed in Alberta are produced in Alberta. Much of the canned foods consumed in Alberta, such as soups, pork and beans, tomatoes, sauerkraut and vegetable juices, are not produced in Alberta, and some not even in Canada. At the present time, the Broder Canning Company Limited in Lethbridge has built up quite a large canning and frozen food business using Alberta grown vegetables. The Cornwall Canning Company at Taber made quite an addition to its plant in 1954 and has increased its output considerbly. The Alberta Canning Company has increased the capacity of its Magrath plant and is considering

building another plant in the addition to the St. Mary and Milk Rivers Development.

There is an opportunity to increase the specialized crops. Some seed grain, grass seed and vegetable seed are produced in the irrigated area, but there should be more of it. Many farmers are quite capable of growing special crops. Every effort should be exerted to help the farmer to find a market for his crop. Some of the irrigation projects have been handicapped because nobody helped to find market for new crops. While a good water service is essential, the success of the farmer is also dependent on a market for his products. We should do all that we can to determine what can be produced and sold at a profit.

While portions of the main canal have not been thoroughly tested, it was in use from the St. Mary Reservoir near Spring Coulee to Medicine Hat in 1955. Construcion will be practically finished in 1956. At the same time water will be available and can be delivered to parcels containing about 115,000 acres of irrigable land, including 10,188 acres in the Big Bend area in 1956.

We expect that the farmers will experience some difficulty in spreading the water by gravity in loose dry ground that has not been irrigated previously. Until the ground has been irrigated a couple of times it will be difficult to spread the water and progress will be slow. While fall irrigation will not benefit the current year's crop, it is the best time to learn irrigating and it will put the ground in shape for good germination of seed the following spring and make it much easier to irrigate.

While the colonization and land settlement will not be spectacular, there will be a steady increase in the number of people on the project during the next few years. There will also be a steady increase in the variety and quantity of products. In addition there will be an increase in population and business in the urban areas in the project. With lower altitude, higher temperatures and good soil we think that the Bow Island and Medicine Hat areas will eventually outdo all other irrigated areas in Alberta.

Recently, Mr. Peter Jamieson, District Agriculturist, at Lethbridge, checked on the commercial vegetables and special crops grown in Southern Alberta in 1955. As the areas grown will be a surprise to many, the following summary is submitted:

Kind	Acres	Kind	Acres
Asparagus	15	Parsnips	45
Beans (Snap)	434	Peas (canning)	3,967
Beans (Dry)	960	Peas (seed)	2,450
Beets, table	60	Potatoes (table)	4,100
Cabbage	105	Potatoes (seed)	400
Cauliflower	12	Pumpkins	105
Carrots	110	Onions	7
Corn (canning)	2,955	Tomatoes	20
Corn (cob trade)	400	Turnips	230
Cucumbers	390	Sugar Beets	37,800
Lettuce	3		
			54,568 acres

In addition, yellow and oriental brown mustard with yields up to 750 lbs. per acre was grown on about 70,000 acres, part of which was irrigable land.

Report of Agricultural Extension Service

STAFF

Headquarters

F. H. NEWCOMBE, Director
S. S. Graham, Supervisor of District Agriculturists
Mrs. V. G. Macdonald, Supervisor, Women's Division
Miss B. J. Lewis, Extension Nutritionist
Miss E. M. Crowther, Extension Home Designer
C. A. Cheshire, Extension Engineer
J. L. Reid, Assistant Extension Engineer
R. E. English, Statistician

DISTRICT OFFICES

Office	Agriculturists	Home Economists
Athabasca	G. L. Godel	
Berwyn	A. W. Beattie	Miss E. Mitchell
Bonnyville	L. Gareau	
Brooks	Ira Lapp	Mrs. N. J. Gray
Assistant	M. W. Malyon	
Calgary	N. F. Bell	Miss A. Randle
Camrose	L. D. Williams	Miss N. Hooper
Cardston	D. L. Steed	
Claresholm	H. H. Michael	To be appointed
Coronation	J. D. Jantzie	
Drumheller	S. W. Pettem	
Edmonton North	J. M. Fontaine	Mrs. G. Melynk
Edmonton South	B. J. Whitbread	Miss J. Morgan
Assistant	H. F. Campbell	
Falher	V. Surprenant	
Grande Prairie	R. C. Moffat	Miss P. Seldon
Hanna	A. E. Sherman	Mrs. L. Rea
High River	C. E. Yauch	
Lac la Biche	J. S. Lore	
Lacombe	L. W. Rasmusson	
Assistant	E. C. Lowe	
Leduc	J. R. Gylander	
Lethbridge	P. Jamieson	Miss E. Bartman
Assistant	A. R. Jones	
Mayerthorpe	W. L. McNary	
Medicine Hat	J. L. Anderson	
Assistant	F. S. Goddard	
Myrnam	R. P. Fodchuk	
Olds	H. J. Fulcher	
Assistant	C. C. Robinson	
Ponoka	J. L. Kerns	
Red Deer	R. D. Price	Miss A. Nelson
Rocky Mtn. House	G. A. Ross	
Ryley	N. A. Chomik	
Sedgewick	A. E. Edwards	
Smoky Lake	F. Strashok	
Spirit River	G. W. Shewchuk	
Stettler	E. W. Walker	Miss B. Macleod
Strathmore	K. H. Walker	
St. Paul	M. Chevrette	Miss E. Kubrak
Taber	R. A. Simmons	
Vegreville	W. N. Pidruchney	Miss M. Inglis
Vermilion	E. H. Buckingham	
Assistant	H. B. Jeffery	
Wainwright	J. S. Duncan	To be appointed
Westlock	W. A. Ross	Miss D. Montalbetti
Wetaskiwin	W. C. Proctor	Miss J. Halliday
Willingdon	F. Magera	
At large		Miss H. Moseson

Irrigation Division	
C. J. McAndrews	Extension Irrigationist, Lethbridge
L. D. M. Sadler	Assistant, Lethbridge
D. G. Harrington	Assistant, Bow Island
N. S. Thomson	Assistant, Taber

APPOINTMENTS

Headquarters

J. L. Reid	Assistant Extension Engineer
Miss E. M. Crowther	Extension Home Designer
Miss H. Moseson	District Home Economist at large

District Agriculturists

H. B. Jeffery	Assistant at Vermilion
A. R. Jones	Assistant at Lacombe
F. S. Goddard	Assistant at Lacombe and Medicine Hat
E. C. Lowe	Assistant at Lacombe
H. F. Campbell	Assistant at Edmonton
M. W. Malyon	Assistant at Brooks

District Home Economists

Miss A. Randle	Calgary
Miss J. Morgan	Edmonton
Mrs. G. Melnyk	Edmonton
Miss A. Nelson	Red Deer
Miss B. Macleod	Stettler
Miss E. Kubrak	St. Paul
Miss D. Montalbetti	Westlock
Miss J. Halliday	Wetaskiwin

PROMOTIONS AND TRANSFERS

District Agriculturists

R. D. Price	District Agriculturist at Stettler to District Agriculturist at Red Deer
R. C. Bocking	Assistant at Vermilion to District Agriculturist at Evansburg
F. S. Goddard	Assistant at Lacombe to Assistant at Medicine Hat
P. M. Holt	Assistant at Berwyn to Assistant at Athabasca

AGRICULTURAL SOCIETIES

More favorable weather conditions during 1955 permitted the completion of a high percentage of society activities. As of December 1955, there are 44 Agricultural Societies and Exhibition Associations.

New Societies organized—none
Societies disorganized—Hanna
Lomond
Big Valley

Activities conducted by Agricultural Societies:

Fairs—"B" Class	6
"C" Class	21
Tillage Competitions	2
Livestock Sales	3
Seed Fairs	2
Horticultural Exhibitions	4
Farm and Home Improvement Programs	16
Junior Club Display Competitions	4

It is reported that field staff assisted Agricultural Societies with Fairs and other activities in 217 instances and, in addition, individual assistance was given to 1,478 persons. Standards for judging were discussed at 54 meetings.

FARM LABOUR

General

Continuing mechanization of agriculture results in reduced demand for farm labour. The general financial situation of farmers in this Province has, however, been such as to reduce also the purchases of farm machinery. General conditions in the farm labour field have shown no change from 1954.

Seasonal Movements

(a) **Ontario Farm Workers**

It seems to be increasingly difficult to recruit appreciable numbers of these workers. Construction and industrial opportunities

offer wage scales with which those offered by Ontario farmers for this movement cannot hope to compete.

(b) **Prairie Farm Workers**

The demand for this labour began this year by the middle of August, which is at least ten days earlier than average and probably the earliest on record. The movement continued without undue difficulty and finished also much earlier than usual. Rain was experienced about two-thirds to three-quarters through the harvesting period and the amount remaining to be harvested did not appear to justify the retention of workers until the weather again cleared. Accordingly, permits were written for some of them to return home, and before work re-commenced railways were given a general directive to advance the returning date under the tariff. Later the harvest was satisfactorily completed and the lack of the workers who had returned created no acute situation. It is probable that workers are coming forward under their own arrangements in increasing numbers.

Wages were approximately the same as last year in the $7.50 to $9.00 per day plus board and room and upward to $1.00 or more per hour for experienced combine operators.

(c) **Alberta Harvesters**

This heading includes those placed for short periods in the harvest fields but does not include Prairie Farm Workers. It was not necessary to resort to radio or press appeals and sufficient of these workers, supplemented by the Prairie Farm Workers, were found to satisfactorily complete the harvest.

(d) **Berry Pickers**

So few of these are now being sent forward that it would seem doubtful that their contribution to the fruit harvest in B.C. could be appreciable.

Sugar Beet Workers

(a) **Immigrants**

Once again we record a reduced number of immigrant workers for sugar beets. There is no doubt that, notwithstanding complaints from the growers in some previous years regarding the acceptability of these workers, they have now reached the place where they would be very pleased to see more of them coming forward. The mechanization of sugar beet work proceeds as rapidly as might be expected. For the present, however, it is almost as much of embarrassment as of advantage since it has the general effect of reducing the earning power of hand labourers but not completely replacing them. It is estimated that 44% of the 1955 crop was harvested mechanically.

(b) **Indians**

The movement of Indians to the beet fields was repeated again this year with a somewhat greater measure of success. Several of these returned for the second year and consequently with a better understanding and more experience of the duties required of them. The inherent philosophy of life of Indians generally seems to preclude, at least for the present, any desire for steady employment on the part of most of them. This is not to say that

they are not reasonably good workers while they are working. The fact is, however, that the average acreage of beets worked per Indian worker is 4-5 acres, while the same figure for immigrants is approximately 13. Probably the principal advantage of using Indians is the fact that they are always with us.

ANALYSIS OF SUGAR BEET WORK

Worked by:	Acres	% of Total
Japanese	2,814	7.73
Pre-war European and Miscellaneous	3,447	9.47
Growers' own families	6,485	17.82
Post-war European (excluding 1955):		
Dutch	4,649	12.77
Others	13,972	38.40
1955 Immigrants:		
Dept. of Labor and Miscellaneous	2,689	7.39
Dutch	471	1.29
Mennonite	619	1.70
Indian	1,243	3.43
TOTAL	36,389	100.
Machine Harvested	16,226	44.59

Custom Combines from U.S.A.

Permits were issued to 11 combines for custom harvesting in Alberta from U.S.A.

PLACEMENT STATISTICS

General Farm Labour:	1954	1955	
Province	704	869	
National Employment Service	1,701	4,569	
			5,438
Seasonal Movements:			
Ontario Farm Workers	146	192	
Prairie Farm Workers	613	627	
Alberta Harvesters	529	2,161	
B.C. Berry Pickers	128	54	
			3,034
Sugar Beet Workers:			
Immigrants	460	196	
Indians	110	240	
			436
Investigations and Transfers	205	83	
Custom Combines from U.S.A.	5	11	

MASTER FARM FAMILY PROGRAM

From 18 nominations, 3 farm families were declared as masters this year. Those 3 are as follows:

F. E. M. Robinson Family, Pincher Creek, Alberta
B. O. Brown Family, Acme, Alberta
Chris Schneider Family, Vegreville, Alberta

The total of those declared since the inception of the program in 1949 is now 32.

The administration of this program is the responsibility primarily of this Branch. District scoring is accomplished by field staff with the assistance of farmers and farm women. Regional scoring is done by members of this Branch assisted by personnel from other Branches, from the Experimental Stations and from farm people. In addition, field staff accept nominations and give information.

NAMES OF HOMES ACT

Twelve names were registered during this year, bringing the total to 255.

FARM WATER SUPPLY ASSISTANCE POLICY

Number of dugouts subsidized this year	68
Total 1945 to date	2,324

Information with respect to the policy, location of dugouts and inspection of them for subsidy is provided by the District Agriculturist Service.

STATISTICS

General

The Statistics Division of the Extension Service co-operates with the Dominion Bureau of Statistics in the preparation of statistics on agriculture. The present co-operative arrangement has developed out of many years experience but adjustment to meet new needs is continually being made.

The Agricultural Statistician attended a Federal-Provincial conference on agricultural statistics held at Ottawa in early December. The 1956 census and associated surveys, value of production series (aggregate, gross and net), problems in connection with estimates of farm income, and exchanges of opinion in respect to a number of day to day problems were discussed. It has been suggested that next year, the conference should be devoted largely to discussions on statistics in connection with the live stock industry.

As a result of the experimental survey respecting numbers of live stock and seeded acreages in Alberta in 1953, the June agricultural survey questionnaire used in the prairie provinces in 1955 was divided into questionnaires on crops and poultry and on live stock respectively. One-half the farmers on the Dominion Bureau of Statistics master mailing list were mailed a questionnaire on crops and poultry while the other half received one on live stock. The shorter schedules and one mailed follow-up to non-respondents, resulted in a considerably improved response from farmers.

The number of crop reports issued in 1955 were increased to 11. As usual, a summary of field crops production and live stock numbers was prepared for distribution in the fall. Moreover, 13 summaries of crop conditions were prepared for use in regular crop reports issued by the Dominion Bureau of Statistics.

A grateful, "Thank you" is hereby extended to some 250 district crop correspondents whose assistance made our crop reporting service possible.

Monthly statistics on income from the sale of principal farm products in Alberta are prepared in this office for publication in the "Summary of General Statistics" issued by the Department of Industries and Labour.

The Statistics Division of the Extension Service was assigned the task of preparing the agriculture section of the Alberta Government's submission to the Gordon Commission on Canada's Economic Prospects.

The Crop Year

In many districts operations on the land began early in the spring of 1955. Some wheat was seeded in the south before Easter (April 8th). By mid-April field work had begun at many points in all parts of the province; at Taber the seeding of sugar beets was general. However, operations were halted by a series

of snow storms. Seeding again became general in the south and the Peace River Country in about the second week of May. Not until a week later did field operations become general in central areas.

The seeding of wheat was completed north of Empress, Drumheller and Red Deer by about June 1. Progress in southern and western areas had been delayed by rain somewhat but, with a little shift from wheat to barley, planting was carried out pretty much as indicated by a survey conducted at March 1st. The actual area seeded to principal crops expressed as a percentage of intentions at March 1st was as follows: wheat, 95 per cent; oats, 100 per cent; barley, 103 per cent; rye, 100 per cent; and flaxseed, 92 per cent. The area summerfallowed was as expressed in the intentions survey at March 1st.

Moisture conditions were generally satisfactory for crop growth throughout the growing season. A bumper crop was produced in the south. Only in part of the Peace River country, in some east-central areas and in the Rimbey-Bluffton district, were crop yields reduced owing to a shortage of moisture.

The corn leaf aphid on barley was the only pest to do appreciable damage to crops in 1955. The aphid was widespread but only a few fields of barley were plowed up because of it. After the infestation subsided even crops severely affected made good recovery.

Crop advancement was rapid in August and, with ideal harvesting weather many farmers finished threshing by mid-September. Although completion of operations was delayed by wet weather, only a few fields of forage seed crops remained unthreshed when snow came late in October.

The grains produced in 1955 graded well. About one-third of the wheat produced graded No. 2 and No. 3 respectively. It is estimated that 10 per cent of the oats and 25 per cent of the barley could be included in Canada Western grades.

Canadian Wheat Board initial payments were the same as for the 1954-55 crop, namely: wheat, 1 northern, $1.40; oats, 2 c.w., 65 cents; and barley, 3 c.w. 6-rowed, 96 cents, basis Fort William or Port Arthur.

Both the quantity and quality of hay was higher than in 1954.

Preliminary estimates indicate a considerable reduction in the production of forage crop seeds in 1955 as compared to 1954. Moreover, prices received dropped sharply owing mainly to a heavy carry-over of alfalfa seed in the United States. Details of production follow:

	Production		Value	
	1954	1955	1954	1955
	pounds		dollars	
Alfalfa	1,815,000	1,100,000	$ 726,000	$ 176,000
Alsike clover	7,000,000	7,000,000	1,540,000	980,000
Red Clover	1,635,000	4,000,000	736,000	720,000
Sweet clover	5,825,000	4,250,000	582,000	255,000
Timothy	300,000	500,000	30,000	35,000
Brome grass	4,775,000	5,000,000	430,000	500,000
Crested wheat grass	220,000	100,000	40,000	18,000
Western rye grass	20,000	.....	3,000	.....
Creeping red fescue	9,100,000	8,500,000	1,456,000	1,105,000
Meadow fescue	8,000	.....	2,000	.....
Total	30,698,000	30,450,000	$5,545,000	$3,789,000

The production of specialty crops under irrigation in the south is increasing both in quantity and in the number of crops grown. The acreage of crops contracted for canning and freezing was 6,420 in 1953, 7,560 in 1954 and 8,380 in 1955. With 36,488 acres produced, sugar beet growing remained at about the same level as in 1954.

The area and production of all commercial vegetables grown in the province in 1954 and 1955, were estimated to be as follows:

	1954			1955		
	Area Planted acres	Average Yield lb.	Total Production '000 lb.	Area Planted acres	Average Yield lb.	Total Production '000 lb.
Beans	510	4,500	2,280	550	4,100	2,280
Cabbage	280	9,800	2,730	150	15,700	2,350
Carrots	220	6,600	1,450	170	12,600	2,150
Corn	3,000	7,100	21,420	3,500	9,400	32,740
Onions	80	1,500	120	40	3,400	134
Peas	4,710	1,800	8,600	4,300	2,300	10,100
Total	8,800			8,710		

The area planted to mustard increased from 66,800 acres in 1954 to 78,200 acres in 1955. Also, in 1955, 8,000 acres of rapeseed were grown under contract.

Estimates of the production and value of field crops for the past two years are shown on page 121.

ESTIMATED PRODUCTION AND FARM VALUE OF FIELD CROPS, ALBERTA, 1954 AND 1955*

	Area		Yield Per Acre		Production		Value Per Unit		Total Value	
Grain and Seed Crops:	1954 acres	1955 acres	1954 bu.	1955 bu.	1954 bu.	1955 bu.	1954 $	1955 $	1954 $	1955 $
Wheat	5,826,000	5,714,000	17.9	23.3	105,000,000	133,000,000	1.32	1.36†	138,600,000	180,880,000
Oats	2,354,000	2,649,000	31.4	39.6	74,000,000	105,000,000	0.59	0.58†	43,660,000	60,900,000
Barley	3,053,000	3,702,000	22.9	27.0	70,000,000	100,000,000	0.87	0.83†	60,900,000	83,000,000
Rye	215,300	174,000	18.6	19.8	4,000,000	3,450,000	0.88	0.84	3,520,000	2,898,000
Mixed Grains	120,000	176,000	25.7	33.0	3,084,000	5,800,000	0.75	0.73	2,313,000	4,234,000
Flaxseed	215,000	248,000	10.0	12.1	2,150,000	3,000,000	2.45	2.70	5,268,000	8,100,000
Forage Crop Seed	.....	.....	.....	.....	.....	.....	.....	.....	5,545,000	3,789,000
	11,783,300	12,663,000			258,234,000	350,250,000			259,806,000	343,801,000
Root Crops:										
Potatoes	15,400	15,900	123.4 Tons	154.0 Tons	1,900,000 Tons	2,450,000 Tons	1.75	1.31	3,325,000	3,210,000
Sugar Beets	36,966	36,488	11.97	11.62	442,607	424,000	13.12	14.70†	5,807,000	6,233,000
Tame Hay	1,343,000	1,422,000	1.49	1.69	2,000,000	2,400,000	13.50	22.00	27,000,000	52,800,000
Miscellaneous Crops	.....	.....	.....	.....	.....	.....	.....	.....	3,795,000	3,551,000
Total Acreage and Value of Field Crops	13,178,666	14,137,388							299,733,000	409,595,000

*Estimated for 1955 are preliminary.

†Estimated by the Alberta Department of Agriculture to provide approximate total value of production for comparative purposes.

Live Stock

For the third consecutive year estimated numbers of cattle, sheep and swine on farms increased during the year. Cattle numbers reached another all-time peak of 2,085,000 head. The number of sheep and lambs increased 4.5 per cent and hog numbers by 15.1 per cent.

Detailed statistics on the number and value of live stock and poultry on farms at June 1st, 1954 and 1955 are as follows:

	Number		Value Per Head		Total Value	
	1954	1955	1954	1955	1954	1955
Kind			$	$	— thousand dollars —	
Milk Cows	303,000	315,000	156	164	47,268	51,660
Calves	555,000	585,000	50	52	27,750	30,420
Other Cattle	1,152,000	1,185,000	121	124	139,115	147,489
Total Cattle	2,010,000	2,085,000	107	110	214,133	229,569
Hogs	1,408,000	1,620,000	36	28	50,976	45,060
Sheep and Lambs	440,000	460,000	17	17	7,611	7,725
Horses	197,000	176,000	50	62	9,850	10,912
Total Live Stock					282,570	293,266
Hens & Chickens	9,350,000	9,400,000	0.86	0.83	8,035	7,774
Turkeys	650,000	570,000	2.40	2.31	1,561	1,314
Geese	70,000	72,000	2.20	2.10	154	151
Ducks	110,000	114,000	1.15	1.08	126	123
Total Poultry					9,876	9,362

The estimated production (net marketing's, slaughterings on farms and change in inventory) and value of live stock in Alberta for the last three years was as follows:

	Number			Value		
	1953	1954	1955	1953	1954	1955
				— thousands of dollars —		
Cattle	491,000	557,770	559,639	72,732	76,666	77,765
Calves	177,449	190,805	201,642	10,710	10,143	11,409
Sheep and Lambs	164,749	142,165	205,787	2,626	2,039	2,735
Hogs	1,669,501	2,039,950	2,404,301	70,487	87,595	72,131
Total Value of Live Stock Production				156,555	176,443	164,040

Live Stock Products

The production and value of live stock products are shown below. As compared to 1954 milk production in 1955 was up 3 per cent. An increase in the number of eggs produced made up for a decrease in the production of poultry meat. More colonies of bees and greater production per colony resulted in an increase in revenues from beekeeping. Income from fur-farming increased in 1955; lower wool prices reduced income from that source although production was higher than in 1954.

ESTIMATED PRODUCTION AND VALUE OF PRINCIPAL LIVE STOCK PRODUCTS ALBERTA, 1954 AND 1955

Products	Production		Price per Unit		Total Value	
	1954	1955	1954	1955	1954	1955
Dairy Products:	lb.	lb.	$	$	$	$
Butterfat for creamery butter	24,903,000	25,695,000	0.60	0.60	14,815,000	15,443,000
Dairy butter produced	2,943,000	2,741,000	0.56	0.56	1,648,000	1,535,000
	cwt.	cwt.				
Milk and fat for ice cream*	422,790	467,840	2.36	2.39	999,000	1,119,000
Milk and Cheese for concentrating	623,440	586,850	2.41	2.40	1,502,000	1,411,000
Milk and Cream for fluid sales*	2,712,060	2,861,550	4.27	4.27	11,582,000	12,217,000
Milk consumed on farms	1,324,000	1,371,000	2.40	2.39	3,178,000	3,277,000
Milk fed to farm animals	1,029,700	1,048,800	2.40	2.39	2,471,000	2,507,000
Skim Milk, etc., fed on farms	6,880,950	7,033,400	0.35	0.32	2,408,000	2,251,000
Total Value of Dairy Products					38,603,000	39,760,000
Poultry Products:	doz.	doz.				
Commercial eggs	40,782,000	44,259,000	0.33	0.35	13,461,000	15,409,000
Hatching eggs	1,104,000	1,089,000	0.58	0.57	639,000	616,000
	lb.	lb.				
Poultry meat	46,174,000	41,673,000	0.33	0.33	15,333,000	13,590,000
Total Value of Poultry Products					29,433,000	29,615,000
Honey	2,636,000	4,611,000	0.15	0.16	†411,000	†769,000
Wool	1,900,000	1,925,000	0.35	0.32	665,000	616,000
	Animals Pelted		Animals Exported			
Fur Farming‡	135,570	136,245	1,475	2,426	2,481,000	2,721,000
Miscellaneous Live Stock Products	.....	.....	.....	.....	2,948,000	3,082,000
Total Value of Live Stock Products					74,541.00	76,563,000

*Milk equivalent.
†Includes the value of wax.
‡Year ending August 31.

SUMMARY OF THE VALUE OF AGRICULTURAL PRODUCTION IN ALBERTA, 1952 TO 1955

	1952	1953	1954	1955*
	— thousands of dollars —			
Field Crops	534,323	432,051	305,024	397,206
Live Stock	169,930	156,555	176,677	173,143
Dairy Products	35,984	37,910	38,603	39,760
Poultry Products	25,141	29,047	29,433	29,615
Honey and Wax	618	563	411	769
Wool	725	754	665	616,616
Fur Farming	2,836	2,651	22,481	2,721
Other Live Stock Products	3,791	3,660	2,948	3,082

*Preliminary

Index of Agricultural Production

The index of the physical volume of agricultural production for Alberta (1935-39=100) increased from 117.4 in 1954 to 145.6 in 1955. This compares to highs of 184.2 for 1942 and 174.8 for 1952. The substantial increase in production in 1955 over 1954 was owing largely to favourable conditions for the production of field crops. Lesser increases were recorded in the production of live stock and their products.

Farm Income

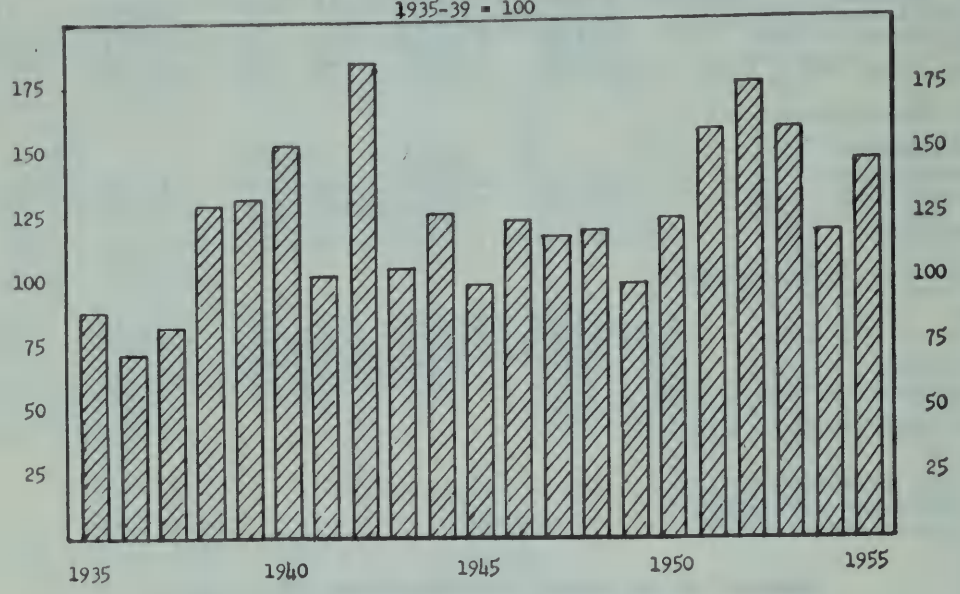
Farm cash income from the sale of farm products and Canadian Wheat Board participation certificates amounted to 363 million dollars in 1955 compared with 388 million in 1954 and an all-time high of 505 million in 1952. The principal cause for reduction in income was in respect to the sale of field crops although income from live stock was also down.

Present quotas on grain deliveries limit analysis regarding the relative importance of field crops and live stock production as sources of farm cash income. However, it would appear that the

long-time trend toward greater dependence on live stock and products is continuing. Income from that source for the past three decades was as follows: 1926-35, 30.2 per cent; 1936-45, 49.7 per cent; and 1946-55, 45.7 per cent.

INDEX NUMBERS OF THE PHYSICAL VOLUME OF AGRICULTURAL PRODUCTION, ALBERTA, 1935 - 1955

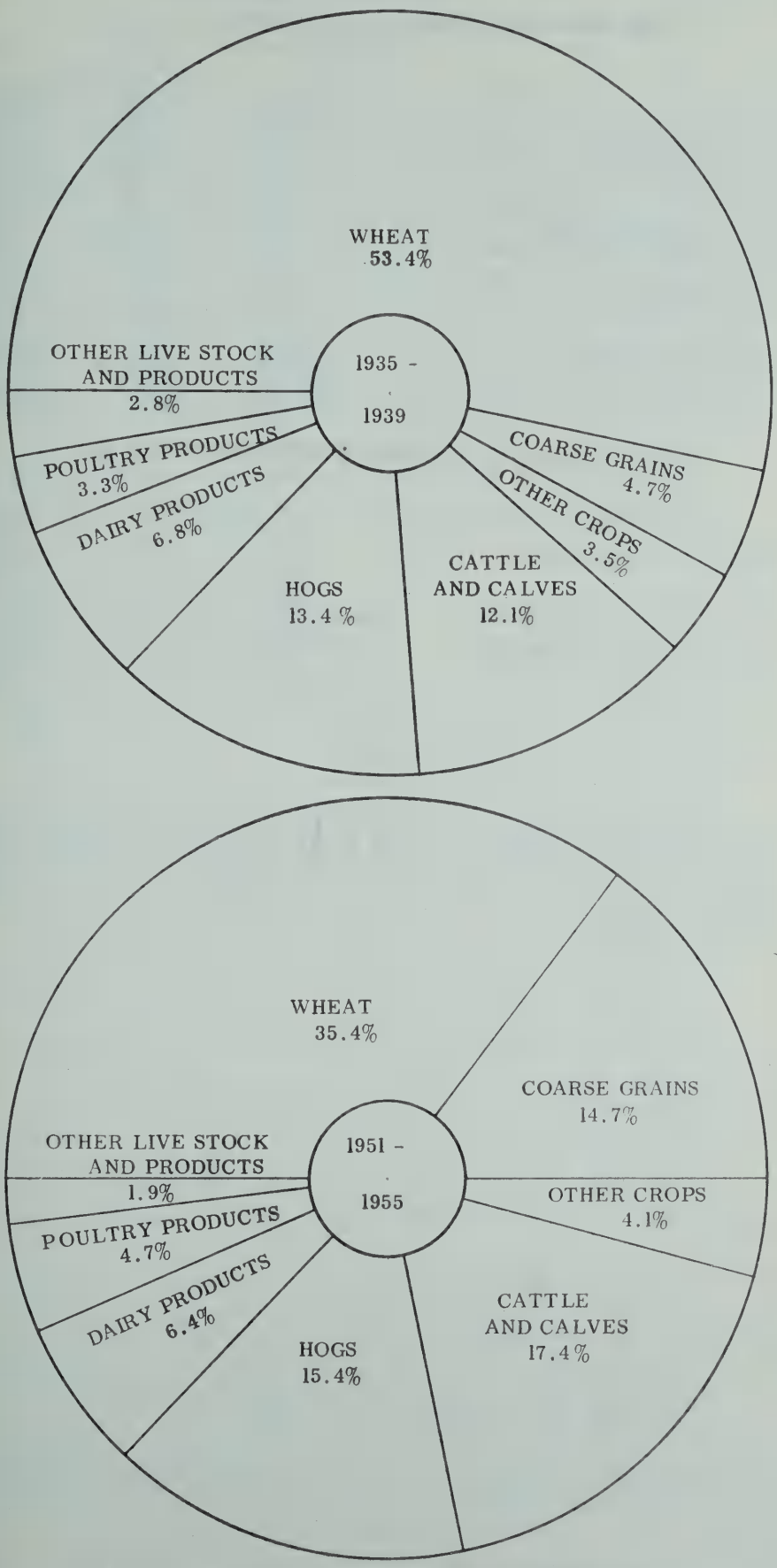
1935-39 = 100



CASH INCOME FROM THE SALE OF FARM PRODUCTS

	$'000 1953	% of Total	$'000 1954	% of Total	$'000 1955	% of Total
Field Crops:						
Wheat*	187,564	38.4	107,847	27.7	100,395	27.2
Oats*	20,589	4.2	15,103	3.9	7,591	2.1
Barley*	52,932	10.9	29,907	7.7	27,278	7.4
Rye	3,780	.8	3,801	1.0	1,854	0.5
Flaxseed	4,260	.9	4,114	1.1	6,569	1.8
Clover and Grass Seed	4,698	1.0	5,545	1.4	3,156	0.9
Hay and Clover	30	.....	41	.....	26	.....
Potatoes	843	0.2	647	0.2	704	0.2
Vegetables	2,439	0.5	2,097	0.5	1,887	0.5
Sugar Beets	6,660	1.4	5,992	1.5	5,905	1.6
Other Crops	4,769	1.0	3,795	1.0	3,551	1.0
Forest Products	230	.....	235	.....	237	.....
Total Field Crops	288,794	59.3	179,124	46.0	159,153	43.2
Live Stock:						
Cattle and Calves	69,531	14.3	74,451	19.2	77,144	20.9
Sheep and Lambs	1,655	0.3	1,666	0.4	2,439	0.6
Hogs	70,743	14.5	75,342	19.4	66,808	18.1
Dairy Products	28,612	5.9	28,936	7.5	30,219	8.2
Poultry	9,980	2.1	11,470	2.9	9,871	2.7
Eggs	11,369	2.3	11,455	2.9	11,903	3.2
Wool	732	0.2	645	0.2	597	0.2
Honey	543	0.1	406	0.1	710	0.2
Fur Farming	2,131	0.4	2,436	0.6	2,462	0.7
Other Live Stock Products	2,385	0.5	1,897	0.5	1,775	0.5
Total Live Stock	197,681	40.6	208,704	53.7	203,928	55.3
Supplementary Payments (P.F.A.A.)	559	0.1	1,031	0.3	5,776	1.5
Total Farm Cash Income	487,034	100.0	388,859	100.0	368,857	100.0

*Interim and final payments made by the Canadian Wheat Board on participation certificates (wheat, oats, barley) are included in the calendar year in which payments were received by farmers.



Cash Income from the Sale of Farm Products

FARM OPERATING EXPENSES AND DEPRECIATION CHARGES

	1953	1954	1955
		— thousands of dollars —	
Taxes	18,709	19,551	21,154
Gross rent	32,520	22,556	27,924
Wages paid to labour	33,685	27,739	27,890
Interest on indebtedness	7,942	8,004	8,238
Feed and Seed purchases	15,498	14,872	15,526
Tractor expenses	29,209	31,108	32,072
Truck expenses	13,429	14,398	14,813
Automobile expenses for farm business	10,465	11,093	11,914
Engine and combine expenses	4,170	4,040	4,571
Machinery repairs and shop charges	14,326	11,875	11,871
Fertilizer	3,612	3,000	2,755
Fruit and Vegetable supplies	3,312	3,566	3,519
Repairs to buildings	8,296	8,354	8,663
Miscellaneous	11,657	10,754	11,549
Total operating expenses	206,830	190,910	202,459
Depreciation, buildings and machinery	46,734	49,156	48,888
Total operating expenses and depreciation	253,564	240,066	251,347

NET INCOME OF FARM OPERATORS FROM FARMING OPERATIONS

	1953	1954	1955
		— thousands of dollars —	
Cash Income from the sale of Farm Products	486,475	387,828	363,081
Income in Kind*	48,000	46,661	47,296
Value of Changes in Inventory	19,144	1,088	49,115
Gross Income	553,619	435,577	459,492
Operating Expenses and Depreciation	253,564	240,066	251,347
Net Income from Farming Operations	300,055	195,511	208,145
Supplementary Payments†	559	1,031	5,776
Net Farm Income	300,614	196,542	213,921

*Includes estimated rental value of farm homes.

†Received under the Prairie Farm Assistance Act.

Owing to a substantial increase in the value of inventories, net farm income was higher in 1955 than in 1954 or 214 and 196 millions of dollars respectively. Operating expenses and depreciation charges were 251 million in 1955 compared with 240 million in 1954.

IRRIGATION

A progressive expansion of irrigated land development service has again taken place in 1955. Nearly all of the new lands receiving water in 1955 have received one or more of the available services offered. Some lands have now received service and are ready to receive water for the first time in 1956. About 20% of the total possible irrigable acreage in the S.M.R.D. was irrigated by farmers this year. The demand for services offered was heavier than in any previous year. The appointment of two Assistant Extension Irrigationists with suitable office accommodation at Bow Island and Taber respectively, provided a more direct service for the water users. It also provided better supervision of the staff. An increased personal farm service has been provided which has been much appreciated by the farmers. Active participation by qualified staff members gave material assistance in the organization and conduction of irrigation meetings, field days and demonstrations.

Services provided under our Irrigated Land Development Program:

Farm land survey of all irrigable areas.
Survey and design for land levelling.
Survey and design for pump irrigation.
Supervision of land levelling for both Government and Private Operators.
Mapping for classification of irrigable lands.
Classification of irrigable land and reclassification when necessary.
Aerial photography to assist in land classification.
Tracings, design work, maps and reports on many subjects related to irrigated land development.
Assistance by practical irrigators to demonstrate irrigation practices on individual farms.

A new and much needed service was provided this year by the employment of five practical irrigators to give valuable assistance in ditching and irrigating the land. This service was probably appreciated, by the farmers concerned, more than any of the services offered.

Land leveling operations went ahead on a larger scale during this year. Excellent progress was made up to late July when work had to stop or slow down because the appropriation for this work had run out. An additional appropriation was obtained to continue land leveling on a small scale during the late summer and fall.

Some farmers have been in a position to employ private operators to do their land levelling with the assistance of our design and supervision. Use of private operators in this work is encouraged. Two farmers purchased heavy equipment of their own to enable them to do the necessary land levelling. One farmer levelled approximately 500 acres during 1955 in preparation for irrigation in 1956.

Our services were extended into the Bow River Development in the Retlaw-Lomond tract where approximately 20,000 acres will be ready to receive water for the first time in 1956. Aerial photography and ground survey is well along to enable the completion of 150 parcels of this land before spring work starts in 1956. A large number of farm visits were made in this portion of the Bow River Development and a number of land levelling surveys were provided. Field days and meetings were organized to promote and encourage the more efficient use of irrigation water. A considerable portion

of this tract has a rough topography and will require extra services to bring it into profitable production.

An additional staff member with special training in soils and drainage was appointed late in 1955. More experienced staff members, more adequate supervision and better equipment have provided an increased and more intelligent service during 1955.

LAND LEVELLING SERVICE

Number of jobs done by Alberta Department of Agriculture and privately owned equipment:		
Colonization lands	21	
Privately owned lands	5	
Jobs that were not land levelling (dugouts, tree belts, construction)	14	
Breaking land with Noble Blade	7	
Acres improved by levelling	755	
Acres improved by Noble Blade	350	
Acres improved by grading ditches	330	
Number of jobs done by private operators and their equipment:		
Colonization lands	42	
Privately owned lands (estimate)	17	
Acres improved (estimate)	2,700	
TOTAL JOBS		106
TOTAL ACRES IMPROVED (Approximate)		4,135

SURVEY SERVICE

Number of Surveys:		
Farm head ditches	714	
Irrigable area	66,327	
Mapping for classification	778	
Irrigable area	69,357	
Reclassification	62	
Irrigable area	7,280	
Land levelling	102	
Irrigable area	5,620	
Pump irrigation	9	
Irrigable area	571	
Surveys to establish bench marks in Taber Irrigation District	3	
Miscellaneous surveys	470	
TOTAL NUMBER		2,138
TOTAL AREA		149,155
Number of quarter sections aerial photographed for classification		123
Number of quarter sections marked by plow furrows showing surveys		664

IRRIAGTOR SERVICE

Farm contracts	431	
Field ditch surveys	233	
Supervised irrigation jobs	93	

INSPECTIONS

Number of Inspections:		
Colonization	290	
Classification	440	
Land levelling	258	
Pump irrigation	23	
Miscellaneous (farm planning, survey procedures, equipment, drafting, irrigation practices)	307	
TOTAL		1,318

DRAFTING

Number of Maps:		
Plotted as original plats	443	
Prepared as tracings	623	
Prepared as pencil copies	884	
Pump irrigation designs	12	
Land levelling designs	17	
Prepared as miscellaneous	52	
Plans other than maps	44	
TOTAL PREPARED		2,075
Printed reproductions of maps and plans prepared		5,015

REPORTS

Number of Reports Prepared:		
Employees and administration	176	
Soils	103	
Classification	680	
Reclassification	35	
Pump irrigation	10	
Land levelling estimates	253	
Land levelling (general)	47	
Miscellaneous (colonization, irrigation practices, etc.)	71	
TOTAL		1,375

ISSUED

Number of Maps, Plans, Reports Issued:		
Maps to colonization manager	359	
Maps to land owners	375	
Maps to V.L.A.	101	
Maps and plans to District Agriculturists and others	1,055	
TOTAL MAPS AND PLANS ISSUED		1,890
Reports to colonization manager	543	
Reports to land owners	355	
Reports to V.L.A.	177	
Reports to headquarters	15	
Miscellaneous	34	
TOTAL REPORTS PREPARED AND DISTRIBUTED		1,124
Number of talks given	8	
Circulars distributed with maps	210	
Other circulars and publications including irrigation newsletters prepared and mimeographed for District Agriculturists	3,862	
TOTAL OF ALL ISSUED		7,094

MISCELLANEOUS

Meetings attended and participated in	74
Attendance at meetings	2,020
Field days, demonstrations	14
Attendance	400
Farm visits	265
Office interviews	685
Telephone calls	1,256
Letters written	1,356
Display demonstrations at short courses	9
Attendance	1,500
School of Agriculture Irrigation Short Course Lectures	30

PUBLICATIONS

During 1955, publications on agriculture and homemaking were distributed to the public as follows:

Agriculture (Departmental)	105,516
Homemaking (Departmental)	59,375
Others (University, Federal Department, commercial organizations)	55,000
TOTAL	219,891

Publications issued or re-issued during 1955 are shown by titles hereunder:

Lawn Building and Maintenance
You Cream Test Goes Up and Down—Why?
Swine Parasites
Keep Cream Cool but Don't Let it Freeze
Infectious Bronchitis and Newcastle Disease of Poultry
Mastitis
Weeds Poisonous to Livestock
Farming in Alberta
Operation and Maintenance of Tillage Machinery
Management of Laying Flocks
Preparation of Seed for Exhibition
Field Peas for Alberta
Grass and legume Seed Crops in Alberta
Bang's Disease
Potato Storage Houses
Varieties of Grain for Alberta
Watch out for Bitter Cream
Rye in Alberta
Grass Silage in Alberta
A Guide to Successful Tree Planting
Ergot in Seed and Feed
Winter Management of the Laying Flock
Farm Water Systems and Sewerage
Bull Pen and Breeding Chute
Small Farrowing or General Hog Pen
Hog Feed Rack and Trough
General Purpose Hog Barn

VISUAL AIDS

This Branch presently operates visual aids as follows:

Motion Picture projectors	6
Slide projectors	29
Films owned	29
Films on extended loan	68

Visual aids are maintained in this Branch primarily to add impact to the Extension work of field staff. Neither machines nor films are loaned to the public, largely because the supplies of both are inadequate, even for the purpose intended.

During 1955, showings amounted to an aggregate of 446 films at 350 public meetings, with a total attendance of 18,775 persons.

AGRICULTURAL ENGINEERING

Agricultural engineering topics were featured on 56 short courses and meetings throughout the Province, with an attendance of approximately 3,750 people. Water systems and sewage disposal was the favorite topic, but practically all phases of agricultural engineering were dealt with to some extent at these meetings.

Tillage machinery events were held at 44 centers—a large increase over the last two years due to more favorable weather conditions during late May and all of June. Twenty-four demonstrations, 8 competitions, 8 field days and 4 combined demonstrations and competitions made up this total. Estimated attendance at all of these events was 4,200. In addition, 5 other field days and demonstrations on buildings and equipment were held, with an attendance of 325.

Farm visits were fewer in number, at 107. Building arrangement and construction features were the main topics, followed by water and sewerage installations. On 7 farms survey work was done for drainage, while on one the engineering work was undertaken for a relatively large gulley filling operation.

During the year a total of 71 calls were made at the District Agriculturists' headquarters, and all but four of the D.A. offices were visited.

Correspondence continues to increase; approximately 600 letters in response to inquiries dealt with some phase of agricultural engineering.

In radio and press, 14 talks were given, 10 on Call of the Land and 4 on other stations. Contributions to Agricultural Notes numbered 13.

Two new bulletins, "Maintenance and Operation of Tillage Machinery" and "Farm Water Systems and Sewerage", were prepared or edited. The leaflet, "Silage in Alberta", was revised and the first of the Canadian Farm Building Plan Service publications, "Beef Cattle Housing and Equipment", was made available on a national basis.

During November a new venture in short courses was tried at Athabasca and Mallaig, in the St. Paul district. At these courses on the farmstead and buildings in particular, a series of lectures,

films, slides, pictures, discussions and demonstrations, held over a five and six day period respectively, dealt not only with the principles but also the details of the various phases of buildings, including such utilities as heating, ventilation, water, sewerage, electricity and telephones. Attendance at Athabasca was limited due to bad weather conditions, but generally the courses were quite successful.

Extension in agricultural engineering is headed by the Extension Engineer and his assistant, while the details of organized activities in the country are planned by the District Agriculturists. The activities of the latter group are reflected in the statistics hereunder:

No. of short courses and meetings	64
No. of field days and demonstrations	49
Attendance at meetings, field days, short courses and demonstrations	7,040
No. of persons otherwise assisted	1,973

FARM MANAGEMENT

An analysis of 42 annual reports from District Agriculturists definitely shows that farmers who have carefully planned and balanced their cropping program with their livestock production are in a far better economic position than those who have depended on cereal grain production alone.

Those farmers who have balanced their production program with legumes, cereals and livestock have demonstrated that per acre yields can be increased and their production per farm can be materially increased at a lower cost per unit of production. Farmers are realizing that successful farm management is becoming an increasingly important factor in their ability to maintain a suitable economic position during the unfavorable price situation and for long-term farming.

Progress has been made in farm planning as follows:

Farm plans prepared with farmers including cropping and livestock programs	101
Farm plans prepared covering crop sequence and field arrangement	289
Complete farm accounts assisted with preparation	46
Father-Son Agreement and farm leases prepared	73
Meetings at which farm management was discussed as principal topic	171
Meetings at which farm management was discussed with other topics	359
Persons otherwise assisted with information and/or advice	4,793

FARM AND HOME IMPROVEMENT

The Farm and Home Improvement Program is a group approach to the balanced farming concept of Extension. Thus, while Extension workers are prepared to assist any individual in setting up a program which would lead to a balanced farm, Farm and Home Improvement endeavours to do this with groups. Individual approach requires concentrated attention and necessitates large numbers of staff. This is obviated to some extent under the Farm and Home Improvement Program, even though considerable individual attention is still required.

Assistance in this program is being obtained from a number of different local organizations, though the Agricultural Societies are the only ones to whom Departmental grants may be paid.

The Farm and Home Program also constitutes a method whereby the impact of District Agriculturists and District Home Econom-

ists may be combined and this is a feature which is scarcely possible under the generally accepted methods of Extension. This co-ordinated effort is, of course, based on the assumption that in farming, the home is an integral part of the business and should not be divorced from it.

Number of groups participating	25
Number of farms involved	411
Home visits under this program	1,400
Meetings of groups	48

Soil Conservation

Soil conservation is now considered to be a part of sound farming practice. Soil conservation must be continually observed in any successful long-term farm program.

Farmers assisted in special projects and campaigns	277
Demonstration fields and plots	153
Results of above demonstrations were observed by	2,831
Special soil conservation meetings conducted and arranged	168
Attendance	7,307
Persons otherwise assisted with information and/or advice	4,150

Weed Control

Weed control programs have been channeled through Agricultural Service Boards, where they are organized. District Agriculturists, as members of the Service Boards, have taken an active part in all phases of weed control including cultural, chemical and cropping practices. District Agriculturists have stressed the importance of crop rotations including grasses and legumes in any sound weed control program.

Community seed cleaning plants assisted in establishment and operation	15
Farm seed cleaning plants assisted in establishment and operation	50
Farm seed drill survey samples taken	1,175
Weed control demonstrations arranged or conducted including tillage, cropping and chemicals	138
Weed control demonstration plots arranged	148
Special weed control meetings arranged or conducted	229
Persons attending weed control meetings, demonstrations and viewing plots	7,660
Persons otherwise assisted with information and/or advice	5,190

CROP IMPROVEMENT—GRAIN

Grain variety or fertilizer demonstrations arranged	122
Field days held in connection with these demonstrations	73
Registered seed grain distributed (bushels)	23,154
Commercial seed grain distributed (bushels)	221,420
Crop inspections for registration or contests (excluding 4-H Clubs)	62
Persons otherwise assisted with information and/or advice	4,451

CROP IMPROVEMENT—FORAGE

Farmers seeding forage seed plots	75
Farmers seeding down variety demonstration plots	68
Farmers seeding improved pastures for demonstration	264
Farmers seeding forage under Project C and rotation demonstrations	28
Forage seed distributed for crop improvement (pounds)	8,061
Field days or demonstrations for forage crop improvement (including silage)	91
Farmers attending field days and demonstrations	3,564
Persons otherwise assisted with information and/or advice	3,771

Field Crop Pests and Diseases

Our offices are being called on to an increasing degree to identify crop pests and disease specimens and to prescribe control measures.

Demonstrations re: control of crop pests and diseases	96
Attendance	3,182
Specimens forwarded for identification	321
Persons otherwise assisted with information and/or advice	4,418

Livestock Improvement

Most offices report a gradual improvement in livestock quality with the exception of hogs. The interest in pure bred sire areas is increasing with a number of municipal districts and counties ready to implement this program. More attention has been given to improved livestock management practices, labour saving devices, greater utilization of forage crops, and improved pastures.

Livestock demonstrations (excluding 4-H Clubs)	72
Attendance	2,586
Meetings at which livestock was principal topic	304
Attendance	14,460
Farmers assisted with registration of pure bred animals	1,014
Farmers using Departmental dehorners	1,457
Cattle dehorned	8,124
Persons otherwise assisted with information and/or advice	7,535

LIVESTOCK PLACEMENTS THROUGH DEPARTMENT POLICIES AND SEPARATELY THROUGH INFLUENCE OF OFFICE

	Male	Female
Cattle	1,217	1,541
Sheep	172	1,271
Poultry	289	7,030
Horses	20	.....

LIVESTOCK MARKETING

Public livestock sales assisted	63
Animals sold	10,543
Estimate of dollars saved or earned for farmers	97,070
Persons otherwise assisted with information and/or advice	2,064

Livestock Pests and Diseases

Programs have been organized for control of livestock pests or diseases, including Bang's disease, coyotes, lice, warbles, T.B. and rabies.

Farmers participating in calfhood vaccination (Bang's Control)	32,653
Calves vaccinated	204,127
Farmers assisted with T.B. testing	7,439
Farmers participating in coyote control program	8,087
Estimate of number of coyotes killed	40,615
Value of Livestock saved (estimate)	352,000
Meetings and demonstrations organized	225
Attendance	2,690
Specimens forwarded for identification	221
Persons otherwise assisted with information and/or advice	3,501

Dairying

Special projects undertaken included tours by farmers and dairy men to study new methods of housing and management of dairy herds, improved breeding practices and handling of dairy products.

Special meetings arranged	64
Farmers assisted with cow testing	148
Cows on production tests	3,672
Dairy Demonstrations	36
Persons attending demonstrations and meetings	3,741
Herds assisted with culling and selection	127
Persons assisted with information and/or advice	1,789

4-H Clubs

The clubs are increasingly popular and requests are recived for the formation of new clubs at an increasing rate.

Clubs supervised by District Agriculturists	364
Membership	5,855
Demonstrations to members and parents	491
4-H Club meetings arranged	1,561
Attendance at 4-H Club meetings, demonstrations by members and parents	78,489
Members trained for judging contests, Provincial or National	101

YOUTH TRAINING

Short courses, farm campus, rallies and trips organized and conducted by District Agriculturists	3,196
Attendance	4,735

Agricultural Service Boards

Agricultural Service Boards are demonstrating their value, and the District Agriculturist, as a member of the board, plays an active part in the programs. Service Boards have been particularly active in organizing community seed cleaning plants, Bang's control, coyote control and in promoting weed control and soil conservation.

Agricultural Service Board meetings attended	282
Farms under Board supervision	127

HORTICULTURE

Farms assisted with farmstead plans	354
Shetlerbelts planned(field, roadside and farmstead)	1,042
Trees ordered and arranged through Oliver, Indian Head and Brooks Nurseries	1,682,314
Tree planting and other horticultural demonstrations	66
Demonstration orchards	48
Persons otherwise assisted with information and/or advice	3,118

BEEKEEPING

Meetings and demonstrations	5
Attendance	197
Persons otherwise assisted with information and/or advice	284

Publicity—Newspaper and Radio

A number of field staff contribute regular weekly columns to local newspapers. Others cooperate with editors and radio stations in supplying timely information. Excellent cooperation has been received from papers and radio stations.

Newspaper articles and columns published	2,706
Radio talks or interviews	175
Home Economists' newsletters	144
Circulation	8,007

Food and Nutrition

Demonstrations and Lectures

Topic	Number	Attendance
Food Preparation and service	179	5,252
Food preservation	72	2,647
Buymanship of foods	5	88
Nutrition and meal planning	49	1,841
School lunches	19	583
Total	324	10,411

Home visits re: food problems	165
Individuals assisted by letter, office visits, phone	1,747

Sixty of the above were meetings of girls' food and garden clubs, with an attendance of 1,281.

Food demonstrations and "Cooking Schools" are in greater demand and proving more effective than lectures in improving practices of food preparation and gaining interest in nutrition. Many individual problems are discussed during and following these demonstrations.

Interest in food preservation continues to be high. Freezing heads the list as a topic for meetings; home canning brings more requests for individual assistance.

The Extension Nutritionist prepares material to assist 4-H Food and Garden Clubs with their food work. The District Home Economists have organized and supervised 27 clubs completing food projects and 69 garden clubs completing project work in vegetable and fruit preparation and preservation, meal planning and records of personal food habits.

A three-day short course for food handlers was attempted in cooperation with the Sanitary Engineering Division of the Department of Public Health at the Fairview School of Agriculture the latter part of June. This is the busy season for restaurant people resulting in a low attendance of 13, but those present expressed the hope that a similar course could be held at another time.

Due to the changes in field staff the School Lunch Program received less attention this year, although a considerable amount of individual help was given regarding packed school lunches. In one district a monthly newsletter sent to 49 schools contained timely food and nutrition suggestions.

Testing of new vegetable varieties for freezing and the comparative quality of types of freezer wrapping papers were carried on at the Provincial Horticultural Station at Brooks. A tasting panel of District Home Economists was arranged to complete tests and provide experience in recognizing quality in frozen products.

One hundred and forty newspaper articles dealing with food and nutrition were prepared, and further material given verbally for use of the Radio and Information Branch.

Clothing and Home Sewing

Lectures and demonstrations were given as follows:

	Number	Attendance
"Use and Care of Sewing Machines"	55	.....
"Speed Sewing", "Dress Trims and Finishes" Wardrobe Planning", "Use of Patterns", "Sewing Aids"	58	8,314
"Choice and Care of New Textiles", "Remakes", "Sewing Tips", "Children's Clothing"	102	.....
"Making Dress Forms"	19	.....
Number of sewing clinics (543 sessions)	149	4,269
Clothing and sewing to Girls' Clubs	158	.....
Newspaper articles	79	.....
Individuals assisted through home visits, office interviews	972	.....

Attitudes toward clothes have changed especially with respect to the importance of clothes for prestige. Automobiles, new homes, furnishings and equipment are taking a larger portion of the family income. In line with modern living, less formal, easily-cared-for garments are popular. However, the rapidly growing-up "war babies" are providing a need for more clothing, the spending on clothes by teen-agers being generally higher than for other family members.

These factors, along with the highly advertised new types of sewing machines, have increased the need and desire for home sewing. The amount of work done in this field by the District Home Economist is limited only by the time available and her ability and interest in sewing.

Homemakers are seeking advice on the use and care of the new textiles for home sewing and in ready-mades. There is a noted increase in requests for assistance with more advanced sewing techniques, which, when mastered, can enable the making of garments which provide for a higher percentage in savings.

A study of new types of sewing machines has been made to assist in advising homemakers as to the type best suited to their needs and pocketbook.

Home Designing

	Number	Attendance
New Homes Planned	129	.....
Homes completely remodelled	253	.....
Kitchens planned	122	.....
Kitchens remodelled	136	.....
Living areas remodelled	41	.....
Blueprints sold	34	.....
Lectures—Home planning	12	501
Interior Decorating	123	4,143
Kitchen planning	22	506
Electricity in the home	19	785
Building materials	36	1,800
Individual assistance—Water systems	.....	59
Electrification & equipment	.....	65
Heating systems	.....	36
Home planning, remodelling decorating	.....	1,168
Newspaper articles—Homeplanning, remodelling, decorating	.....	71
Home visits—Housing problems	.....	978
Study groups	7	99

The greatest demand in this field is for individual assistance, and while most effective in results, it is time consuming. Generally, a planned program is provided as a guide for future work, saving the cost and disappointment of unnecessary changes later. Most evident is an increase in requests for assistance with remodelling due partly to extension of rural electrification and resulting modernization of equipment, but also to the rend for our second generation of pioneers to gradually retire from active farming, leaving the younger generation, now having larger families, live on the farm. The Home Designer has many requests to answer the question of whether to remodel or start anew and must estimate cost and analyze the factors involved. Plans for remodelling, which include the various steps and order of remodelling, are in greater demand than complete renovation plans requiring an immediate outlay of money.

Girls' 4-H Club Work

	Number	Attendance
Girls' Clubs	193	2,477 (membership)
Achievement Days (single or joint)	185	12,312
Field days and social gatherings	20	2,323
Rallies	26	4,654
Tours	58	1,168
Regional or Local Leaders' courses	17	908
Lectures and demonstrations to clubs	434	11,349
Former club members assisted	70	.....
Time sepent on club work	32.3%	.....
Radio talks	16	.....

The supervision of Girl's 4-H Clubs in the field is carried on by the District Home Economists under the Provincial 4-H Program. A number of Field staff assisted with instruction at the two Provincial Leaders' Courses, at four Club Weeks and at District and Provincial Judging competitions.

Much of the success of teams at National Club Week is due to the work done with them by the District Home Economists.

Home Management

	Number	Attendance
Lectures and demonstrations	223	7,646
Individuals assisted	703	.....
Newspaper articles	86	.....

Lectures and demonstrations dealt with "Planning Expenitures", "Good Management in Homemaking", "Time and Energy Savers",

"Buymanship and Care of Home Furnishings, Equipment, Textiles and Food" and "Home Safety". There is an increasing awareness among rural homemakers for the need of records and simple bookkeeping in order to budget for farm and home equipment, and to plan future expenditures and attainment of planned goals. While today's homemaker may have to contend with less physical work in her household duties, she is constantly faced with the problem of making decisions. A large part of the individual assistance given by District Home Economists has dealt with this modern problem. At no time has the homemaker had a greater need for an appreciation of the role of "management" in the attainment of individual and family goals and its contribution to better living in the home.

Handicrafts

	Number	Attendance
Lectures and demonstrations	101	3,185
Individuals assisted	166	.....

At an additional 54 events, where sewing and crafts were judged, lectures on "Good Design" were given to encourage use of time and materials for production of more useful and attractive articles. District Home Economists must limit the time spent in demonstrating crafts to meet demands of other more basic fields. However, such demonstrations often provide a means of introducing other services to group unaware of the scope of work of the District Home Economist. Crafts of both practical and lasting value are demonstrated, e.g. rugmaking, lamp shades, leather work, textile painting, glovemaking, gift and bazaar ideas.

Other Demonstrations and Lectures

Topics related to etiquette, table setting, entertainment, group picnics and receptions were discussed at 63 demonstrations attended by 2,213 women; also, 445 individuals were assisted and 10 newspaper articles prepared on these topics.

Fourteen lectures were given on topics dealing with "Happy Family Relations" attended by 835 persons and 13 individuals were given guidance in this field.

There were 220 general discussions outlining the services of this Branch with 10,500 in attendance. Specific information was given 1,257 persons and 13 newspaper articles were prepared.

Short Courses, Field Days and Meetings

District Home Home Economists assisted in organizing, lecturing and demonstrating at 224 short courses and field days, 161 being in cooperation with the District Agriculturists, 13 the Canada Department of Agriculture, 3 the University Extension Service and 28 Agricultural Service Boards. In addition, 52 meetings were at the request of other organizations such as Department of Indian Affairs, Canadian Association of Consumers, Rural Health Units, Exhibition and Fair Boards, Red Cross, Veteran's Land Act, etc. Advice and assistance is also sought by such local organizations as Social Service Clubs, Relief Services, School Boards, etc. The Home Economists were called upon to assist in arranging programs and entertainment at conventions of Provincial and National Or-

ganizations, e.g. Municipal District Convention, Agricultural Institute of Canada, Women's Institutes, etc.

SUMMARY OF ACTIVITIES—AGRICULTURISTS

	1954	1955
Number of meetings (including Short Courses)	3,777	3,736
Attendance	222,310	193,154
Number of farm visits	22,947	22,422
Office Interviews	58,407	58,667
Phone calls	50,027	50,019
Letters written	45,695	48,368
Bulletins, circulars, circular letters	114,910	129,088

SUMMARY OF ACTIVITIES—HOME ECONOMISTS

	1954	1955
Number of demonstrations	2,076	2,066
Field Days and short courses	236	230
Judging Fairs and conventions	105	116
Total attendance at above	111,736	98,555
Average attendance	46	40
Radio	23	45
Publications distributed	97,755	96,930
Letters requesting information	14,325	13,828
Home visits	2,961	2,873
Girls' clubs	196	193
Office interviews	4,681	7,518
Phone calls for information	8,176	7,518
Newspaper articles	515	485

Report of the Veterinary Services Branch

E. E. BALLANTYNE, V.S., D.V.M., Director
J. G. O'Donoghue, V.S., D.V.M., Extension Veterinarian
C. H. Bigland, V.S., D.V.M., D.V.P.H., Veterinary Pathologist
G. S. Wilton, V.S., D.V.M., Veterinary Pathologist
H. N. Vance, V.S., D.V.M., Veterinary Pathologist
F. E. Graesser, B.S.A., V.S., D.V.M., Veterinary Micropathologist
H. C. Carlson, V.S., D.V.M., Supervisor, Veterinary Inspection Service

General

During 1955, the disease picture was relatively stable compared to other years with notable reductions in the incidence of pullorum, paratyphoid, and respiratory conditions of poultry. No Newcastle disease was diagnosed. Again swine erysipelas was quite widespread with an increase in central and southern Alberta. Losses were not high though due to the excellent response to treatment with antibiotics and anti-serum. Vitamin A deficiency of cattle was relatively common in the Spring, due in main to the poor haying weather of the 1954 season. From the experience gained in the past two years, a great many cattlemen prevented the condition by the more extensive feeding of vitamin A supplements to the pregnant animals.

The rabies, bovine brucellosis and tuberculosis control programs progressed favourably. These are described in more detail below.

The laboratory services were utilized extensively again to furnish accurate facts as far as possible on disease problems. 10,054 animal and poultry specimens, 23,650 animal and poultry blood samples, and 492 milk samples were examined. With livestock and poultry men becoming more conscious of the financial gain in adopting preventative measures to reduce the loss, the opinion is expressed that the laboratory work will continue to increase for several years. Over a period of years a great deal of scientific information in the field of veterinary science has been accumulated through the laboratory which is of value to the agricultural, public health and wildlife activities. Periodically, members of the staff publish such material in the scientific journals for the information of others engaged in diagnostic and control work.

The observations of this Branch through field investigations and laboratory work would definitely prove that faulty management feeding and handling of livestock are the main basic predisposing causes of much of the disease losses in Alberta. More attention to these factors would be most valuable.

The activities of this Branch are quite complex, dealing with most of the Departments of the Alberta Government, all Branches of the Department of Agriculture, the University, veterinarians, district agriculturists, feed manufacturers, hatcherymen, the Federal and other Provincial Governments, wildlife and forestry personnel, the medical profession, livestock and poultry associations, etc., etc.

During the year Dr. H. C. Carlson joined the staff of this Branch as Supervisor, Veterinary Inspection Service, to be in charge

of inspection of Class C and D stockyards concerning sanitation, facilities, and livestock health regulations.

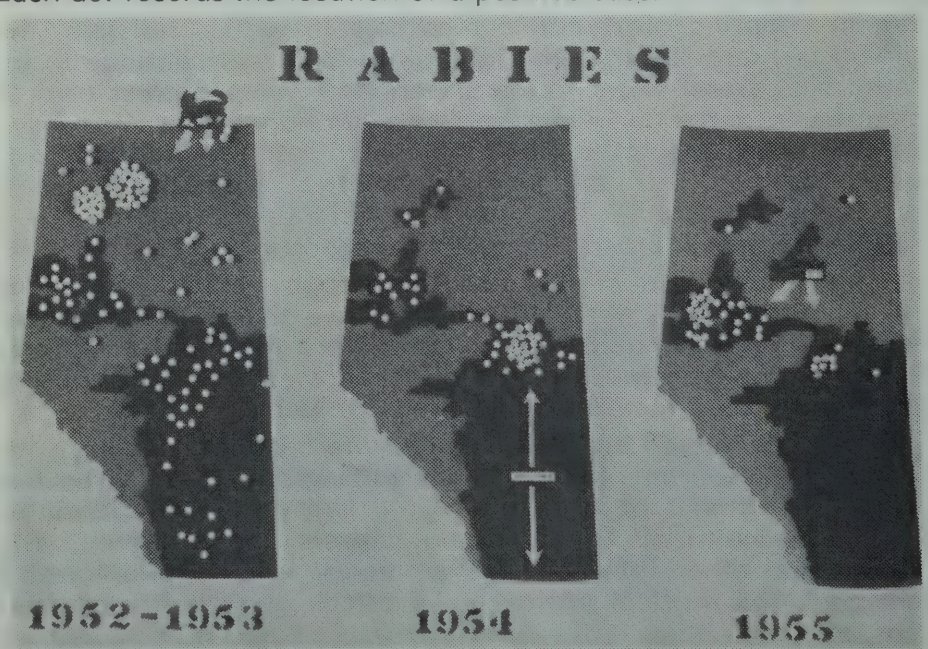
Rabies

The situation in 1955 was very encouraging with most of the cases occurring in the Peace River block, and a few north-west of Barrhead. Only two cases have been diagnosed from August 1st to December 31st. A hog was positive at the end of August and early in December a cow was positive. Both were in the Peace River block. As will be noted by the following table, almost half of the cases were in coyotes. These 20 coyotes bit 18 dogs, 1 cat, 9 cattle, 3 horses, 5 sheep, 14 hogs, and chased 2 men. Of the positive domestic animals, 2 cattle and 7 hogs were known to have been bitten by coyotes. This further emphasizes the necessity of keeping the coyote population at a low level to prevent an epidemic developing.

Species	June 1952 to December 31, 1953 Lab.	June 1952 to December 31, 1953 Clinical (Approx.)	1954 Lab.	1954 Clinical (Approx.)	1955 Lab.	1955 Clinical (Approx.)
Cattle	10	70	11	8	7	1
Hogs	5	150	8	6	6	6
Horses	0	20	1	.....	.....	.....
Sheep	2	20	4	3	.....	.....
Dogs	30	.....	9	.....	7	.....
Cats	8	.....	2	.....	3	.....
Bear	1	.....	.....	.....	.....	.....
Beaver	2	.....	.....	.....	.....	.....
Coyote	18	.....	13	.....	20	.....
Fox	23	.....	2	.....	3	.....
Lynx	3	.....	.....	.....	1	.....
Moose	1	.....	.....	.....	.....	.....
Rabbit	1	.....	.....	.....	.....	.....
Weasel	1	.....	.....	.....	.....	.....
Wolf	1	.....	.....	.....	.....	.....
TOTAL	106	260	50	17	47	7

GRAND TOTAL— 1952-53—approx. **366;** 1954—approx. **67;** 1955—approx. **54.**

The following map shows the favourable results of the control program since the first outbreak of the disease in June 1952. Each dot records the location of a positive case.



Due to the reduction in wildlife in the forest areas and the fact that most of the coyotes were in the agricultural areas or close

to them, the number of trappers was reduced to two per Forestry Division, Department of Lands and Forests. These two acted as a mobile force to work over pockets of wolves, coyotes, foxes, etc. The following is the estimated number of kills in the forest areas from November 1952 to October 31, 1955.

Foxes	55,757
Coyotes	52,626
Lynx	9,984
Wolves	5,406
Bear	4,130
Skunk	664
Cougar	69
Fisher	18

In the agricultural areas, approximately 80,000 coyotes were destroyed in 1955 through the coyote control program. This will be explained in more detail in the report of the Field Crop Branch. This program was given a boost through publicity on rabies control. For example, in the County of Grande Prairie No. 1 where 200 farmers were participating in the Fall of 1954, 600 were using poisons by March 1955. Publicity was given through the radio and press concerning every rabies case with a special request that farmers help in the coyote control work.

The Federal Health of Animals Division again vaccinated all dogs north of 55°, the campaigns being organized by the District Agriculturists concerned. The radio, press, posters, and circulars for school children to take home were used. More cats were vaccinated than in 1954.

The Director, who is Chairman of the Alberta Central Rabies Control Committee, wishes to express appreciation to the Department of Lands and Forests, the Royal Canadian Mounted Police, the Federal Health of Animals Division, the Department of Health, the Field Crops and Extension Branches of the Department of Agriculture, and all others who co-operated so willingly in the control program.

Brucellosis Control

The control measures of the past few years are producing results as very few reports are received now of serious abortion storms. Such reports were relatively frequent a few years ago. One important side effect of the brucellosis work is that more scientific checking of the cause of abortions is taking place whereas previously it was all blamed on brucellosis. It was in this way that vibriosis was diagnosed, and other causes determined. Listeria bacteria were isolated from another case.

The Director attended three meetings in Ottawa on a brucellosis committee to formulate a National Federal-Provincial Brucellosis Control Program and also acted on the brucellosis and rabies committees of the United States Livestock Sanitary Association.

(A) **Calfhood Vaccination Program**

The total number of calves vaccinated during 1955 was 204,127, an increase of 32,000 over 1954. Due to the early winter and severe weather conditions at times, many vaccinations were of necessity delayed until 1956.

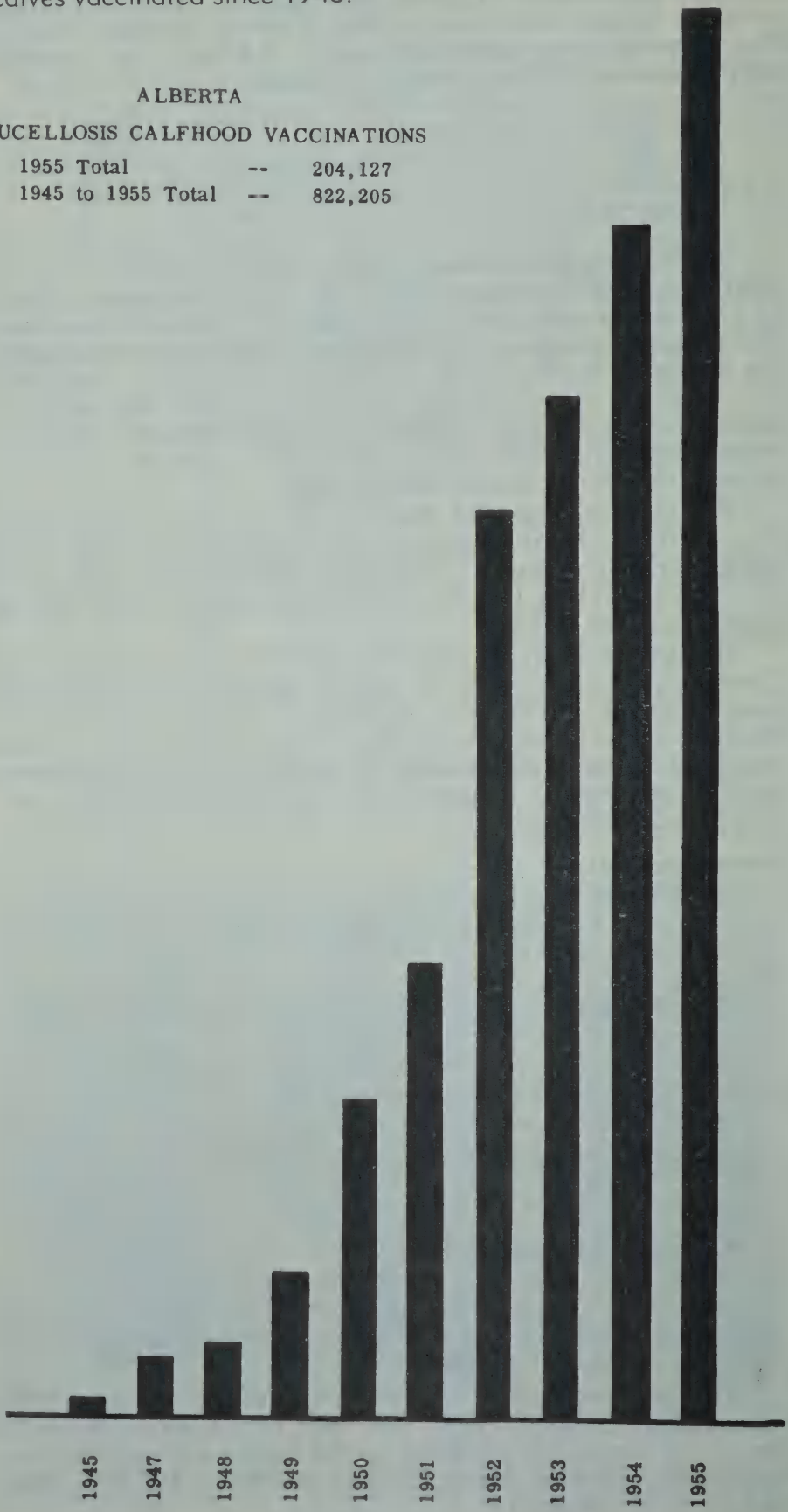
The large number of calves vaccinated was possible through the excellent co-operation of the veterinarians, livestockmen, and organized campaigns sponsored by the Department and Municipal authorities. Sincere appreciation is expressed for this valuable assistance and support.

The following graph shows the yearly increase in the number of calves vaccinated since 1945.

ALBERTA

BRUCELLOSIS CALFHOOD VACCINATIONS

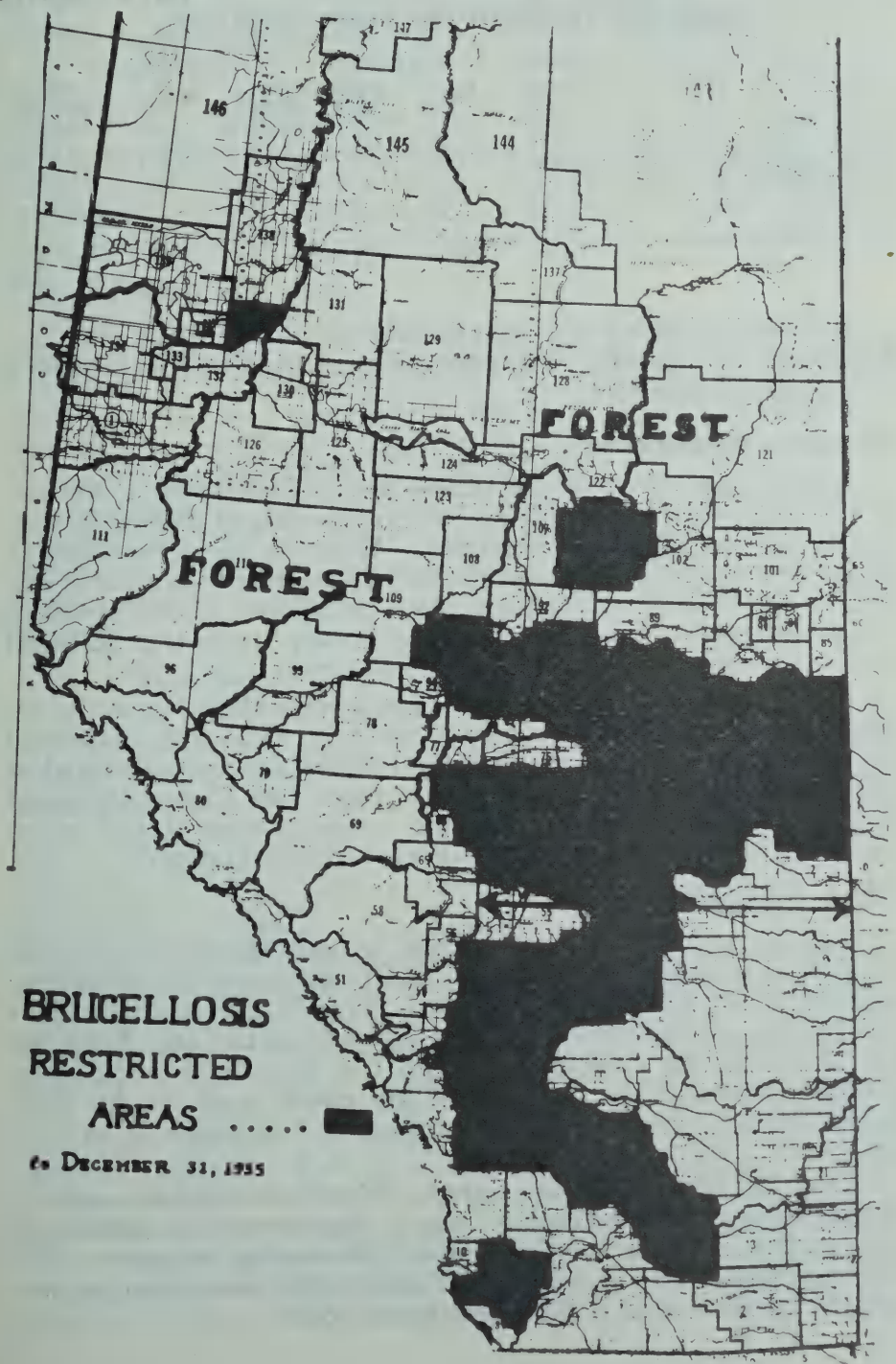
1955 Total	--	204,127
1945 to 1955 Total	--	822,205



(B) **Brucellosis Restricted Areas**

There are now 25 such areas composed of 22 municipalities and 3 counties. Eight new areas were established in the year on receipt of petitions from the cattlemen in the municipalities or counties concerned; namely; the County of Ponoka No. 3, the County of Stettler No. 6, the M.D. of Taber No. 14, the M.D. of Foothills No. 31, the M.D. of Calgary No. 44, the M.D. of Sturgeon No. 90, the M.D. of Lac Ste. Anne No. 93, and the M.D. of Peace No. 135. There are approximately 1,000,000 cattle in these areas, or half the cattle population in Alberta.

The following map shows the location of the Brucellosis Restricted Areas.



(C) Diagnostic Service

The number of agglutination tests for the diagnosis of bovine brucellosis totalled 16,280, which was an increase of 1,190 from the 1954 total. A high percentage of these tests were made to find out if the milk was safe to drink, as cattlemen are anxious to protect their families from undulant fever. Testing took place in 85 of the municipal districts, local improvement districts, counties, and special areas.

The following table shows the results of blood testing in the animal section of the laboratory.

BLOOD TESTS FOR BRUCELLOSIS (BANG'S DISEASE) 1955

	Provincial Blood Tests	Per-centage	Dominion Blood Tests	Per-centage	Total Number of Tests	Per-centage
Number Positive	1,715	10.1%	1	.5%	1,716	10.5%
Number Suspicious	1,444	9.6%	17	7.6%	1,461	9 %
Number Negative	12,609	78.5%	202	91.4%	12,811	78.7%
Number Broken or Hemolyzed, etc.	291	1.8%	1	.5%	292	1.8%
Total Number of Blood Samples	16,059	100 %	221	100 %	16,280	100 %

It is interesting to note that testing for auction sales and livestock auction markets in Brucellosis Restricted Areas showed a 4.6% positive reaction.

(D) Survey Information

Surveys conducted in the Spring where there were brucellosis abortion storms in herds showed an abortion rate of 28.9% in non-vaccinates and 6.2% in vaccinates. Also, the conception rate in herds composed of all vaccinates and herds with no vaccinates was 88.5% and 80.6% respectively when calculated on the statistics of the 1st and 2nd services. The latter survey proves that calfhood vaccination does not interfere with conception.

The vaccination of calves at ages greater than 9 months required investigation. A survey started in 1954 was continued through this year. A study of blood titres of calves vaccinated at ages up to 12 months indicated that there was no persistence of titres that could interfere with the interpretation of the serum agglutination test and the recognition of infected animals.

T.B. Restricted Areas

Testing was commenced by the Federal Health of Animals Division in five more municipal districts, to make a total of 54; namely, M.D. of Peace No. 135, L.I.D. No. 11, M.D. of Foothills No. 31, Co. of Thorhild No. 7, and the M.D. of Lac Ste. Anne No. 93. Actually, the whole province is a T.B. Restricted Area and regardless of where testing is done, the owner qualifies for compensation from the Federal Department of Agriculture if reactors are found.

Over 200,000 cattle were tested. Private practitioners working as part-time employees of the Federal Department of Agriculture have given valuable service in the T.B. testing program. The Alberta Department of Agriculture defrays the livery charges concerning general tests in T.B. Restricted Areas.

Veterinarians

The following is the number of Albertans attending the Ontario Veterinary College as students, with a notable increase in the first year enrolment.

First Year	7
Second Year	6
Third Year	3
Fourth Year	2
Fifth Year	4
TOTAL	22

The Department pays a $200.00 grant to each on successful completion of the year's studies. The purpose is to defray the travelling expenses as such education is not given in the province.

There are now 77 veterinarians in Alberta actively engaged in practice. It is interesting to note that some of the members of the profession who established in certain areas where they were told they'd starve are now looking for assistants as the amount of work is too great for one man. This reflects the increase in attention being given to disease matters by the livestock and poultry men, and also the improved standards of service provided.

T.B. of Poultry and Hogs

The education program was continued with approximately 1,900 letters being sent to owners whose hogs showed evidence of infection. It is interesting to note that a considerable number of letters are received stating that the premises will be thoroughly cleaned and disinfected, plus a change in management practices to keep the poultry and hogs separate.

According to a report from Vancouver, very little T.B. in Alberta hogs is found on slaughter inspection now compared to a few years ago. There has also been a slight reduction in Alberta, but this cannot be viewed with any certainty until more time has elapsed.

A Sheep Experiment

A sheep raiser in the Peace River block in 1954 had quite a serious disease problem in his flock. Twenty-nine lambs survived to five months of age from 200 born to 180 ewes. The lambs developed a yellow sickening odoured dysentry a few days after birth with a high mortality. Many others died from secondary infections such as pneumonia at about one month of age. Only one lamb was submitted to the laboratory for examination with inconclusive results.

Due to the fact that various antibiotics and sulfa drugs were not effective and due to the fact that pulpy kidney disease has been diagnosed in a lamb by the attending veterinarian, it was decided to conduct an experiment for the 1955 lamb crop with materials supplied by this Branch. Clostridium perfringens type B bacterin was injected into 153 ewes in January with 10 being left as controls. 153 also received a vitamin A and D supplement in adequate amounts, with 10 as controls. The lambs were injected with perfringens D antitoxin within six hours of birth except those from the bacterin control ewes. In the latter group all developed the same type of dysentry as in former years. Again antibiotics and sulfas had no effect but the condition was corrected by one to three injections of the antitoxin. At two months of age the lambs

were injected with the same bacterin as the ewes. They didn't show any evidence of diarrhoea or over-eating that they had shown in previous years when put on lush pasture.

Briefly, the result was that of 199 lambs born to the 163 ewes, 180 were living at the end of five months, with Hampshire lambs averaging 105 pounds and the Hampshire-Cheviot cross averaging 95 pounds. This was a marked change from the above 1954 facts. A high percentage of the lambs born to the ewes that were not fed the vitamin A and D supplement were flabby.

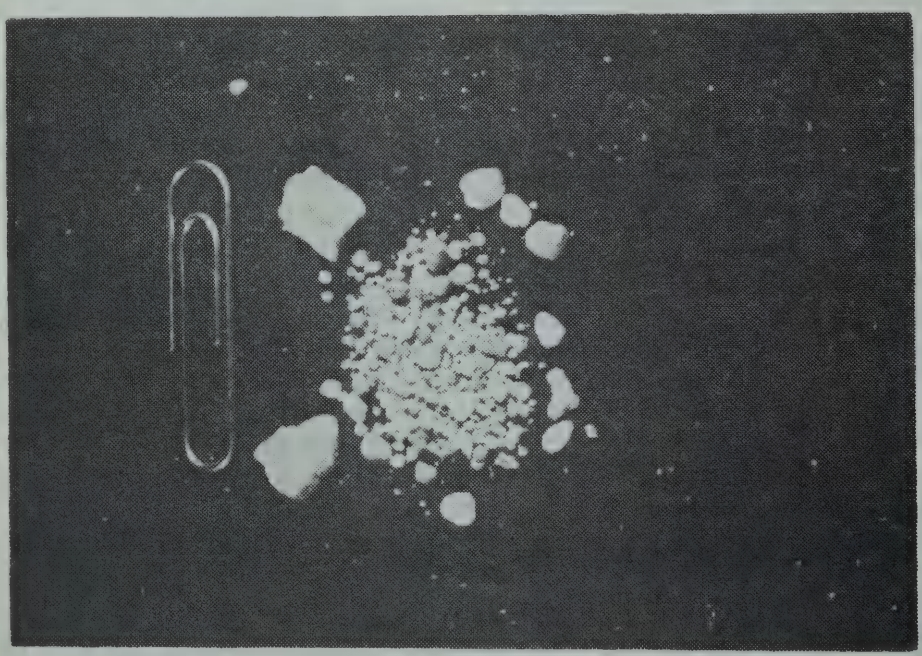
The sheep raiser concerned is very pleased with the results of the experiment. It is valuable data to have on file for future cases if they should occur, and is a contribution to the sheep industry in Alberta.

Urinary Calculi

Cattlemen will be gratified to know that a three year research project was commenced in the Fall on this costly problem in Southern Alberta by the Federal Department of Agriculture at the Experimental Farm and Veterinary Research Laboratory, Lethbridge.

This Branch is providing some assistance by collecting calculi for study from veterinarians throughout the province.

The following is a picture of bovine urinary calculi, mainly composed of silica.



Addenda

Extensive details of the many diseases diagnosed at the laboratory will be provided in an addenda in the Branch report to be published. These are valuable for reference purposes and disease epidemiology studies.

EXTENSION ACTIVITIES

The extension activities, under the direction of Dr. J. G. O'Donoghue, include lectures to agricultural, pharmaceutical, medical students, and public health nurses at the University of Alberta, and the Schools of Agriculture, investigational and service trips, supervision of the health of government herds, addressing meetings and participation in the supervision of livestock disease control programs.

A. Investigation and Service Calls

Cattle	64
Sheep	18
Swine	39
Horses	2
Fur Animals	12
TOTAL	135
Meetings Addressed	96
Lectures Given	94

The extension veterinarian addressed the Canadian Veterinary Medical Association at Saskatoon in September, 1955. The subject was Vitamin A Deficiency in Beef Cattle. The Director addressed the same convention on Rabies Control in Alberta.

B. Investigational Notes

The following are brief reports on control program projects and disease conditions of current interest and economic importance.

1. Cattle

(a) **Vitamin A Deficiency**

The educational efforts made in this regard have been reflected in a greater awareness of the deficiency and a decrease in the losses from it. Scientific papers on vitamin A deficiency in Alberta have been published.

The following is a picture of a calf showing symptoms of vitamin A deficiency.

(b) **Vibriosis**

This disease was first diagnosed in Alberta in 1954. It is characterized by early abortion and sterility. In 1955, it was diagnosed in seven herds by the isolation of the organism from aborted foetuses. 124 bovine foeti were cultured in the laboratory during the year for both vibriosis and brucellosis. 337 blood samples were tested serologically for vibriosis.

The incidence and economic importance of vibriosis in Alberta is being investigated. Materials for the collection of vaginal

mucous, required for diagnostic procedures, have been prepared and are available to practicing veterinarians.

(c) **Sterility**

Continuations of investigations indicate that nutrition, management, brucellosis, and vibriosis, in that order are the greatest factors in this regard.

(d) **Oil Well Poisonings**

A study of poisonings occurring at oil well sites, commenced in 1953, was completed in 1955. It comprised field investigations and experimental feeding trials. Lead, crude oil and certain components of drilling mud are toxic but lead poisoning is the one of practical significance. The fact remains that well sites are a potential hazard to livestock and access to them should be guarded.

Work with components of asphalt paving materials indicated that poisoning from these substances would be extremely unlikely.

2. Swine

(a) **Erysipelas**

This disease is now established as the most important infectious disease of swine. The incidence of it has been high over the last three summers. Biologics, as yet available, do not allow for control on this basis alone and good management and prompt recognition are essential if losses are to be curtailed.

(b) **Atrophic Rhinitis**

All herds of origin of swine going to the Royal Winter Fair, and those herds applying for the Advanced Registry Assistance Policy were inspected and found to be free of the disease.

(c) **Dermatitis—Parakeratosis**

There was a marked decrease in this condition. Research workers have now reported it to be related to a zinc deficiency. The possible role of grain mites in the production of swine dermatitis in Alberta was investigated with negative results. This is only an interim report, but the feeding of milk or buttermilk has given good results with a limited number of hogs affected with dermatitis.

3. Fur Animals

Distemper continues to be the most important disease of mink. Virus enteritis, serious in Ontario and Manitoba, has yet to be diagnosed in Alberta.

In 1955, fifteen ranches were placed under distemper quarantine.

The logical practice of the routine immunization of mink with live virus vaccines had increased. This development and the fact that vaccines are now readily available has eliminated the need of the participation of the Department in commercial mink distemper vaccine supply programs. The programs were discontinued August 31st, 1955.

A record is still kept of all distemper vaccine used in the province.

(a) **Distemper Vaccine Bank**

It had as its purpose the maintaining of a readily available supply of distemper vaccine. In 1955, 5,750 doses were supplied to 24 ranchers.

(b) **Distemper Vaccine Assistance Plan**

Inaugurated in 1950 at the request of the Alberta Fur Breeders and discontinued with their consent in 1955. It provided for the issuance of free and half price vaccine to infected ranches and to those situated within a defined dangerous area of an infected ranch. Rancher members were required to pay a premium of five cents for each animal on the ranch. The plan served a useful purpose before the availability of vaccine suitable for routine preventative inoculation.

Period—September 1, 1954 to August 31, 1955

Distemper Outbreaks	Vaccine Issued Free	Vaccine Issued Half Price
8	5,750 doses	655 doses

Period—September 1, 1950 to August 31, 1955

Distemper Outbreaks	Vaccine Issued Free	Vaccine Issued Half Price
65	55,240 doses	4,255 doses

(c) **Autogenous Vaccine—Mink Distemper**

This vaccine is produced from distemper infected mink. It is prepared for use on infected ranches following the initial use of commercial vaccine. It is of value in controlling losses in particularly severe outbreaks.

In 1955, 8,375 c.c.'s of autogenous vaccine were supplied at no charge to four ranches.

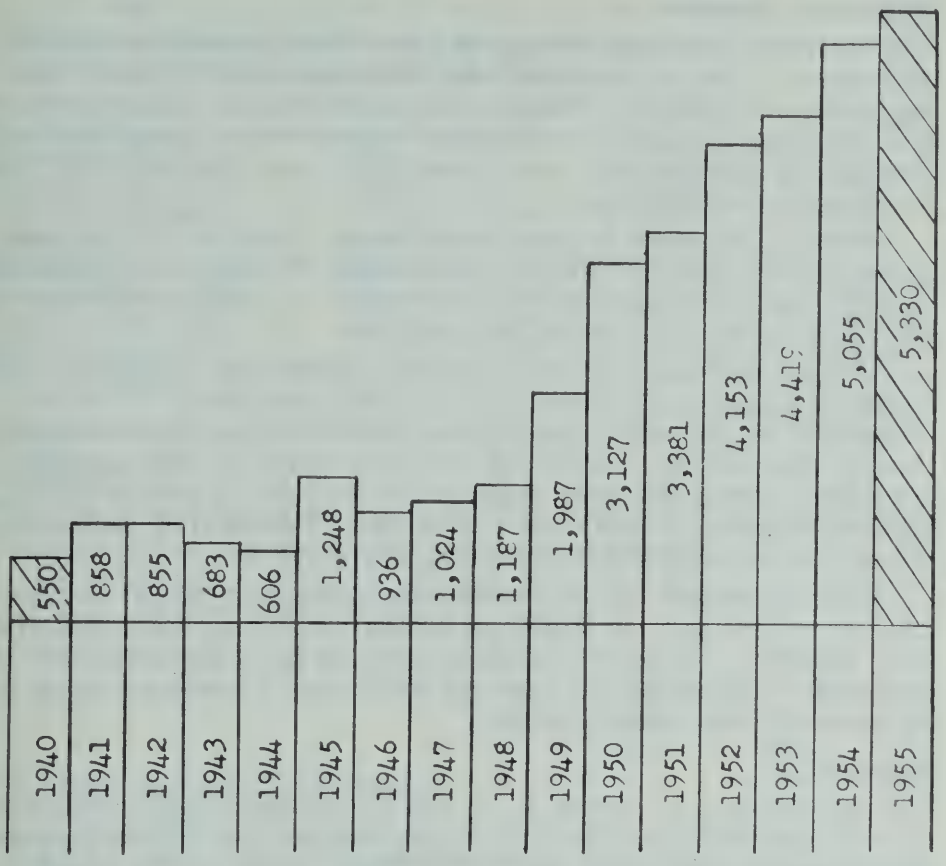
C. **Poultry Extension**

The details concerning this appear in the Poultry Disease Section report.

ANIMAL DISEASES SECTION

The work of the animal disease section of the laboratory, under the direction of Dr. G. S. Wilton, assisted part-time by Dr. H. N. Vance, is devoted mainly to an accurate and rapid diagnosis. Every specimen examined invariably saves many on that farm or provides information to prevent further losses. A diagnosis often affects a whole community.

This section examined 5,330 specimens in 1955 compared to 5,055 in 1954, showing a 5% increase. The number of consignments increased from 2,175 to 2,318. The number of heads going through the laboratory for rabies examination decreased greatly during the past two or three years until only 87 such specimens were handled this year. There were 19 specimens from this lot found to be infected with rabies. There were 1,245 cattle specimens and 1,676 swine specimens examined in the total number of 5,330 received from 24 different species of animal. This omits the 16,280 bovine blood samples examined for Bang's disease and the 492 bovine milk samples examined for mastitis. These figures reveal that most of the laboratory hours are devoted to cattle and swine. The following tables show the volume and variety of work covered.



Animal Specimens Diagnosed Since Opening Laboratory

Species	SPECIMENS Live	Dead	Portions	TOTALS
Bear	.....	.....	1	1
Beaver	.....	3	1	4
Buffalo	.....	1	10	11
Cat	2	30	8	40
Cattle	17	44	1,184	1,245
Chinchilla	5	36	.....	41
Coyote	.....	.....	30	30
Deer	.....	1	4	5
Dog	4	67	198	269
Elk	.....	.....	4	4
Guinea Pig	.....	9	14	23
Horse	.....	1	11	12
Lynx	.....	.....	11	11
Mink	50	155	24	229
Moose	.....	.....	39	39
Mouse	.....	4	.....	4
Muskrat	.....	1	.....	1
Porcupine	.....	1	.....	1
Rabbit	3	42	.....	45
Rat	.....	2	.....	2
Sheep	11	29	82	122
Swine	126	406	1,144	1,676
Whitefish	.....	.....	1	1
Wolf	.....	.....	1	1
Laboratory Animals	.....	.....	421	421
Blood Samples	.....	.....	170	170
Fecal Samples	.....	.....	58	58
Feed Samples	.....	.....	62	62
Milk Samples	.....	.....	492	492
Semen Samples	.....	.....	14	14
Urine Samples	.....	.....	27	27
Water Samples	.....	.....	55	55
Miscellaneous Samples	.....	.....	214	214
TOTALS	218	832	4,280	5,330

Nutritional Diseases

Nutritional diseases every year cause heavy losses in all species of animals. One cannot overstress the importance of proper feeding and management. The husbandman stresses good nutrition and the veterinarian is continually recommending minerals and vitamins to prevent and treat many nutritional diseases, but the losses continue to be heavy.

Anemia in swine is very prevalent in spite of the lectures, issued reports and bulletins. There were 39 cases of anemia in young pigs examined at the laboratory in 1955. Nutritional anemia in mink continues to be a problem.

Vitamin deficiencies are common. Vitamin A deficiency was found in 62 swine, 27 cattle and 14 sheep specimens. The owner often fails to include a good grade fish oil in the ration for pigs during the winter months when green feed is not available. Vitamin A often becomes depleted in the alfalfa before Spring, causing Vitamin A deficiency in cattle. Vitamin B deficiency always seems to be a problem especially in mink.

Rickets, caused by an inadequate intake of calcium or phosphorus or both or to a faulty proportion of these minerals in the diet, together with a deficiency of vitamin D, is too prevalent in livestock. We found 20 cases in mink and 8 cases in swine in laboratory specimens examined.

Poisons

The Provincial Analyst, C. E. Noble, examined 425 specimens for the animal disease section during the past year. Many cases of poisonings were found and the different forms can be listed as: arsenic, lead, mercury, nitrate, sodium chlorate, salt, strychnine, ergot, water hemlock, and algae poisoning. The species of animal affected were cattle, sheep, swine, cat and dog.

Laboratory Animals

These animals were used to assist in making a diagnosis, to determine the pathogenicity of the bacteria isolated and for experimental work. They were carefully examined and cultured.

Guinea Pigs	386
Mice	32
Rabbits	3
TOTAL	421

Biological Products

Autogenous bacterins and vaccines have been prepared at times throughout the year to help fight certain disease outbreaks in livestock. The table below lists the product, the amount, the species of animal involved and the disease.

Product	Amt. in CC's	Species of Animal	Disease
Autogenous wart vaccine	1,700	Bovine	Bovine Papillomatosis
Autogenous wart vaccine	25	Canine	Canine Papillomatosis
Autogenous Mink Distemper vaccine	8,375	Mink	Distemper
Autogenous Mixed bacterin	4,150	Bovine	Pasteurellosis
Autogenous Mixed bacterin	5,000	Porcine	Pasteurellosis

Salmonellosis (Paratyphoid)

This infection is not isolated nearly as frequently in this section of the laboratory as in the poultry disease section, but it is found in all species of animal, indicating that it is an infection of public

health importance. The following table lists the types identified, the species of animal, the age, the location or material from which the isolation was made, and the district.

Type	Species	Age	Location	District
Salmonella typhi-murium	Mink	Adult	Intestine	Calgary
Salmonella typhi-murium	Bovine	Calf	Gall bladder	Viking
Salmonella typhi-murium	Bovine	Calf	Gall bladder	Tofield
Salmonella typhi-murium	Bovine	5 yrs.	Intestine	Westlock
Salmonella typhi-murium	Bovine	Adult	Faeces	Westlock
Salmonella typhi-murium	Bovine	5 yrs.	Intestine	Calgary
Salmonella cholerae-suis	Porcine	3½ mos.	Intestine	Edmonton
Salmonella cholerae-suis	Porcine	3 mos.	Intestine	Edmonton
Salmonella cholerae-suis	Porcine	2 mos.	Intestine	Edmonton
Salmonella derby	Mouse	2 mos.	Intestine	Edmonton
Salmonella newington	Mink	Kit	Bladder	Seba Beach
Salmonella anatum	Mink	Kit	Intestine	Edmonton
Salmonella anatum	Mink	Adult	Intestine	Widewater
Salmonella cholerae-suis	Porcine	3½ mos.	Heart, liver, kidney, spleen	Vulcan
Salmonella typhi-murium	Bovine	Adult	Intestine	Westlock

Mastitis

The practitioners always submit a number of individual milk samples, many of them from acute cases of mastitis.

Hemolytic staphlococci	137
Hemolytic streptococci	89
Hemolytic colon	5
Corynebacterium	6
Mixed Infections (staph. strep. colon)	16
Negative	239
TOTAL	492

Blackleg and Allied Infections

These diseases continue to be very costly to cattle producers. The laboratory has confirmed 75 cases of blackleg in the past year, and closely related infections caused by other species of Clostridia bacteria were also confirmed here. There were 25 Malignant oedema and 11 mixed Clostridium infections, including Cl. perfringens type D. In the latter, two or more species of Clostridia were recovered from specimens submitted. Protection from these diseases of cattle through vaccination is cheap and effective, and could prevent nearly all such losses.

Johne's Disease

This is a chronic intestinal disease chiefly affecting cattle, and is diagnosed with increasing frequency in Alberta herds. The organism which causes the disease may persist on infected premises for some time, with the result that cases occur sporadically from year to year. In some cases the Federal Health of Animals Branch have been notified, and have tested suspected herds to detect any reactor animals. This procedure should assist in preventing heavy seeding of pastures with the disease.

Pneumonia

184 specimens, including cases in swine, cattle, sheep and other species, were found affected with various types of pneumonia. To the loss from these fatal cases must be added the loss from more chronic types of pneumonia, which result in decreased production.

In many cases, pneumonia is the end result of a general lowered resistance in the animal affected. In cattle, this lowering of resistance is often due to stress during shipping and marketing, or weaning. In swine, faulty housing, sanitation, and feeding often

lead to losses from pneumonia. Bacteriological examination of these specimens revealed a variety of bacterial agents in the tissues, some of which may be quite capable of causing disease by themselves. However, it is felt that losses would be considerably reduced, especially in swine, if some of the above-mentioned factors were corrected.

Mink Diseases

We examined 229 mink specimens during the year which is a slight drop from the 255 specimens examined the previous year. 56 specimens or approximately 25% of the animals examined were found to be affected with distemper. These distemper specimens came from 15 different ranches. Affected ranches try to vaccinate as soon as the disease is recognized.

Food poisoning resulting from various causes was diagnosed in 45 specimens submitted. The last two months of the year we received a number of thin specimens with digestive disturbances resulting from the unusually early prolonged cold weather conditions. The feed-mix froze so quickly after it was put out that the animals had difficulty in obtaining their feed.

Probably the third most prevalent condition in mink is the Province was steatitis. This condition has given considerable difficulty in the past few years and 1955 was no exception. The feed situation and the storage problems no doubt account for this difficulty. Since it has been recognized that improper storage of feed along with the feeding of a ration that is high in unsaturated fatty acid and a low vitamin E, the disease has been easier to handle. Still the desire to feed the mink as cheaply as possible in order to make a profit has resulted in many cases of the disease.

Rickets, nutritional anemia, nursing sickness, chastek paralysis, urinary calculi and pneumonia, were other common conditions.

Wild Life Diseases

Many specimens from different species of wild life were received to be examined for rabies and other diseases. They were submitted by members of the game branch, by hunters, veterinarians, by the Department of National Resources, including the Parks Department and by the Department of Zoology at the University of Alberta. Many specimens were affected with different species of tapeworms and with various diseases. We found Hydatid disease in nine moose specimens received.

Another very interesting condition found in a wild life specimen submitted was a case of Tularemia in a beaver from Wolf Creek on the N½ of Section 31-73-16W4th Meridian, and also one from the Lac La Biche Forestry Division. The animal showed all the lesions of the disease and the disease was confirmed by isolating Pasteurella tularensis from the liver and spleen and also by reproducing the disease in another beaver with some of the original affected liver tissue. Another beaver from the Jasper district was infected with pseudo-tuberculosis.

POULTRY DISEASE SECTION

The work of the Poultry Disease Section, under the direction of Dr. C. H. Bigland, assisted during the Spring rush by Dr. H. N. Vance, is devoted mainly to the accurate diagnosis of diseases of poultry. Specimens are submitted by veterinarians, farmers, poultrymen, hatchery operators and feed company representatives from all points in Alberta.

Disease is recognized as one of the greatest threats to successful poultry production. The monetary loss through poultry disease in Alberta is great and has been known to be many thousands of dollars even on one individual farm. The control and prevention of disease is especially important to the expanding broiler industry and to farms where the size of turkey or chicken flocks is increasing. Accurate diagnosis and speedy dissemination of this information is essential to such control and prevention and so to this end, every effort is put forward.

The year 1955 was an exceptionally good year for the poultry health picture in Alberta. No widespread respiratory disease outbreak was encountered such as was experienced in 1954 involving baby chicks and poults. No Newcastle disease was diagnosed in the province in 1955. The incidence of the bacterial infections of paratyphoid, pullorum and fowl typhoid was reduced as judged from specimens received.

This bright picture was reflected in a decrease of poultry disease submissions and specimens sent to this laboratory in 1955. The number of birds and portions diagnosed was 4,724 (a decrease of approximately 30% (1,965) over 1954, but approximately the same as 1953).

Blood Samples

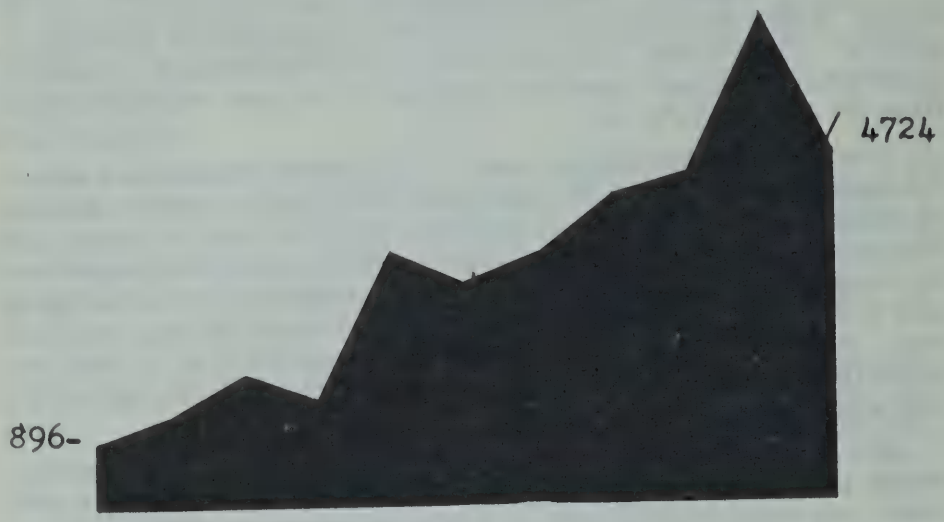
As can be noted from the blood samples chart, the number of such samples has varied over the past six years. The majority of these have been the result of blood test surveys first for Newcastle Disease and later for Infectious Bronchitis. The samples for these surveys were collected by inspectors of the Provincial Poultry Branch and following processing at this laboratory were submitted to the Animal Diseases Research Institute, Hull, Quebec, for final testing.

In the past few months however, blood serum tests for Newcastle Disease and P.P.L.O. have been conducted at this laboratory and many samples have been received from turkey flock owners to check for the presence of P.P.L. organisms thought to be wholly or partly responsible for infectious sinusitis and air sac infection in turkeys. The antigen for these tests is kindly supplied by the Connaught Medical Research Laboratories, Toronto.

The number of farms serviced was 1,663 (a decrease of approximately 30% (705) below 1954, but approximately the same as 1953).

The number of poultry blood samples submitted for diagnosis was 7,591 (an increase of 3,240 or approximately 70% over 1954).

The two following diagramatic charts will give a visual picture of the above figures. (The period of the specimen chart is ten years; the period of the blood sample chart is six years).



POULTRY SPECIMENS
1945 - 1955

POULTRY BLOOD SAMPLES
1950 - 1955

Over 150 primary disease conditions were encountered in the specimens examined. In order to ensure the accuracy of the final diagnosis each specimen was subjected to one or a combination of the following studies or examinations:

ante-mortem	microscopic
post-mortem	micropathological
bacteriological	parasitological
serological	fungus
virological	chemical
hematological	

When such studies are completed, the results are compiled in a final diagnosis. Once the diagnosis is established, the information is speedily given to the veterinarian, the owner or his agent together with recommendations for treatment, control or prevention.

To this end 286 telegrams were dispatched and 2,895 letters sent in 1955.

Poultry Disease Picture

The decrease in specimens passing through this laboratory reflected a fairly healthy poultry population in the province for 1955. No widespread respiratory infections were encountered in baby birds such as was found last year. No Newcastle disease was diagnosed and there appeared to be a reduced incidence of infectious bronchitis, although Chronic Respiratory Disease was a problem in some flocks. The incidence of the bacterial infections of pullorum, paratyphoid and fowl typhoid was down from 1954.

Some conditions were on the increase however, such as fowl cholera, chronic respiratory disease, moniliasis, carbon monoxide poisoning, and cannibalism.

As in past years many poultry losses appeared to be due directly or indirectly to improper poultry management and sanitation. The majority of such losses occurring in the so-called "farm flocks".

Aside from the following disease conditions noted, the remaining were fundamentally similar to 1954. Detailed statistics will be included in the report of the Veterinary Service Branch.

Newcastle Disease

No cases of Newcastle disease were diagnosed in Alberta this year. Only a limited amount of vaccination against this condition was done—mostly in combination with Infectious Bronchitis vaccination.

Infectious Bronchitis

The infectious bronchitis survey of blood from supply flocks was completed early in 1955. The results were similar to the 1951-52 survey and indicated that approximately 74% of supply flocks had been exposed to this condition. There is a possibility that this high degree of immunity to Infectious bronchitis may have resulted in the low incidence of respiratory disease in chicks this Spring.

Vaccinations against infectious bronchitis were applied to several thousands of birds. Some of this vaccination in combination with Newcastle disease vaccine was applied to broiler chicks.

There was too, a fairly widespread use of Infectious bronchitis vaccine in hatchery supply flocks in some cases at the insistence of the hatchery operator. Such vaccine is aimed at an immunity high enough for the hens to pass along a degree of parental immunity to their chicks.

Chronic Respiratory Disease

With advice of Dr. J. R. E. Taylor, Ontario Veterinary College, on P.P.L.O. culturing techniques and the advice and antigen supplied by Dr. J. Crawley, Connaught Medical Research Laboratories for P.P.L.O. hemagglutination-inhibition testing, we have been able to confirm 89 cases of chronic respiratory disease in both chickens and turkeys—mostly adult birds. It is felt that this condition has been previously present in the province. Being chronic in nature this condition does not cause a spectacular loss of laying birds however, the major loss is in reduced egg production. In young birds however, fairly large numbers may be lost and many stunted birds may result.

Many blood samples from laying flocks were also submitted to Dr. Crawley for P.P.L.O.-H.I. testing. Their results indicated that approximately 40% of hens supplying this year's chicks were carrying P.P.L.O.-H.I. antibodies.

Avian Tuberculosis

Although this disease has been controlled in other provinces and countries by good poultry management, it is still costing Alberta poultrymen, hog raisers and the consuming public many thousands of dollars annually. Avian tuberculosis was diagnosed in 210 specimens from 141 farms in 1955 compared to 256 specimens for 134 farms in 1953.

Paratyphoid

The incidence of paratyphoid of chicks and poults decreased in 1955. Paratyphoid organisms were isolated from 152 poults, chicks and pigeons from approximately 51 farms in 1955 as compared with 498 isolations from 225 farms in 1954. (A decrease of 174 affected premises over 1954).

As these organisms are transmissible to humans and because future control measures may hinge on the types encountered, each isolation was submitted to the Alberta Public Health Laboratories for typing.

The following table gives the types isolated from poultry in 1954. Many of the same types are also being isolated from human infections in Alberta.

SALMONELLA TABLE 1955

S. oranienburg	2
S. typhi-murium	18
S. thompson	16
S. bareilly	8
S. anatum	1
S. bredeney	7
S. tennessee	2
S. heidelberg	5
Not typed	2
TOTAL	61

Pullorum

The number of isolations of Salmonella pullorum decreased in 1955. This organism was isolated from 234 chickens, chicks and

poults from 86 farms in 1955, compared with 549 isolations from 134 farms in 1954.

The whole blood testing of all birds producing hatching eggs is carried out by the Provincial Poultry Branch and is highly instrumental in the control of this disease in Alberta.

In co-operation with a Dominion-wide agreement on pullorum, all cultures were submitted to the Ontario Agricultural College for typing. The following table gives the types found for the last seven years:

PULLORUM TABLE

	1949	1950	1951	1952	1953	1954	1955
Standard	33	22	34	70	58	86	34
Variant	0	2	5	39	21	48	10
Intermediate	7	9	7	11	30	9	31
Not Typed	0	0	0	0	0	0	10
TOTALS	40	33	46	120	109	143	85

In co-operation with the Provincial Poultry Branch, 141 birds were autopsied and examined for pullorum as a check on specific and non-specific field reaction. Of this number 49 (or approximately 35%) were found to carry the pullorum organism and 92 (or approximately 65%) were considered as non-pullorum reactors.

Fowl Cholera

The number of specimens found with this condition increased in 1955 in both chickens and turkeys. The majority of cases were of a chronic nature in which the condition caused morbidity but with a low mortality. In a few cases mortality was high and with sudden onset indicating a more acute outbreak.

Fowl Typhoid

This condition was diagnosed from 14 farms in 1955 in comparison with 31 for 1954 and 19 in 1953. All cases were from the Mundare, Willingdon district except for one case near Lacombe.

Newer Disease Conditions

Hexamitiasis—was again diagnosed on 3 premises. One large turkey flock was affected with the loss of several thousand birds.

Ulcerative enteritis—was diagnosed in 19 turkey flocks this year.

Round Heart Disease—was diagnosed on 8 farms—no further information on the cause of this condition could be found.

Cochlosomiasis—affected 2 turkey flocks apparently as the only causative organism. Treatment with 2-amino-5-nitrothiazole appeared beneficial.

Avian encephalomyelitis—was seen in 4 flocks—mostly affecting broiler chicks.

Infectious synovitis—was suspected but not confirmed in two broiler flocks.

Infectious hepatitis—was suspected but not definitely confirmed in one chicken flock.

Scientific Papers

Three papers were co-authored and published in the Canadian Journal of Comparative Medicine. These were "Case Report of Sex Reversal in a Chicken", "A Suspected Case of Infectious

Synovitis in Alberta", and "An Experiment in Hatchery Fumigation".

Poultry Disease Extension

Upon the request of local veterinarians, four trips were made to poultry farms on disease problems. Information on poultry disease was given in three addresses to producer groups. One lecture on poultry disease was given at the Vermilion School of Agriculture. The annual Hatcherymen's Short Course was held again in 1955. An address was given at the Alberta Veterinary Medical Association Convention in Calgary. A lecture and demonstration was given to the Poultry Inspectors Short Course. Six meetings of the Council of Alberta Veterinary Medical Association were attended in Red Deer, Calgary and Edmonton. A course of three lectures was presented to the St. John's Ambulance Cadets. An investigation on disease problems in the Peace River area was undertaken.

Egg Inoculation Experiments

Limited facilities were made available for virological studies. The first series of experiments was devoted to the study of the viability of a water administered Infectious Bronchitis vaccine. The vaccine was subjected to waters of varying alkalinity prior to embryo inoculation. The major portion of this work was conducted by Drs. Carlson and O'Donoghue.

Experimental

A series of experiments were started to test the efficacy of a new drug for the treatment of pullorum and paratyphoid.

Work on the correlation of results of P.P.L.O. culturing and P.P.L.O.-H.I testing over a one year period was conducted. The results indicated a 72% agreement.

MICROPATHOLOGY SECTION

The principal function of this section, under the direction of Dr. F. E. Graesser, is to interpret and report on any micropathological changes observed in sections prepared from diseased tissues. To this end, all tissues submitted by the Animal and Poultry disease departments of the laboratory, as well as those from practising veterinarians, are processed and examined microscopically. The interpretation of characteristic pathological changes is frequently diagnostic for certain disease conditions, whereas in others the histopathological report may prove of value in assisting the pathologist or veterinarian to arrive at a definite diagnosis. In this way a valuable service is provided—one that is essential to an institution primarily concerned with providing accurate diagnosis of disease.

In addition to the histopathological work, this section maintains a restricted photographic service. Coloured transparencies, regular lantern slides, photomicrographs, and photographic prints are produced when required by the veterinary staff of the Branch. These may be required for extension purposes or to illustrate articles or scientific papers concerning laboratory activities.

The mounting and preservation of gross specimens in plastic boxes is another service extended by this section. An exhibit of

these is maintained at the laboratory and additional mounts are prepared when suitable material is available.

1. Histopathological Sectioning

During the year 1,499 sections were prepared from a total of 1,145 submitted tissues. A species breakdown of the year's work is shown in the following table:

DOMESTIC ANIMALS	
Canine	271
Bovine	174
Equine	15
Feline	25
Porcine	87
Ovine	17
Miscellaneous	24
TOTAL	613
POULTRY	
Chicken	219
Turkey	51
Budgie	33
Miscellaneous	9
TOTAL	312
FUR-BEARING ANIMALS	
Mink	210
Chinchilla	8
Miscellaneous	2
TOTAL	220
GRAND TOTAL	1,145

A slight increase in the number of tissues processed and examined over those of the previous year is again apparent. A comparison of the number of sections examined annually over the past six years is made in the following table:

TISSUES SECTIONED SINCE 1950

Species	1955	1954	1953	1952	1951	1950
Domestic Animals	589	468	375	292	252	166
Fur-Bearing Animals	218	223	317	188	302	137
Poultry	303	359	151	92	122	73
Miscellaneous	35	15	18	28	5	3
TOTALS	1,145	1,065	861	600	681	379

A decrease in the number of distemper outbreaks is noted. Of 163 mink bladders examined during the year, 44 revealed inclusion bodies indicative of distemper. These represent outbreaks on 15 different premises.

The number of neoplastic growths submitted for examination continues to increase. Most veterinarians are aware of the importance of an early diagnosis where doubts as to the nature of such growths exist. Many of those showing evidence of malignancy are amenable to treatment provided they have not progressed too far, and a knowledge of the type of tumour, when one is encountered, is of unquestionable value. Of 122 neoplasms examined during the year, 77 were found to be malignant.

2. Preparation of Material for Extension Purposes

During the year, 111 colour transparencies were produced to augment further the various series of animal and poultry disease

slides. These are used extensively by staff members at meetings, short courses, etc. In addition to the transparencies, 23 black-and-white slides were made from photographs of charts and diagrams. Approximately 100 photographic prints were prepared for the Branch personnel, to be used for purposes of references and illustrations for published scientific papers.

The number of animal specimens prepared and mounted for display purposes was 11.

Report of the Schools of Agriculture Branch

R. M. PUTNAM, Superintendent
J. E. Birdsall, Principal, Olds School of Agriculture
N. N. Bentley, Principal, Vermilion School of Agriculture
J. E. Hawker, Principal, Fairview School of Agriculture

Graduation exercises for the 1954-55 term were held on April 6th at each School at which time diplomas were presented as follows:

	Fairview	Olds	Vermilion
Diplomas in Home Economics	7	26	20
Diplomas in Agriculture	20	64	61

The total of 198 students graduating compares very closely to 203 graduates the previous year.

Park Letts, Westlock, receiving the valuable Eaton Agricultural Scholarship from Mrs. John David Eaton at the Royal Winter Fair, November 1955. Park is a graduate of Alberta's Schools of Agriculture.

There was a continuation of arrangements completed several years ago whereby students from the Fairview and Vermilion School Divisions use facilities at the Schools of Agriculture for shop and home economics classes. The Indian Affairs Branch of the Federal Department of Citizenship and Immigration met with the Schools Branch during the year to work out details of an Agriculture and Home Economics course at Olds for young Indian boys and girls. It is anticipated that a course will be given, for the first time, in 1956.

The annual staff conference was held on October 13th and 14th at Olds. Members of the staff at all three schools met in workshops to discuss various aspects of the school program.

Board of Agricultural Education

The Board met in Edmonton on June 28th, 1955. There was considerable discussion on ways of broadening the course, particularly in Home Economics, to attract full enrolment in all Schools. The Superintendent and Principals were requested to review the course in Home Economics with a view to making it more attractive to prospective students. Other topics discussed included the use of school facilities during summer months, offering more commercial training in home economics and the importance of short courses to rural people.

The 1955-56 Term

It has been observed over the years that the enrolment at the Schools is directly dependent upon economic conditions on farms. The 1955 term commenced with a total enrolment of 336, compared to 370 the previous year. This decrease was due, in part, to marketing difficulties experienced by grain farmers resulting in a shortage of ready cash.

Enrolment figures at the opening of the term on October 18th were as follows:

	Fairview	Olds	Vermilion	Total
Home Economics:				
First Year	6	20	10	36
Second Year	8	7	8	23
Two-in-One	1	12	9	22
Agriculture:				
First Year	22	48	47	117
Second Year	7	32	31	70
Two-in-One	8	42	18	68
TOTALS	52	161	123	336

Maintenance and Construction

During the year, major maintenance work of an emergency nature was carried out at Olds and Vermilion. A water problem arose at Vermilion which necessitated replacing some of the main water lines which were found to be badly corroded. At Olds, it was found necessary to re-insulate the steam line from the boiler house to the dormitory. In addition, the usual program of maintenance and repairs was carried out at all three schools.

Summer Program

Due to the number of 4-H clubs presently organized in Alberta it was found necessary to hold four Achievement Weeks in July. Two were held at Olds and one at each of the other schools. A Farm Women's Week was held at the three schools. Other events included a W.I. Girls Club Week and 4-H elimination contests at Olds and Fair Camp and Vermilion.

Appreciation

The Schools of Agriculture continued to enjoy the fine support of a large number of organizations, commercial firms, and individuals. These friends encourage the work at the Schools by offering bursaries, scholarships, prizes and other assistance. The department wishes to express its deep appreciation of these fine

gestures. It is hoped that their faith in the work of the schools will be fully justified as future graduates take their places in communities throughout Alberta.

Officials of the University of Alberta and the Federal government have contributed from time to time to the programs at the Schools. Their efforts are gratefully acknowledged with thanks.

The Alumni Associations, aware of the work being done at the schools, offer encouragement by supporting programs and donating items which can be used to advantage by the students. The department appreciates their kind assistance.

The co-operation of the Principals and all members of the staff of the three Schools of Agriculture is gratefully acknowledged and a special word of appreciation is expressed to E. R. McCrimmon, Executive Assistant to the Deputy Minister, who assumed much of the work of the Superintendent's office from July 1st to the end of the year.

OLDS SCHOOL OF AGRICULTURE AND HOME ECONOMICS

The year 1955 was a good one at O.S.A. The term that ended in April was successful in every respect. A capable staff and a good group of students combined their efforts with good results. A good spirit was shown throughout the year, the general average of school work was higher than usual, student government operated in a very capable and responsible manner and extra-curricular activities were very successful. President of the Students' Council was Dave Shearer of Carmangay. The term which opened on October 18th had by the end of the year given every indication of being equally or even more successful. During the summer months the facilities of the school were used more fully than usual and all activities proved successful both in attendance and effectiveness of the programs.

Little Royal and Achievement Day

The annual Little Royal and Achievement day was staged on March 30th. A preview of the fashion show, with 200 local people attending, was held on the evening of March 29th. March 30th proved to be a memorable day. Snow began to fall before daybreak and by noon, when the livestock show was over and about 600 people had arrived, roads had become almost impassable, and electric power was cut off. The Olds Civil Defense Organization and the Chamber of Commerce joined forces to organize billeting. As a result the program went ahead on schedule and over 200 people were billeted. Others went to Calgary by train and returned later for their cars. Mr. Charles Gordon, judge of the Little Royal, stated that the livestock show was one of the best he had judged. All other phases of the achievement day were also well received by the visitors.

Graduation

The 1954-55 term closed on April 6th, 1955 with the presentation of 31 diplomas in home economics and 62 in agriculture. Mr. R. M. Putnam, Assistant Deputy Minister of Agriculture and Superintendent of Schools of Agriculture delivered the address to the graduating class. Douglas Gibson of Innisfail, a second year

student in agriculture, was class Valedictorian. A Surplus Wheat Board University scholarship was awarded to Charles Laisnez of Big Valley and prizes for proficiency in various fields were awarded to graduating students.

Special Lectures and Visitors

Lectures in Irrigation were given by Mr. C. J. McAndrews, Irrigation Specialist; in Animal Sanitation by Dr. J. G. O'Donoghue, Veterinary Services Branch; and in Beekeeping by Mr. J. W. Edmunds, Supervisor of Apiary Inspection.

Special speakers included the following: Dr. A. G. McCalla, Dean of Agriculture, University of Alberta; Miss Mabel Patrick, Director, School of Home Economics, University of Alberta; Mr. D. H. McCallum, Dairy Commissioner; Miss F. J. Ferguson, Registrar-Consultant, School for Nursing Aides, Calgary; Miss E. Clarke and Miss Jessie Stewart, National Employment Service, Calgary and Mr. H. W. Webber, Supervisor of Co-operatives, Department of Industries and Labor.

Summer Activities at the School

Immediately following Easter a 3 day Welding course for farmers was held with an attendance of 27. This was followed by a 2 day course for 4-H Club Leaders with an attendance of 100.

Mid summer activities began on July 4th and finished on August 4th. These included Farm Women's Week, W. I. Girls' Club Week, two 4-H Club Weeks and the Provincial 4-H Elimination Competitions. Total attendance at these events was approximately 900.

Pre-school opening activities included a 4-H Leaders' Conference with an attendance of 80, the annual staff conference for Schools of Agriculture and a C.G.I.T. Conference with an attendance of 150. These events all took place in October.

Summer Activities of Staff

During the summer months when regular courses were not in session staff members were engaged in various tasks connected with the school and in other branches of the Department. Mr. Holubowich who joined the staff in May was in charge of grounds; Mr. Belanger in charge of Maintenance; Mr. Jorgenson revised the English courses and worked on 4-H publications as well as taking a 6 week University course at Summer School; Mr. Kirk worked part time on shop equipment and course material and part time on Extension work for the Extension Service, also assisted with summer courses. Mr. Rawson assisted Mr. Ross with the management of the farm until June 1st when he left the service; Mr. Murray who replaced Mr. Rawson on July 1st assisted with summer courses and management of the farm; Mr. Armstrong was attached to the Field Crops Branch in connection with pest and plant disease control; Mr. Rogers worked for the Accounts Branch on inventory work at the Schools of Agriculture except for July and early August when he assisted with 4-H Club Weeks at the three schools.

The Home Economics staff was also employed within the Department. Miss Daley taught a special High School class at the Vermilion School of Agriculture until the end of June and was on

extension work for the balance of the summer; Miss MacFarlane joined the 4-H staff for the summer; Miss Randle was employed temporarily by the Extension Service until October 1st when the transfer was made permanent; Miss Graham was employed at the school throughout the summer except for a leave of absence in June and again in September.

Group Visits

There were about 40 organized gatherings at the school during the year. These included short courses, conferences, Alumni reunions, 4-H Club Weeks, rallies, competitions and visits, picnics and the Little Royal and Achievement Day. Total attendance at these gatherings was between 4,500 and 5,000 people.

Two hundred and fifty of the visitors were 4-H club members who came in groups of 25 or less to see the school in operation. They had a meal at the school, visited the class rooms while classes were in session and saw as much of the school life as could be seen in one day.

In addition to organized activities the school is visited by many interested individuals and small groups during the year. A few conveniently placed picnic tables draw family groups to the grounds to lunch in the shade. Others come for information and still others to renew acquaintances.

Grounds

A late spring with cool weather in May and June resulted in late blooming of flowers and shrubs but luxuriant grass growth. Lawns which had been partially prepared for seeding in 1954 were completed and seeded down. A general program of improvement was undertaken and will be continued in 1956.

Maintenance Program

The program of installing built-in furniture and battleship linoleum in boys' rooms was continued with 12 more rooms being completed. Another major undertaking was the re-insulation of the steam line using a new material sold under the trade name of Gilsulate. This appears to be a solution for steam line insulation in wet and poorly drained locations. Other improvements included painting of farm buildings, repairs to houses and the replacement of about 400 feet of cement sidewalk and 100 feet of curbing.

The Plywood Manufacturers Association of British Columbia supplied materials for the construction of one large granary, one self-feeder for hogs and one self-feeder for cattle in order to have plans tested for them. The granary and hog-feeder proved satisfactory and will become the property of the school at the end of one year.

Plots

The plot area on the farm is used to produce vegetables for the dormitory, foundation stock of Creeping Red Fescue, to carry out tests of various types in co-operation with the Field Crops Branch, Experimental Farms and the University of Alberta, and to produce classroom material for Field Husbandry and Botany courses. Seed grain increase plots are also grown.

Hail on July 28th wiped out the fescue and all cereal crops as well as setting the potato crop back so badly that only enough for

1956 planting were harvested. Other vegetables made a good recovery.

The Farm

Soil conditions were extremely wet in the spring as a result of a very wet summer in 1954 followed by heavy precipitation in late March and early April, 1955. Very little field work was done on the farm until the first week in June. The crops made remarkable progress in June and July but were affected by heat and lack of moisture in August. Early cut crops were of good quality but later crops were damaged by frost. Hail on July 28th damaged crops on the home farm from 30% to 100%, over half being completely destroyed as a grain crop.

The hay crop was about average and was put up in good condition. Pastures were good until the end of September. Flooding on the south farm reduced the pasture available. Total crop harvested was as follows:

Oats—4,400 bus., barley—3,800 bus., greenfeed—25 tons, hay—70 tons, ensilage—105 tons.

About 150 pigs were raised and a ready market was found for all that were offered for sale as breeding stock. Six bred gilts of the new Lacombe breed were delivered to the school in December for testing purposes.

Thirty-nine head of Shorthorns and forty-three Holsteins make up the cattle herds. Some reduction in both herds will be necessary in the spring. The Holstein cows are all being bred artificially while the Shorthorn herd is headed by the Gallinger bull Killearn Norman 24th. A replacement for him will be required in 1956. Fifteen steers and 12 lambs were purchased and put on feed in October for use in butchering classes and to supply the dormitory with meat.

The laying flock was disposed of in April but baby chicks purchased in February were carried through the summer to become the new flock for 1955-56 term. Care of the baby chicks was a class project for students in February and March.

All livestock and poultry were used for judging and demonstrations not only by students but also by 4-H Clubs and other groups using the facilities of the school. One team of horses, which had been used mainly for show and judging purposes, was sold in June. Students will continue to have such instruction through the use of borrowed horses which are available in the district.

Staff Changes

At the end of 1954-55 term Mr. D. Ratcliff and Miss L. McRae resigned; the former to return to his farm and in the fall to enroll at the Ontario Veterinary College, the latter to return to hospital nursing. Early in June Mr. T. Rawson accepted a position with Sherrit-Gordon Mines in their fertilizer division at Fort Saskatchewan and in October Miss M. Randle transferred to the Extension Service. Mr. Frank Campbell left, in the spring, on a trip to Europe. Since his return he has joined the Extension Service staff.

Staff for the Fall Term

J. E. Birdsall, M.Sc.—Principal, Farm Management.
Miss Thelma Graham—Dean of Women, Dietitian.
Miss Gwen Daley, B.Ed.—Clothing.
Miss Mary Ellen MacFarlane, B.Sc.—Home Management, Handicrafts, Mathematics.
Miss Myrtle Wigmore, B.Sc.—Foods, Employment Training.
Miss Margaret Coady, R.N.—School Nurse, Home Nursing.
Howard J. Armstrong—Metal Work.
Harlow W. Sutherland, B.Sc.—Science.
Fred C. Jorgenson—English, Mathematics, Community Organization, Economics and Co-operation, Employment Training.
C. L. Belanger—Farm Buildings.
E. E. Rogers—Dean of Men, Instructor in Recreation.
Cameron Kirk, B.Sc.—Farm Mechanics.
George W. Carter, B.Sc.—Field Husbandry, Entomology.
Malcolm Murray, B.Sc.—Livestock.
Stuart Wilton, B.Sc.—Dairying, Poultry and Mathematics.
Edward Holubowich, B.Sc.—Botany, Horticulture, Mathematics.
Mrs. Dorine Sutherland—Typing.
Mrs. Betty Brown—Librarian.

The 1954 Fall Term

School opened on October 18th as scheduled. Applications in the Agriculture course exceeded accommodation and a waiting list was established. Last minute cancellations made it possible to accommodate all on the list who still wanted to come within the week following the opening. The term was highly satisfactory in almost every respect. Unfortunately two second year boys and one first year boy found it necessary to withdraw for personal reasons but in every case plan to come back in the fall of 1956 if at all possible. One girl was sent home because of behavior and one withdrew during the first week, being too immature for the school.

Registration for Fall Term

The following table summarizes registration over a three year period. The relatively large first year class in Home Economics for the 1955-56 term will give a good start towards a heavier registration in 1956. The larger than usual two-in-one class in agriculture may be an indication that more boys are completing at least grade XI before taking this course.

	Home Economics			Agriculture		
	1953	1954	1955	1953	1954	1955
First Year	21	14	20	54	49	48
Second Year	8	16	7	31	34	32
Two-in-One	6	13	12	33	31	42
TOTAL	35	43	39	118	113	122

VERMILION SCHOOL OF AGRICULTURE AND HOME ECONOMICS

The 1954-55 Term

Visitors who inspected the School and addressed the students during the term included: Mr. Girard Pilion, Editor of the Montreal Star-Gazette; Miss J. F. Ferguson, Director, School of Nurse's Aides, Calgary; Mr. A. D. McTavish, Business College, Edmonton; Dr. C. F. Bentley, University of Alberta; Dr. R. F. Peterson, Rust Research Laboratory, Winnipeg; and the following officials of the Provincial Department of Agriculture—Dr. J. G. O'Donoghue, R. H. McMillan, W. G. leMaistre, Wm. Lobay, E. H. Buckingham, Miss J. Lewis, and R. M. Putnam.

Special Events

In addition to the regular programme of extra-curricular activities organized under the Students' Council the following events are specially noteworthy:

January 21st—4-H Club Leaders' District Conference.

February 3rd, 10th, 17th and 25th—D.V.A. Carpentry Short Course.

March 1st, 2nd and 3rd—Agricultural Short Couse sponsored jointly with the Vermilion Agricultural Society.

March 12th—Parents' Week-end—a popular innovation attended by some 90 parents of the students.

March 26th—Colour Night—Term-end recognition of winners of School Crests for participation and achievement in School activities.

The continued interest and support by the public of all open functions at the School afforded considerable satisfaction to the Staff. Increasingly large numbers of former students attend Alumni events. The "Little Royal" and Achievement Day again attracted well over one thousand persons. Dr. L. W. McElroy from the University of Alberta, and Mr. W. H. T. Mead, Provincial Live Stock Commissioner, were the guest judges.

Graduation

At the Closing Exercises held on April 7th, the principal address was delivered by Mr. R. E. Byron, Director of Vocational Education for the Alberta Department of Education. Mr. E. R. McCrimmon represented the Department of Agriculture and Mrs. F. Bootsman was guest soloist.

Diplomas of graduation were awarded as follows:

	Agriculture	Home Economics
Two Year Course	34	12
"Two-in-One" Course	27	8
	61	20

Winners of Scholarships for distinction in various fields were named as follows:

The Vermilion Board of Trade—Edward Peck, Lake Isle
V.S.A. Alumni Association—Stuart Meakin, Clandonald
The Line Elevator Association—George Richardson, Vermilion
Craig Bros. Vermilion—Robert Warrilow, Minburn
Imperial Oil Limited—Harry Yasheyko, Myrnam
Alberta Turkey Breeders' Association—William Rost, Hay Lakes
V.S.A. Alumni Association—Victoria Lopushinsky, Star
Robert Gardiner Memorial—Pierretta Noel, St. Lina
Alberta Women's Institutes—Joyce Rimmer, Pibroch

The Alberta Wheat Board Surplus Money Trust Scholarship tenable at the University of Alberta was awarded to Mr. Calvin Ross of Forestburg.

In addition to these scholarships, prizes donated by various business firms and organizations to a value in excess of $400.00 were awarded to students for distinction in various branches of classroom activity.

Winners of the staff medals were:

"Two-in-One" Agriculture—Richard Bednar, Ponoka.
Second Year Agriculture—George McMillan, Westlock; Martin Krupa, South Edmonton
"Two-in-One" Home Economics—Mildred Scarfe, Vermilion
Second Year Home Economics—Elinor Adam, South Edmonton; Bernice Koetke, Daysland

The Summer Programme

A series of short courses held in July was the principal feature of the summer programme. These were as follows:

July 4-7 —Anglican Clergymen's Short Course.
July 8 —Alumni Summer Re-Union.
July 10-16—4-H Club Week.
July 18-21—Farm Women's Week.
July 25-30—Boys' and Girls' Fair Camp.

Additional special events included:

May 11—Dramatics Programme.
May 30—Golden Jubilee District. Square Dance Jamboree.
June 3—Sheep Shearing Demonstration.
June 17—High School Visitors' Day.
June 20—F.W.U.A. District Convention.
June 22—Sunday School Picnic.
July 8—Tillage Machinery Field Day.
July 11—4-H Club Field Day.
July 22—A.W.I. District Conference.
Aug. 6—Apprenticeship Board—Carpenters' examinations.
Oct. 3 and 4—District Agriculturists' Conference on Farm Bookkeeping.
Oct. 13 and 14—District Teachers' Convention.
Dec. 10th—4-H Turkey Club—Killing and Dressing Demonstration.

The above outline indicates the extent to which numerous organizations employed facilities of the School for meetings, conferences and Field Days.

Employment of Staff during the Summer

In addition to the responsibilities associated with the summer programme and other events described above, members of the teaching staff engaged in various other activities connected with the School or other Branches of the Department.

The arrangement begun in 1953 whereby services of four Instructors and the use of four classrooms were leased to the Vermilion School Division for instruction in Shop Work and Home Economics was continued.

A similar arrangement with the Town of Vermilion was made for the services of Mr. G. W. Tuck as Recreation Director for the summer months.

Buildings and Grounds

A normal programme of maintenance and repair was conducted throughout the summer months with most of the work being done by the regular maintenance staff. Major projects included the remodelling of eleven dormitory rooms to provide built-in

bunks and other furnishings. Rooms equipped in this manner are proving highly practical and popular. It is planned to continue this project in the ensuing year.

The School Farm

In spite of a late, cold spring and summer season reasonably good yields of good quality crops were harvested as follows:

	Acres	Yields Cereals Bushels	Fodder Tons
Wheat	14	543	.....
Oats	58	3,521	.....
Barley	42	1,570	.....
Hay	75	.....	76
Green feed	13	.....	40
Fallow	70	.....	.....
Pasture	112	.....	.....
Breaking (Sod)	23	.....	.....
TOTALS	407	5,634	116

Good yields of good quality vegetables in sufficient quantity to meet the Dormitory requirements for potatoes, carrots, turnips and beets were harvested.

Principal replacements of farm equipment included a Ford tractor.

The regular livestock programme was continued for which the following figures are provided:

Basic Herd	No. as of March 31st, 1955
Dairy Cows	20
Heifers and Calves	17
Dairy Bulls	1
Stocker Cattle	12
Brood Sows	8
Boars	1
Feeder Pigs	51
Breeding Ewes and Yearlings	59
Lambs	61
Rams	1
Horses	5
Laying Hens	154
Chicks	300

Farm sales to the dormitory and on the campus were:

Milk and Cream	$5,141.13
Eggs	625.79
Meat	2,395.46
	$8,162.38

Total farm sales for the year amounted to $14,866.91.

Mr. Angus MacMillan, Farm Foreman for the past three years, resigned to enter private business in Vermilion. Mr. Wm. Russell, formerly of the Farm Staff at the University of Alberta, then assumed duties as Farm Foreman on October 1st.

The 1955-56 Term

Classes were enrolled on October 18th as follows:

	Agriculture	Home Economics
First Year	47	10
Second Year	31	8
"Two-in-One"	18	9
	96	27

Of this number, two boys had withdrawn for personal reasons by the end of the fall term.

The School has enjoyed fine support from numerous business firms and organizations who have donated a very considerable quantity of material and equipment for teaching and demonstration purposes without which our work, particularly in Farm Mechanics and Home Management, would be considerably handicapped.

Special events of the fall term included:

November 5th—Curling commenced in the Town Curling Rink with 88 students participating.
November 12th—Presentation of the Shakespearean Play, "Julius Caesar"—by the Lancaster Players.
November 14th—Election of Students' Council.
November 18th—Alumni Re-Union.

Staff

N. N. Bentley, B.A., B.Sc.—Principal, Instructor in Farm Management.
V. T. Janssen, B.Sc.—Farm Superintendent, Instructor in Animal Husbandry.
J. Harcus, B.Sc.—Dean of Men's Residence, Instructor in Poultry and Dairying.
Miss Audrey Stewart—Dietitian.
J. A. R. Palin, B.Sc.—Instructor in Farm Mechanics.
K. M. Stone, B.Sc.—Instructor in Field Husbandry.
D. C. Folk—Instructor in Farm Buildings.
W. S. Baranyk, B.Sc.—Instrucor in Horticulture and Botany.
E. Boyko—Instructor in English.
W. B. Olson—Maintenance Superintendent and Instructor in Metalwork.
Mrs. M. E. Acheson—Instructress in Clothing.
Miss Margaret Wright, B.H.Ec.—Instructress in Home Management.
Miss Ruth Whaley, B.Sc.—Instructress in Cooking and Nutrition and Dean of the Women's Residence.
L. G. Seath, B.Sc.—Instructor in Science.
J. Flatherty—Recreation Director.
Miss A. Manowski—Staff Stenographer, Instructress in Employment Training and Typewriting.
Miss A. McLaughlin, R.N.—School Nurse and Instructress in Home Nursing.
Mrs. K. I. Bell—Secretary.
H. Cooper—Accountant.

T. Eaton Scholarship

A matter of some interest and pride on the part of those associated with this School is the fact that its graduates have been selected to represent Alberta in the Dominion Competition for the T. Eaton Scholarship four out of the five years since this Scholarship was established. These candidates have been Ross Gould of Rosalind; Bruce McDonald of Mannville; Robert Plank of Bluffton and Park Letts of Westlock. Both Mr. McDonald and Mr. Letts were successful in winning this valuable award.

FAIRVIEW SCHOOL OF AGRICULTURE AND HOME ECONOMICS

1954-55 Term

Graduation exercises were held April 6th. The address to the graduands was given by the Reverend G. B. Johnson of Grande Prairie. The department was ably represented by Mr. C. L. Usher who brought greetings and later assisted in the presentation of diplomas to members of the graduating class and prizes to students who had won distinction for their work during the term.

Diplomas of graduation were awarded as follows:

	Agriculture	Home Economics
Two-Year course	16	6
Two-in-One course	4	1
	20	7

Named as winners of scholarships for distinction in various phases of school work were the following students:

W. P. Loggie—Victor Patrick, Wembley, Alberta; Anne Lichtner, North Star, Alberta

North-west Line Elevator Company—Earl Webb, Brownvale, Alberta

Imperial Oil Company—Jack Hall, Ranch P.O., Alberta

Alberta Women's Institutes—Irene Eben, Slave Lake, Alberta

Robert Gardiner Memorial—Robert Girard, Girouxville, Alberta

F.S.A. Alumni Association—Leona Sinclair, Slave Lake, Alberta

Alberta Hatching Egg Producers—Dale McLaughlin, Kinuso, Alberta

Surplus Wheat Board Monies Trust (to University of Alberta)—Gailene Pratt, High Prairie, Alberta

Winners of staff pins were:

Charles Grubisich, Sliverwood, Alberta
Elsie Walker, Salt Prairie, Alberta
Gailene Pratt, High Prairie, Alberta

The support from business men of Fairview as well as outside organizations continues to be very generous. In addition to the scholarships listed above, $335.00 in prizes was awarded to students for outstanding work in various courses.

Visitors and Special Speakers

During the year a number of special speakers and visitors were welcomed at the school. These included the following: Mr. C. Berg, Consolidated Mining and Smelting Company, Calgary; Mr. J. Edmunds, Office of Provincial Apiarist; Mr. A. W. Beattie, District Agriculturist, Berwyn; Mr. R. C. Moffat, District Agriculturist, Grande Prairie; Dr. C. F. Bentley, Assistant Professor of Soils, University of Alberta; Mr. W. H. T. Mead, Provincial Livestock Commissioner; Mr. L. Arnold, Supervisor of Locker Plants; Mr. Shirley Edwards, Canadian Liquid Air; Miss Joyce Lewis, Nutritionist, Department of Agriculture; Miss Patricia Seldon, District Home Economist, Grande Prairie; Miss Betty Mitchell, District Home Economist, Berwyn; Miss Beatrice MacFarlane, Supervisor of Home Economics and Mr. J. P. Mitchell, Supervisor of Industrial Arts, Department of Education.

A number of both Federal and Provincial Department of Agriculture officials visited the school during the year in the course of their regular duties.

Calendar of School Events

Some of the outstanding school events were:

January 15th—Masquerade Dance
January 22nd—Hard Time Dance
January 29th—Second Literary Program
February 12th—Valentine Dance
February 19th—Play Night
March 4th—Spring Open Dance
March 12th—Gym Night
March 30th—Little Royal and Achievement Day
April 6th—Graduation and Closing Exercises

The public interest in and response to the "Little Royal" and Achievement Day program continued on a very high level. In spite of bad weather, a crowd of three hundred visited the school and showed keen interest in the displays of student work set up in the various classrooms. Mr. Robert Cooper of the Junior Activities Branch and previously instructor in animal husbandry at the Olds School of Agriculture, was guest judge.

A large part of the value of the school for students stem from the opportunities for self expression and leadership offered through the medium of extra-curricular activities. Under staff supervision, the Students' Council organized and carried out a very diverse program of sports, social events and literary projects. Mr. H. F. Irwin, Instructor in English, again was responsible for successful production of the third edition of the school year book "The Aurora".

Summer Program

The Alberta Women's Institutes Conference previously held at the school was unable to take advantage of available dates due to clashes with Institute conferences elsewhere.

Regular Summer Short Courses were held at the School as follows:

	Attendance
July 4th to 8th—4-H Club Week	96
July 11th to 14th—Farm Women's Week	34

Other groups accommodated at the school were are follows:

	Attendance
March 5th—Berwyn and Beaton Creek Calf Clubs	27
April 12th to 16th—Farm Buildings Short Course	4
April 12th to 16th—Farm Welding Short Course	21
May 6th—University of Alberta Mixed Chorus	67
June 20th to 25th—Plumbing Inspectors' Short Course	8
June 20th to 23rd—Food Handler's Short Course	16
July 15th—Alumni Reunion	104
August 12th—Forage Crop Field Day	100
September 17th—Carpenter's Apprenticeship Test	10
October 8th to 10th—Anglican Young Peoples Conference	47
October 11th—Hereford Association Field Day	32
October 13th to 14th—North Peace Teacher's Convention	270

A great diversity of groups with representatives from widely scattered points throughout the Peace River area were accommodated at the school. It is of interest to note the comparative attendance between the Farm Buildings Short Coure (4) and the Farm Welding Course (23). Originally it was planned to limit applicants for the welding course to twenty. This was increased slightly when thirty-eight applications were received. This situation was due first to the fact that a course in welding had not been offered previously to farmers in the area; and second, to the greatly extended rural electrification throughout the district.

Employment of Staff During the Summer

Leave of absence was granted to V. W. Osbaldeston for the purpose of continuing studies in education ot the University of Alberta summer session. B. J. Godwin, Instructor in Horticulture, was granted leave of absence for the summer months. Miss H. M. Smith transferred to the Extension Service for the period when she was not required at the School. H. F. Irwin again transferred to the Field Crops Branch as weed supervisor for the Peace River area. W. R. Knight, Maintenance Foreman, supervised construction for the Department of Public Works in addition to his regular duties. D. R. Macpherson, Farm Manager and Instructor

in Animal Husbandry, transferred to the Extension Service for the summer and acted as Assistant District Agriculturist at Berwyn. G. A. Ogston, Farm Foreman, carried on as Farm Manager as well as acting as livestock judge at a number of local fairs. J. H. Warne, Instructor in Poultry and Dairying, was inspector for the Poultry and Dairy Branches in the Peace River area. J. T. Lancaster, Instructor in Field Husbandry, returned to operate his farm at Bluesky. F. H. Klappstein, Metals Instructor, returned to operate his farm west of Fairview. Mr. and Mrs. D. O. Low resigned at the end of the school year as Instructor in Science and Home Nursing respectively to take up residence in Edmonton. Miss O. M. Gerrard, Instructress in Foods and Miss E. M. Sanford, Instructress in Sewing, resigned at the end of the term to take a position in Montreal and return to the University of Alberta respectively.

For the period April 15th to June 30th, V. W. Osbaldeston assisted by F. H. Klappstein, taught shop options to intermediate and high school students from the Fairview School Division. For the same period, Miss O. M. Gerrard and Miss E. M. Sanford taught home economic options to girls from the Fairview School Division. For the spring term sixty-eight boys and sixty-two girls were accommodated. The same arrangement prevailed from September 1st to October 15th, with V. W. Osbaldeston, F. H. Klappstein, Miss H. M. Smith, and Mrs. R. M. Gratz carrying out instructional duties. For the fall term one hundred and six boys and one hundred and sixteen girls were enrolled.

Buildings and Grounds

Extensive changes were made in the Farm Mechanics building by the installation of a mezzanine floor thirty feet wide on the east wall. This reduced the size of the Farm Machinery Laboratory by twenty feet. The remaining ten feet resulted from extending the floor over storage rooms below. The new addition contains a Farm Motors Laboratory, three tractor repair stalls, an instructor's office, a large classroom, storerooms for resale lumber and teaching supplies and a large paint shop. The latter is used in connection with the Farm Buildings Laboratory and has ample storage space for unfinished carpentry projects. All construction was done by members of the regular maintenance staff under the direction of W. R. Knight.

Individual study lamps were installed in most of the dormitory rooms. Additional insulation material was added along the outside of the ceiling in the top story of the dormitory building. This was done to reduce excessive condensation in very cold weather.

A 300-gallon outside gasoline storage tank was purchased for use on the farm. This provides safe and economical tractor fuel storage. An exaporation basin 400 feet long by 40 feet wide was dug southeast of the hog barn. This confines run-off water from the storm sewer line which empties into it, preventing erosion and flooding of hay or pasture land. Some gravel was spread on all roads and this program will be continued until all roads on the grounds are up to standard. Cement walks were laid to serve four staff houses as well as a walk around the mechanics building on the south and east to join with the walk leading to the Livestock Pavilion. A concrete runway was laid from the kitchen door to the nearby root

cellar so that a hand cart could be used to bring in vegetables rather than the school truck which had been used previously. Two school signs were built here and erected at the south-west and north-east of the grounds along the highway in accordance with Highway Traffic Control Board regulations.

Much remains to be done on the school grounds but lawns, trees and shrubs have made excellent growth with very minor exceptions. To provide for three year rotation, the dormitory garden area has been increased by one-third. Field shelterbelt planting was completed around the farm property in 1955. Extensive back-sloping on the east and north property line ditches (along the highway) was completed at the same time. In spite of a very dry period in June, all bedding plants made a surprisingly good showing.

The School Farm

A severe drought in the North Peace resulted in very low yields of hay and greenfeed in 1955. About 30 tons of good quality mixed hay was harvested from about 70 acres and 30 acres of oats yielded about 30 tons of silage. A smaller bunker type silo was constructed on a trial basis. The silage made is of very good quality and is proving to be excellent feed for the dairy cows.

Pastures were quite short throughout the season which made some extra feeding necessary in the late summer and fall. It has not been possible to grow sufficient hay and at the same time provide pasture for the numbers of stock we are carrying. About 90 tons of hay and greenfeed were purchased. Another 35 acres were seeded down to an alfalfa-brome-fescue mixture. With the seeding of one more field in 1956 all of the land will have been down to grass. The first field which was seeded down in 1950 was broken up this year. It will be seeded to greenfeed in 1956. We hope to use fertilizer on both the hay and greefeed crops in 1956. No grain is threshed as it is readily available from local farmers.

The Aberdeen Angus cattle came through the summer well in spite of short pasture. The herd is made up of 15 cows and their calves and the herd sire. Two 1954 heifers were retained as replacements and five were sold in the fall.

Holstein breeding stock has not yet been offered for sale but herd replacements are now well assured. One cow was purchased in September. Ten heifers between one and two years of age are now being bred. Frozen semen from the Lacombe Breeding Centre is being used. There are twelve producing cows in the herd but about half of these will be disposed of as soon as replacements come into production. Total milk production was 11,600 gallons for the year, an increase of about 2,000 gallons over the previous year. Approximately 2,800 gallons was sold to the dormitory and the balance sold or fed to stock.

Demand for swine breeding stock continues good. Thirteen young boars and the same number of gilts were sold to farmers in the area. The remaining surplus is slaughtered for dormitory use or shipped to market. Eight litters farrowed and 70 pigs were weaned. A boar, purchased at the Saskatoon Advanced Registry sale, was received in November.

The practice of purchasing ready to lay pullets from the Provincial Poultry Plant was continued. In September 250 New Hampshire pullets were received. The old laying flock was fatten-

ed and killed for use in the dormitory. Egg production for the year was 2,908 dozen, about twice that of the previous year.

Two purebred Percheron horses were obtained from the Olds School in 1951. Since very little use was being made of this team, they were sold in November. There are now no horses on the School farm.

Total farm sales for the year amounted to $9,570.44. Returns from sale of milk and cream were $3,744.73, of hogs $2,307.44, of cattle $1,613.12 and of eggs $989.88. The balance was made up of incidental small items such as poultry, lambs, horses, etc.

The 1955-56 Term

The fifth year of operation of the school indicated that prognostications of the previous year simply were not valid. At that time shortage of available funds due to adverse agricultural conditions was cited as probably the deciding factor in accounting for a reduced enrolment of boys. This year, in spite of no very great improvement in the general economic position of the farmers in this area, the enrolment of boys in the first year class rose from 12 to 22. For the first time since the school opened there was a reduction in total enrolment for girls (15 as compared with 21). Five boys were in attendance from the British Columbia Block.

A mailing list is being compiled in an effort to contact directly the prospective students of the area.

Student registration took place on October 18th and was almost complete by October 22nd. Enrolment by classes was as follows:

	Agriculture	Home Economics	Total
First Year	22	6	28
Second Year	7	8	15
Two-in-One	8	1	9
	37	15	52

All fully eligible applicants were accepted.

As is to be expected, the quality of students enroling varies considerably from year to year. Not only is the enrolment of first year boys almost double that of 1954 but the academic background of this year's applicants is particularly good. This should be reflected in a higher than average number of them enroling in the second year of the course.

Instruction and administration staff was as follows:

J. E. Hawker—Principal, Instructor in Community Organization and Public Speaking.
D. R. Macpherson—Farm Manager, Instructor in Animal Husbandry.
B. J. Godwin—Dean of Men, Instructor in Horticulture, Botany and Physical Education.
V. W. Osbaldeston—Instructor in Farm Motors and Farm Machinery.
W. R. Knight—Chief Caretaker and Instructor in Farm Buildings.
R. M. Gratz—Instructor in Science.
H. F. Irwin—Instructor in English, Mathematics, Entomology and Beekeeping, and Economics and Co-operation.
J. T. Lancaster—Instructor in Field Husbandry and Farm Management.
J. H. Warne—Instructor in Dairying and Poultry.
G. A. Ogston—Farm Foreman and Assistant Instructor in Animal Husbandry.
F. H. Klappstein—Instructor in Metalwork and Utility man.
Miss H. M. Smith—Dean of Women, Instructress in Sewing, Textiles, Laundering and Employment Training.
Miss G. A. Gillander—Foods Supervisor for the Dormitory.
Mrs. R. M. Gratz—Instructress in Cooking and Nutrition.
Miss F. Falkous—School Nurse and Instructress in Home Nursing and Handicrafts.
Miss D. M. Hoel—Secretary and Instructress in Typing.
D. G. Norris—Accountant.
Mrs. W. Bartlett—Librarian.
Miss M. G. Tingstad—Stenographer.

Report of the 4-H Clubs Branch

G. S. BLACK, Supervisor, 4-H Clubs
C. L. Usher, Assistant Supervisor, 4-H Clubs
Priscilla Mewha, Assistant Supervisor, 4-H Clubs
R. H. Cooper, Regional Supervisor, 4-H Clubs
Dorothy Olsen, Junior Supervisor, 4-H Clubs

General

The past year has once more shown an increase in membership and in total number of clubs, although the rapid rise in members of the past few years appears to be tapering off somewhat. However, expansion of club activities continues with stress now being placed on leadership training and program planning as a means to having clubs draw up and carry out more effective programs to meet the present objectives of 4-H Club work.

The continued increase in membership made it necessary for the first time to have four Club Weeks during the summer. A total of 512 boys and girls between the ages of 15 and 21 years, each representing one 4-H Club, attended this event as guests of the Department of Agriculture and the various sponsoring organizations. The balanced program of work, sports and social activities is now arranged to bring out the best in leadership qualities. The sponsoring organizations, members of other branches of the Department of Agriculture and other individuals again co-operated wherever possible which helped make these weeks the success they were.

The Provincial Plot Competition was held for the seventh consecutive year. For the first time three judges were used rather than one which helped to alleviate the rush brought about by the ripening of the plots. Competition was particularly keen in the wheat clubs this year.

At National Club Week our teams upheld the reputation of this Province which has been built up over the years. Besides placing well in the National Competitions all members conducted themselves in the best manner possible, setting an example for the others. This brought considerable favorable comment. For the first time since 1944, the Alberta grain team took National honors. For the first time also since 1945, this Province sent a swine team. This replaced the poultry project in the Competitions. Grain Club members also made an excellent showing at the Royal Winter Fair. In Spring Wheat, Alberta 4-H'ers took 32 out of the first 35 awards as well as first in both Oats and Barley. At the Chicago International, Jerry Lieske of Carbon took the Wheat Championship and Grace Koshman of Abee the Oat Championship.

For the second time in three years an Alberta boy—Park Smiley Letts of Westlock—won the T. Eaton Agricultural Scholarship. The previous winner was Bruce McDonald of Mannville. Both boys have outstanding 4-H records. Bruce is presently taking Agriculture at the University of Alberta and Park intends to enroll next year.

A new high was reached in Beef Clubs—152 being active through the year. This was an increase of 20 clubs over 1954.

Dairy Clubs remained about constant but continued to be effective where organized. Swine and poultry remained minor projects but renewed interest in sheep saw three clubs being organized.

In staff, Mr. C. L. Usher continued to work hard as my Assistant as also did Mr. R. H. Cooper who was appointed Regional Supervisor, 4-H Clubs, working out of head office. Mr. Cooper did much work on new material. Mr. D. Stelfox, Reginal Supervisor located at Camrose, took leave of absence from the Department for one year starting July 1st, because of poor health. We regretted losing the services of this man.

ALBERTA'S 4-H CLUB DISTRIBUTION—1954-1955

Project	1955 No. of Clubs	1955 Members	1954 No. of Clubs	1954 Members
Beef Feeding	152	2,681	130	2,364
Beef Breeding	1	12	2	32
Dairy	28	481	27	434
Poultry	6	79	7	121
Sheep	3	64	2	24
Swine	6	92	5	70
Wheat	80	1,245	76	1,294
Oats	40	637	30	439
Barley	31	490	46	731
Forage	2	24	6	96
Potato	4	50	2	30
TOTAL	353	5,855	333	5,635
Increase (Farm Projects)			20 Clubs,	220 Members
Clothing	95	1,321	88	1,123
Gardening	69	793	71	804
Foods	27	338	32	414
Home Decorating	2	25	2	28
Etiquette	.....	.....	1	13
TOTAL	193	2,477	194	2,382
Increase (Home Projects)			..... Clubs,	95 Members
Total (All Projects)			546 Clubs,	8,332 Members
Increase (All projects)			19 Clubs,	315 Members

In Agricultural Projects

Total Number of Districts	41
Average Number of 4-H Clubs per district	8.6
Average Number of 4-H Members per district	131
Average Project Membership per district	143

Leaders' Courses

Two Provincial Leaders' Courses were held at the Olds School of Agriculture. One in April for grain and poultry Club Leaders and one in October for winter livestock projects. 31 Leaders attended the spring course and 16 the fall course. Project work was the theme of these courses.

Sixteen Regional Leaders' One Day Short Courses were held in conjunction with the Home Economics projects at various points throughout the Province. These were attended by over 1,100 leaders, assistant leaders and executive members. Leadership problems and program planning were stressed. The effect of this instruction is definitely noticeable in more and better planned club programs.

4-H Club Weeks

These were organized by headquarters staff and carried on during the month of July at the Schools of Agriculture. Four courses were necessary this year, the fourth being held at Olds. A total of 21 Wheat Board Surplus Monies Trust Fund Scholarships each valued at $75.00 were awarded at these weeks. These were as follows:

Fairview:		
Home Economics		Janet Fredrickson, Berwyn
Livestock		David T. Spurr, Notikewin
Grain		Alvin Fowler, Deadwood
Vermilion:		
Home Economics	1.	Mabel Rosskopf, Darwell
	2.	Florence Mitchell, Czar
Livestock	1.	Russel Yurkiw, Radway
	2.	Stan Lopushanski, Cherhill
Grain	1.	Harold Kondro, Egremont
	2.	Melvin Burchett, Jarvie
Olds (First Week):		
Home Economics	1.	Eva Winthers, Huxley
	2.	Mary Smith, Markerville
Livestock	1.	Carl Wilson, Rosedale
	2.	Ralph Maier, Box 703, Taber
Grain	1.	Aarne Luoma, Trochu
	2.	David Church, Balzac
Olds (Second Week):		
Home Economics	1.	Sybil Groom, Ponoka
	2.	Vivian Fiyczak, Bluffton
Livestock	1.	Peter Brown, Tofield
	2.	Walter Haustein, Erskine
Grain	1.	Wm. McPhee, Penhold
	2.	Keith McDougall, Strome

International Trips

For the ninth consecutive year a 4-H exchange was carried on with the State of Montana. The Montana group of four members and a County Agent were guests of the Calgary Exhibition Board for one day of the Stampede and then took part in Club Week at Olds.

The following made up our delegation: D. L. Steed, District Agriculturist, Cardston; Mrs. Norma Gray, District Home Economist, Brooks; Miss Margaret Vrbicky, Patricia; Miss Edith McDonald, Darwell; Kenneth Ditzler, Clive; Victor Patrick, Wembly.

Provincial Judging Competitions

The method of selection of teams was changed this year allowing a District Agriculturist to select the best two members in a project in his district to go to Provincial Judging Competitions. In former years both members had to be from the same club. Very favorable comment was received on this new method of selection.

The selection of teams took place at the Olds School of Agriculture. Team members selected were not necessarily from the same club, nor district as had been the case previously. The following selections were made in the agricultural projects:

Grain—Dennis Lindberg, Bluffton
Bruce Gateman, Mossleigh

Beef —Doris Ferguson, Tofield
William Bulmer, Berwyn

Dairy—Betty Hurum, Holden
Robert Clark, Carstairs

Swine—Beatrice McCarthy, Irricana
James Kinniburgh, Airdrie

At the National Competitions held during Club Week in Toronto in November, these teams placed as follows:

Grain	First	Beef	Third
Swine	Third	Dairy	Sixth

Camps, Rallies and Short Courses

Camps were held in conjunction with the summer fairs at Edmonton, Lethbridge, Vegreville, Vermilion and Camrose. A camp

was also held at Elkwater Lake for 4-H'ers in the south east section of the Province.

One day rallies at Experimental Farms, the Schools of Agriculture, the University and other such locations were numerous and popular. These usually involved a number of clubs and were both educational and recreational. Winter rallies in halls also were held in some districts. At such gatherings the clubs themselves provided much of the program.

Thematic Displays and Floats

Interest again increased in the making of educational displays which depict good homemaking and farming practices. Grain clubs continued to be the most active in this because of the opportune time of exhibiting at Achievement Days. Many displays were also exhibited at the "B" Class Fairs while the Provincial Finals were judged at the Calgary and Edmonton Exhibitions. In the Inter-Provincial Competitions sponsored by the National Grain Company, the Alberta entry from the Balzac Club placed second.

Provincial Junior Seed Fair

This fair which is open to all farm boys and girls in Alberta was held for the twelfth consecutive year in conjunction with the Calgary Chamber of Commerce Short Course and Seed Fair in Calgary. In spite of adverse weather conditions the previous summer, exhibits were nearly at their usual high standard. A total of 132 entries were received in the Open Classes, while 372 entries were placed in the 4-H Inter-Club Classes.

Special thanks are due the Provincial Field Crops Branch, the Plant Products Division, Canada Department of Agriculture and the sponsoring organizations for their assistance with this fair.

Royal Winter Fair

Alberta 4-H'ers won most major awards in the 4-H grain classes. Besides this the Moose Mtn. Poultry Club entered dressed birds which placed second and fifth in their class and Jim Kinniburgh of the Airdrie Beef Club stood fifth with a steer he exhibited in the summer yearling class.

4-H Club Film

This film has been used to a greater extent than most others in the Agricultural Film Library this past year, with requests coming from as far away as Ontario. The demand for it still is not slackening with the result that it has been necessary to purchase another copy.

Radio

4-H Club activities are a popular topic on the various Agricultural grograms. Besides this C.B.X. has instituted a Saturday morning program for 4-H Clubs. Good use of this program has been made by this branch. The Department "Call of the Land" program has also been most useful in disseminating 4-H information

Alberta Club News

This continues to be the official organ of the 4-H Clubs in this Province. Copies are distributed to all members and sponsoring organizations. Through this paper it is possible for this branch

to send out much valuable information on a Provincial wide basis. The mailing for each copy is approximately 8,400.

AGRICULTURAL PROJECTS

Beef Calf Clubs

Most of the total increase in 4-H Clubs came in this project this past year there being an increase of 20 clubs. For the first time, the new first year project book was used and proved most satisfactory. Second and third year books are now being prepared so as to give a progressive means of study.

Large combined Achievement Days and sales were held throughout June. Local interest in these ran very high and sales were well supported by packer and local buyers.

Grateful acknowledgment is made of the assistance given by members of the Livestock Branch in carrying this project through.

Dairy Calf Clubs

This project continued on the even keel of the last few years. Calves were supplied again from the Edmonton Milk Shed under the Dairy Heifer Calf Policy; this work being ably handled by the Livestock Branch. A price of $32.50 was paid for calves. Animals sent out under this policy were very favorably received.

The Provincial 4-H Dairy Show saw entries from 15 clubs with 13 calves and 11 yearlings. Top calf award went to Stewart Geekie of Bearspaw and top yearling to Shirley Jackson of Bearspaw. Again this was one of the major attractions on the first day of the Red Deer Fair.

The Alberta Dairymen's Association again invited representatives from Dairy Clubs to their Convention. This award trip was much appreciated by the club members. The Association also assisted in defraying the cost of transporting livestock to the Provincial Show and paid showmanship awards to the top two members in each club.

The South Edmonton Kiwanis Trophy for the club with the highest general efficiency went to Bearspaw.

Swine Clubs

This continues to be a minor project but was popular where carried on. Some use was made of the A.R. scoring service provided by the Federal Department.

Crop Clubs

More seasonable weather made this project much more successful than in 1954. Hundreds of well kept plots were inspected in the fall by District Agriculturists. In the Provincial Plot Competition, winners were as follows:

Wheat—Dorothy Devereau, Three Hills
Oats —Stanley Lopushanski, Cherhill
Barley —Ken Ditzler, Joffre

The winners each received a silver tray from the Department of Agriculture and a wrist watch from the sponsoring organization.

The trend continued towards more joint Achievement Days in the fall involving from two to six clubs. These allow for inter-club competition and create more interest and enthusiasm among members and visitors alike.

HOME ECONOMICS PROJECTS

The Girls Club Program is again providing instruction in homemaking to a large number of girls in rural areas of Alberta. There were 193 clubs carrying projects in 1955 with a membership of 2,477.

Continued increasing interest has been shown in the club work and the standard of work by club members is improving greatly. More and more club leaders and their assistants have been former club members and many are graduates of one of the Schools of Agriculture. This year again, for the second time, a former 4-H club member and national winner was appointed as District Home Economist on the Women's Extension staff.

Projects

No new projects have been outlined this year as the 12 now in use seem satisfactory to date. Clothing projects are still the most popular with 95 clubs enrolled. This year there were 27 clubs taking food projects and 2 taking home decoration. There were 69 garden projects sponsored jointly by the Department of Agriculture and the Alberta Wheat Pool.

Besides the instruction available from project books, 434 lectures in home economics and club work were given by members of the Women's Extension staff and 222 by Miss Mewha, Miss Olsen and Miss MacFarlane. 185 achievement days were held, with 12,312 people attending. These single or joint achievement days were attended and judged by District Home Economists or headquarters staff.

The assistance given by Miss Lewis, Miss Crowther and Miss Moseson in project work was greatly appreciated.

Awards

All garden plots were judged by the District Home Economists with assistance from the District Agriculturists or Alberta Wheat Pool Fieldmen. The Alberta Wheat Pool awarded 68 prizes for the best garden plot in each club and presented 15 clubs with awards for obtaining the highest standing in each Home Economist's district. The latter award was in the form of a book to be added to each club library. A book on Gardening and Landscaping was presented this year.

The T. Eaton Company again presented pinking shears or sets of knives to a winner in each food, clothing and home decoration club. The selection for the award was based on the club member's record. 97 awards were made in clothing and home decoration clubs and 27 in foods.

The Alberta Wheat Pool Scholarships of $200.00 each to students in first, second and third year Home Economics at the University of Alberta were awarded to:

Joan Woloshyn, Derwent—First Year
Kathleen Gardiner, Millet—Third Year

No Home Economics student in the second year was qualified to apply for the scholarship.

Other Activities

A Garden Club Leaders' Course was held in April this year in conjunction with leaders from agricultural projects started at that

time. 54 garden club leaders were in attendance. Much of the time of this course was spent on project work. A Fall Leaders' Course for leaders in other than the above mentioned projects was held at Olds, with 54 Girls' Club Leaders in attendance. Main stress again was on project work.

16 leaders courses were held on a district or regional basis. These were held in conjunction with meetings of agricultural project leaders. The meetings were well attended and much evidence of improved program planning was noticed as a result of these.

Two club members, Betty Ziemmer of Blackfalds and Ellen Neilson of Alix, attended the Alberta Locker Association Convention and spoke on the work done on freezing in food and garden clubs.

Teams were sent to National Club Week in Toronto representing food, clothing and garden projects. They were:

Foods	Marie Johannson, Markerville Freda Rattell, Ohaton	Tied for second in National Competitions
Clothing	Shirley Johannson, Markerville Claire Gardiner, Millet	First in National Competitions
Gardening	Mary Smith, Markerville Barbara Thomas, Indus	Fifth in National Competitions

Many club events were held this year. 26 rallies, 58 tours and 20 field days and social events were scheduled. A number of 4-H members also attended the 6 fair camps where instruction was given by this staff and the District Home Economists. Two 4-H lake camps were also held. At all of these events instruction was given to assist in project work. Attendance was 562.

A 4-H Garden Club Display was exhibited at the Provincial Horticultural Show last summer.

Aims

Two of the big problems in Girls' Club Work are to maintain good leadership and to retain the older girls as active 4-H members.

Leaders' Courses on a Provincial, regional and district basis have helped to develop the leadership training.

For those members old enough and having enough experience, Junior Leadership was encouraged.

The aim of Girls' Club Work is to train girls to be better citizens, to encourage them to use up-to-date methods in homemaking and to interest them in improving their standards of work. Displays at achievement days, reports of District Home Economists, results in judging competitions, and the number of girls attending University indicates that, to some measure at least, these aims are being met.

Miss Dorothy R. Olsen, Junior Supervisor, has ably assisted with Girls' Club work this past year. Miss Mary Ellen MacFarlane of the Olds School of Agriculture also assisted in the girls' section of the 4-H program from May until October.

In addition to the above mentioned work, the following work was done by the Girls' Club Supervisor and her Assistant:

Meetings attended	21
Short Courses and Field Days	58
Conventions and Fairs	8
Camps	2
Radio Talks	9
Letters Written	2,027
Phone Calls	874
Home Visits	62
Leaflets and project books distributed	21,416

Report of the Radio and Information Branch

E. B. SWINDLEHURST, Supervisor

E. V. Hamula, Commentator
C. Scott Flewitt, Commentator-Writer
Miss J. L. Ross, Secretary-Writer

GENERAL

Press and radio provide useful channels of agricultural information and response to broadcasts and printed releases from the Radio and Information Branch has been encouraging. No effort is spared to give this material wide appeal. Members of the staff, while each responsible for particular tasks, recognize the value of co-ordination and appreciate the effectiveness in partnership of the written and spoken word. No little contribution to the success of the various activities has been the assistance of the large circle of friends, within and without the Department, who have given so freely of their time and experience.

With the promotion of E. R. McCrimmon in September to the position of Executive Assistant to the Deputy Minister, E. B. Swindlehurst became supervisor and E. V. Hamula took over the responsibilities of "Call of the Land" commentator. Following appointment of S. B. Wilton to the staff of the School of Agriculture and Home Economics at Olds, C. Scott Flewitt became commentator-writer. Miss J. L. Ross was appointed secretary-writer last March, when Miss Sears resigned to be married.

Radio Productions

"Call of the Land" was broadcast 260 times during the year. The program, 10 minutes in duration, is now being carried over seven radio stations in Alberta. CFCW, Camrose was added to the list of stations carrying the Monday to Friday feature on April 4th of this year. The stations carrying "Call of the Land", and times of broadcasting are as follows:

CFGP, Grande Prairie	12:00 noon	CKRD, Red Deer	12:45 p.m.
CFCW, Camrose	12:05 p.m.	CFCN, Calgary	1:00 p.m.
CFRN, Edmonton	12:15 p.m.	CHAT, Medicine Hat	1:05 p.m.
CKUA, Edmonton	12:30 p.m.		

Every effort is being made to make the program available to as many rural radio homes as is possible. The addition of another Radio Station to the roster, and the use of the best noon hour time available brings the program closer to this objective.

The purchase of additional recording equipment in July has made it possible to record, dub and distribute the program in its entirety, directly from the offices of the Radio and Information Branch in the Terrace Building. This practice was commenced on August 3rd. Prior to that time, CKUA, Edmonton recorded and handled distribution of the Program. This change has lowered the costs of production.

Listener Appeal

According to authentic national radio listener surveys, "Call of the Land" enjoys a good program rating. The Bureau of Broadcast Measurement, the only official radio listener survey company used in Alberta, shows that the combined day time circulation of the Radio stations carrying the broadcast is in the neighborhood of 311,000 radio listeners. Recent results of another survey, which rates the actual programs, gives "Call of the Land" ratings of from 8 to 41%. This represents the percentage of radio listeners who hear the program daily. The lower percentage ratings occur in the strictly urban centres while the higher ratings are for the rural areas. From these ratings it is estimated that the program is heard in about 35,000 homes daily. The actual number of "farm home" listeners is difficult to ascertain. However, indications of increasing rural popularity are indicated by the increasing number of letters received by various officials interviewed.

In a recent extensive survey carried out in the U.S.A. by a large national Broadcasting Company, it was indicated that only 0.1% of persons listening to an information type of broadcast take time to make inquiries or comments to the broadcast by letter. These facts indicate that "Call of the Land" has good listener appeal, considering that it is an information type of program directed mainly to rural listeners.

Programming

In gathering material, constant surveillance was kept on matters pertaining to farming in Alberta. Every effort was made to cover as many districts in the province as was possible. In addition matters of national and International scope were aired whenever they contained local appeal.

To maintain a wide variety in programming six methods of material presentation were used. The following table gives a breakdown of the type of programming and the usage of each as accurately as was possible to ascertain:

Type of Programming	No. of Programs
The personality interview	159
News item broadcasting	52
Announcements of coming events	27
On-the-spot recording of proceedings	11
Commentaries (by Commentator or guest)	9
Musical (On special days only—e.g. Christmas)	2
TOTAL	260

The next table shows the nature of the material used in programming during the year.

Nature of Material	No. of Programs
Field crops (including weeds, pest control horticulture, etc.)	58
Livestock and veterinary science	45
4-H Clubs	15
Dairy	14
Farm Mechanics	10
Poultry	9
Schools of Agriculture	7
Fur farming	5
Beekeeping	3
Miscellaneous (topics other than those above and programs carrying several topics)	94
TOTAL	260

During the year several special series of programs were aired.

Six daily programs originating from the Toronto Royal Winter Fair were broadcast. These were prepared by E. R. McCrimmon, Executive Assistant to the Deputy Minister, and contained on-the-spot interviews and news, which were presented the following day to Alberta listeners. The "Royal" series was the first of its type attempted by this Branch. Many complimentary remarks were received on the coverage.

Four programs entitled "Review of Alberta Agriculture" featuring Dr. O. S. Longman were aired in September. Seven special programs on Forest protection produced in co-operation with the Department of Lands and Forests were carried in the Spring.

Special coverage was given the Western Stock Grower's convention, the Calgary Stampede, and the Edmonton Exhibition, as well as local station coverage of various agricultural fairs and 4-H Achievement Days.

During the year, five programs featured interviews with visitors from Scotland, Denmark, India, and Montana. Special programs were carried on special holidays. As of December 31st, 1955, this Branch has produced 718 continuous daily farm programs.

Interviews

The Interview technique was used from the following sources:

Source of Interview	No. of Appearances
Alberta Department of Agriculture	82
Canada Department of Agriculture	8
University of Alberta	12
Farm people (including 4-H members)	38
Others	19
TOTAL	159

Science and the Land

Again during the year, "Science and the Land" was well received. This release, prepared from information obtained in co-operation with the various research centres in Alberta, is distributed weekly to press and radio and to interested workers in many fields.

Visited were the Faculty of Agriculture, University of Alberta, the Science Service Laboratories at Lethbridge and Edmonton, and the Experimental Farms at Beaverlodge, Lacombe, Lethbridge, Vauxhall, and Manyberries. In every case, the utmost in co-operation was provided and every assistance was given in making available reports and information relative to the work in progress. Results of completed experiments and progress in others have been reported, and in some cases, brief reviews of projects recently initiated have made interesting reading.

A wide field was covered in the 76 releases distributed, with the subject matter ranging through the many sections of soil, plant, animal, insect, and disease studies associated with agriculture. The aim at all times has been to provide a useful and attractive medium for research information and to assist in the close association of research, extension and sound farm practice.

Farm Notes

"Farm Notes", a weekly publication prepared by the secretary-writer, is composed of short news items in all phases of Agriculture and Home Economics. 1955 saw 52 issues with a total of 223

items mailed to a maling list of 621, including headquarters and field staff; federal, foreign and provincial governments; the weekly, daily and farm press; radio and television; libraries; commercial companies and University personnel.

Wide use is made of these items and an indication of the attention they receive is the flood of inquiries from time to time for specific bulletins mentioned.

As an extra service to the press and radio, special releases were mailed over and above "Farm Notes"; Provincial Horticultural Show prize list in June; farm labour release in July; 4-H eliminations at Olds in August; early advertising for Field Crops for the Royal Winter Fair and the International Hay and Grain Show in September. In addition, 4 mailings were made in connection with the Royal Winter Fair in November (list of entries in all classes followed by results as they arrived in this office).

Report of the Horticultural Station

Brooks, Alberta

P. D. HARGRAVE, Superintendent

GENERAL

Progress was made in improving the new station by continuing the program of land levelling, the building of irrigation structures, and by additions to shelter belts. The area surrounding the main buildings received special attention during the year.

Soil management is still presenting some problems. Badly over-watered sections of the farm, improving fertility of levelled areas, and weeds have meant extra work, and in some instances unsatisfactory plant growth.

The drainage system developed a year ago was satisfactory. Some elevation changes are necessary in small areas.

The potato program is changing due to increased emphasis on breeding and selection work, with a view to obtaining better adapted main and early crop varieties. Small fruits are receiving more attention.

The staff assisted in staging the Provincial Horticultural Show. A department exhibit, of flowers and fruit, was the central theme for the Jubilee event.

Improvements, either completed or underway, include additional irrigation culvert and gate installations; an 8,400 sq. ft. addition to the lath house for tree seedling production; a 4-stall garage; and material for approximately 2 miles of page-wire fence. Light and power facilities were installed in the implement shed; a fume cabinet was obtained for installation in the laboratory, and pictures were provided for the main office as well as the dining room and lounge room of the staff house.

New equipment included an Allis Chalmer C.A. tractor with rear-mounted cultivator; a Farmhand manure spreader; a John Deere 9-ft swather; a harrow-tooth weeder, and a set of new drag harrows.

Smaller items of new equipment included additional small hand tools for maintenance work; two portable grease gun outfits; replacement and new ladders for seed and fruit picking; a large supply of clay pots to facilitate potato breeding and selection work; an initial supply of laboratory chemicals; some microscope equipment.

Crops and Acreages

A. The following table gives the acreage and kind of crops grown:

Potatoes—breeding, certification and fertilizer and varietal traits	7 acres
Tree seed production block	4 acres
Tree fruits (controlled crosses and varieties)	13 acres
Demonstration orchard	3 acres
New shelter belts	6 acres
Established tree stocks	143 acres
Crops other than horticulture—alfalfa, oats, barley, sweet clover	136 acres
Vegetable test plots	5 acres
Corn, sweet and pop corn	5 acres

Labour

The following table in per cent, shows the distribution of labour on station projects:

Propagation of trees, shrubs and fruits	28%
Vegetables and potatoes	18%
Orchards	11%
Greenhouses	8%
Ornamentals and shelter belts	10%
Other Crops	15%
Maintenance	6%
Assembling and distribution of trees	4%

Extension

The Staff at the Station assisted at 51 meetings of various groups. Assistance in judging was given at 6 horticultural shows or fairs, including the Province's first Provincial Horticultural Show held in Calgary. Fifteen Short Course meetings in landscaping were held during the year at Brooks, Arrowwood, and Medicine Hat. Two large groups made use of the Station for meeting.

Four farmstead planning meetings were held in new irrigation districts, including two general instruction meetings and two follow-up personal appointment meetings for the districts involved. Landscape plans were prepared for twenty farms.

An increase of 17% in volume of correspondence was handled by the stenographic staff.

Climatic and Growing Season Summary

The winter was open with little snow remaining on the ground for any length of time. No extremely low or high temperatures were registered during the year. Though spring was early all crops were delayed by cool weather until July, when relatively warm weather prevailed until September 10th. Considerable irrigation of crops was necessary during the rather dry summer. A few garden crops were injured slightly by aphid attacks due to favourable summer weather for rapid population increases. A summary of meteorological conditions appears in the following table:

Month	Temp. Max.	Temp. Min.	Mean Temp. Max.	Mean Temp. Min.	Mean Temp.	Precipitation in inches	Hours of Sunshine
January	41	—13	24.4	2.5	13.5	0.49	107.6
February	43	—29	20.8	—0.6	10.1	0.67	105.1
March	60	—21	26.7	7.2	17.0	0.38	165.9
April	71	17	50.9	29.1	40.0	0.82	181.2
May	80	25	59.4	36.7	48.0	2.72	232.9
June	85	34	73.5	45.1	59.3	0.13	266.8
July	96	41	78.5	52.6	65.5	1.24	313.7
August	92	39	79.8	46.9	63.4	0.89	379.5
September	93	20	63.3	37.1	50.2	1.30	203.4
October	78	16	58.0	30.7	44.4	0.55	173.5
November	60	—20	19.5	—1.8	8.9	0.26	105.9
December	42	—28	13.1	—5.8	3.7	0.29	73.4
Average	70.1	6.8	47.3	23.3	35.3	.....	.....
Totals	.....	.....	.....	.....	.....	9.74	2,408.9

Length of growing season—115 days
Last killing spring frost—May 17th
First killing fall frost—September 10th

Propagation and Distribution of Trees and Shrubs

There were 1,028 applicants for trees and shrubs, an increase of 20% over last year. Shipping of rooted trees and shrubs began on April 18th and was completed on May 9th. Poplar and willow cuttings were distributed until May 29th, the total number of each kind being 5,350 and 35,500 respectively. Twenty-one hundred

fruit trees were sent to 106 applicants. Eighty bundles of No. 1 group trees and 81 bundles of No. 2 group trees for roadside planting were shipped. In the Spring 26 lots of scion wood and in the Summer 15 lots of budwood were supplied.

In the distribution of fruit trees, 6 demonstration orchards were started. Three test orchards and 25 farm orchards were established; additional trees were sent out to enlarge and fill in vacancies in orchards previously set out. Total number of trees shipped was 161,532 an increase of 40% over 1954.

Seeding of trees and shrubs was started in the frames on April 18th and in the field on May 24th. The setting of poplar and willow cuttings in the field was begun on June 9th. By this time the soil was drying rapidly, owing to hot winds, and irrigation was necessary immediately after planting. In the seed frames, irrigation was begun on May 3rd and continued intermittently until September 14th. The small sprinkler system, recently purchased proved very efficient for the type of watering, being in use for 215 hours during the season.

The procuring of seed is still a problem, and will be until such time as our seed blocks begin to bear. Very few varieties suitable for this climate are listed in seed catalogues. Two members of the staff made a trip to Morden, Manitoba and Sutherland, Saskatchewan to collect seed. About $350.00 worth of suitable seeds were collected. Seed of lilac, hawthorn, rose, cranberry, and prunus varieties were gathered.

Most of the seeds planted at the Station are stratified and a number of varieties are chemically treated to ensure good germination. Further tests of seed treatments are being carried on, and satisfactory progress is being made. A total of 660 lbs. of seed was planted. Eighty per cent was seeded in the lath house, the remainder in nursery rows.

Fruit tree budding began on July 28th and was completed by August 9th. This was two weeks earlier than last year and was possible because of early bud development. Thirty-five hundred plums and 4,000 apples were budded.

Fall digging of field grown trees and shrubs for spring delivery started on October 18th and finished on October 28th. Winter set in two days later and no digging could be done in the lath house for spring transplanting.

Trees and Small Fruits

The cultural test orchard, with some further planting and replacement of damaged trees is now nearly completed. 268 grafted apples were added to the variety orchard, including 148 trees transplanted from the old Station and 120 received from the Canada Experiment Station, Morden. The fruit tree seedling orchard was increased by 2,000 young trees—all of controlled cross parentage—received from the Morden Experimental Station. A new plum orchard was laid out with selected varieties, which included 40 trees from the old Station and 42 trees from our own budded stock.

Another plum orchard of 118 trees was established at the old farm from grafted trees received from the Morden Experimental Station. These trees were placed in an isolated planting to prevent

the possibility of transferring a virus-like disease now prevalent at the Morden Station. For the same reason, 96 plum seedlings—all of controlled cross-parentage received from Morden—have also been planted at the old Station. In addition, a demonstration variety orchard of plums and apples was established at the old Station. This planting includes 20 apples and crabapples and 18 plum and cherry plum varieties.

The new raspberry variety plots have been expanded to include 27 varieties, planted in an experimental design which will permit yield comparisons between varieties. Thirteen different varieties of strawberries were transplanted, for tests on yield, hardiness, and quality. Twelve varieties of currants and gooseberries were added to the previous planting. Four hundred young rhubarb seedlings were planted out for future selection work as well as 1,924 raspberry seedlings including 112 crosses. From the seedlings it is hoped that varieties better adapted to Southern Alberta climatic conditions will be selected.

Vegetables

Seed for foundation purposes was harvested from 6 kinds of vegetables; 3 tomato varieties, 1 radish, 1 pickling cucumber, 1 pumpkin, 4 corn and 1 cabbage variety. Foundation vegetable plots remained relatively free from disease throughout the summer.

60 lines were selected from 91 tomato crosses for further trial. Of the 60 lines, 21 were selected for recombining in further crosses.

Forty-one inbred lines of evergreen cabbage were grown, and 24 lines were selected at harvest-time on the basis of uniformity, color and compactness of head. One of the 24 lines selected looks promising as a baby-head type of cabbage.

The vegetable program was made up of the following vegetables; 40 sweet corn; 63 field corn; 4 ornamental corn; 52 tomato; 9 Prairie Vegetable Trial tomato; 27 green bean; 7 wax bean; 9 broad bean; 13 pole bean; 8 lima bean; 2 soy bean; 4 horticultural bean; and 113 other vegetable varieties. These vegetables were assessed chiefly for adaptability earliness and yielding ability under irrigation conditions. 84 varieties were grown in order to assess their suitability for freezing. Of the 40 varieties of sweet corn the following seemed the most promising in earliness of maturity and yielding ability:

SWEET CORN

Variety	Source	Date 10% Ready for use	No. Ears/ plant	Length of Ear	Rows/ Ear	Weight of 25 marketable Ears
Early Hyb. 0144	Woodruff	3/9	2	9"	14	16¼ lb.
Golden Earlipak	Rogers	6/9	2	8-9	12	15
F. M. Cross	Ferry Morse	8/9	2	8-9	16	15
Golden Beauty Hyb.	McKenzie	31/8	2	8	8	14
Marcross	Rogers	4/9	2	8½	12	13½
Golden Hyb. G101	Rogers	6/9	2	8	12	13½
Golden Jewel Hyb.	McKenzie	31/8	2	7-8	12	13½
Foremost EEI	Ferry Morse	22/8	2	8-9	11	12½
Hybrid 78817	Ferry Morse	7/9	2	8	14	12½
Hybrid 68822	Ferry Morse	6/9	2	8-9	12	12½
Imp. Carmelcross	Ferry Morse	7/9	2	8	12	12½
Hybrid 50A	Ferry Morse	7/9	2	8	12-14	12
Seneca Dawn	Robson	31/8	2	9	11-14	12

Out of the 52 tomato varieties assessed, 13 appeared promising. Early Dwarf, from the University of Maine, and N.D.A.C. No. 38 (McFayden) topped all other varieties in yield; early Dwarf was classed with the earliest in maturity.

Other vegetables which performed very well in 1955 include:

Beet—Kingred, Redhard
Carrot—Garden Gem, Nantes, Coreless
Rutabaga—Wilhemsburger, Dittmars
Winter Radish—Long Black Spanish
Spinach—Amaranthus hybridus (Indonesia)
Sweet Pepper—Earliest Red Sweet, Penn Wonder, Windsor Sweet Salad
Hot Pepper—Red Hot, Portugal
Eggplant—Early Black Oval, New York
Leek—Musselburgh, Giant Carentan
Kale—Blue-Curled Scotch, Tall Scotch Curled Victoria
Cauliflower—Feltham Forcing, Forcing Wonder, Mont Blanc, Snowball M.
Green Cabbage—Morden Dwarf, Sweet Midseason, Express Earliest
Red Cabbage—Danish Stonehead, Mammoth Red Rock

Potatoes

Adverse fall harvesting weather and a heavy frost prior to digging time in 1954 resulted in severe storage losses in potato seed and other stocks during the winter of 1954-55. Viability of seed stocks was reduced and this effect was further accentuated by cold weather after planting time. Plant stands were poor. The fertilizer and variety trial plots could not be properly evaluated as a consequence. These plots were therefore, harvested only as commercial seed stock. The tuber index plots performed very well and were harvested in good condition.

The potato breeding and selection program was continued with good progress being made. From 1953 seedlings, from which 48 initial selections were made in the fall of 1954, 18 were retained for further evaluation in 1956. Of 5,900 potato seedlings grown in the greenhouse in 1954, and field planted in 1955, 98 initial selection have been retained for further study. As in 1954, one greenhouse was devoted to the production of potato seedlings during the early fall and winter, and 6,768 plants were grown to maturity. Tubers from these plants will be planted in 1956 when initial selection of promising seedlings will be made.

Twenty-three seed potato samples, involving 1,737 tubers were tuber indexed for 10 growers during the late winter and early spring months. This work was done with the supervision and co-operation of the Dominion Plant Pathology, Canada Department of Agriculture Laboratory Division of Plant Pathology, University of Alberta; and the Crop Protection Service, Canada Department of Agriculture.

Potato harvest conditions were generally good, and potatoes in storage are in good condition.

Perennials

The iris and chrysanthemum seedlings suffered severe winter-killing and consequently only the hardier seedling chrysanthemums remain for further selection. Thirty perennial varieties and 700 new chrysanthemum seedlings were planted. Seed was harvested from a number of Larkspur varieties and planted in the greenhouse. Resulting seedlings will undergo selection for desirable new types.

Frozen Foods

Vegetables—A total of 162 vegetable samples including 84 new vegetable varieties, were processed for freezer testing which is double the number of samples processed in 1954. Kinds tested were: broad, green wax, pole, horticultural, and lima beans; beet tops for greens; broccoli; carrots, cauliflower; sweet corn (cob and

kernel); kale; kohlrabi; peppers; spinach; summer turnip and turnip tops for greens.

Fruits—Nine samples of rhubarb and seven of strawberries were processed for freezer testing.

Wrapping Materials—A report was prepared based on results of 2 year's tests conducted with 21 types of wrapping materials for meat in freezer storage. This report has been made available to interested firms and locker plant operators. Two year's data has been secured and a report will be prepared early in 1956 on 42 additional types of wrapping materials. One year's data has also been secured with respect to 19 additional types of wraps which either have or will soon be available on the market.

Report of the Board of Trustees

of the Surplus Wheat Board received by the Government of the Province of Alberta from 1916-1919 Canadian Wheat Board

HONOURABLE L. C. HALMRAST, Chairman

R. M. Putnam, Deputy Minister, Department of Agriculture
H. W. Gaebel, Secretary, Department of Agriculture
Richard Ballhorn, Farmer, Wetaskiwin
Arthur Pierson, Vice-President and Treasurer of the Independent Grain Company, Calgary

---

Receipts for the year totalled $3,202.58 all of which was in payment of interest on investments.

Payments for the year ending December 31, 1955 amounted to $2,380.00 and were made up as follows:

Scholarships awarded	$2,350.00
Board Expenses	30.00

A statement of receipts and expenditures, along with a statement of assests and liabilities is attached hereto.

Investments

During December, 1955 the Board invested the sum of $4,000.00 in Province of Newfoundland, 3¾% Debentures, payment for which was not made until January, 1956.

Investments as shown on the attached balance sheet consist of:

(1) Province of New Brunswick	3½%	debentures	$45,000.00
(2) Province of British Columbia	3 %	debentures	45,000.00
(3) City of Calgary	3½%	debentures	4,000.00
(4) Government of Canada	3¾%	debentures	2,500.00
			$96,500.00

Meetings

A meeting of the members of the Board was held on July 19th, 1955, and scholarships totalling $2,700.00 were made available, an increase of $225.00 above those awarded during the year 1954.

General

Scholarships totalling 350 in number and valued at $28,441.36 have been awarded and paid since the Board instituted the policy of providing Scholarships.

The Board has continued the policy of conserving the principal remaining in the Trust Fund, making all expenditures from the income received from investments.

LIST OF SCHOLARSHIP WINNERS NAMED DURING 1955

Junior Club Winners

Aaroni Luoma, Trochu
William McPhee, Penhold
Harold Kondro, Egremont
Carl Wilson, Rosedale
Peter Brown, Tofield
Russell Yurkiw, Radway
Eva Winthers, Huxley
Mabel Rosskopf, Darwell
Alvin Fowler, Deadwood
Janet Frederickson, Berwyn
Vivian Fuyczak, Bluffton
David Church, Balzac
Keith McDougall, Strome
Melvin Burchett, Jarvice
Ralph Maier, Taber
Walter Haustein, Erskine
Stanley Lopushanski, Cherhill
Mary Smith, Markerville
Florence Mitchell, Czar
David T. Spur, Notikewin
Sybil Groom, Ponoka

University of Alberta Young People's Week Winners

Ray Mundell, Okotoks — Ardis Mathison, Dewberry

Women's Institute Girls' Club Winner

Joyce Featherstone, Wabamun

To University of Alberta from Agricultural Schools Winners

Charles Laisnez, Big Valley — Gailene Pratt, High Prairie
Calvin Ross, Forestburg

Winners of Open Scholarships for any young person to attend a School of Agriculture

Shelia Burt, Craigmyle — Victor Aarbo, Elk Point
Allan Warrack, Langdon — Francis B. Everett, Wainwright
Robert Allan Russell, Drumheller — Dennis Voth, Grande Prairie
Hazel Barr, Vermilion — Rudolph Hauch, Freedom

Schedule of Scholarships approved at the Meeting of the Board Held on Friday, July 19th, 1955

6 scholarships @ $75.00	First Club Week Olds	$ 450.00
6 scholarships @ $75.00	Second Club Week Olds	450.00
6 scholarships @ $75.00	Club Week Vermilion	450.00
3 scholarships @ $75.00	Club Week Fairview	225.00
From Schools of Agriculture to University of Alberta in Agriculture or Home Economics 3 scholarships @ $100.00		300.00
To any young person to attend a School of Agriculture 8 scholarships @ $75.00		600.00
To School of Agriculture from Women's Institute Girls' Club Week at Olds, 1 scholarship @ $75.00		75.00
To Schools of Agriculture from Young Peoples Farm Week at University of Alberta, one boy and one girl, 2 @ $75.00		150.00
		$2,700.00

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
Balance Sheet as at December 31, 1955
ASSETS

Investments:	Par Value	Book Value
Government of Canada 3¾% due January 15, 1978	$ 2,500.00	$ 2,523.20
Province of British Columbia 3% due December 15, 1969	45,000.00	44,676.94
Province of New Brunswick 3½% due April 1, 1967	45,000.00	44,847.82
City of Calgary 3½% due July 1, 1968	4,000.00	3,993.12
		$ 96,041.08
Cash in Bank		5,779.65
Accrued Interest		575.11
		$102,395.84

LIABILITIES

Trust Fund December 31, 1954	$101,536.14
Add: Surplus for year 1955	859.70
	$102,395.84

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
Statement of Receipts and Payments for the Year Ended December 31, 1955

Bank Balance December 31, 1954		$ 4,957.07
Interest on: $ 2,500 Government of Canada debentures	$ 93.74	
45,000 Prov. of British Columbia debentures	1,350.00	
45,000 Prov. of New Brunswick debentures	1,575.00	
4,000 City of Calgary debentures	140.00	
Bank Balances	43.84	
		3,202.58
		$ 8,159.65
Deduct Payments:		
University of Alberta Scholarships	$ 100.00	
Olds School and Farm Scholarships	900.00	
Vermilion School and Farm Scholarships	975.00	
Fairview School and Farm Scholarships	375.00	
Richard Ballhorn—meeting expense	10.00	
Arthur Pierson	20.00	
		2,380.00
Balance December 31, 1955		$ 5,779.65

TREASURY DEPARTMENT

WHEAT BOARD MONIES TRUST FUND

Accrued Interest as at December 31, 1955

Government of Canada Debentures:			
$2,500.00, 3¾%, January 15, 1978, 5½ months			$ 42.97
Province of British Columbia Debenutres:			
$45,000.00, 3%, December 15, 1968, ½ month			56.25
Province of New Brunswick Debentures:			
$45,000.00, 3½%, April 1, 1967, 3 months			393.75
City of Calgary Debentures:			
4,000.00, 3½%, July 1, 1968, 6 months			70.00
Bank Balance:			.....
November 1955	$7,279.65	$ 4.48	
December 1955	5,779.65	3.68	8.16
			$ 571.13
Add: Accum. of Discount:			
Accrued on Province of British Columbia debentures		$ .96	
Accrued on Province of New Brunswick debentures		3.31	
Accrued on City of Calgary debentures		.26	
		$ 4.53	
Less: Amor. of Premium:			
Accrued on Government of Canada debentures		.55	
			$ 3.98
Net Earnings accrued to December 31, 1955			$ 575.11