ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

OF THE

PROVINCE OF ALBERTA

FOR THE YEAR

1957

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON, ALBERTA
Printed by L. S. WALL, Queen's Printer for Alberta
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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 1957.

I have the honour to be, Sir,

Your obedient servant,

L. C. HALMRAST,
Minister of Agriculture

DEPARTMENT OF AGRICULTURE
1957

HON. L. C. HALMRAST, Minister of Agriculture

R. M. PUTNAM, Deputy Minister of Agriculture

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

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 Services

J. E. Hawker, Superintendent, Schools of Agriculture and Home Economics

C. L. Usher, Supervisor, 4-H Clubs

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

H. W. Gaebel, Secretary-Accountant

G. R. Sterling, Chairman, Land Conservation and Utilization Committee

Air Vice-Marshal G. R. Howsam, Provincial Co-ordinator, Alberta Civil Defence

Report of the Deputy Minister

(R. M. Putnam)

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

Sir:

I have the honour to submit the Annual Report of the Alberta Department of Agriculture for the year ending December 31st, 1957.

There was a slight decline in cash income received from the sale of Alberta farm products in 1957. Preliminary estimates of farm cash income are 432.9 and 422.5 million dollars for the last two years respectively. Crop yields for 1957 were about average and considerably below yields of the past five years. On the whole the quality of the 1957 crop was superior to that of 1956. However, excessive late summer rains and early snows hampered harvesting operations in the Peace River area. When winter came an estimated 50 per cent of the crop was not threshed. It is expected that little of what remains will be salvaged. Municipalities and farm organizations appealed to both the Provincial and Federal Governments for assistance.

During the summer and fall of 1957 a brisk movement of cattle and calves from Canada to the United States developed. For the year exports of beef cattle and calves totalled 290,593 head compared to 6,289 head for 1956. Exports to all destinations from Alberta increased from 239,278 in 1956 to 328,599 in 1957. A considerable number of calves and feeder cattle were included in the total.

During 1957 the Government of Canada announced several policies designed to alleviate some of the problems facing the farmers of Canada. Among the measures adopted were:

A support price on non-fat dry milk followed by import controls.

A floor price on poultry.

A floor price on turkeys followed by an embargo on imports from the United States.

Continuation of the policy under which a farmer could borrow from banks using stored wheat as security.

Enactment of legislation under which farmers could obtain advances on farm stored grain.

At the time of writing the Agricultural Prices Stabilization Bill, under which support prices on a new basis would be provided for nine key agricultural products, was before the Parliament of Canada.

The Government of Canada announced the appointment of a Royal Commission to inquire into the spread between the prices farmers and fishermen receive for their products and the prices consumers pay for them.

On April 1st responsibility for the administration of Civil Defence was transferred from the Department of Municipal Affairs to the Department of Agriculture. This action was taken to bring

Civil Defence under the Minister of Agriculture, who was also the Minister in Charge of Civil Defence.

The first plebiscite under the Marketing of Agricultural Products Act was held in November when a vote on a Plan for the Marketing of Commercial Eggs was conducted. A total of 28,359 producers were registered, of whom 48.41 per cent voted in favor of the plan. Since the Act required a vote of 51 per cent in favor the plebiscite was declared lost.

The Farm Purchase Credit Act was passed by the Legislature at the 1957 Session. This Act provided for farm credit for the purchase of land and it was designed in such a way as to assist young farmers to become established on farm lands. The administration of the Farm Purchase Credit Act was transferred from the Department of the Provincial Treasurer to the Department of Agriculture in August. The responsibility for administering this Act is attached to the Deputy Minister's Office. A Provincial Advisory Committee appointed under the Act consists of: G. R. Sterling, Executive Assistant to the Deputy Minister, (Chairman); Mr. H. Allam, Edmonton; and Mr. C. G. Davey, Superintendent, Provincial Treasury Branches.

Further details of the policies and programs which are carried on by the Department are contained in the Branch reports included herewith.

The staff of the Department increased considerably during the year, due largely to the transfer of Civil Defence. On December 31st total personnel consisted of 412 employees, of whom 183 were classed as technical personnel.

E. R. McCrimmon, Executive Assistant to the Deputy Minister for the past two years, resigned and G. R. Sterling, Chairman of the Lands and Forest Utilization Committee assumed this additional responsibility. M. W. Malyon, Assistant District Agriculturist, Brooks; F. F. Parkinson, Supervisor of Special Projects, Edmonton; and A. Peart, Staff Officer, Civil Defence, Edmonton, retired on superannuation.

I wish to express my sincere appreciation to all members of the staff for loyal devotion to duty during the year. I extend thanks to many organizations and individuals who co-operated to further the work of this Department. These include officials of other Departments of the Government of Alberta, the University of Alberta, the Alberta Research Council, the Canada Department of Agriculture, Municipal Councils and others. The assistance received is much appreciated.

Respectfully submitted,

R. M. PUTNAM,
Deputy Minister.

Report of the Field Crops Branch

A. M. WILSON, Commissioner

R. L. Pharis, Crop Improvement
W. Lobay, Soils and Weed Control
J. B. Gurba, Crop Protection and Pest Control
P. D. McCalla, Horticulture
P. D. Hargrave, Superintendent, Horticultural Station, Brooks
J. W. Edmunds, Apiculture

REPORT OF THE FIELD CROPS COMMISSIONER

A. M. Wilson

Plantings of spring wheat decreased by slightly more than 400,000 acres and oats by 140,000 acres. This was taken up by a 50,000 acre increase in durum wheat, 50,000 in flax, 100,000 in barley, 25,000 in mixed grains, 50,000 in rape seed with the remainder by forage crops and summerfallow. Restricted delivery quotas, due to contracted export markets combined with the high bushelage crop of 1956 induced farmers to plant crops that appeared to have market advantages over spring wheat and oats.

The per acre yield of grain crops was slightly above the long term average. Ideal conditions prevailed at seeding time, except that later spring cultivated land dried out quickly and germination was uneven. Moisture supplies were at a minimum during the early growing season. This early hot dry condition along with cool June weather with frost which occurred in east-central and northern parts retarded crop growth. In the Peace River area dry weather prevailed until late July, this dry period was followed by general rains which delayed the maturity of crops and created impossible harvest conditions on many farms. Early in October snow blanketed northern Alberta with up to 40 inches, at Edmonton 12 inches and with a lighter covering farther south. Later during the week of October 20th another storm piled more snow on the north and created almost blizzard conditions in south-central Alberta. Fortunately favorable weather returned, and after a long drying period crops for the most part were harvested except in the Peace River and in a few small localities.

In northern Alberta, at least 50% of the crop remained unharvested. The flat land from Falher to Nampa and west to Spirit River was thoroughly soaked and snowed under. Seventy-five per cent of the crop is considered a total loss. Flax crops usually left until last for combining were snowed under and Alsike and Red Clover seed is not considered recoverable. This part of the Peace River was hardest hit by impossible harvest weather. Although crops have been left out over winter on previous occasions farmers claim the complete soaking by rain prior to the snow will make the spring recovery impossible.

The shortage of seed grain and the shortage of cash by farmers with which to purchase their requirements has necessitated Municipalities and the Department of Agriculture advancing seed and other commodities to farmers. Although harvesting was delayed in all areas most of the crop, except in the Peace River

district, was finally combined or threshed. The following table shows the acreage, yield and production of the principal field crops in 1957 compared with 1956.

Area, Yield and Production of Principal Field Crops In Alberta, 1956 and 1957—November Estimate

	'000 Acres		Bushels per Acre		Production '000 Bushels	
	1956	1957	1956	1957	1956	1957
Durum Wheat	447	492	29.9	21.7	13,000	10,700
Other Wheat	4,849	4,389	26.1	19.4	126,600	85,300
All Spring Wheat	5,296	4,881	26.5	19.7	140,000	96,000
Oats	2,935	2,791	48.7	35.8	143,000	100,000
Barley	3,606	3,714	33.6	26.9	121,000	100,000
Fall Rye	55	94	14.6	17.6	800	1,700
Spring Rye	29	20	17.3	12.3	500	240
All Rye	84	114	15.6	16.5	1,300	1,900
Flaxseed	511	572	13.9	10.0	7,100	5,700
Mixed Grain	189	215	38.8	29.3	7,300	6,300
Peas, dry	12.0	8.5	21.0	19.5	252	166
Potatoes	19.5	16.6	190.00	140.8	3,120	2,337
			lbs. per acre		'000 lbs.	
Rapeseed	32.0	85.0	925.0	741.0	29,600	62,985
Mustard Seed	137.0	92.0	964.0	772.0	132,000	71,020
			tons per acre		'000 tons	
Tame Hay	1,614	1,887	1.41	1.26	2,280	2,378
Sugar Beets	36.2	37.8	12.85	12.96	464	484

Seed Cleaning Plants

The twenty-third Municipal Seed Cleaning Plant was officially opened on December 14th at Alliance. Others were completed during the year at St. Paul, Strathmore, Beiseker and Fincastle.

The eighteen plants completing their fiscal year on June 30th cleaned a total of slightly more than 4,000,000 bushels of grain, of which more than 3½ million was for seed. 1,200,000 bushels of seed were treated for seed borne diseases and 49,000 bushels treated for wireworm control.

The Annual Conference of Plant operators and Directors was held again on July 16th. A superannuation plan for operators was discussed and will probably be put into effect before the end of the fiscal year. The Provincial Board continues to be the bargaining agent for treating material purchases.

Nearly all plants report increasing cooperation by the farmers in getting their grain into the plants during the off seasons thus raising the efficiency of operating.

At the end of the calendar year at least five districts indicated they are in the process of organizing and one has completed the sale of shares and necessary agreements to proceed with construction when weather permits in the spring.

Special Crops

Special crops for irrigated areas received particular attention from the Lethbridge office. Promotion was largely concerned with vegetables and small fruits that might be grown on a field scale and become a significant farm enterprise.

In this connection seventeen public meetings, including Short Courses, were addressed and twelve other meetings and conferences attended. Eleven short articles on the growing and marketing of fresh vegetables were written for the newsletter of the Irrigation Extension Service. All were given publicity in the local press (Lethbridge Herald farm page) and four were broadcast over C.J.O.C. At the year end these articles, and four written in 1956, were prepared in mimeograph form for general distribution.

This office co-operated in the organization and supervision of an experiment in growing and marketing tomatoes. Five thousand

Early Lethbridge tomato plants were supplied to a group of five growers in the Hays area by the Lethbridge Experimental Farm, Horticulture Branch. A similar number from the Brooks Horticultural Station went to a group of eight growers in the Rainier district. A transplanter was supplied to each group, demonstrating that setting out of tomato acreage was satisfactorily mechanized. Plantings were made at both Hays and Rainier toward the end of the first week in June. Most Rainier plantings had fair to good windbreak shelter and were composed of approximately 700 plants each. A few were set by hand. Hays plantings were all machine set, of about 1,000 plants each, and had little or no windbreak shelter. Both districts had some hail about the time first fruits were half grown.

Three vegetable wholesale houses in Lethbridge and two in Calgary were visited regarding the handling of produce from these plantings. All showed interest and offered the going weekly B.C. price. It was further agreed that in view of the small quantities involved and the experimental nature of the venture, that notice of shipment and other routine matters, incident to trade between grower and wholesaler, would be waived. This arrangement was honored and worked out well, except in the case of one seventy-seven crate shipment which arrived in Calgary when the market was filled with tomatoes from Manitoba and B.C. A "token" payment of ten cents per crate failed to cover shipping costs by about 18 cents per unit. Since this shipment involved more than one-quarter of the total shipped from Rainier the average return per plot was markedly reduced.

Following rather brief instructions in grading and packing, in which horticultural staff members from Brooks and Lethbridge participated, first shipments went to market late in August. In spite of hail, four growers shipped from Hays to Lethbridge, their produce going forward in 30-pound lugs, mostly in the mature green stage. A total of 4,200 lbs. netted them $386.00—an average of nine and one-fifth cents per pound. No estimate of the quantity or value of produce sold locally was obtained from this group. Ten cents per plant was the return from tomatoes marketed at wholesale—or approximately $480.00 per acre.

Harder hit by hail than Hays, six of the eight Rainier growers contributed shipments to Calgary. Their produce went forward in 261 cases containing four, five-pound, tin-top baskets. Marketing expense per case was twenty-eight cents. The tomatoes were shipped in the pink or turning stage. Approximately 35% of their pick was sold locally and this, with the return from the wholesale market, netted a total of $410.00. Here, from both sales, an average net return of ten cents per plant was obtained. The actual gross return per plant was seventeen cents in this area.

On the whole, the Early Lethbridge tomato performed well; and valuable experience in both growing and marketing was obtained by participants and observers. It should be mentioned that about $80.00 per acre would be deducted as the cost of plants, were they obtained from a commercial source. At the present time only about 16 acres of tomatoes are grown for the fresh trade in southern Alberta.

Getting detailed acreages of vegetables this season has been impossible due to refusal of one processor to supply data. However, observation during the season indicates little overall change.

Acreage of the main processing crops, peas, corn and beans, remains in the neighborhood of 5,000, 4,000 and 450 respectively; carrots, cabbage, cauliflower, cucumbers, table beets and pumpkin acreages bring the total to around 10,000. Potato acreage was 6,350, practically the same as last year. For the "fresh" trade the major vegetables were corn (320 acres), cucumbers (120 acres), cabbage (80 acres), turnips (75 acres), and onions (55 acres), with about 200 additional acres devoted to a miscellany of a dozen kinds. Yields were on a par with, or better than last year; and harvesting difficulties were only encountered with potatoes, turnips and onions, as a result of prolonged wet periods in the fall.

No time was devoted to the special dry land contract crops; mustard, rape, safflower and canary seed. The last two were brought in and rape increased in acreage to make up for the reduction in contract mustard acreage.

Role of observer in the canning industry was continued, with visits to all three plants in the area at intervals during the operating season. No improvement in the technique of grading farm produce, as it arrived at the plants, was noted. Employment of more mature personnel, trained for the job and independent of the factory, would probably reduce dissatisfaction among contract growers re grading of peas.

Early in the year the Farm Cost Studies staff were assisted in gathering data from the group of farmers participating in the Taber Specialty Crop Study. Other services rendered involved judging exhibits at six local fairs.

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 types of enterprise might become important.

Forty-seven applications were received from 14 District Agriculturists. 2,408 pounds of seed was used in this project.

Project B: Pasture Improvement

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

Three hundred and eleven applications were received from farmers in 36 District Agriculturists' territories; 37,063 pounds of seed was distributed.

In addition, fertilizer was supplied to 15 applicants who had established pastures under the project in previous years. The following quantities were used:

Ammonium Phosphate 16-20	3,440 lbs.
Ammonium Phosphate 27-14	1,200 lbs.

Project C: Balanced Farming

The 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 45

applications from 15 District Agriculturists' areas; 16,456 pounds of forage seed was 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. Thirteen District Agriculturists used the project.

The following quantities of seed and fertilizer were distributed:

Total Forage Seed	703½ lbs.
Ammonium Phosphate (11-48)	1,120 lbs.
Ammonium Phosphate (16-20)	1,040 lbs.
Ammonium Sulphate	1,120 lbs.
Ammonium Nitrate	500 lbs.
Ammonium Phosphate (27-14-0)	640 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 for 41 rod-row demonstration was provided to 14 District Agriculturists.

Forage Crop Seed Production

The estimated yield of legume seed crops is unreliable because of the difficult weather conditions that occurred during the normal harvest season. Some of the alfalfa, alsike, and red clover is yet unharvested. The price for sweet clover was very low and growers did not harvest low yielding crops.

Grass seed estimates particularly for Creeping Red Fescue and Brome were low as many farmers were holding stocks for more attractive prices.

The forage seed market for the past year opened with high retail prices for seed and closed with a considerable slump in prices to growers over last year. **The following figures give the estimated seed production of the most important forage crops in the years 1953-1957 inclusive:**

	1953	1954	1955	1956	1957
	Thousand pounds				
Alfalfa	6,700	1,815	1,100	625	200
Sweet Clover	5,250	5,825	4,250	6,500	3,500
Red Clover	2,600	1,635	4,000	1,200	2,500
Alsike	9,000	7,000	7,000	3,500	4,000
Timothy	235	300	500	200	250
Crested Wheat	235	220	100	...	130
Brome	6,000	4,775	5,000	4,000	2,250
Creeping Red Fescue	5,500	9,100	8,500	4,500	5,000

Alberta Crop Improvement Association

This Association was 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 1957 as compared with prior years, were as follows:

	1953	1954	1955	1956	1957
Wheat	31,334	72,906	44,828	66,909	64,000
Oats	19,309	27,120	60,914	91,776	43,000
Barley	13,704	21,108	15,580	60,245	85,000
Flax	1,247	4,866	3,286	10,061	34,000

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.

The Alberta Seed Growers' Co-op. Ltd. was absorbed by the Alberta Wheat Pool during the latter part of 1957 and operations were taken over by the Alberta Wheat Pool, Seed Division. At the Co-ordinating Committee meeting of the Alberta Crop Improvment Association the members present decided that the elevator companies would forward seed orders to the supplier of their choice.

The Alberta Crop Improvement Association was set up when there were no retail seed outlets in the province. There are now a number of companies retailing registered seed.

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.

	1952	1953	1955	1956	1957
	Estimated Yield (Thousand Bushels)				
Wheat	1,270	1,204	2,000	3,000	3,000
Oats	1,200	1,017	1,800	1,600	1,600
Barley	570	362	1,000	900	1,300
Flax	115	73	243	340	340

1954 estimates were not given due to extensive frost damage.

These figures indicate that production of registered and certified seed is 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. Grain eligible for sealing as seed was below the total estimated production because of weather conditions during the normal harvest season.

Forage Seed

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

	1955	1956	1957
	Registered Acres		
Brome (Parkland)	10	10	20
Creeping Red Fescue (Olds)	52	48	71
Crested Wheat Grass (Summit)	31	22	275
Timothy (Climax)	20	34	612
Alfalfa (Grimm)	30	65	.....
(Ladak)	67	5	35
(Vernal)	9	9	48
(Rambler)	.....	.....	23
Red Clover (Altaswede)	97	27	17
(La Salle)	604	87	369
Sweet Clover (Erector)	10	5	.....
Birds Foot Trefoil (Empire)	.....	.....	3
Kentucky Blue Grass (Merion)	.....	.....	140

Distribution of Registered Forage Seed

The Field Crops Branch in cooperation with the Canadian Forage Seed Project distributed the following amounts of registered and foundation stock forage seed.

	Pounds
Registered Stock	
Summit Crested Wheat	230
Olds Creeping Red Fescue	300
Climax Timothy	595
La Salle Red Clover	1,704
Erector Sweet Clover	50
Rambler Alfalfa	1,180
Foundation Stock Seed	
Vernal Alfalfa	780
Climax Timothy	50
Rambler Alfalfa	188
La Salle Red Clover	250

In addition to the above the Department in cooperation with a Finnish Plant Breeding Station distributed 20 lbs. of Tammisto red clover. Approximately 1,500 lbs. of seed was produced from the 1956 planting of foundation Tammisto.

The Alberta Varietal Zonation Committee

This is an advisory committee to the Provincial Seed Board. Its purpose was 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 was 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 changes in recommendations were made:

Selkirk wheat was recommended in Zone 2D, Victory oats was deleted from the recommendations for Zones 2B and 2D. Larain oats was removed from the list for Zones 3A and 3B. Garry oats was recommended in Zones 2C, 2D, 3A, 3B and 4A. Rocket flax was recommended in Zones 1 and 2A and Marine in Zone 4B.

The recommendations of the committee were prepared for distribution in leaflet and poster form by the Field Crops Branch.

Forage Crops Advisory Committee

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

The committee completed the revision of Circular No. 63, Hay and Pasture Crops for Alberta.

Members of the seed trade attended the annual meeting and a program of closer co-ordination between the seed trade, seed grower, and forage research and extension personnel was discussed.

Seed Drill Surveys

Seed drill surveys have been conducted annually in Municipal Districts from 1949 to 1957 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.

RESULTS OF ALBERTA SEED DRILL SURVEYS 1928, 1949-1957

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%
1956	23	1,680	40.0%	13.0%	16.5%	30.5%
1957	22	1,626	36.0%	17.0%	17.0%	30.0%

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

The following is a summary of seed treatments of seed survey samples.

COMPARISON OF SEED TREATMENTS FOR 9-YEAR PERIOD

Year	No. of Samples Reported	Percentage Treatment Formalin	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
1956	1,417	14.0	60.0	6.0	20.0
1957	1,438	19.0	54.0	7.0	20.0

COMPARISON OF GRADES OF SURVEY SAMPLES TAKEN FROM SEED CLEANED BY VARIOUS AGENCIES

Cleaned At	Year	Purity Grade Percentage Grading: No. 1 Seed	No. 2 Seed	No. 3 Seed	Rejected
Elevator	1953	24	7	24	45
	1954	23	12	15	50
	1955	22	5	28	45
	1956	29	14	14	43
	1957	24	15	24	37
Farm	1953	29	12	18	41
	1954	31	16	17	36
	1955	31	11	17	41
	1956	35	13	17	35
	1957	28	16	17	39
Local Plants	1953	33	9	15	43
	1954	48	13	12	27
	1955	53	14	16	17
	1956	52	14	17	17
	1957	40	18	20	22
Portables	*1953	60	20	5	15
	1954	41	7	20	32
	1955	58	6	19	17
	1956	37	17	24	22
	1957	24	13	35	28
Municipal Plants	1953	70	17	7	6
	1954	65	17	17	1
	1955	66	10	11	13
	1956	77	12	6	5
	1957	65	25	6	4

*20 Wheat Samples Only.

The Agricultural Relief Advances Act

There was no seed or feed advanced in 1957, but a total of $1,955.55 was paid to farmers in the Fort Vermilion area in the form of freight assistance for moving seed into the area. The Department has in store 28,165 bushels of seed oats as an emergency seed reserve.

The Seed Dealers Act

This legislation relating to agencies purchasing seed in the province was passed at the 1957 sitting of the Legislative Assembly. A license is required by all agencies purchasing seed from producers. Issue of a license is contingent on the applicant providing a security bond.

In 1957 seed salesmen operating in a promotional manner appeared in Alberta. In the case of one company selling of seed was combined with an offer to repurchase the growers' production. The company was not licensed and was charged under the Act as operating without a license. The case is to be heard in 1958.

Twenty-eight licenses were issued to seed dealers operating in the province.

The Seed Control Areas Act

There are two such areas in operation in the province, the Hays Seed Control Area and the Wanham Seed Control Area. The

Peers Seed Control Area, which restricted the varieties of potato to be grown in the area, was disbanded.

Other Activities

Talks were given at twenty-one meetings, attendance being approximately 1,600. Four radio talks were given and nine articles prepared for Agricultural Notes and assistance was given the editor of Agricultural Notes in the preparation of six other articles.

Judging of seed was done at five District Seed Fairs, the Junior Seed Fair in Calgary, and for nine 4-H Grain Clubs at five Achievement Days.

One trip was made in connection with seed and feed relief in the Fort Vermilion area.

Two Newsletters were prepared for registered and certified seed growers.

The Annnal Meeting of the Canadian Seed Growers' Association was held at Banff with over 350 in attendance. Assistance was given in arranging for the convention and in registering delegates.

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

International Seed Shows

For many years the International Shows have been recognized as the show windows for farm products. The Department gave assistance to Alberta 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 Show, and in 1957 special premiums were paid as follows: (All prize monies won at the International were duplicated and 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; potatoes in the vegetable and cooking classes and 4-H Club exhibits, was paid. A similar honorarium was paid for each first prize at the International, in the classes of 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; oats and barley at both Shows.

The names of the 1957 winners were as follows:

Royal Agricultural Winter Fair—Toronto

World Championship:		
Barley	R. W. Hummel	Milk River
Rye	Jack McBride	Benalto
Championship:		
Hard Red Spring Wheat	Eleanor D. Leonhardt	Drumheller
6-Rowed Barley	William Malanchen	Bon Accord
Reserve Championship:		
2-Rowed Barley	Charles Oslanski	Milk River
Oats	Alex J. Dubyk	Mundare
Small Seed Legume (Alsike)	Tom Corlett	Clairmont
First Prize:		
Hard Red Spring Wheat (Sr. Class)	Wm. Deurloo	Granum
Durum Wheat	Ralph L. Erdman	Barons
Sweet Clover	Geo. W. Jordan	Wembley
Other Grasses (Crested Wheat)	Kenneth C. Long	Cardston
Potatoes (Jr. Class)	Harvey N. Hillaby	Cherry Grove

In addition ten seconds, seven thirds, and forty-three other awards were won by Albertans.

International Grain and Hay Show—Chicago

Championship:		
Wheat	Jerry J. Leiske	Beiseker
Oats	Mrs. John W. Lastiwka	Willingdon
Barley	R. W. Hummel	Milk River
Alfalfa	Rudolph Koch	Brooks
Reserve Championship:		
Wheat	Ralph L. Erdman	Barons
Barley	William Malanchen	Bon Accord
First Prize:		
Rye	Jack McBride	Benalto
Sweet Clover	Geo. W. Jordan	Wembley
Alsike	H. P. Backer	Woking
Crested Wheat Grass	Kenneth C. Long	Cardston
Creeping Red Fescue	Kenneth C. Long	Cardston

In addition eight seconds, three thirds, and twenty-seven other awards were won by Albertans.

A list of previous Alberta championship winners at World Seed Shows can be found in the Annual Reports for 1955 and 1956.

SOILS AND WEED CONTROL

Weeds

An important factor affecting weed abundance and damage in Alberta in 1957 was the unusual variation in rainfall. Most of the province experienced a dry spring, lasting well into June, resulting in the crop giving little competition to annual weeds and the stronger establishment of perennials. In many instances, farmers delayed chemical control, anticipating a light crop, but when the rains did come in late June and July, it was too late to do effective spraying. As a result, there has been some increase in the general weed infestation in the province. Mention should be made however, that many farmers in the mixed farming areas are practicing delayed seeding, and a survey indicated a fair number of fields relatively free of annual weeds. Summerfallow in the main were well attended and went into winter in satisfactory condition. In the Peace River, however, the unusually high precipitation during the late summer and fall prevented work on summerfallow to obtain satisfactory weed control. Late harvesting has reduced fall tillage significantly below that of other years.

Weed Surveys

A survey was made on the narrow leaved Hawksbeard (**Crepis tectorum**) indicating its presence throughout most of the central and northern parts of the province, including the Peace River area. Infestations were mainly on roadsides, pastures and abandoned fields. This weed appears to be spreading in Alberta and more attention may have to be given to it.

Another weed survey was carried out during the summer mainly to find out the acreage infested with such weeds as Tartary Buckwheat, Wild Buckwheat, Hemp Nettle and others. A total of 36 areas which included Municipalities, Counties and Improvement Districts were represented, covering 12,000,000 acres of cultivated land. The following table shows the extent of the infestations of these weeds.

	No. of Areas Infested	No. of Acres Infested
Tartary Buckwheat	27	3,400,000
Wild Buckwheat	30	4,480,000
Hemp Nettle	26	1,280,000
Ladies Thumb	8	640,000

It is interesting to note that only 9 of the 36 areas are free of Tartary Buckwheat. Wild Buckweat and to a lesser degree Hemp Nettle were common in most of the areas.

The following are the results of a survey for infestations of persistant perennials conducted during 1957 in the areas served by the 42 Agricultural Service Boards.

	No. of Areas Reporting Infestations	No. of Farms With Infestations	No. of Acres Infested
Hoary Cress	18 out of 42	246	5,584
Russian Knapweed	13 out of 42	83	222
Field Bindweed	15 out of 42	112	927
Toadflax	38 out of 42	4,112	21,770
Leafy Spurge	25 out of 42	121	1,784
	Totals	4,674	30,287

A questionnaire was submitted by this Branch to all the Field Supervisors and other Weed Inspectors to indicate as to the extent that some of our common weeds are being controlled. The following table revealed generally, that Wild Oats, Couch Grass, and Canada Thistle were held in check in the majority of areas, while Tartary Buckwheat and Perennial Sow Thistle were on the increase.

	No. of Areas Where Weed Is Increasing	No. of Areas Where Weed Is Held in Check	No. of Areas Where Weed Is Decreasing
Tartary Buckwheat	20	12	2
Wild Oats	11	22	7
Couch Grass	6	27	6
Canada Thistle	12	17	12
Perennial Sow Thisite	21	12	7

Chemical Weed Control

(a) Soil Sterilants

This Branch continued the policy of distribution of soil sterilants through Municipalities to farmers at cost. The soil sterilants available were: Sodium Chlorate, Polybor Chlorate and DB Granular. Most of these sterilants were used for Toadflax control. There was a tendency towards an increased use of DB Granular and Polybor Chlorate mainly for the reason that these do not possess the fire hazard of Sodium Chlorate, yet are equally effective. Total distribution of soil sterilants decreased during 1957 with approximately 200,000 pounds being distributed as compared with over 420,000 pounds for the previous year. This was mainly due to the expiration in 1956 of a 3-year special agreement with a number of Municipalities where special assistance was provided on the Toadflax Control Program.

A total of 27, 000 lbs. of TCA was used largely for Couch Grass control.

(b) Selective Herbicides

The use of selective herbicides 2,4-D and MCP for weed control decreased from the amount used in the two previous years. The following table shows the total acreage treated during the last four years.

Years	1954	1955	1956	1957
Acreage crops treated	2,981,000	4,250,000	4,360,000	4,067,000

In the last three years the use of MCP has been increasing steadily in selective spray for weed control in crops. In 1957, over 13% (534,000 acres) of the acreage treated was with MCP. Most of this was used to control weeds in oats, flax and legumes.

The following figures show the acreages treated by various common methods of application.

Acreage Treated With 2,4-D or MCP	Percent of 1956	Method of Application % Sprayed	% Dusted	% Aircraft	% Ester 2,4-D
4,067,000	93.3	98.1	1.9	1.3	94.0

The acreage treated by aircraft was 52,000 acres for 1957 which compares with 65,000 acres for 1956.

It is worthy of noting the extent of selective herbicide use in Field Crops in Alberta in 1957 as compared with its use in other prairie provinces. The following table gives this comparison.

FIELD CROPS TREATED DURING 1957

Province	2,4-D and/or MCP (acres)
Manitoba	3,011,000
Saskatchewan	8,316,000
Alberta	4,067,000
British Columbia	82,000

Weed Control Demonstrations

An extensive weed control demonstration program was carried out by this Branch in conjunction with Agricultural Service Boards throughout the province.

More than 25 sets of plots were set out with the intent of finding a more economical control method for persistent perennials, mainly Toad Flax, and Leafy Spurge. Observations made during the summer indicated that mixtures of selective systemic with soil sterilant herbicides gave a better and more economical top growth control than either chemical used separately. It was found too that heavy application (20-25 lbs. per acre) of 2,4-D gave effective control of Toad Flax particularly in fields seeded to grass. With continued treatment, complete eradication may be possible. Amino triazole (ATA) gave promising results this year on persistent perennials but this chemical is presently quite expensive to apply on large infestations. Observations on these plots will be continued.

A number of Field Supervisors received samples of several soil sterilants, some under code numbers to apply on Toad Flax and to compare the results with that of known herbicides. These plots also included 2,4-D at a 20 lb. acid per acre rate. Results of these tests will be read next year.

Almost every Field Supervisor and Weed Inspector conducted weed control demonstrations. These were used as Field Day material with the public attending and making observations.

New Weeds

The presence of a number of weeds that are uncommon to most parts of Alberta were brought to the attention of the Branch during the summer. Scentless Chamomile or Mayweed (**Matricaria indora**) was previously reported to be present in the Grande Prairie area. This year, at least three other districts in north-central Alberta have reported this weed. Efforts were initiated to institute control measures in all cases.

The first known infestation of Forked Catchfly (**Silene dichotoma**) in Alberta was located at Clairmont in the Peace River area. It was reported as first found in a field of French Superfine Alsike Clover imported from England. It may become a troublesome weed if allowed to spread.

Roadside Seeding and Spraying Alberta Highways

The Branch continued its policy of seeding Government highways. The Department of Highways supplied the seed and the Field Crops Branch provided the equipment, personnel and did the

seeding. The following is a table showing the number of miles seeded by us in the past four years and the amount of seed used.

	No. of Miles Seeded	Pounds of Seed Used
1954	200	11,995
1955	453	23,796
1956	431.5	24,395
1957	438.2	25,810

The average number of pounds of seed used was 58.9 per mile.

The following is a breakdown of the amounts of grass or legume seed planted:

Brome	6,330 lbs.
Creeping Red Fescue	6,630 lbs.
Alsike	11,460 lbs.
Alsike-White Dutch	490 lbs.
Crested Wheat	800 lbs.
Kentucky Blue Grass	100 lbs.
Total	25,810 lbs.

The mixtures used generally were as follows:

(a) **Northern and Central Alberta**
Brome—1 part by weight
Creeping Red Fescue—1 part by weight
Alsike—2 parts by weight.

(b) **Southern Alberta**
Brome—1 part by weight
Creeping Red Fescue—1 part by weight
Alsike—1 part by weight
Crested Wheat Grass—1 part by weight

Other seed mixture rates were used in special cases such as cloverleafs, dividing strips, overpasses, etc.

The highway roadside spraying program was carried out by the Department of Highways.

Municipal Roads

The Branch continued to encourage Municipalities where Service Boards were established to seed down newly constructed, back-sloped roads, by supplying suitable forage mixtures. The following table shows the amount of seed supplied and the number of miles seeded. The table also indicates the mileage of mowing and spraying being done by Municipalities.

Year	Pounds of Seed Supplied	No. of Miles Seeded	No. of Miles Mowed	No. of Miles Sprayed
1955	30,408	1,041	7,500	6,500
1956	28,500	1,818	12,018	12,486
1957	32,785	1,624	11,817	14,890

The 1957 seed supply for Municipal roadside seeding of back-sloped roads consisted of the following quantities.

Brome	6,275 lbs.
Creeping Red Fescue	10,925 lbs.
Timothy	4,085 lbs.
Alsike	8,150 lbs.
Crested Wheat Grass	3,250 lbs.
Alfalfa	100 lbs.
Total	32,785 lbs.

Crown Lands

Soil sterilants were supplied for controlling persistent perennials on Crown Lands. A total of 981 pounds of Sodium Chlorate was supplied by the Branch and applied by Weed Inspectors, mainly for the control of Toad Flax. Under a special policy, grass seed and 2,4-D were made available for Crown land accrued lakeshore areas.

Agricultural Service Boards

A total of 42 Agricultural Service Boards operated, each with a full-time Field Supervisor. There were 63 assistants employed to carry out additional work during the summer months for periods

of from one to four months. Two Service Boards hired full-time assistants.

Service Board reports showed a total of 78 parcels of land put under supervision during 1957 with 34 parcels released from previous supervision. The total number of parcels under supervision was 315. Eight parcels were placed under reclamation during 1957 and 4 released. A total of 47 parcels were held under reclamation during the year.

Each Municipal District or County with a Service Board continued to receive a maximum of $2,200.00 under the General Service Board Agreement. In addition, 16 of the 42 Service Boards had special Toad Flax Control Agreements with maximum payments varying from $300.00 to $1,800.00. The special agreements were the same as in 1955 and 1956, a copy of which appeared on Page 25 of the 1955 Department of Agriculture Annual Report. The following districts were assisted in the control of Toad Flax by special agreement with the Department:

Improvement District No. 132	M.D. of Camrose
M.D. of Barrhead	M.D. of Flagstaff
M.D. of Foothills	M.D. of Kneehill
M.D. of Lac Ste Anne	M.D. of Leduc
M.D. of Minburn	M.D. of Peace
M.D. of Red Deer	County of Stettler
M.D. of Taber	M.D. of Vermilion River
M.D. of Wainwright	M.D. of Wetaskiwin

During 1957, four petitions were received from farmers in Improvement Districts requesting the establishment of such Boards in their areas.

Noxious Weeds Act

The Branch employed 18 Weed Inspectors to enforce the Noxious Weeds Act in Improvement Districts and three Weed Supervisors were employed during the summer months to assist Weed Inspectors in both Municipal and Improvement Districts. The Weed Supervisors were stationed at Edmonton, Calgary and Grande Prairie. The few Municipalities without Agricultural Service Boards employed 8 Weed Inspectors. The above Inspectors, together with the Field Supervisors and their assistants working in Districts with Service Boards made a total of 136 men working on weed control enforcement during 1957. This was an increase of 5 over last year.

Field Supervisors and assistants issued 2,065 Notices to Destory Weeds, which cover 46,590 acres. They issued Notices Prohibiting Seeding to crops in 1958 on 24,897 acres.

There were 8 court prosecutions under the Noxious Weeds Act where action was not taken by farmers when notices were served.

SOIL CONSERVATION

Dry soil conditions in spring and early summer resulted in a number of severe dust storms during May and June causing damage to fields in the southern part of the province. Heavy rains occurred in July and water erosion was evident in many fields. Most of the damage was either rill or sheet erosion. This type of erosion caused more damage than many farmers realized. Publicity drawing the farmer's attention to erosion problems continued throughout the

year. A questionnaire completed by Field Supervisors indicated that 607 parcels of land were damaged by wind erosion and 7,265 damaged by water erosion during 1957. Eleven districts held gully filling demonstrations.

Projects 1 and 2 demonstrating Soil Conservation and Weed Control with forage crops were continued. Project 1 was designated to assist District Agriculturists to establish soil conservation demonstrations on farms. Thirteen District Agriculturists used this policy to establish demonstrations on 51 farms. A total of 5,407 pounds of forage seed was 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. Three Municipalities or Counties took advantage of this policy for assistance on 8 farms. A total of 4,535 pounds of forage seed was distributed under this policy.

Meetings regarding the filling of gullies caused by the rapid run-off of 1956 were held with farmers attending. A number of farmers were reluctant to supervision of the land in question even with local and provincial Government assistance. These meetings were responsible for some farmers taking the initiative and filling in gullies as directed by Agricultural authorities.

Save The Soil Campaign

This Branch assisted District Agriculturists with "Save the Soil" competitions. "Save the Soil" certificates were issued to 10 farmers whose score was 80% or over. A total of 38 farms were entered in these campaigns.

It is interesting to note that many "graduates" of the "Save the Soil" campaigns were entered in the "Farm and Home Improvement" programs in 1957, in areas where such programs were in operation.

Fertilizers

Field Supervisors were encouraged to set out demonstration trials using fertilizers recommended for their areas. There were a number of trials in many districts. Members of this Division made numerous checks on fertilized fields and pastures. Two fields were harvested in square yard samples, threshed, results tabulated and returned to the District Agriculturist concerned.

There was a total of 38,337 tons of fertilizer used in Alberta in 1957.

The Supervisor acted as Secretary of the Alberta Advisory Fertilizer Committee.

The fertilizer bulletin was revised in December, 1957.

Miscellaneous

The Branch held a two-day Agricultural Service Board Conference at Edmonton in the Spring of 1957.

The Supervisor and Assistant Supervisor of Soils and Weed Control attended 26 Agricultural Service Board meetings, went on 10 Field Tours in as many Municipalities or Counties, made 73 Field Trips, investigating weed and soil problems and spoke at 8 Field Days.

Fourteen radio talks were given and 7 timely items prepared for press release through "Farm Notes".

One hundred and forty-six (146) weed specimens were submitted to this office for identification.

The Supervisor acted as Secretary of the Conservation and Land Utilization Committee.

CROP PROTECTION AND PEST CONTROL

CROP PESTS

Grasshoppers

The infested area in southern Alberta covered 1,700,000 acres in 1957 as compared to 1,900,000 in 1956. The infested area extended from Ranges 13-16 at the Montana border, east to Bow Island, then to Lomond and Carmangay in the north-west. Infestation was rated light throughout the whole area. There was an increase in the serious pest species, but wet weather and good growth minimized damage. One small outbreak occurred in the Cowley area with some damage to late seeded cereals. One 200 acre field contained an average stubble infestation of 20 per square yard. Good growing conditions resulted in rapid crop recovery. Twenty gallons Aldrin spray were distributed for control purposes.

As established under the grasshopper policy, bait was available only to the extent of supplies on hand. No bait was requested or used. Aldrin spray and dust was available at below-cost-price from stockpiles strategically located throughout the province.

The following table shows the 1957 situation and control program with 1954-56 data listed for comparison purposes:

	1954	1955	1956	1957
Acres Land Infested	830,000	2,500,000	1,900,000	1,700,000
Acres Crop Menaced	7,000	10,000	2,000	3,000
Acres Crop Destroyed	150	200	100	100
Lbs. Tech. Aldrin Spray Used	2,060	875	200	50
lbs. 2½% Alldrin Dust Used	500	100	0	0
Acres Treated with Aldrin	15,000	7,000	3,000	400

The above figures are estimates. Materials listed were supplied from Department stocks and do not include insecticides from commercial outlets.

Copies of the 1957 grasshopper policy were distributed to all Municipal and District offices. Grasshopper forecast maps were printed and distributed throughout the province. The 1958 forecast predicts increased populations and severity with greater damage expected.

Wheat Stem Sawfly

There was an increase in sawfly population in southern Alberta but no change in the central regions. Parasitism and large acreages of unfavorable hosts such as durum, mustard, rapeseed and flax reduced increase and damage. Rescue and Chinook were grown on 7.2% and durum on 4.5% of the total wheat acreage. The use of Rescue and Chinook varieties in forecast areas reduced damage. The resistance of these varieties and durum was high in 1957. Forecast maps prepared by Science Service were distributed to Municipal and District offices.

Cutworms

For the fourth successive year, little damage by the **pale western cutworm** was observed or reported. Since May and June were dry, it is expected that some increase will occur next year.

A large population of **army cutworm** was in evidence during late April and early May. However damage was small since these developed about two weeks earlier than usual. The majority of worms were entering the pupae stage before crops appeared above ground. Recommended delayed seeding minimized damage.

Rather extensive damage by the **red-backed cutworm** occurred in the foothills, parkland and wooded areas. Garden crops, flax, rapeseed and barley primarily suffered slight to total loss. The districts showing substantial damage were: Claresholm-High River-Vulcan, Strathmore-Rockyford, Olds, Coronation, Wetaskiwin, Edmonton, Onoway, Ryley-Camrose-Wainwright, Grande Prairie and Berwyn. Destruction of large portions and entire fields necessitated reseeding. The Blackie-Brant area was exceptionally hard hit as indicated by one farm were one-half section of rapeseed and one-quarter section of flax were reseeded.

Insecticide sprays were used to destroy worms and to permit earlier re-seeding. A total of 20 gallons of Chlordane and 566 gallons of Aldrin from Department stocks was used to spray an etimated 3,000 acres. Two field spraying trials were conducted in the Edmonton area to get additional information on chemical control. Several timely mimeograph, radio and other reports were issued to recommend control measures. Numerous field investigations, identifications and correspondence were necessary to supply requested information.

Wireworms

Populations and damage have decreased over the last several years. This improvement is considered primarily due to increased seed treatment. Many fields still suffer some damage but usually the amount is too small to be readily seen. The Coronation and Berwyn-Whitelaw areas showed significant damage in localized areas. Potato crops in all regions showed varying amounts of wireworm tunnelling and loss of marketable crop. Control information was supplied to problem areas. Municipal seed cleaning plants are equipped to treat seed for wireworm control. During 1957, 49,000 bushels were so treated at these plants.

Sugar Beet Webworm

Large numbers were present on sugar beets but good growth decreased damage; in dry-land areas, some serious injury was caused to rapeseed, mustrard, flax and safflower.

Alfalfa Weevil

Since discovered in the Milk River valley in 1954, this pest has increased in numbers and spread northward. It was found during 1957 in most fields south of the Old Man and South Saskatchewan rivers. As population density increases, chemical treatment will become necessary. No serious damage has been reported thus far.

Sweet Clover Weevil

Infestations and damage continued at the high level in 1956. There was serious damage in such areas as High River, Strathmore, Brooks, Red Deer, Coronation, Leduc, Edmonton and Athabasca. Most damage occurred during early spring by overwintering adults. However, there were also high populations of second generation adults in early August. In one case at Winterburn, weevil moved out of a plowed-under clover field and into an adjacent alfalfa field.

Several rods of alfalfa along a half mile field, was rapidly stripped before chemical spraying stopped the damage. The Department supplied 192 gallons Aldrin and Chlordane which was used on an estimated 1,800 acres. A special mimeograph on cultural and chemical control was distributed during May to Municipal and District offices.

Aphids

Heavy infestations of the **pea aphid** (about 1,300 per sweep) occurred in alfalfa fields in southern Alberta. Good growing conditions allowed for good crop recovery and thus little chemical control was necessary. Neither the **corn leaf aphid** nor the **English grain aphid** occurred in damaging numbers.

European Corn Borer

This pest was first discovered in the Medicine Hat area in 1956. Following a thorough campaign to destory all crop residue, no further evidence was found during 1957. However an infestation was located in one field in the Brooks area this year. All crop residue was plowed under, cobs burnt and only shelled corn sold off the farm. It is hoped that this pest can be exterminated.

Vegetable and Special Crop Insects

Little **Colorado potato beetle** damage was reported. Five gallons Chlordane was supplied to the Shaughnessy district to spray 70 acres for potato and flea beetle.

Sugar beet root maggot caused damage to beets in the Taber-Cranford area for the third year. Some 3,000 acres were treated with a heptachlor-fertilizer mixture.

Leafhoppers increased in numbers causing extensive "yellows" damage in carrots, asters, flax, and potatoes at many points.

Root maggots of cruciferae and onions again caused considerable damage. Soil treatment trials have shown that good control is obtained with most chlorinated hydrocarbons. Publication No. 130 "Control of Garden Pests in Alberta" remained in high demand and numerous copies have been distributed for the control of maggots and various garden pests.

Shelterbelt Insects

During 1957, there was a continuation of last season's damage to conifers by the **spruce** and **larch sawflies, spruce spider mite** and **spruce aphids.** Poplar and willow suffered extensive damage in some areas from defoliation by the **aspen tortrix, Bruce spanworm** and **willow-leaf beetle.** The Olds-Claresholm foothills area showed complete defoliation in sections although weather conditions may have been partly responsible for poor leaf growth. The Branch supplied Malathion and Aldrin at cost to various districts. The Department sprayer was used to demonstrate and assist spraying campaigns. Organization is proceeding to establish sprayers within Municipalities as an aid to farmers in protecting shelterbelts.

Stored Grain Insects

The **rusty grain beetle** and other stored grain pests continued a problem in stored grain, mainly in southern Alberta, but on a smaller scale than in the past four years. In central and northern regions **grain mites** and **fungus beetles** infested grain in isolated areas.

Approved gas masks and canisters were supplied through District offices to farmers carrying out grain fumigation. The Lethbridge office serviced 20 farms. District Agriculturists in problem areas kept several gas masks on hand. A meeting at Edmonton sponsored by the Board of Grain Commissioners on insect storage problems was attended by the Supervisor. Information on prevention and control was supplied to farmers and District offices through five releases prepared by this Division.

Other Insect Pests

Larder and **carpet beetle** were identified for several areas. **Red clover mite** and **strawberry weevil** continued as pests that invaded houses. The **Manitoba maple bug** was also a common pest in homes where it sought winter quarters. The **red spider mite** increased in severity on shade trees, ornamental shrubs, raspberries, currants and other plants. The control of **house** and **barn flies** continued a problem as indicated by the demand for Publication No. 15 "Houseflies and their Control". The dry fall and lack of native food increased damage by scavenging **wasps.** These pests attacked raspberries, crabapples and unwary people.

Investigations, identification and information on the above and other insect pests were supplied as requested throughout the year.

CROP DISEASES

Diseases of Cereals

Smuts and **root rots** of wheat and barley remained at about the same level with **Take-all** being the most common in the parkland and wooded areas, but less severe than formerly. **Leaf rust** occurred in trace to moderate amounts whereas little **stem rust** was reported.

Blast and **halo blight** were fairly general in oats. Both covered and loose **smut** of oats were common enough to indicate the need for proper seed treatment.

Generally leaf diseases of barley decreased in incidence compared to past seasons of more rainfall. **Scald** occurred in areas with more plentiful early season rains whereas **net blotch** occurred in regions getting later rains. Second and third year crops on the same land suffered most damage.

Control of most cereal diseases is possible through the practical application of recommended seed treatment, crop rotation to include resistant crops and the plowing under of crop residue every few years. Those recommendations were supplied to farmers and District offices at every opportunity.

Fungicide Trials

Seed treatment trials using 8 different fungicides have been conducted for the eighth consecutive year. During 1957, trials were set out at Edmonton, Entwistle, Lac La Biche, Vermilion, Daysland, Lamont and Olds. These trials have been used mainly to demonstrate the value of recommended seed treatment. Germination and yield data have been taken and compiled for the last 5 years, since comparison field data is not available from other sources. Such information was supplied to District offices and interested persons. Various information on seed treatment materials and practices was also released prior to the treating season.

Diseases of Other Crops

Flax rust was less severe in northern areas on Redwing than normally. Infestation was greater where flax followed flax. **Cucumber wilt** caused by Fusarium fungus ranged from moderate to severe in north-central areas. Growers were advised to destroy affected plants to prevent spread and to use only western grown, disease-free seed in the future. **Spruce needle rust** increased in the Lac La Biche-Athabasca area in native stands and was reported affecting some shelter-belt spruce in the north-central regions.

Diseases of Potatoes

(a) **General**

All inspected potato fields showed varying degrees of common diseases as **blackleg, rhizoctonia, leaf roll,** and **wilts.** Dry weather discouraged **late blight** but **early blight** was widespread, resulting in premature vine-killing and some yield reduction. The incidence of **purple-top** was considerably higher, especially in the irrigation areas. **Psyllid-yellows** was reported in increased numbers from the Lethbridge and Brook districts. An early October snowfall caught 10 to 15% of the crop in the ground. Some of this crop was harvested but much was lost.

Meetings, begun in late 1956, were continued at Calgary and Edmonton with a total attendance of 160 growers. Grading schools were held in conjunction with these meetings and Ringrot control outlined. The annual Field Day was held at Lacombe with 76 growers present. The Supervisor continued as Secretary of the Potato Production Improvement Committee. The Branch assisted the Plant Pathology Department, University of Alberta, in a Potato Scab Survey by planting and harvesting 2 varieties of potatoes in 7 districts.

(b) **Bacterial Ringrot**

The program to control Bacterial Ringrot has been continued since the first appearance of this disease in 1937. After 20 years of control, Ringrot, although persisting, has been kept down to light infestations. Losses have been light since discovery is made before the infestation is severe or widespread. It is interesting to note that many careful growers have never had Ringrot infection.

Ringrot stocks were directed for disposal by the end of March. However the large surplus crop and overloaded market prevented orderly sales. Much infected crop was carried through into the planting season, especially in the Lethbridge area. This situation made it difficult to prevent spread of Ringrot from the old crop to the seed crop. The increased incidence of disease at Lethbridge is attributed directly to the carryover of diseased stocks.

A list of approved seed potatoes was provided to all commercial growers in Pest Areas. The Branch purchased 75 tons Netted Gem and 30 tons Pontiac seed from the Brooks area. Prices dropped by 50% toward spring. Although seed was offered at cost, most growers obtained supplies from otherwise unmarketable stock. The Branch was left with some 75 tons of seed, most of which was finally sold as table stock. In view of this experience, it was decided to discontinue this service.

The Bacterial Ringrot Survey of the 1957 crop began on August 26, with 15 inspectors employed. Weather conditions were generally favorable and most inspections were completed

without frost interference. In all areas, re-inspections of doubtful cases were made.

The following table shows the potato situation and survey results, with 1952-1956 results included for comparison purposes:

RESULTS OF THE RINGROT SURVEY BY PEST AREAS FOR 1952-1957

Pest Area	Year	No. Farms Inspected	No. Farms Diseased	Acreage Inspected	Acreage Diseased	% Diseased	
						Farms	Acreage
Lethbridge	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
	1956	261	45	5,173	1,401	17.2	27.1
	1957	247	63	4,826	1,280	25.5	26.5
Calgary	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
	1956	50	6	300	27	12	9
	1957	34	1	162	1	2.9	.6
Drumheller	1957	9	0	32	0	0	0
Brooks	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
	1956	56	13	1,222	228	23.2	18.6
	1957	43	11	1,538	285	25.6	18.5
Edmonton	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
	1956	200	38	2,602	608	19	23.3
	1957	152	26	2,225	343	17.1	15.4
Total	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
	1956	567	102	9,297	2,264	17.9	24.3
	1957	485	101	8,783	1,909	20.9	21.7

A total of 485 farms comprising 8,783 acres of potatoes, were inspected. Some growers stopped production following the 1956 surplus situation and poor resultant prices. However the general tendency toward fewer growers with larger acreages continued. The acreage was below last year's figure but still higher than the average of the last 5 years.

The Lethbridge area showed an increase to 63 infested farms over 45 infested farms of 1956. The carry-over of the old, diseased crop into the planting season was a major factor in disease spread. However the percentage diseased acreage was slightly lower than for 1956 i.e. 26.5 compared to 27.1.

The Calgary area showed significant improvement over 1956 i.e. 1 infested farm as compared to 6 and 0.6 percent diseased acreage compared to 9.

The Drumheller area, which in the past was combined with Calgary, was handled and inspected as a separate unit. This change was effected to provide better service for the Drumheller growers by use of the local District Agriculturist's office. No Ringrot was found in the Drumheller area.

The Brooks area remained relatively unchanged with 11 infested farms as compared to 13 in 1956, and the same percentage diseased acreage. One large farm of 180 acres substantially increased the total diseased acreage.

The Edmonton area showed significant improvement over 1956 with 26 infested farms as compared to 38 and 15.4 percent diseased acreage compared to 23.3.

In the overall picture, there was some improvement over 1956, despite the increased transmission potential of the carried-over

crop. There were in total 101 infested farms as compared to 102 in 1956. Fewer large farms were infested resulting in 21.7 percent diseased acreage as compared to 24.3 in 1956. In the majority of cases, only trace infections were found—often 1 or 2 plants in large fields. Thus it seems apparent that the objective of minimizing infection and preventing spread is being achieved.

As established in 1956, growers with Ringrot were required to plant only seed which passed field certification or came from a separate, approved seed plot. This policy has general grower support and is a valuable control factor. As in past years growers made good use of the disinfecting facilities provided by the Branch at low cost. Two high pressure sprayers operating out of Edmonton and Lethbridge disinfected 127 cellars in the Pest Areas.

Considerable time was spent in personally contacting all growers with Ringrot. The Supervisor, his Assistant and 2 Fieldmen operating out of Edmonton and Lethbridge interviewed all cases to advise and assist with control measures. The circular "Bacterial Ringrot Control" was revised and distributed to all commercial growers.

The cooperation and assistance of the Plant Protection Service and Plant Pathology Laboratories, Canada Department of Agriculture, is hereby gratefully acknowledged.

LIVESTOCK PESTS

Warble Fly (Cattle Grub)

Increasing interest and concern about warble grubs continued during 1957. The development of new systemic insecticides was a major factor. Losses suffered by meat packers and passed on to producers received more attention. The Canada Meat Packers Council called a meeting of packers, stockmen and government personnel. This meeting held at Regina in May was attended by the Supervisor. It was apparent that insufficient information was available on the extent of control. Subsequently a June survey was conducted by questionnaires mailed to all District Agriculturists and Field Supervisors. The Control Survey results were compiled and distributed to interested persons and organizations.

85% of the municipalities or areas contacted conduct a control program. 30% of the municipalities supply warble powder free or at cost. 27% of Alberta municipalities have sprayers for demonstration or service purposes. There are 17 large cattle spraying associations in operation, plus numerous smaller ones at larger stock farms, community pastures or composed of small groups of stockmen. Numerous sprayer owners also do custom work in their districts. One association sprays around 7,000 head per year but most would average 2,000 head. One Agricultural Service Board reports over 11,000 head sprayed with its municipal unit.

It is estimated that 550,000 cattle were treated for warbles in 1957. This increase over the 400,000 treated in 1956 is due in part to the increased cattle population.

Cattle spraying demonstrations using a department power sprayer was continued to promote interest and to impress the results possible through cooperative effort and use of proper equipment. Two demonstrations were combined with tests of a systemic-type spray for warble and louse control. Two types of systemic insecticide were tested in the Municipal Districts of Sturgeon River,

Strathcona, Flagstaff and Starland to get more information on these chemicals. Since systemics are expected to provide a simpler and more efficient form of control, test data will be compiled for future use. Literature on systemics was distributed during the year, as research and testing progressed and one firm registered its product for public use. Publication No. 98 "Warble Fly Control" was distributed throughout the province.

Cattle Lice

There was increased interest and concern over lice in cattle. Some types of systemic insecticide show promise of controlling both lice and warbles with one fall application. This would replace 4 to 5 applications presently required to adequately control both pests. As outlined under warble control, two tests are being followed to secure additional information under Alberta conditions.

An estimated 225,000 cattle were treated for lice during 1957. A mimeograph on costs of various control insecticides was distributed to field staff. Publication No. 73 "Louse Control in Cattle" continued in active demand.

Coyote Control

During 1957, 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.

With the exception of one district in southern Alberta, all settled areas of the province have requested and been approved as districts which can use coyote getters and strychnine pellets. A total of 86 districts, including Counties, Municipal Districts, Special Areas, Improvment Districts and one Indian Reserve, have been approved under the Coyote Control Policy. These receive supplies for the setting out of coyote getters and strychnine pellets.

Since 1951, when the Department undertook the control of coyotes in the settled areas, a total of 40,790 coyote getters, 110,240 cyanide cartridges and 704,000 strychnine pellets have been distributed by provincial and municipal Pest Control Officers. The demand for material has decreased as the threat of rabies lessened and the use of 1080 baits increased. However, coyote getters, scent, strychnine and allied materials, posters and various necessary forms were supplied to the field force, almost daily. There was a continued trend to use strychnine over coyote getters as the simpler means of control. The following table shows the amounts of major materials supplied since 1951 and the estimated coyotes killed by all materials distributed (including 1080 baits):

	Coyote Getters	Cyanide Cartridges	Scent (2 oz. jars)	Strychnine (Pellets)	Estimated Coyotes Killed
1951	5,560	11,510	1,050	.....	8,400
1952	4,530	12,460	1,350	.....	12,300
1953	18,800	46,030	8,120	116,000	56,300
1954	5,410	20,110	7,370	192,000	62,100
1955	4,080	10,990	6,340	195,500	57,200
1956	1,580	5,000	3,330	124,500	50,500
1957	830	4,140	2,310	76,000	41,000
Totals	40,790	110,240	29,870	704,000	287,800

Coyote control was continued in areas outskirting settlement. Ten provincial Pest Control Officers were fully employed during the winter in Local Improvement Districts. During the summer period 16 provincial officers worked on coyote control along with other duties. A meeting of provincial and municipal officers in the Peace River area was held in February to coordinate the pest control program. As indicated by the amount of materials used and the estimated kills, coyote control continued at a high level in most regions.

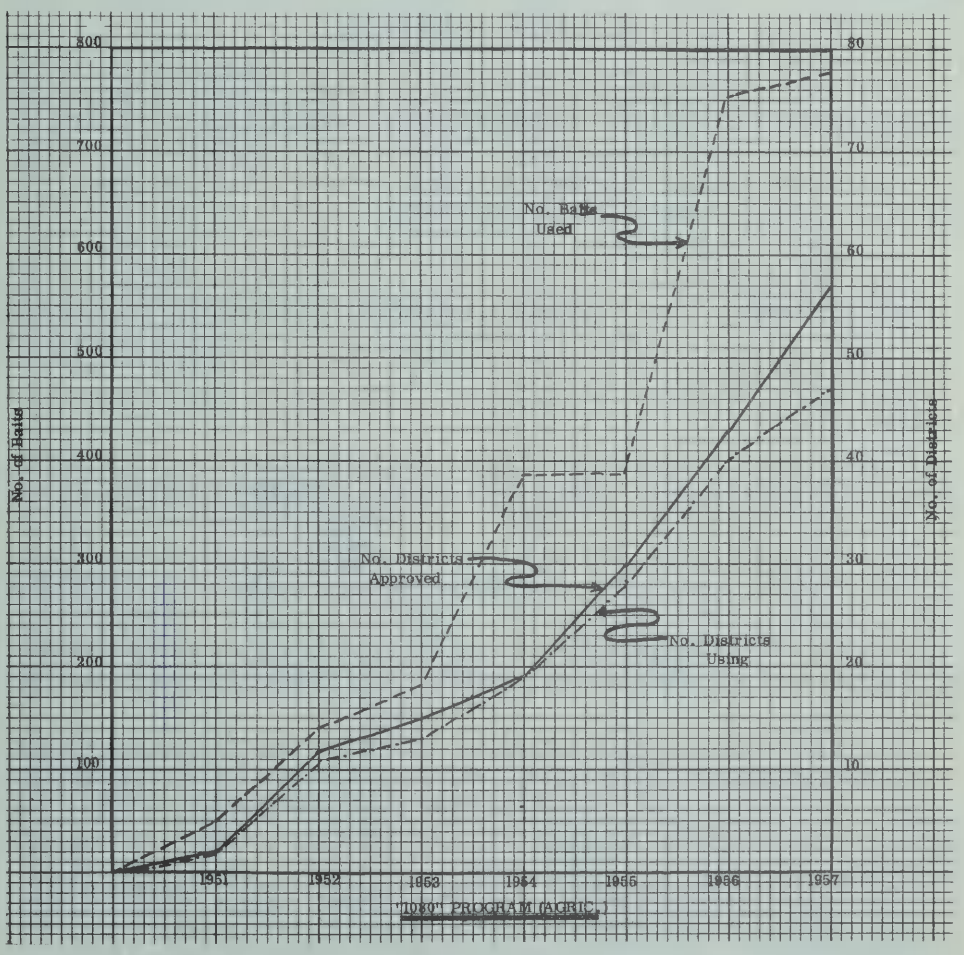
Three forms of poison approved and used in Alberta for coyote control:
(1) Cyanide guns or "coyote getters".
(2) Equipment for preparing "1080" meat baits.
(3) Material for making strychnine-fat pellets.

The poison "1080" was restricted to sparsely settled regions and to open areas in more heavily populated districts, where poisoning could be carried out effectively but with maximum safety to the public. As requested by Municipalities and approved by the

Minister, the following 1080 baits were prepared and set during the winter season:

District	No. Baits Set
M.D. of Acadia No. 34	10
M.D. of Athabasca No. 103	21
M.D. of Bonnyville No. 87	17
M.D. of Cardston No. 6	34
M.D. of Barrhead No. 106	pending
M.D. of Eagle No. 81	15
M.D. of Foothills No. 31	9
M.D. of Kneehill No. 48	25
M.D. of Lacombe No. 64	pending
M.D. of Lac Ste Anne No. 93	14
M.D. of Lethbridge No. 25	10
M.D. of Mountain View No. 49	11
M.D. of Paintearth No. 53	30
M.D. of Pincher Creek No. 9	18
M.D. of Red Deer No. 55	58
M.D. of Rocky View No. 44	25
M.D. of Strathcona No. 83	4
M.D. of Starland No. 47	13
M.D. of Stony Plain No. 84	12
M.D. of St. Paul No. 86	pending
M.D. of Taber No. 14	9
M.D. of Vermilion River No. 71	35
M.D. of Wetaskiwin No. 74	19
M.D. of Wainwright No. 61	12

District	No. Baits Set
County of Newell No. 4	15
County of Ponoka No. 3	11
County of Stettler No. 6	46
County of Thorhild No. 7	7
County of Vulcan No. 2	12
L.I.D. No. 11	29
L.I.D. No. 22	19
L.I.D. No. 58	10
L.I.D. No. 65	17
L.I.D. No. 68	4
L.I.D. No. 77	3
L.I.D. No. 78	15
L.I.D. No. 85	2
L.I.D. No. 95	4
L.I.D. No. 101	30
L.I.D. No. 102	10
L.I.D. No. 107	12
L.I.D. No. 139	9
Special Areas No. 2	12
Special Areas No. 3	48
Sarcee Indian Reserve	8
M.D. of Wheatland No. 40	31
M.D. of Willow Creek No. 26	26
Total Baits Set	778



A total of 57 districts, including Counties, Municipal Districts, Special Areas, Improvement Districts, Indian Reserves, etc. are now approved as areas where 1080 may be set. Some areas have experienced very good control and thus discontinued baiting for one or more seasons. The increase in mice and other rodents has also been a factor in reducing the use of 1080 and other control

poisons. The following table and accompanying graph of the 1080 Program (Agric.) show a comparison of sets, districts using and approved areas, dating back to 1951 when 1080 was first tested in the province:

	1951	1952	1953	1954	1955	1956	1957
No. of Sets	50	143	184	387	387	753	778
No. of Districts Using	2	11	13	19	28	40	47
No. of Districts Approved	2	12	15	19	30	43	57

The table and graph show a definite increase in the use of 1080 poison baits since 1951. The 1956 Annual Report contains a table showing sets recorded by districts for the period 1951-56 inclusive.

During 1957, a total of 47 districts used 778 sets of 1080 bait. The Supervisor, his Assistant and 4 Fieldmen, working out of Edmonton and Lethbridge, serviced all areas.

Publication No. 3 "Poisons for Coyote Control" continued in strong demand. Coyote control meetings were attended in many regions, with much interest and concern shown on this controversial pest.

RODENT CONTROL

Pocket Gophers

Numerous complaints were received, especially from the black and transition soil zones. Forage fields, gardens and lawns suffered damage from pocket gophers. Reports and observations indicate that numbers have increased and pocket gophers have spread into new areas, over the last several years.

A large number of releases on control were distributed to farmers and gardeners. Trials on control methods were conducted in the Edmonton area. Various methods have proven successful but trials will be continued in 1958 to determine simpler means of controlling this pest.

Norway Rats

The general area of infestation along the Saskatchewan border was kept confined to the same regions infested during 1956. Several rat colonies at the Fishing Lake Metis Colony in Township 57 were exterminated, leaving free the regions north of the North Saskatchewan river. The infestation at the year's end extended from the North Saskatchewan river to Township 13 in the Schuler area. Rats are mainly confined to Ranges 1 and 2 along the 4th Meridian and no significant advance westward was made during the year.

Colonies were exterminated as they converged at farmsteads and urban premises for winter quarters. Interest and cooperation of residents remained good as indicated by cleaning-up of premises to remove rat food and harborage, better construction and maintenance of rat-proofed buildings and the proper use of permanent bait stations to kill existing or migrating rats. During 1957 only 6 Notices to Control were issued and one court action necessary as compared to 27 Notices and one court action during 1956.

The following table shows the rat situation as at December 31, 1957, with 1955-56 results for comparison purposes:

	Year	Verm. R. M.D. 71	W'right M.D. 61	Provost M.D. 52	Sp. Areas No. 2 & No. 3	Acadia M.D. 34	L.I.D. No. 11	Totals
Farms	1955	731	519	500	476	156	464	2,846
Checked	1956	606	427	372	838	162	368	2,773
	1957	891	373	415	522	161	358	2,720
Farms	1955	65	2	13	35	26	21	162
Infested	1956	20	2	13	20	20	14	89
	1957	7	2	6	26	8	17	66
Farms Infested	1955	64	34	83	140	33	57	411
But Exterminated	1956	135	36	76	41	55	60	403
	1957	130	56	77	74	33	106	476
Farms Exterminated	1955	2	1	6	0	3	7	19
But Re-infested	1956	1	6	11	6	13	2	39
	1957	7	3	6	0	4	7	27

As indicated by Farms Infested at the end of each year, there has been a consistent decrease despite the pressure of rat invasion. Of the 542 total premises infested during the year, all but 66 showed complete extermination. Pest Control Officers report that remaining infestations have been reduced to small populations. The rat movement from the east was even heavier than that of 1956, during the warm, open fall. However, organized effort has held the line. The Municipal Districts of Vermilion River, Provost and Acadia showed significant improvement over the last 2 years.

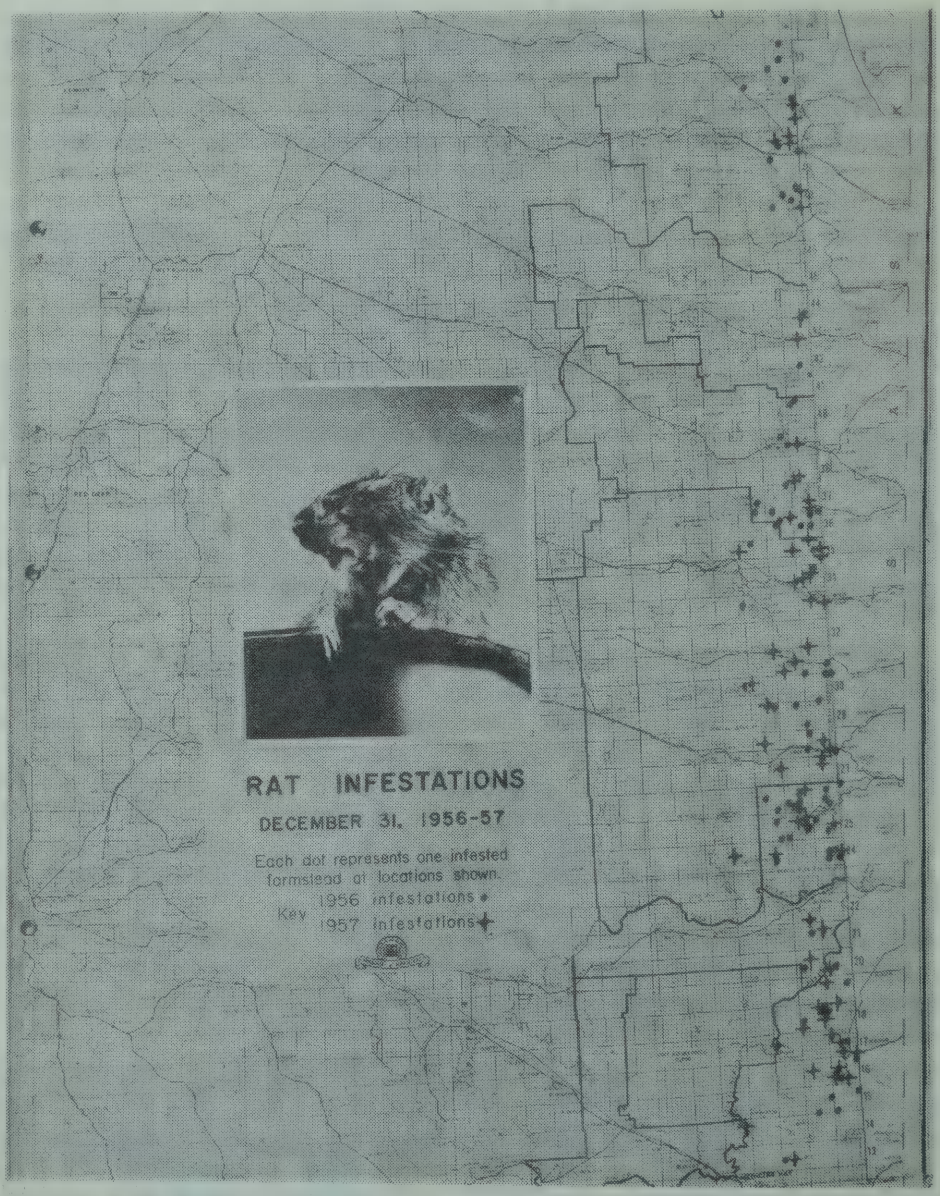
Warfarin and Pival poison baits, plus carbon monoxide, were the main control measures used. The above poisons were supplied, free of charge, during 1957 as follows: 2½ lbs. of concentrate, 12,100 lb. of ready-to-use bait and 9,870 packages (making 9,870 quarts) water bait. Formulations have been changed as the result of trials on caged, wild rats and at infested premises. Successful control depends primarily on (1) poison baits that are more palatable than available food, (2) proper baiting procedure. By conservative estimate, using average populations on infested farms and amounts of poison used, over 45,000 rats were killed during 1957.

A total of some 245 Pest Control Officers have been appointed by rural municipalities, cities, towns and villages. These men handle rat reports throughout the province. Their service can be realized by the large area covered—one infestation was located as far west as Lodgepole in the Pembina Oil field. Two full-time provincial Pest Officers supervised the campaign in the border area, working closely with municipal officers and farmers. The Department continued a grant of 50% toward the salaries and expenses of Pest Officers in the border municipalities of Vermilion River M.D. 71, Wainwright M.D. 61, Provost M.D. 52, Special Areas 2 and 3, Acadia M.D. 34 and L.I.D. 11. These men made farm-to-farm checks, demonstrating and applying control and preventive measures.

Animals known only as Mura and considered a potential fur bearer were brought into the province in the fall of 1956. Since the origin of Mura was unknown but they closely resembled rats, investigations were made. Through the cooperation of the Zoology Department, University of Alberta, and the British Museum, Mura were identified as mutant Norway rats. The Mura were transferred from North Edmonton to Scapa during the summer of 1957. Several animals escaped during transfer but were eventually exterminated. Directions were issued to the owners to have the animals confined in escape-proof premises, at all times.

Several investigations by the Supervisor and Pest Officers indicate that these conditions have been met.

A regional meeting of provincial and municipal officials was held at Consort to review the situation and plan future steps in the control campaign. Five public meetings were addressed with rat control as the main topic discussed. Meeting attendance was 452. Some 14 demonstrations and displays were conducted during summer fairs and other public gatherings. Thirty-eight rat reports were investigated. Three rat films and several sets of colored slides were used at numerous points. The two printed bulletins, rat control kits, mounted rat specimens, news items, posters, etc. were supplied to Pest Officers and others throughout the province.



Pest Control Advisory Committee

The organization meeting of this committee was held in December with representation from the Canada Department of Agriculture, University of Alberta, and the Field Crops Branch. The purpose and functions of the Committee were outlined: (1) to

review and examine research on insect pests, plant diseases and destructive animals as related to agriculture. (2) To advise the Alberta Department of Agriculture on developments as they may affect Departmental policies and farm practises.

Extension and Miscellaneous

The Supervisor and his Assistant attended 23 meetings, short courses and field days, at most of which talks were given. Five Agricultural Service Board and Council meetings were attended on various pest control matters. Judging was done at 10 fairs and achievement days. Two weeks were spent on Bacterial Ringrot survey. Displays and demonstrations on control of various pests were held at 16 fairs or meetings. Twelve articles were prepared for Farm Notes and 9 radio interviews made. Nine conferences and committee meetings were attended. There were 142 field investigations made on various problems. Poison bait field trials were conducted, during the winter, for magpie control and data on some 8 baits compiled.

Acknowledgment

The contributions and assistance of the Canada Department of Agriculture, the University of Alberta and other departments and organizations were greatly appreciated and hereby acknowledged.

HORTICULTURE SERVICES

Tree Planting

In 1957 Alberta farmers planted 1,811,823 trees. The total was made up of 1,328,423 from Provincial Nurseries and 483,400 from the Federal stations. This is an increase over 1956 of 358,373. The number of farmers receiving trees was 2,188; 1,628 obtaining their trees from Provincial Nurseries. The remainder from Federal stations. This is a decrease of 447 from 1956.

The two Department mechanical tree planters were again used for demonstration purposes. Planting demonstrations were held at Cardston, Hanna, Strathmore, Brooks, Vermilion, Edmonton, Stony Plain, Westlock, Smoky Lake and Grande Prairie.

As in former years the majority of the trees were planted in Farmstead Shelterbelts although each year more and more Alberta farmers were realizing the value of trees to assist in controlling soil erosion and beautifying and protecting roads and are planting trees for this purpose.

1957 was not the best year for starting trees. The planting season started suddenly and some of the varieties, particularly the Evergreens, had commenced to make new growth before they could be shipped from the Nursery. Some farmers reported losses with these trees. The weather over most of the Province remained dry and hot during and after the planting season, and where the farmer neglected to water the newly planted trees, losses were experienced. To overcome the losses reported from the use of hardwood cuttings of Poplar and Willow, the Nursery rooted and shipped a larger number of rooted trees of these varieties than in previous years. This program is being enlarged each year.

Tree Nursery Station—Edmonton

1,151,083 trees and 154,240 hardwood cuttings of Poplar and Willow were supplied to 1,650 farmers from the Oliver Nursery.

This was an increase over 1956 of 437,828 in the number of trees but a decrease of 140 in the number of applicants receiving trees from this nursery.

An inventory of trees in the nursery at the end of the year included 3,325,000 evergreens and 1,800,000 rooted deciduous trees. In addition to these 5,125,000 rooted trees, the nursery staff have made 300,000 hardwood cuttings of Poplar and Willow.

The nursery employs a staff of three permanent men. In the summer, five extra men are hired plus six patients from the Oliver Hospital. Twenty-two extra men were hired at shipping and planting time.

Two new shelterbelts were established, one a mile long running north and south and the second over 400 feet of Villosa Lilac. This will serve the dual purpose of providing shelter and within a few years an annual supply of seed of this excellent shelterbelt hedge. Six thousand selected trees were lined out for the Department of Lands and Forests. These are to be used by the Parks Board for beautifying Provincial Parks.

The following new equipment was added to the nursery: a bundle tyer; a tree digger designed by the staff of the nursery; a 24" power lawn mower; and a one ton panel truck.

There was no conifer seed crop in 1957. The staff gathered and processed 400 lbs. of seed of Green Ash and Manitoba Maple seed.

Chemicals were used to control weeds in the Caragana beds and reduced the amount of hand weeding to a minimum. The weeds in the rest of the nursery were controlled by intensive cultivation.

A serious outbreak of spruce sawfly and red spider was controlled by spraying twice with Malathion.

Other Activities

The Supervisor of Horticulture spoke at 15 public meetings. In addition to these meetings he spent some time in 21 District Agriculturists' areas assisting with tree planting, farmstead planning, advising on demonstration orchards, and other horticultural matters. He acted as a judge at 6 Horticultural Bench Shows and assisted at 4 4-H Garden and Potato Club Achievement Days. He attended 3 meetings of the Alberta Horticultural Association and attended 9 monthly and 4 executive meetings of the Edmonton and District Planning Commission. He is a member of the Whitemud Park Committee and attended 3 meetings. Four radio talks were given on the Department's program "Call of the Land" and one on C.B.X. Sixteen press releases on topical subjects were published in the Department's weekly release "Farm Notes".

Nursery Inspections

In co-operation with personnel of the Canada Department of Agriculture, Science Service, the Supervisor of Horticulture inspected 9 Commercial Nurseries. The inspection is carried out each year to check the nurseries for diseases and insects. Particular attention is paid to imported stock. As a result of this inspection the Department, in co-operation with the two other Prairie Provinces, publishes a list of Prairie Nurseries.

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.

Alberta Horticultural Association

The Association held its 5th Annual Meeting at Calgary on January 31st and February 1st. The Third Provincial Horticultural Show was held in Lethbridge on August 16th and 17th in conjunction with the Annual Bench Show of the Lethbridge and District Horticultural Society. It was the finest show yet held. The Executive met at Calgary, Lacombe and Lethbridge. Ten local societies joined the Provincial organization in 1957.

Seed Potato Production

The following table is a seven year summary relative to seed production in Alberta:

	1951	1952	1953	1954	1955	1956	1957
No. of Growers	114	81	86	70	67	72	65
No. of Fields Inspected	212	177	200	223	228	220	222
Acres Insp. for Cert.	975	702	942	1,022	1,004	1,328	1,577
No. of Fields rec. Cert.	183	163	168	198	214	186	188
Acres passed for Cert.	.....	578	844	905	965	1,129	1,272

Potato Production Improvement Committee

This Committee, appointed by the Horticultural Advisory Board, is composed of potato growers from all commercial producing areas of the Province and Government personnel interested in potato production. 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 1957, the Annual Meeting in Calgary in March and a second in conjunction with a Field Day at Lacombe in July. The publication "Potato Production in Alberta" was prepared and is ready for printing.

Tuber Indexing of Foundation Seed

The service of indexing foundation potatoes was continued jointly by the Field Crops Branch, the Brooks Horticultural Station, the University of Alberta and the Canada Department of Agriculture. 1,115 tubers, a reduction of 242 from the previous year were grown in the greenhouse at the Brooks Horticultural Station and disease readings taken early in April by a Plant Pathologist. 85.7% of the tubers qualified as suitable for production of foundation seed. 8% showed very slight mosaic, 1.4% showed mild mosaic, 0.8% showed leaf roll, 1.9% were weak, 1.4% were missing and 0.8% showed Haywire.

REPORT OF THE HORTICULTURAL STATION BROOKS

Introduction

The number of horticulture plants on the Station was increased during the past year, by planting additional controlled cross fruit seedlings, by increasing the number of small fruit varieties, and by obtaining new parental material for small fruit breeding. Tomato

and cabbage improvement projects are reaching their peak of interest and a number of selections have been made from the former. As a result of tomato crosses made in 1938 and the distribution for trial of seven selections from the progeny, one has been introduced to the trade by Dr. A. F. Yeager of the University of New Hampshire under the name of "Johnny Jumpup". It is not a commercial tomato but an excellent home garden variety useful for juice and salads. It is valuable to plant breeders who need earliness, many loculed fruit and branch determinate plants as parents. Encouragement was given to a number of growers in the production of tomatoes for the fresh market. This program was supervised by Mr. T. Kilduff anad Mr. D. A. Shaw, with the Experimental Farm at Lethbridge cooperating in the production of the plants. The net return was such that many of these growers will be interested in larger acreages.

Checking with the cooperators in demonstration orchards was continued this year. This program will require another two seasons before a complete survey of the planted material has been made. This method is proving of great help and encouragement to the growers and is supplying much needed information with respect to success or failure of the varieties and introductions. Vegetable growers in the irrigated areas, and the vegetable plots on the Station, have borne out observations that there appears to be an unbalance in the nutritional requirements of root crops. There is an indication that this is due to minor element deficiencies being aggravated by alkali conditions.

The major undertaking in the Station program during the year was the construction of a water reservoir with pumping plant and fire lines. This project has been completed. The polythene lining for the reservoir and the pressure filtration system will be a practical solution for the water problem which faces the majority of farm residences in this area.

Administration

Qualified technical help for carrying out the field work on the Station continued to be a major problem. This has been aggravated by sickness and resignations of the staff. The field work was carried on with fewer labour hours during the past calendar year. The actual hours of labour used during 1957 was 27,836 hours compared with 28,283 hours in 1956. This time has been distributed amongst the various fields of work in about the same percentage as in previous seasons. Seasonal lay-off periods, without the benefit of unemployment insurance, continue to aggravate the labour recruitment problem. The past three years are compared in the following table:

	1955	1956	1957
Propagation of trees and shrubs	28%	30.3%	26.0%
Assembling and distribution of trees	%	3.7%	1.4%
Vegetables and potatoes	18%	14.1%	21.9%
Orchards	11%	7.6%	6.5%
Greenhouses	8%	6.6%	7.3%
Ornamentals	10%	0.1%	0.5%
Other Crops	15%	14.1%	13.2%
Maintenance and machinery	6%	21.0%	17.5%
Weather	4%	3.7%	1.1%
Office, landscaping, frozen food, lab.	..... %	2.0%	4.6%

Propagation of trees from cuttings continued to present a problem on Station soils. Identical materials planted on the Strathmore sub-station soils of light sandy loams gave higher percentage catches and much more vigorous plants. This part of the

propagation program is one that needs a detailed investigation. Our own sources of stock tree seeds were gradually improving.

Extension

Staff members were participants of 48 days at various agricultural extension meetings, 15 days judging at horticultural shows including the Saskatchewan Provincial Show, 10 days at short courses and 29 calls were made within the district to assist in various problems. Approximately 1,500 visitors called at the Station during the year, in groups and individually. The Annual Convention of the Agrologists' Institute of Alberta was held at the Station during June. A member of the Station staff, along with Mr. P. D. McCalla, again conducted an orchard tour of the north-central part of the province. During this tour 15 demonstration orchards were inspected. Landscape plans were prepared for 13 farms. The volume of correspondence continued on a par with that of last year. Staging of the Department exhibit at the third Annual Provincial Horticultural Show featured a collection of tuberous begonias.

Climate

During the growing season the supply of moisture was well below normal. Heat conditions were good in the early growing season but the latter part of the season was cold. January was the coldest month with an average snow cover of seven inches. During February and March, occurrence of chinook winds caused a fluctuation in temperature and snow cover. In the latter part of April temperatures as high as 81°F were recorded and on May 2nd and 3rd temperatures of 83°F occurred, followed by a killing frost on May 22nd. This resulted in severe damage to the early buds on trees. Most typical damage caused by the adverse winter conditions was the number of trees with internal winter injury.

The extreme low temperature was —42°F in January and the extreme high 93°F in July. August was rather wet again this year with 1.56 inches of rain being received. After a low temperature of —9°F on the 18th of November, the fall weather was mild with numerous chinook winds. A summary of meteorological conditions appear in the following table:

Month	Max.	Min.	Mean Temps. Max.	Mean Temps. Min.	Mean Temp.	Precip. in inches	Hours of Sunshine
January	37	—42	11.3	— 9.2	1.0	1.01	93.0
February	45	—35	23.0	1.7	12.4	0.78	137.4
March	57	— 7	38.6	18.9	28.8	0.91	177.4
April	81	12	53.1	28.5	40.8	0.68	258.7
May	83	25	69.6	40.0	54.8	0.31	335.6
June	86	36	71.6	46.4	59.0	1.78	258.4
July	93	39	82.1	52.3	67.2	0.53	370.8
August	88	36	73.3	48.5	60.9	1.56	269.9
September	87	24	69.8	42.4	56.1	0.71	190.6
October	86	7	46.4	25.0	35.7	1.35	141.5
November	55	— 9	37.7	20.5	29.1	1.05	128.4
December	51	—10	36.9	17.0	26.9	0.11	93.3

The length of growing season was 118 days with the last killing spring frost on May 22nd and the first killing fall frost on September 18th.

Propagation and Distribution of Trees and Shrubs

In the spring of 1957 the majority of trees grown at the Station were distributed from Edmonton. These trees were dug in the fall of 1956 and trucked to Edmonton. The truck doing the hauling brought moss from the Edmonton area to Brooks for packing. A total of 100,320 trees were transported to Edmonton. They

were poplar, willow, ash and maple. The following table compares shipping quantities for the years 1953 to 1957:

Kind	1953	1954	1955	1956	1957	Totals
Maple	12,100	8,500	26,000	26,450	89,050	162,100
Ash	2,070	34,500	44,000	82,000	.....	162,570
Poplar, rooted	15,080	5,280	14,500	37,140	8,450	80,450
Poplar, cuttings	5,110	27,000	5,350	20,000	8,000	65,460
Willow, rooted	13,080	19,860	19,560	51,150	2,350	106,000
Willow, cuttings	15,065	25,000	35,500	30,000	12,000	117,565
Roadside plants	20,154	49,785	48,800	35,590	42,950	197,279
Fruit Trees	.....	2,100	2,230	620	2,830	7,780
Totals	82,659	172,025	195,940	282,950	165,630	899,204

Fruit trees were still much in demand, 163 requests were received and all orders were filled. Fruit trees distributed totalled 2,830. Requests were double, and the quantity distributed four times that of 1956. Material for ten new demonstration and twenty farm orchards were sent out. The remainder of the fruit trees were for replacements and small plantings. Favorable and interesting reports are coming in from bearing orchards.

The demand for bundles of mixed plants for roadside planting was heavy. One hundred and sixty-two bundles of the low growing types and 153 bundles of the tall growing types were shipped, making an increase of 35% over last year. For the last two years fall digging has not been completed. The slow ripening of the wood together with early freezing being the main factors. Shipping was begun on May 6th and finished on May 21st, ten days later than the previous year.

The digging for transplanting from the seeding beds was started on April 8th and in the field fruit trees for shipping were dug on April 16th. Transplanting to the nursery row was begun on the same date. An additional 100 feet was added to the seed frames to accommodate varieties that did not respond well in the open field. The planting of poplar and willow cuttings was begun on April 23rd using high school help while the main crew was seeding and preparing for shipping.

The gathering of Honeysuckle seed was started on July 18th and Mayday seed on July 23rd. The collecting of the various seeds was carried on, as they matured, until freeze-up. We are now independent for some varieties, of seed, such as Elderberry, Honeysuckle and Russian olive. However, seed from various horticultural stations and parks in the province, and from seed houses, is needed to meet the balance of requirements.

The budding of fruit trees was started on August 6th and finished on August 13th. Plums were budded in larger amounts than apples due to a shortage of apple seed three years ago. Twenty-five lots of bud and scion wood were shipped to interested parties. Interest was shown, during the past year, in Station introductions, especially the Jubilee Rosybloom Crab, Griffin Poplar, and the Albol Currant. Requests came from as far as Holland and France for propagating material of these varieties.

The growing season was very dry, resulting in the small sprinkler system working most of the time in the seed beds. The addition of a small Farmcrest tractor to mulch the seedling beds proved successful.

Tree Fruits and Small Fruits

The fruit tree seedling orchard was increased by adding 6,230 young trees, all of controlled cross parentage, received through the

Prairie Fruit Breeding Co-operative Program. This brings to 19,893 the amount of seedlings planted on the new Station for selection purposes. Data was recorded on the seedlings planted in 1953 for the second year and on the seedlings planted in 1954 for the first time. A large number of the seedlings are showing a high degree of hardiness, although some apples have internal injuries which are not immediately apparent. They also show a fair amount of vigor. Adverse sub-soil conditions and rabbit damage resulted in the loss of 90% of the pear orchard seedlings laid out last year. Although most of them were replaced in the spring it is doubtful if they survive. No further planting will be attempted in this field until the sub-soil conditions can be improved.

In the variety orchard a number of trees are showing signs of internal injuries. It will not be known how severe the damage is until next spring. A few trees were severely damaged by rabbits and mice.

A rodent control program was started this fall in order to overcome the problem. Half of the controlled cross seedlings were sprayed with Toxaphene and half with Aldrin as a repellent for mice. Bark of the orchard trees was painted up to two feet high with a mixture of Arasan and Asphalt water emulsion. Ringwood repellent was also used and comparisons will be made between the different products. This should control both the rabbits and mice.

The raspberry varieties suffered some winter killing but all fruited for the first time. Samples of each were taken for freezer testing. Raspberry seedlings also fruited for the first time. All of the non-desirable plants were discarded and further selection will be carried on next year. Increase plots of Chief, Tweed, Trent and Madawaska raspberries have been established. These will eventually be available for development of pilot commercial plantings. A new strawberry variety plot was laid out. The currant and gooseberry varieties proved hardy but all have not reached fruiting age. Red-leaf disease wiped out most of the rhubarb plants. As a result all of the seedlings from which cooking and freezer samples were taken this year will probably be lost. An attempt was made to save and propagate the plants which have shown resistance to the disease.

Vegetables

Foundation Vegetable Seed Production—During the past season 17 varieties were grown; seed was harvested from 11 beans, 2 sweet corn, 1 squash, 1 cucumber, 1 carrot, and 1 eggplant. The carrot plots in this program showed indications of disease. The foundation bean varieties were grown on 11 separate plots in order to reduce the possibility of disease infested seedstock.

Breeding—Eighty-nine tomato selections from crosses made in 1948 to 1953 were grown. Twenty-two promising selections were harvested and seed retained for further trial. One strain, B.V. No. 45, a Farthest North × Redskin cross, has been of particular interest because of its size, earliness and color. Twenty-four lines of the Evergeen cabbage were grown, harvested and stored for further trial work. Promising strains will be grown in the greenhouse for seed production.

Fertilizer Test on Red Cored Chantenay Carrot—Five 150-foot rows of carrots were grown and 4 different applications of fertilizer made. After harvesting the yield of every row was recorded and

stored separately to obtain the moisture loss and rot from each treatment. Carrots were stored to November 13th and February 8th, then graded, washed, and prepackaged in polythene. After three weeks of shelf display at 66°F-70°F and at 56°F all samples were acceptable. No severe blackening was noted. In this preliminary test no significant differences in yield or breakdown were recorded.

Vegetable Trials—The 1957 program was made up of the following vegetable varieties—47 sweet corn, 10 field corn, 37 tomatoes, 16 cucumber, 26 green beans, 11 pole beans, 5 broad beans, 6 dry beans, 10 cauliflowers, 5 broccoli, 10 cabbage, 15 peas, 23 onions, and 97 other vegetable varieties. Beans, sweet corn, carrots,, turnips, cauliflowers, brussels sprouts, broccoli, vegetable marrow and squash were prepared and frozen for palatability studies after 6 months of storage.

A pruned, indeterminate tomato variety known as Cyano led production with 144.00 lbs. of marketable ripe fruit per plot. Next in total yield was Earlinorth, followed by Harrow and Early Lethbridge. Symptoms of "aster yellows" were apparent in carrots, lettuce, tomato, celery and potato plants. All the cucurbit reached maturity. Outstanding varieties for this district were reported to the Horticultural Advisory Committee.

Potatoes

Although control of "aster yellows" was difficult and severe cases of rhizoctonia appeared, the potatoes on the Station performed well. Spring damage due to wireworms and late season-growth influenced the marketable quality. A seed plot of approximately two acres were grown and passed inspection as foundation. Unit row selections from tuber indexed stock has resulted in two strains of Netted Gems being retained for increase.

Yield data, corrected for elimination due to wireworms, gave the three highest yields to Chicago, U.S.D.A. 135-49-3-51, and Cherokee. The numbered selection is scab resistant, a limiting factor on the other two.

A regional trial plot was laid down for the National Potato Trials. All production in these trials was from tuber indexed seed processed at Scott or Ottawa and all data was code-recorded and reported back to the Committee. Some seven thousand seedlings, started in the greenhouse, were transplanted. During harvest 120 selections were made for further observation. Selections from 1953, 1954 and 1955 field plantings were again grown for early and late yield records. Only three stocks from the 1953 plantings now remain. Specific gravity determinations were made on the 1954-55 stocks and the poorer material discarded. During the fall 7,265 plants were grown from seed in the greenhouse. These were planted in 3-inch pots rather than cans and produced superior tubers.

During the winter 1,125 tubers, submitted by 11 growers were indexed in the greenhouse. The potatoes performed well with an all time high of 86.5% being disease free. Some use was made of the indicator plant, **Gomphrena Globosa.** All samples submitted by growers carried Virus X with the exception of a Pontiac sample submitted by R. O. Jussula of Manyberries.

Plant Introductions

Introductions to the ornamental plantings included Dunvegan Blue and Madora Junipers, Prairie Almond, Schubert Chokecherry, twenty-five raspberry selections from Wyoming and Alaska, and three dwarf apple stocks.

A collection of Chrysanthemums was replanted, with foundation stocks coming from many sources. Propagation from these permitted establishment of 1,000 young plants representing 25 varieties. These gave a beautiful fall display until the heavy frosts of October. Varieties that were outstanding for earliness and bloom were Valiant (dark brown), Dropmore (rose), Sundance (yellow), No. 50 (double yellow), Burgundy (maroon), Red Wing (red), Glacier (white), No. 43 (bronze), and Mordengold (golden yellow). The latter two are low-growing varieties particularly suited to border planting.

Other perennials added during the year were Delphinium, Pyrethreum, Coreopsis, Heliopsis, Fall Asters, **Lychnis anthimus,** Anchillea, Gaillardia, Aquilegia, Scotthardy Carnation. **Geranium Grandiflora.** A collection of Pentstemon hybrids from the North Platte Experimental Station, Nebraska, was established. The gladioli collection suffered from an attack of "aster yellows". Peonies and Iris experienced hot, dry weather conditions during the blossom period.

Frozen Food

Vegetables—A total of 184 varieties were processed in the laboratory for organoleptic tests with emphasis on carrots, sweet corn, beans and peas.

Fruit—Eight varieties of rhubarb, 41 rhubarb seedings and 13 varieties of raspberries, some of which were done with plain syrup, sucaryl, and sweeta, were processed for freezer testing.

Wrapping Materials—A summary report of results obtained from 26 different types of wraps for use on meat for freezer storage was prepared. Moisture loss after six months storage on the control sample was 9.5%. Two of the new wraps introduced to the test had a relative loss of 1.63% and 2.33%. The balance of the twenty-seven samples had weighed moisture losses of less than 0.50%. The control sample showed considerable freezer burn, loss of color and also scored low because of rancidity.

REPORT OF THE APICULTURE BRANCH

The estimated honey production for Alberta in 1957 was 6,362,000 lbs. This places Alberta as Canada's second highest honey producing province. This year's crop was 1.6 million pounds larger than the 1956 production, and 900,000 pounds larger than the average for the past 10 years. The large increase was due to forage and weather conditions which produced a higher than normal per colony crop. The number of colonies and number of beekeepers remained the same as for 1956.

The quality of the 1957 honey crop was high. Market conditions remained firm with only a small carry-over of the 1956 crop in August when the 1957 crop started to come in. Several processors and packers who had in the previous two years purchased substantial quantities of honey in the U.S.A. restricted their imports and purchased Alberta honey in 1957. Producers have experienced no difficulty in disposing of their crop. Prices remained at 16 cents per lb. in bulk for the past two years. The

trend away from producers packs continued this year with an even higher percentage of the crop going to commercial packers.

The supply of package bees from California was more satisfactory than for the past few years, orders were filled promptly and few complaints were received on quality.

The price of package bees varied from $4.70 to $5.70 per package depending on the quality ordered. This was similar to 1956 prices. Considerable work is being done in the United States to improve the quality of the breeding stock.

Acreages of clover in Alberta were substantially up in 1957. Generally, beekeepers experienced no difficulty in locating adequate bee forage this year. Most areas had satisfactory weather conditions for a normal to above normal crop. A few limited areas suffered from drought while the Peace River area received too much moisture. Beekeepers in the Peace River area were unable to manage their apiaries adequately due to impassable roads. This coupled with inclement weather which prevented bee foraging, resulted in only a fair crop of honey for that area.

Mr. A. C. Bradley, of Athabasca, was successful in winning several awards for honey at the Pacific National Exhibition at Vancouver. Mr. Louis Regamey and his Son of North Edmonton, won several awards at the Royal Agricultural Winter Fair, Toronto.

Honey Grading and Inspections

The Apiculture Service grades and classifies honey samples forwarded to them. Grades are determined by cleanliness, quality and moisture content. Class is determined by color. All 35 samples of Alberta honey received were in the white class. One sample of imported honey graded dark. All samples were No. 1 on moisture content. Only retail packs are graded for cleanliness and texture since samples received are bulk tank runs; they are not graded on cleanliness and texture.

The Canada Department of Agriculture Marketing Services inspectors check honey at the retail and wholesale level. Honey packs improperly graded or classified or which do not meet the grade and class declared, are placed under detention. These are either re-marked or returned to the packer for reprocessing.

	1956	1957
Violations	10	12
No. of containers under violation	125	198

Extension

The Supervisor of Apiculture assisted in organizing four beekeeping field days and spoke at 18 district Beekeepers' meetings, and also the annual Beekeepers' Convention. Lectures were given at Olds and Fairview Schools of Agriculture; five radio talks were given and several articles written for beekeeping publications. This year Alberta Beekeepers were hosts to the Provincial Apiarists Association of Canada, and the Canadian Beekeepers' Council. The Supervisor of Apiculture judged honey exhibits at the Edmonton Exhibition and also at the Edmonton and Calgary Beekeepers Associations honey competitions.

Disease Control

This Service discontinued supplying drugs to beekeepers. Adequate supplies were available from business firms handling drugs and most beekeepers are familiar with the proper use of antibiotics and drugs. Sulfa is recommended only in early spring feeding for the control of American foulbrood. This drug is

effective only in the control of American foulbrood, while terramycin will effectively control both American and European foulbrood. Terramycin is an antibiotic whereas sulfa is a drug, therefore the effective life of terramycin is much less than that of sulfa, and requires more treatments thus increasing cost of material and labor. The cost of all necessary treatments of one colony for one year with terramycin is 30 cents while for sulfa the cost is only 6 cents.

A survey of beekeepers with over fifty colonies indicated a reduction in American foulbrood from 2.3% in 1950 to .93% in 1957.

Much remains to be done in familiarizing beekeepers with the possibilities and limitations of the use of antibiotics and drugs in the control of bee diseases. A few complaints were received this year, of chemotherapy not being effective in the control of disease but in every case investigation proved that improper management was at fault rather than failure of the drug or antibiotic to control the disease.

Thirteen inspectors were appointed under the Bee Disease Act. Most of these inspectors are commercial beekeepers and find it impossible to devote any significant amount of time to inspection due to the amount of work necessary to effectively run their own apiaries. These inspectors are paid on a per diem basis.

A new approach to disease inspection was begun in the fall of this year. Inspectors are checking equipment stored for winter in warehouses. This system is proving very satisfactory. During the summer it was often difficult to locate apiaries especially of smaller beekeepers, who were employed at other work during the day. Under the present system the equipment is stored at home. Also, inspectors find they have more time to devote to inspection work during late fall and winter. While this cannot replace summer inspection, it enables inspectors to investigate a great deal more equipment. If disease is present the inspector is able to advise the beekeeper on proper use of drugs and antibiotics. When disease is found during summer inspection, it is often too late for colonies to respond to treatment and to produce a honey crop.

Investigations

A new honey producing crop has made its appearance in Alberta. Several thousands of acres of rape were grown in beekeeping areas. Reports from other provinces indicated rape honey is liable to granulate in the comb prior to extraction thus making extraction impossible. Investigations this year in two apiaries in the Edmonton area showed that one apairy located near a field of rape commenced granulating in the comb about August 17 and by September 15 fifty percent of the honey had granulated. In the other apiary, in the same area but beyond the flight distance of the rape field, practically no granulation had taken place by September 15th when the honey was extracted. Beekeepers have been advised to extract honey in rape areas prior to the end of August.

Statistics

	*1956	**1957
Honey production ('000 lbs.)	4,724	6,362
Average net price to producers (bulk)	.16	.16
Value of honey (dollars)	755,854	1,017,920
Value of beeswax	35,000	47,000
No. of beekeepers	1,800	1,800
No. of hives	48,200	48,200
Average production per hive (lbs.)	98	132

*Revised
**Preliminary estimate.

Report of the Live Stock Branch

W. H. T. MEAD, Live Stock Commissioner

W. C. Gordon, Live Stock Supervisor
A. J. Charnetski, Live Stock Supervisor
I. A. Coles, Supervisor of Feeder Associations
J. J. Kallal, Live Stock Fieldman
S. B. Clarke, Brand Recorder

Farm income from the sale of live stock in 1957 assisted greatly in alleviating the difficulties brought about by the backlog of grain supplies. Continued restriction on grain deliveries was partly responsible for record numbers of cattle fed in feedlot during the winter and summer of 1957. Cattle marketings again increased by about twenty percent over the previous year, and was highlighted by record numbers of fat and feeder cattle and stocker calves exported to the United States during the last four months. This movement strengthened all markets and no doubt prevented a serious decline in prices during the period of heaviest deliveries. It was also responsible for a reduction of approximately one-quarter to one-third in the numbers of cattle going into Alberta feedlots in the fall of 1957 compared to the previous year.

The decline in swine numbers reached its low point during the year and the increasing population became evident in marketings during September. A general increase in nearly all activities carried on in the Branch indicates a general growth in the Live Stock Industry.

CATTLE

Cattle came through the 1956-57 winter in good condition and feed supplies on hand last spring were greater than a year previous.

Spring calf losses were less than normal.

Pasture conditions were satisfactory in most areas throughout the grazing season, although dry weather threatened to reduce carrying capacity during June and July in the east central area.

Cattle entered the winter of 1957-58 in good condition in the southern part of the province and fair to good in the northern part. Feed supplies are ample in most areas except the Peace River where weather conditions interfered with haying operations and prevented completion of harvest.

Alberta's cattle population was estimated at 2,600,000 at June 1st, 1957.

Marketings at public stockyards and packing plants increased by 19.4% over 1956.

Finished cattle prices were steady during most of the year with a softening trend in late summer but strengthening at the year's close under the influence of a stronger U.S. market.

Returns from pure bred sales in 1957 were equal to and in some instances above 1956 prices.

At the 57th annual Calgary Bull Sale, 800 head averaged $519.68 compared to 841 head and an average of $485.45 in 1956. W. J. Edgar, Innisfail, sold the Hereford bull "Wetmore Mixer LRD 6K"—457323— to Bill Studdert, Philipsburg, Montana,

U.S.A. for the top price of $4,100.00. The Aberdeen Angus bull "Dalrenemere 4th"—147483—bred by Flint and Flint, New Norway, sold for $1,100.00 to L. Steeves, Hanna. The Shorthorn bull "Rothney Imperial"—362645—bred by A. R. Cross, Midnapore, sold for $2,300.00 to Clem Laughlin, Viking.

Pure bred breeders sold 2,479 beef bulls through fourteen consignment sales at Calgary, Edmonton, Olds, Lethbridge, Lacombe, Lloydminster, Stettler, Camrose, Fairview, Vermilion, Sangudo, St. Paul and High River.

	No. Sold	Total Value	Av. Price
Hereford	1,722	$754,479.00	$426.00
Aberdeen Angus	300	122,811.00	409.37
Shorthorn	407	144,646.00	355.40

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

Year	No. of Head
1953	1,910,000
1954	2,010,000
1955	2,085,000
1956	2,186,000*
1957	2,600,000

*The 1956 census revealed 2,449,211 cattle and calves which makes the 1956 estimate low by 12% and accounts for the large increase in 1957 estimate.

The official reports of the Canada Department of Agriculture show for Alberta the following cattle and calf marketings and total value for 1953 to 1957 inclusive.

Year	No. of Cattle	Value	No. of Calves	Value
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
1956	712,975	89,647,975.00	146,259	7,655,870.00
1957	807,858	109,592,731.00	178,583	11,409,125.00

CATTLE AND CALF SHIPMENTS OUT OF THE PROVINCE

	1956	1954	1955	1956	1957
British Columbia	95,811	92,560	86,478	85,511	106,308
Saskatchewan	1,865	1,223	1,051	1,201	780
Manitoba	16,833	20,558	19,079	29,241	20,606
Ontario	53,931	69,623	58,776	84,669	56,772
Quebec	35,231	43,301	34,941	37,406	35,131
Nova Scotia	.....	29	.....	83	45
New Brunswick	.....	.....	26	44	.....
U.S.A.	15,779	34,954	12,459	1,123	108,957
Newfoundland	.....	.....	.....	.....	.....
Prince Edward Island	.....	40	.....	.....	.....
	219,450	262,288	212,810	239,278	328,599

THE CATTLE IMPROVEMENT POLICY

The same regulations applied to this Policy in 1957 that have applied since November 1951.

Five hundred and seventy-two bulls were placed in 1957. There were 343 Hereford, 144 Shorthorn, 62 Aberdeen Augus, 4 Galloway, 6 Red Poll, 11 Holstein and 2 Ayrshire.

Two hundred and twenty-nine bulls were selected by the Department and shipped prepaid to applicants. Of these, one hundred and twenty-nine were purchased at bull sales and one hundred were purchased direct from breeders. Three hundred and forty-three bulls were appraised at applicants' request on breeders' premises.

The following table shows the placement of bulls for the past five years:

1953	677
1954	630
1955	558
1956	505
1957	572

LIVE STOCK LISTING BUREAU

This Policy provides for placing pure bred breeding stock, male or female, with pure bred breeders and others not eligible under the Cattle Improvement Policy. There is no financial assistance on the purchase price or freight prepayment on such placements. During 1957 eight bulls were so placed. A figure on female placements is not available because persons making inquiry made direct purchases from the breeders.

Messrs. Kallal and Gordon visited 408 breeders' premises and appraised approximately 1,100 bulls in connection with the Cattle Improvement Policy. Sixty-six farm calls were made regarding selection of the 1957 Live Stock Exhibit to the Toronto Royal Agricultural Winter Fair. Part of the program was presented at eighteen courses and meetings and at two field days. They judged at twenty-one 4H Achievement Days at which there were a total of forty-five clubs and judged two fall female sales and one summer fair.

LIVE STOCK FEEDER ASSOCIATIONS

Twenty-nine feeder associations operated under The Feeder Associations Guarantee Act in the 1956-57 season. These associations had 834 active members who fed 23,124 cattle and 10,585 lambs, utilizing a credit of $2,008,057.61.

All loans from loaning institutions by feeder associations under the 1956-57 guarantees have been repaid.

Most cattle and lamb feeders received a satisfactory margin on their feeding operations.

Outstanding loans under the 1951-52 guarantees, resulting from market conditions following the diagnosis of Foot and Mouth disease in 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.

Loans outstanding at Banks and Treasury Branches under the 1951-52 guarantees were $29,148.74 at September 1, 1957 compared to $46,088.87 at September 1, 1956.

Two new Associations operating in the 1956-57 season, were "Highwood" in the High River area and "Western" in the Strathmore area.

FEEDER ASSOCIATION OPERATIONS 1956-57

Associations	No. Members	Cattle	Sheep	Amount of Credit
Andrew-Willingdon	8	142		$ 11,729.67
Battle River	47	1,381		104,502.22
Big Valley	24	743		54,752.70
Bowden	17	474		40,143.21
Bow Valley	47	1,378	660	99,831.82
Cardston	23	890		73,747.57
Carstairs	39	999	450	108,991.09
Central	24	650		53,739.89
Eagle Hill	33	967	403	83,086.25
East Bow	42	1,253	614	99,507.57
East Central	32	1,041	605	87,810.88
East Olds	21	737		59,346.46
Garden City	15	617	224	50,241.66
Highwood	29	757		73,925.90
Horse Shoe Lake	15	387		40,768.71
Innisfail	17	473		40,669.58
Kneehill Valley	39	1,051		100,928.83
Mannville	29	714		46,222.49
Marwayne	41	1,139		76,192.92
Okotoks	30	1,045		100,071.18
Ponoka	37	970		79,605.57
Raven	21	453		33,496.44
Raymond-Magrath	29	851	1,196	92,592.06
South Slope	41	1,021	2,237	99,541.03
Taber	23	537	796	68,415.80
Tilley-Rolling Hills	45	838	3,400	99,996.66
Vermilion	23	524		35,871.12
Westlock	3	40		2,969.23
Western	40	1,052		89,359.10
	834	23,124	10,585	$2,008,057.61

FEEDER ASSOCIATION OPERATIONS 1938-39 TO 1956-57

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
1955-56	27	724	17,794	12,874	1,651,635.24
1956-57	29	834	23,124	10,585	2,008,057.61
			215,155	456,683	$20,718,795.61

DAIRY HEIFER CALF POLICY

The policy of gathering surplus dairy heifer calves in the Edmonton milk shed area was continued on the same basis as the previous year. During the year calves were supplied to thirty-one 4H dairy clubs located in the following general areas. Vegreville, Viking, Athabasca, Barrhead, Mayerthorpe, Eckville to Rocky Mountain House, Ponoka to Bluffton, Erskine to Botha, New Norway to Donalda, Carbon, Rosalind, Elnora and Hillspring. The supply was sufficient to provide 384 calves compared to 255 in the previous year. Members paid $32.50 each for calves about five to ten days old and the Department paid the cost of assembling and shipping to the clubs.

ARTIFICIAL INSEMINATION

During 1957 co-operative breeding associations, using frozen semen, were organized and started operation in the areas adjacent to Camrose, Acme, Stettler, and Brooks. Organization of a co-operative unit was completed in the Wetaskiwin area which planned to start operation early in January 1958. The Branch has assisted

in the organization of these associations and in each case the Department has agreed to pay the cost of semen for the first twelve months of operation. Before each unit was authorized for this assistance they had completed a minimum sign-up of 1,200 cows, confined the sign-up to an area that can be economically serviced, set membership and service fees at a level that would assure a self sufficient operation based on the number of cows pledged, and hired a competent technician.

At the end of 1957 Co-operative A. I. Associations were in operation with headquarters at Edmonton, Vegreville, Camrose, Lacombe, Stettler, Acme, Olds, Ryley, Brooks and Lethbridge. A privately operated unit served the Calgary area, and small private units were operating at Trochu, Eckville, and Westlock.

Approximately 24,000 cows were inseminated in Alberta with first service, compared to 14,000 in the previous year.

During 1957 meetings were called by the Department which resulted in the formation of the Alberta Association of Artificial Breeders, Limited. This is a Co-operative Association comprised of the individual Co-operative A. I. Units and is designed to co-ordinate the work of the various Associations.

Mr. R. P. Dixon of the Dairy Branch continued his assistance to A. I. Associations in the selection of bulls from which semen was obtained. In consolidating information on bulls available, frozen semen equipment, and other pertinent information on A. I. Mr. Dixon attended the National Association of Artificial Breeders Convention at Toronto in August. At that time he was able to discuss the available sources of semen with operators of the various Ontario breeding centres and has been able to make this information available to Alberta Units and thereby improve the important problem of semen procurement from those sources.

SWINE

Swine production in Canada did not reach the predicted increase, consequently prices remained at an average of $29.22. A high of $35.00/cwt. was reached during the week ending July 27th and a low of $23.20 during the week ending November 16th. This resulted in fair profits to the farmer over production costs. Preliminary statistics show a slight decrease in hogs marketed in Alberta as well as the whole of Canada. There is no indication of improvement in carcass quality over last year.

There is some indication from better hog producers that wider discounts on undesirable hogs would create stronger producer incentive in Swine improvement. The present discounts established in April 1954 remain as follows:

Grade A	Basic price
Grade B1	$1.00/cwt. from basic
Grade B2	1.25/cwt. from basic
Grade B3	1.60/cwt. from basic
Grade C	3.00/cwt. from basic
Grade Heavy	3.25/cwt. from basic
Grade Extra Heavy	4.75/cwt. from basic

Export of pork products, mainly to the United States, decreased from that of 1956 by 43%. Higher domestic pork prices would account for some of this decrease. There were no live market hogs on export to the United States this year.

Demand for breeding stock was keen throughout the year at good average prices. Breeders of good quality stock report sales

exceeding their available supplies. It was particularly noticeable that there was an increasing demand for stock of Advance Registry breeding. There is now definite evidence of need for more good constructive pure bred swine breeders in various parts of the province to supply local district requirements.

Two sales of Ontario Landrace Swine were held at Edmonton in June and November and sold by Auction at high prices. The better quality end of these offerings will contribute to swine improvement. Many new swine breeders are now in business with Landrace and will no doubt be an important factor in Alberta's swine industry in future years.

The Lacombe Breed developed by the Federal Department of Agriculture continues to show considerable promise. Under the supervision of the Advisory Committee on Lacombe Swine, distribution of thirty-five Lacombe boars was made into test herds in thirty-five District Agriculturist districts, in January and February. In October the first release of Lacombe boars was made to individual owners who applied for boars at $150 apiece. Fifty boars were sold to successful applicants as follows; 28 in Alberta, six in Saskatchewan, six in Manitoba, nine in Ontario and one in British Columbia. In November regulations for the registration of the Lacombe breed were adopted by the Canadian National Live Stock Records. The Advisory Committee, on which the Department is represented by the Live Stock Commissioner, is continuing as an active committee, and is preparing to deal with and submit recommendations regarding the release of female breeding stock of this breed.

Organized Swine Sales in Alberta are growing in number and in popularity. Calgary and Edmonton sales command good attendance and good prices. The Regional sales are also very well patronized and prices are often higher than at Calgary and Edmonton. There are indications that these regional sales will become more numerous and will be instrumental for wider distribution of good breeding stock.

The Alberta Swine Improvement Policy "B" was operative at fourteen sales. This policy requires that sales be held under the auspices of an Exhibition Association, an Agricultural Society, or an approved Live Stock Association. To qualify for application of bonus ($5.00 on boars selling at $50.00 or less and $10.00 on boars selling over $50.00) contributing herds must be covered by Veterinary Inspection and all entries at the sale must be subject to a culling committee of three—one of which is a Departmental representative.

Regional sales were held at Lethbridge, Olds, Lacombe, Camrose, St. Paul, Vermilion, and Sangudo. The first Annual Advance Registry Swine Sale was held at Camrose by the newly organized Alberta Advance Registry Swine Breeders Association and was a success.

Report on swine sales is divided into four parts: (a) averages covering all Alberta sales, (b) Calgary and Edmonton sales, (c) Regional sales, (d) Advance Registry sale. These divisions provide interesting price averages.

PRICE AVERAGE COVERING ALL ALBERTA SALES IN 1956-57

Breed and Sex	1956 No.	1956 Av. Price	1957 No.	1957 Av. Price
Yorkshire Boars	361	$ 84.38	444	$ 94.36
Yorkshire Sows	502	79.62	383	75.73
Tamworth Boars	77	78.44	60	84.23
Tamworth Sows	63	80.30	34	68.09
Berkshire Boars	1	70.00	.....	.....
Berkshire Sows	3	87.50	.....	.....
Landrace Boars	8	203.75	13	181.54
Landrace Sows	.....	.....	4	149.38
Total and Average	1,015	$ 82.26	938	$ 86.61

PRICE AVERAGE COVERING CALGARY AND EDMOTNTON SALES IN 1956-57

Breed and Sex	1956 No.	1956 Av. Price	1957 No.	1957 Av. Price
Yorkshire Boars	227	$ 87.88	193	$101.88
Yorkshire Sows	420	79.75	197	74.41
Tamworth Boars	64	78.52	33	85.83
Tamworth Sows	60	80.71	26	65.19
Berkshire Boars	1	70.00	.....	.....
Berkshire Sows	3	87.50	.....	.....
Landrace Boars	.....	.....	7	217.86
Landrace Sows	.....	.....	2	140.00
Total and Average	775	$ 82.12	458	$ 88.82

PRICE AVERAGE FOR REGIONAL SALES (Not. A.R.) 1956-57

Breed and Sex	1956 No.	1956 Av. Price	1957 No.	1957 Av. Price
Yorkshire Boars	134	$ 78.46	195	$ 92.38
Yorkshire Sows	82	78.96	150	75.98
Tamworth Boars	13	78.07	27	82.26
Tamworth Sows	3	72.50	8	77.50
Landrace Boars	8	203.75	6	139.16
Landrace Sows	.....	.....	2	158.75
Total and Average	240	$ 82.72	388	$ 86.11

PRICE AVERAGE FOR ADVANCE REGISTRY SALE 1957

Breed and Sex	No.	Av. Price
Yorkshire Boars	56	$101.70
Yorkshire Sows	36	81.46
Total and Average	92	$ 93.77

Considerable time was given by this office to correspondence on various sheep and swine matters, including feeding, management, and housing problems. Also a fairly large number of farm meetings and short courses were attended where special lectures were given on live stock subjects—statistical report on these are given elsewhere. A great deal of time and travelling was required in connection with the work of culling committees at the various swine sales held during spring and fall months.

SWINE IMPROVEMENT POLICIES

Revision of Alberta Swine Improvement Policies in 1955, appears to be making a positive contribution to swine improvement. Expansion of inspected regional sales and their popularity with swine breeders is an indication of the acceptance and influence of the policy. Briefly, Policy A provides for prepayment of shipping charges and a bonus of $5.00 on boars selling at $50.00 or less and $10.00 on boars selling over $50.00. Policy B provides for similar bonus payments when boars are purchased personally by applicants at the Approved Swine Sales. Transportation charges are not paid under Policy B. One boar is available in each two year period under these policies. In addition to these, a Live Stock Listing Bureau provides for services of locating and placing at cost suitable breeding stock to those not eligible under regular policies. There is no bonus nor prepayment of shipping charges under Livestock Listing Bureau.

The Advance Registry Swine Assistance Policy C which became operative in 1955 is making a positive contribution. In 1953-54 there were only eight private herds on test in Alberta, today there are over seventy-five herds on test. Because payment of bonus is subject to the herd being declared free from infectious swine diseases on inspection by a Provincial Veterinarian, this policy has had a positive influence on the health standard of pure bred herds.

Statistical information pertaining to the operation of Swine Improvement Policies A, B, and C. and of L.L.B. are tabled hereunder:

SWINE PLACED UNDER IMPROVEMENT POLICY A AND L.L.B.

Year	Live Stock Listing Gilts	Live Stock Listing Boars	Impr. Policy Boars	Total Boars	Bonus Paid
1953	6	16	107	123	$ .....
1954	16	24	136	160	.....
1955	27	14	160	174	870.00
1956	9	13	185	198	1,645.00
1957	6	26	213	*239	2,060.00

*This total includes 12 Tamworth boars.

BONUS PAYMENTS ON POLICY "B" BOARS AT ALL ELIGIBLE SWINE SALES

	No. @ $5.00	No. @ $10.00	Total Boars	Total Bonus
1955	13	199	212	$2,055.00
1956	10	258	268	2,630.00
1957	4	351	355	3,530.00

ADVANCE REGISTRY SWINE ASSISTANCE POLICY BONUS

	Breed	Bonus Paid Out $30.00	Bonus Paid Out $40.00	Bonus Paid Out $50.00	Total No. Sows	Total Paid Out
1955	Yorkshire	10	3	7	20	$ 770.00
1956	Yorkshire	20	24	5	49	1,810.00
1957	Yorkshire	39	50	19	108	4,120.00

ALBERTA HOG GRADING FOR YEARS 1953 TO 1957 INCLUSIVE

Grade	1953 %	1954 %	1955 %	1956 %	1957 %
A	19.92	18.22	18.90	20.20	20.7
B1	44.70	44.26	42.77	41.20	40.9
B2	4.00	3.80	4.47	5.00	3.7
B3	6.80	6.31	5.58	5.20	6.1
C	11.90	13.88	15.01	14.50	15.5
Light	1.20	1.25	2.01	2.30	1.4
D	0.05	0.56	0.71	0.80	0.6
Heavy	3.00	2.79	2.53	2.10	2.9
Extra Heavy	2.40	2.26	1.94	2.40	2.5
Injured	.....	0.04	0.03	0.03	.....
Rgl.	0.05	0.54	0.53	0.50	0.5
Stags	0.05	0.47	0.47	0.60	0.5
Sows	4.60	5.62	5.05	5.20	4.7

ESTIMATED NUMBER OF SWINE ON FARMS IN ALBERTA AT JUNE 1st

1953	1,180,000
1954	1,408,000
1955	1,620,000
1956	1,211,500*
1957	1,300,000

*1956 figure by actual census count.

SUMMARY OF ALBERTA HOG CARCASSES GRADED AT ALL INSPECTED PLANTS 1953-1957

Year	"A"	"B1"	"B2"	"B3"	"C"	"D"	Light	Heavy	Exrta Heavy	Injured	Ridg-lings	Stags	Sows	Total No.	Total Sales Value
1953	285,359	640,296	56,566	97,929	169,898	7,298	17,075	43,138	34,138	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
1956	317,789	647,082	77,653	82,241	228,487	12,434	36,715	38,218	32,797	404	7,976	8,615	81,425	1,571,929	59,025,934.00
1957	294,567	585,345	53,299	86,942	221,647	8,353	20,760	42,319	35,967	211	8,287	7,213	67,238	1,432,157	64,413,949.00

SHEEP

Sheepmen experienced a profitable year. The lamb crop was above normal due to smaller losses at lambing time. Market lamb prices were slightly more spotty than last year, but not sufficiently variable to dampen interest and expansion in commercial sheep production. The demand for grade breeding ewes was better than it has been for a number of years. Many ewes with full and partially broken mouths sold at over $25.00 per head. While the definite number is not known, substantial numbers of ewes and ewe lambs were exported to the United States late in the year.

Losses due to predators has been further reduced by effective predator control policy of the Department and good co-operation of interested parties.

If accurate figures were available they no doubt would indicate larger sheep expansion than was experienced in the past few seasons. There were more enquiries for breeding stock and for locations of sheep farms than in previous years. In fact several larger flock placements were made by bringing the buyer and the seller together to complete transactions.

Market lamb prices at Edmonton yards varied from a low of $16.50 week-end October 19, to a high of $23.85 during the week ending May 18. The average yearly price for good lambs was $19.10, and for good market ewes $9.10 per cwt.

It is estimated that there are approximately 95,000 sheep and lambs in Alberta feedlots, mainly in Southern Alberta. Reported price range for feeder lambs was $16.50 to $18.00 per cwt., and for feeder ewes $3.00 to $9.00 per cwt.

Federal Meat Trade reports indicate an export to U.S.A. of over 16,000 head of sheep while in the same period nearly 30,000 head were imported into Canada. This shows that Canadian lamb prices were very strong during the year, also that Canada can afford to increase domestic sheep production. Mutton export out of Canada amounted to almost 500,000 pounds.

Alberta wool clip was about the same as last year, averaging about 7.5 pounds per head. It was observed that many black faced farm flocks were rather disappointing in weight and in quality of wool yield. Here improvement in feeding and in preventing foreign material getting into the neck and back wool requires more attention if maximum returns from wool is to be expected. In 1957 Alberta produced approximately 1,778,000 pounds of wool. Canada produced 6,050,000 pounds. Wool prices were stronger than last year. Domestic wool averaged 39 cents (range 37 cents to 41 cents), and range wool approximately 42 cents per pound (range 35 cents to 50 cents) in grease, unscoured basis.

Services were rendered in culling several farm flocks, as well as a pure bred flock of excellent quality Columbia ewes. This breed offers considerable promise for general use under Alberta conditions.

Only two 4H Sheep Clubs were in operation this year. There is every indication more sheep clubs would be desirable and would further promote sheep knowledge and flock expansion.

Fall Sheep Sales at Calgary and Edmonton showed a higher average price than the previous year. Quality of rams was good with relatively few offerings in over-finished condition. Average price for all rams sold at Calgary was $62.82 for ewes $44.64 per

head. At Edmonton ram average was $50.29 and ewe average $30.40 per head.

Demand for grade ewes at both sales was extremely keen. The Lethbridge Exhibition Association conducted a sheep sale, on behalf of the Southern Alberta Sheep and Swine Association. Their pure bred ram average was $59.00, pure bred ewes averaged $27.20 per head. Grade rams averaged $36.25 per head and grade ewes $16.90 per head.

As in previous years a stud ram sale was held in Calgary during the Stampede week.

The following composite averages for the Lethbridge, Calgary and Edmonton Sales are given hereunder; these do not include the Calgary summer sale of stud rams.

SUMMARY OF PURE BRED SHEEP SALES AT LETHBRIDGE, CALGARY AND EDMONTON

	1956		1957	
Breed and Sex	No.	Av. Price	No.	Av. Price
Sufflok Rams	160	$ 56.89	156	$ 59.19
Suffolk Ewes	95	40.07	100	38.78
Hampshire Rams	41	44.57	32	64.61
Hampshire Ewes	43	25.88	8	29.00
Cheviot Rams	7	39.64	5	33.50
Cheviot Ewes	13	22.31	2	26.25
N.C. Cheviot Rams	41	65.43	43	64.00
N.C. Cheviot Ewes	4	80.00	1	150.00
Corriedale Rams	25	49.00	43	62.17
Corriedale Ewes	23	34.02	9	47.22
Southdown Rams	6	51.67	6	42.50
Southdown Ewes	4	25.00	6	21.66
Oxford Rams	6	44.58	10	43.00
Oxford Ewes	3	25.00	7	21.78
Total Sheep & Average	471	$ 47.41	428	$ 53.73
Grade Ewes	166	16.69	154	16.62

Fifteen sheep shearing and sheep management schools were held at Castor, Claresholm, Twin Butte, Hayes, Ivrine, Strathmore, Dickson, Clive, Wildwood, Cherry Grove, Streamstown, Vimy, Donnelly, Clarmont, and Whitelaw. These were well attended, some participants came as far as seventy-five miles. Mr. R. Shopland, Manager of the Canadian Co-operative Wool Growers Association, personally assisted at all these Field Days and the Association provided some of the necessary supplies. Hand shearing was demonstrated by Mr. H. Sams of Rochester and power shearing by Mr. Wm. Payne of Mountain View, Alberta.

Considerable time was required for sheep meetings and other sheep work in all parts of the province. Special effort was put forth to indicate the place of sheep on the farm. Several lectures on live stock production were given at several special Indian Short Courses held during the winter.

The following table shows meetings attended, farm visits made and attendance at meetings for years 1953-57.

Year	No. of Meetings	Total Attendance	Average Attendance	No. Farm & D.A. Visits
1953	40	1,826	45	246
1954	92	4,413	48	214
1955	58	3,000	52	219
1956	91	4,041	44	330
1957	44	2,404	57	290

SHEEP IMPROVEMENT POLICY

In order to further encourage the use of good graded rams the Department revised its sheep policy into section A and B to provide for payment of bonus at two levels. The rams must be graded by the Federal Graders, the Departmental Officials or by a selection committee of three at the approved Pure Bred Sheep

Sales. A bonus of $12.00 is paid on A, or "Breeder" graded rams, and an $8.00 bonus is paid on B or Commercial graded rams. Under Policy A an eligible applicant may apply directly to the Department for one or two rams in each two year period. The rams are supplied at cost less bonus, and shipping charges are prepaid to nearest shipping point. Under Policy B eligible sheepmen may purchase personally at the approved sheep sales one or two rams in each two year period. Upon application, the bonus is paid at heretofore mentioned levels, however, no allowance is made to cover shipping charges.

The policy also provides for placement of ewes and of rams under Live Stock Listing Bureau (L.L.B.) to those not qualifying under regular policies.

Tables hereunder indicate sheep placement under the policies in question:

Year	Live Stock Listing Bureau Ewes	Live Stock Listing Bureau Rams	Improvement Policy Rams	Total Rams
1953	33	2	28	30
1954	4	5	35	40
1955	164 (grade)	7	34	41
1956	9	.....	21	21
1957	.....	2	62	64

Of the rams, 37 were Suffolk, 2 Hampshire, 8 North Country Cheviot, 3 Columbia, 6 Romnelet, 1 Rombouillet, 4 Corriedale, and 3 Oxford

BONUS PAYMENTS ON POLICY B RAMS @ ALL ELIGIBLE SALES

	No. @ $8.00	No. @ $12.00	Total Rams	Total Bonus Paid
1957	45	76	121	$1,272.00

ESTIMATED NO. OF SHEEP ON ALBERTA FARMS JUNE 1ST SURVEY

1953	432,000
1954	440,000
1955	460,000
1956	404,820*
1957	450,000

*Actual census figure.

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
1956	125,471	11,699	1,342	8,720	3,545	2,679
1957	120,175	10,956	1,761	11,691	4,686	2,138

ALBERTA COMMERCIAL SHEEP MARKETING AND VALUES

Year	Stock Yards	Plants	Direct Export	To Country Points	Total	Value
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
1956	43,740	109,716	1,461	3,649	158,566	2,300,517.00
1957	50,151	101,257	9,150	2,574	163,132	2,549,661.00

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

Year	No. of Head
1953	316
1954	192
1955	452
1956	104
1957	214

CANADIAN EXPORT OF SHEEP AND LAMBS

	To United States		Total Export	
Year	No.	Value	No.	Value
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
1956	4,134	138,847	5,090	201,476
1957	17,209	326,660	17,788	336,279

CANADIAN EXPORT OF MUTTON AND LAMB

	To United States		Total Export	
	No. Lbs.	Value	No. Lbs.	Value
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
1956	2,200	916	45,000	24,840
1957	435,800	177,717	472,300	200,212

CANADIAN IMPORT OF MUTTON AND LAMB
(Pounds)

Imported From:	1953	1954	1955	1956	1957
United Kingdom	5,900	5,356	5,544	3,080	768
United States	1,796,700	651,830	273,552	208,417	1,054,595
Australia	989,737	2,759,391	2,274,279	3,413,008	3,360,465
New Zealand	1,952,752	3,907,796	7,176,008	5,938,183	6,664,172
Other Countries	.....	.....	.....	.....	205
	4,745,089	7,324,373	10,829,383	9,563,088	11,350,205

HORSES

The horse population continued to decline and the flurry of interest evident in the spring of 1956 following a winter of deep snow was not evident in the spring of 1957.

A small active trade in horses followed completion of the pulp wood plant at Hinton where horses are used almost entirely for taking pulp wood trees out of the bush. There has been no evidence of a shortage of horses for that purpose.

The 1951 census showed 261,133 horses reported on 60,766 Alberta farms. The 1956 census showed 154,672 horses on 42,531 Alberta farms. The estimated number of horses on farms in Alberta at June 1st, 1957 was 140,000 head. All Alberta brand inspectors inspected approximately 14,000 horses compared to 15,700 inspected in 1956. Of this number it is estimated that approximately ninety-five percent went direct to killing plants.

TORONTO ROYAL AGRICULTURAL WINTER FAIR

The 1957 Toronto Royal Agricultural Winter Fair was held November 15th to 23rd. Twenty-one carloads of live stock left Alberta via Canadian Pacific Railways on November 5th. This was the exhibit selected by the breed association selectors and approved by the Alberta Live Stock Board.

The following classes of live stock made up the exhibit: 21 draught horses, 3 light horses, 4 carload lots of 12 steers, 5 groups of 5 steers, 30 single steer entries, 73 beef breeding stock, 38 dairy cattle, 24 hogs and 75 sheep.

Freight costs were borne seventy-five percent by the Canada Department of Agriculture and twenty-five percent by the Alberta Department. The Alberta Department of Agriculture paid cost of selection, cost of decking railway cars and feed costs in connection with the shipment.

This exhibit was the best balanced of any exhibit of recent years, being reasonably strong in all classes of live stock.

The following table shows the prizes won by Alberta Exhibitors:

	Horses	Beef Cattle	Market Cattle	Dairy Cattle	Sheep & Wool	Swine	Total
Grand Champion	.....	.....	.....	1	2	1	4
Reserve Grand Champion	1	2	1	.....	.....	.....	4
Championships	2	1	4	2	5	1	15
Reserve Championship	.....	2	2	.....	3	.....	7
1st Prize	3	7	8	6	15	2	41
2nd Prize	3	11	6	4	11	5	40
3rd Prize	3	9	6	8	12	.....	38
Other Prizes	9	51	10	10	45	6	131
	21	83	37	31	93	15	280

Outstanding achievements were:

Pickard and Clark, Carstairs, Grand Champion Holstein cow.

C. J. Kallal & Sons, Tofield, Reserve Grand Champion Hereford female and both the Premier Breeder and Premier Exhibitor awards. C. O. Dench, Midnapore, Reserve Grand Champion Hereford bull.

T. J. Noad, Olds, Champion Grade or Crossbred Steer which was also Reserve Grand Champion steer. McIntyre Ranching Company, Lethbridge, Champion car-lot steers. D. R. Buchanan, Pincher Creek, Champion group of five steers. L. M. Byers, Camrose, Reserve Champion group of five steers. C. J. Kallal & Sons, Tofield, Champion Hereford steer. Robert Barr, Vermilion, Reserve Champion Grade or Crossbred steer.

Dan Hays, Calgary, Champion Suffolk ewe which was also Supreme Champion ewe all breeds and winner of the Government of New Zealand trophy. John Wilson Jr., Innisfail, Grand Champion fleece wool, Champion Corriedale ram and Champion Corriedale ewe. Grenville and Trentham, Morrin, Champion Sufflok ram.

W. A. Greenway & Son, Acme, Grand Champion Tamworth female.

Hardy E. Salter, Calgary, Reserve Grand Champion Percheron mare. Lawrence Rye, Edmonton, Canadian Bred Champion Clydesdale gelding to which is awarded the Manitoba shield. Howard Trautman, Rimbey, Junior Champion Palomino mare.

THE STOCK INSPECTION ACT

Continued heavy marketings of cattle kept all inspection centres under pressure at all times. This was especially true from September to the end of the year when unprecedented numbers of fat and stocker cattle were moving to the American markets. Arrangements whereby members of the R.C.M. Police carry out emergency inspections were particularly useful during this period when hundreds of shipments were originating over a wide area for destination at U.S. outlets.

Mr. M. B. Seely was added to the inspection staff at Lethbridge and Mr. L. H. Bruce was hired to replace Mr. Peters who resigned from the Calgary inspection staff.

Class D Stockyard sales were inspected at all points where volume of business justified such service. These included Camrose, Wetaskiwin, Ponoka, Red Deer, Provost, Hardisty, Innisfail, Olds, Calgary, Brooks, Medicine Hat and Taber.

Community Auction Sales were inspected at Pincher Creek, Lundbreck, Claresholm, Parkbend, Pakowki, Whiskey Gap, Walsh, Lea Park, Hanna, Cadogan, Ponoka and Brooks. All inspectors, deputy inspectors and R.C.M.P. inspected approximately 500 different sales held at points other than the public stockyards and packing plants. The total number of stock inspected at all markets was 1,166,945 head, compared to 977,330 head in the previous year, for an increase of 19.4%.

Inspection of cattle going back to feedlot, cover crop and pasture was 175,154 head, compared to 198,487 head the previous year. This decrease of about twelve percent was more than matched by cattle diverted from Alberta feedlots to American

export. The total of all inspections, in and out of markets covered 1,292,099 head of stock, compared to the corresponding figure of 1,175,817 head in the previous year.

It is interesting to note that during December 184,783 head of stock were inspected. During November the figure was 156,268. The previous high month in the history of the service was October 1948 when the total was 139,350 head.

The number of stock held up by inspectors for further investigation of ownership totalled approximately 1,100 head. Ownership of forty-five head of these animals was ultimately cleared through the Live Stock Commissioner's office.

Excellent co-operation was received at all times by the R.C.M. Police. Reports of missing live stock were at least equal to the previous year and indicated need for continuous vigilance by all protection and enforcement agencies.

A total of 296 butcher and hide dealer licenses were issued and inspectors of the Branch visited each licensed dealer at least once. The number of licensed butchers continues to decline as more country butchers obtain their total supply of meats from inspected plants.

ALBERTA LIVE STOCK AND LIVE PRODUCTS ACT

During the year licenses were issued to thirteen Class C stockyards and to twenty-four Class D. Stockyards. The Class C yards were all in the immediate vicinity of Edmonton. The Class D yards (auction markets) were located at Camrose, Olds, Medicine Hat, Clover Bar, Wetaskiwin, Provost, Westlock, Barrhead, Red Deer, Athabasca, Leduc, Calgary, Brooks, Innisfail, Ponoka, Hardisty, Eckville, Holden, Vermilion, Castor. Grande Prairie, Taber, Stettler and Vauxhall. Each yard was visited on different occasions and good progress was made in bringing them up to the standards required.

A total of 404 live stock dealers were bonded and licensed. Two hundred and ten agents of the above dealers were also licensed. A few licenses were cancelled due to cancellation of the bond, but it was not necessary to call on the bond of any dealer.

Licenses were issued to three wool warehouses and eight wool collectors and buyers.

Mr. J. Belzer, formerly of the R.C.M. Police, joined the staff of the Branch to assist in investigational work in connection with Stock Inspection, Brands, dealer licensing, pounds and trading practices.

During the Royal Winter Fair the Live Stock Commissioner met with members of the Federal and other Provincial Departments regarding possible changes in wool grading rgulations.

LIVE STOCK AUCTIONS OTHER THAN PUBLIC STOCKYARDS

These auctions can be roughly divided into community auction sales of ranch cattle and Class D stockyards that sell all classes of live stock. Approximately sixty-six community sales were held. One of these was held in October at Berwyn and was the first sale of its kind held in the North Peace River area.

Total cattle sold through the community auction sales was approximately 52,627 head, an increase of 27% over the 1956 number. Licensed Class D stockyards greatly increased the numbers of stock handled over those in 1956. The total live stock marketed through this channel in 1957 was; Cattle 73,634; Calves 28,209; Swine 127,463; Horses 3,055; Sheep 8,749 and Goats 12. These figures represent approximate increases of 45% for cattle; 113% for calves; 35% for swine; and 45% for sheep, over the numbers handled in 1956.

Total animals sold was 241,122 head compared to 166,700 head in the previous year.

IMPROVEMENT DISTRICT STRAY ANIMALS ACT

Three new pound districts were formed during the year. There were no existing pound districts absorbed into Municipal or County areas. One hundred and twenty pounds were in operation at the end of the year, compared to one hundred and seventeen the previous year.

Inspectors of the Branch investigated three complaints regarding impoundments and organization. Reimbursement to poundkeepers was made on only two animals considered to have no value.

RECORDING OF BRANDS

Completing the change over from the ledger system to the Kardex system of records, coupled with more spacious office accommodation has assisted greatly in the accuracy and dispatch with which this work is carried out. New brands, transfers and renewals were slightly below the previous year indicating for the first time in many years that activity in this field may be becoming stabilized.

The following statistical summary shows the records for the year:

	Cattle	Horse	Sheep	Poultry	Fox	Total
New brands issued	1,682	217	3	.....	.....	1,902
Transfers registered	328	45	.....	.....	.....	373
Certified extracts issued	5	2	.....	.....	.....	7
Brands renewed	5,017	628	4	1	1	5,651
Brands cancelled	138	35	.....	.....	.....	173
	7,170	927	7	1	1	8,106

Brand renewal notices mailed:

Cattle ... 5,678 Horse ... 751 Sheep ... 4 Poultry ... 3 Total ... 6,436

The number of brands in good standing as at December 31, 1957:

Cattle	25,180
Horse	3,105
Sheep	18
Poultry	9
Fur Bearing	3
Total	28,315

The number of letters forwarded from this office from January 1st to December 31st, 1957:

Jan.	239	May	245	Sept.	127
Feb.	252	June	213	Oct.	176
Mar.	297	July	92	Nov.	290
Apr.	309	Aug.	115	Dec.	254
				Total	2,598

For the most part, these letters dealt with information on registration of brands, instructions regarding brand transfers, and the use of unregistered brands as reported by brand inspectors. As it is proposed to issue a new Brand Book in 1958, 1,414 circular letters were sent out to those who had failed to renew their brands

in the years 1950 to 1952 inclusive. Also, to complete the 1957 renewals early in 1958 there were 1,772 circular letters sent out.

During the year the Kardex record was thoroughly checked against the old ledger books and is now considered to be accurate. About sixty-eight hundred inactive files up to the year 1945 were removed, indexed and stored for future reference if required. The transfer of names from the old card index to the new Linedex system was about two-thirds completed.

PURE BRED SIRE AREA ACT

There were no new areas created under this Act. The Municipalities of Athabasca and Vermilion continued to operate as in previous years.

THE HORNED CATTLE PURCHASES ACT

As in the previous year deduction of two dollars per head was made on all horned cattle going through markets in the province, or shipped out of the province.

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

	1949	1954	1955	1956	1957
Calgary	15.6	10.2	9.5	8.7	7.6
Edmonton	19.9	15.7	14.6	13.1	12.4
Lethbridge	.....	9.4	9.8	11.7	8.9
St. Boniface	13.0	8.0	6.5	7.3	5.1
Community Auction Sales	10.4	3.2	4.1	4.7	4.0
Lloydminster	.....	.....	8.0	.....	.....
Class D Stockyards (Auction Marts)	.....	.....	8.3	.....	.....
Provincial Average	17.4	12.5	11.4	10.9	8.9

ACKNOWLEDGMENTS

As in years past, excellent co-operation was received from the various breed associations, sale associations, agricultural societies, exhibition associations, and commercial organizations dealing in the live stock field. The co-operation and support of the R.C.M. Police in matters of investigation and enforcement; of other Departments of the Government ond of the Federal Production and Marketing Services, is greatly appreciated and hereby acknowledged.

Report of the Dairy Branch

D. H. McCALLUM, Dairy Commissioner
J. B. Linneboe, Ph.D., Bacteriologist
L. M. Silcox, Supervisor, Dairy Factory Inspection
R. P. Dixon, Supervisor, Dairy Cattle Improvement
B. J. McBain, Supervisor, Farm Cost Studies
L. H. Arnold, Supervisor, Frozen Food Locker Plants
A. F. Bennett, Charge of Dairy Statistics

GENERAL REVIEW

Under favorable pasture conditions, but with fewer cows, milk production during the year totalled 1,480,108,000 pounds representing an increase of 3.7% above the 1956 production. Prices for dairy products showed a slight increase and this fact combined with greater production resulted in dairy farmers income advancing by $2,595,000.00. The total value of all dairy products at factory plus the value of that portion of milk used on farms, amounted to $56,987,000.00. This represents an increase of approximately three and one-half million dollars from the previous year and an all time high value for dairy products.

Slight changes in the utilization of milk occurred during the year. Less milk was reported as having been used on farms which meant that substantial increases in production were recorded for most factory products. Creamery butter utilized 50.8% of the total milk production while milk and cream for consumption amounted to 33.2.

Following the 1956 census it was necessary to sharply reduce the estimated number of cows kept for milk purposes. The 1956 June 1st estimate had been 312,000 head, this was later revised to 282,000. The estimated at June 1st, 1957, was 280,000 head, which represents the smallest number of milk cows reported since 1918. On the basis of these figures for cow numbers and total milk the average production of milk per cow amounts to 5,286 pounds, an increase of 228 pounds over 1956 and the highest on record.

The quality of dairy products again received most careful attention from officers of the Branch. Creamery butter gradings showed that 97.9% was classified as first grade with 52.5% scoring 93 points or more. These figures represent an all time record for creamery butter quality. Results from Canadian exhibitions offering classes for creamery butter showed Alberta winning the highest percentage of first prizes. Laboratory tests and judging panels found that other products such as fluid milk, ice cream, cottage cheese and milk powder are showing steady improvement in quality.

A change in the basis for grading cheese was made effective July 1st when sediment tests became a factor in determining the grade. On this new basis there was a reduction of 1% in the amount of cheese scoring first grade, however, there was a corresponding increase in the percentage scoring 93 points or more.

The system of handling milk with farm bulk tanks and milk transportation tanks introduced in the Edmonton district during 1956, expanded considerably in 1957. It is estimated that well

over 100 farms were using bulk tanks at the year end. One distributing plant in southern Alberta is now receiving all of its milk by tank. This method will undoubtedly tend towards greater specialization in the production of fluid milk.

The regulations under The Dairymen's Act were revised and grade standards for milk were introduced. The regulations also made provision for calculating the weight and sampling milk from farm bulk tanks, as well as the licensing of milk graders both for milk received at processing plants in cans and also that received at farms from bulk tanks. These regulations become effective January 1, 1958.

ESTIMATED FARM VALUE OF ALBERTA MILK PRODUCTION 1957

The following table shows the quantity, farm value and utilization of Alberta milk production during 1957. For sake of comparison 1956 figures are included.

	Year	Pounds	Milk Equivalent Pounds	Percent Total Milk	Price	Value
Butterfat for Creamery Butter	1957	26,361,000	752,240,000	50.8	$ .625 per lb.	$16,477,000
	1956	24,791,000	707,452,000	49.5	.596 per lb.	14,768,000
Farm Dairy Butter	1957	2,653,000	62,080,000	4.2	.56 per lb.	1,486,000
	1956	2,855,000	66,813,000	4.7	.56 per lb.	1,599,000
Milk and Butterfat for Ice Cream (milk basis)	1957	.....	51,527,000	3.5	2.57 per 100 lbs.	1,323,000
	1956	.....	49,776,000	3.5	2.36 per 100 lbs.	1,177,000
Milk for Cheesemaking and Concentrating	1957	.....	65,104,000	4.4	2.59 per 100 lbs.	1,685,000
	1956	.....	57,334,000	4.1	2.42 per 100 lbs.	1,387,000
Milk Fluid Sales	1957	.....	285,425,000	19.3	4.55 per 100 lbs.	12,982,000
	1956	.....	273,790,000	19.2	4.50 per 100 lbs.	12,312,000
Cream Fluid Sales (milk basic)	1957	.....	53,032,000	3.6	2.55 per 100 lbs.	1,350,000
	1956	.....	52,074,000	3.6	3.03 per 100 lbs.	1,580,000
Milk Farm Home Consumed	1957	.....	152,600,000	10.3	2.50 per 100 lbs.	3,815,000
	1956	.....	161,521,000	11.3	2.40 per 100 lbs.	3,877,000
Fed Farm Animals	1957	.....	58,100,000	3.9	2.50 per 100 lbs.	1,452,000
	1956	.....	58,612,000	4.1	2.40 per 100 lbs.	1,407,000
Kept on Farms Skimmilk from Creamery Butter and Skimmilk and Buttermilk	1957	723,073,000	.....	.....	.35 per 100 lbs.	2,531,000
from Dairy Butter	1956	691,296,000	.....	.....	.35 per 100 lbs.	2,419,000
Total	1957	.....	1,480,108,000	100.0	.....	43,101,000
	1956	.....	1,427,372,000	100.0	.....	40,526,000

ESTIMATED PRODUCTION AND VALUE OF FACTORY DAIRY PRODUCTS 1957 (Preliminary) COMPARED TO 1956

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

	Year	Quantity	Price	Value
Creamery Butter, lbs.	1957	32,147,000	$ .596 per lb.	$19,160,000
	1956	30,233,000	.5722 per lb.	17,299,000
Cheddar Cheese, lbs. (including net increase in processing)	1957	1,822,000	.386 per lb.	703,000
	1956	1,933,000	.375 per lb.	722,000
Ice Cream, Gallons*	1957	3,031,000	1.62 per gal.	4,910,000
	1956	2,928,000	1.62 per gal.	4,743,000
Fluid Milk Sales, lbs. (including processing charges)	1957	285,425,000	5.90 per 100 lbs.	16,836,000
	1956	273,790,000	5.85 per 100 lbs.	16,008,000
Cream as Milk, lbs. Fluid sales (including processing charges)	1957	53,032,000	3.90 per 100 lbs.	2,066,000
	1956	52,074,000	4.38 per 100 lbs.	2,283,000
Skimmilk and Buttermilk Sales for Human Consumption (including processing charges)	1957	13,641,000	3.49 per 100 lbs.	476,000
	1956	12,152,000	3.51 per 100 lbs.	427,000
Skimmilk, Buttermilk, lbs.	1957	41,014,000	.35 per 100 lbs.	144,000
	1956	38,013,000	.35 per 100 lbs.	133,000
Whey, lbs.	1957	15,139,000	.175 per 100 lbs.	26,000
	1956	15,980,000	.175 per 100 lbs.	28,000
Miscellaneous Manufactured Products**	1957	.....	.....	3,382
	1956	.....	.....	2,596
Total	1957	.....	.....	3,382,000
	1956	.....	.....	2,596,000

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

DAIRY FACTORY INSPECTION AND INSTRUCTION

Plants in Operation

A total of 127 dairy manufacturing plants were in operation during the year. This represents a reduction of three from the previous year. Sixty of these are classified as combined plants as they manufacture or process more than one product. With the exception of those few plants which process only fluid milk and cream, most plants produce marketable by-products. Whey or buttermilk are typical examples and they are disposed of in liquid or dry form either locally or at outside markets.

Individual licenses for cream grading and for milk and cream testing totalled 272. Of this number, 21 were issued to persons qualified during the year. Dairy Branch inspectors conducted practical and written examinations for all new candidates.

Inspections

Ten regular and one part-time inspector carried out a total of 1,484 inspections at all dairy plants. One of the important duties of Dairy Branch inspectors is enforcement of The Dairymen's Act and its regulations. In this phase of the work, the grades were checked on 81,713 cream shipments and 28,775 samples of milk and cream were tested officially for butterfat. Necessary adjustments in payments to patrons due to errors in grading, testing or calculations by plant personnel, amounted to only 1.9% of this total.

Quality Improvement Program

Quality tests and actual grading for flavour showed marked improvement in the quality of raw milk and cream. There was an increase of 2.3 in the percentage of cream qualifying as Special Grade or better. The most noticeable improvement in raw milk quality occurred at those farms installing bulk tanks. However, the adoption of regular quality tests with results being brought to the attention of producers and price incentives have been responsible for much of the general improvement.

The regulations under The Dairymen's Act which become effective January 1, 1958 make provision for milk grading by the use of reduction and sediment tests. In recent years these tests have been demonstrated to plant personnel by inspectors of the Branch. Milk which does not meet the minimum requirements cannot be accepted and this will make it necessary for producers to apply the few simple principles necessary for high quality milk. Through producer meetings and farm visits sound production methods have been promoted by the joint efforts of inspectors of the Dairy Branch and the local Health Units.

Next to clean flavoured products, good workmanship is a prime requisite in consumer demand. Dairy Branch inspectors make constant reviews of processing procedures with plant personnel in attempting to make available, products with uniform high class workmanship. Where necessary, samples for bateriological or chemical analysis are forwarded to the Dairy Branch Laboratory. Results are discussed and serve as a guide to improved methods of processing or sanitation. Inspectors make routine checks on the accuracy of testing, sampling and weighing equipment to assure correct results.

Competitions

During the year, 23 separate competitions were arranged for dairy manufacturing plants and plant personnel. Most of these competitions are continuous for the whole year and all plants are automatically entered. Suitable prizes are donated by 43 firms offering supplies or services to the dairy industry. Winners are decided from records compiled during the year in the Dairy Branch office at Edmonton. For the Good Housekeeping Competition all plants are divided into three divisions. Scoring, by standard card, is first done by the local Dairy Branch inspector and the final judging on top scoring plants in each district is made by a panel of three from Dairy Branch headquarters.

Two other competitions, requiring special arrangements, are designed expressly to promote high quality in ice cream and cottage cheese. These involve assembling freshly made samples from each manufacturer, four times during the year. Identical samples are scored at Edmonton and Calgary by judging panels made up of responsible plant men, Dairy Branch and University Dairy Department personnel. Final results are based on the average results of the four scorings. Winners are announced at the Dairy Convention.

Samples of cheese and butter for the larger Canadian Exhibitions and the Scottish Dairy Show are assembled, packed and forwarded under refrigeration by Dairy Branch personnel.

Responsibility for arranging judging competitions connected with the Dairy Convention and dairy field days also involves Dairy Inspectors who enlist assistance from local dairy plant employees.

Extension Work

During the year a new bulletin on cream quality was published and widely distributed to cream shippers through the dairy plants. Several small leaflets dealing with specific cream defects or timely subjects were prepared or revised for similar distribution. The Branch co-operated with The Alberta Dairymen's Association in holding spring conferences for plant workers and field days for dairy producers. Speakers were also provided for agricultural short courses organized by the Extension Service.

Diploma Course in Dairying

The Diploma Course in Dairying for 1957-58 commenced at the Department of Dairying, University of Alberta, October 28th and will continue until mid-April 1958. This course is held every second year under the joint sponsorship of the Department of Dairying, University, the Dairy Branch and the Department of Education, Edmonton, with Federal Government assistance through Canadian Vocational Training.

Seventeen students enrolled for this course, coming from widely scattered points throughout the province. The course studies include practical as well as theoretical instruction in the various phases of dairying. The course on Steam Engineering, formerly given at Calgary will be conducted at Edmonton for the first time. The Dairy Branch is supplying one full-time instructor as well as part time lecturers.

Check Weighing of Butter

The check weighing service was again made available to the trade, however, due to the very few sales made to the Agricultural

Prices Support Board by Alberta manufacturers only 325 boxes representing 18,200 pounds of butter were weighed. Unless greater use is made of this service it may become difficult to retain responsible check weighers at assembly points.

Plant Improvements

In recent years there has been a very active program of plant rebuilding, extensive renovations, additions and general improvements. In 1957 this program appears to have reached an all time high when 14 plants underwent major changes. The services of the Dairy Branch were extensively used in assisting with plans for new plants and enlarged floor areas where changes took place. Replacement of older equipment with approved new types designed for modern operations and sanitation is rapidly taking place. The change over from wooden to stainless steel churns is a typical example.

Dairy Plant Changes

Fenton's Dairy, Canmore, changed management on April 15th and is now operated by E. Jones.

Swift Canadian Company Limited, Edmonton, closed their butter manufacturing department on April 27th after 40 years of continuous operation.

Chipman Creamery Limited was purchased by Palm Dairies Limited who took over operations on July 15th and now operate under the name of Chipman Creamery.

Evansburg Creamery Limited was destroyed by fire on July 31st and replaced by a new plant which will commence operations early in 1958.

South Edmonton Creamery Limited was purchased by Palm Dairies Limited who took over operations on October 1st. It is being operated under the name of South Edmonton Creamery Company.

Vilna Creamery was purchased by S. Boychuk who took over operation on November 1st.

Purity Dairy discontinued the manufacture of cheddar cheese at Lethbridge.

Claresholm Creamery remodelled their plant to accommodate the milk business formerly carried on by Claresholm Dairy. The combined operation began December 1st.

Red Cap Dairy Limited, Fairview, built a completely new modern plant which commenced operation in December.

LABORATORY SERVICE

The laboratory handled a larger number of samples during 1957 than in the previous year. Samples for the milk control service and mastitis detection together with considerably more egg samples were largely responsible for the increased activity.

As in past years the field staff of the Dairy Branch and the local Health Units co-operated with the laboratory by securing the necessary samples and implementing laboratory recommendations at the farms and in the factories.

The following tabulation shows the number and nature of samples received.

	No. of Samples	
	1957	1956
Butter samples for mould and yeast	3,721	4,060
Butter samples for pH	1,676	1,934
Milk control service	7,404	7,266
Water samples from dairy factories	10	9
Bacteriological creamery survey samples	43	80
Mastitis control service	2,796	1,986
Ring tests for Bang's disease	56	.....
Egg samples	877	444
Cheese samples for pH	39	48
Ice cream samples (fat, solids and plate count)	138	.....
Miscellaneous	302	382
	17,062	16,209

The mould and yeast count on creamery butter designed to serve as a check on plant sanitation was again continued. Where high counts appeared a survey covering each step in the manufacturing process was made in order to locate and correct faulty practices. In general the mould and yeast content was quite satisfactory for most of the butter and showed a slight improvement over the high standard of the previous year. This is also indicated by the fact that Alberta butter is remarkably free from defects that can be attributed to faulty sanitation.

To assist the buttermaker in controlling the acidity of the finished product the laboratory made regular pH determinations on 1,676 samples of butter representing as many separate churnings. Of this total 42.7% were in the most desirable range of 6.95 to 7.25.

The milk control service provided by the laboratory now covers all milk pasteurizing plants in the province with the exception of those plants located in the City of Calgary. Through this service each plant is supplied with a report which not only covers the detailed analysis but sets forth proper recommendations to overcome unsatisfactory conditions. While there is still room for improvement at certain plants great strides have been made as indicated by the laboratory results and consumer approval of the pasteurized product.

The number of milk samples received under the Mastitis Control Program increased from 1,986 to 2,796 during the year. Some of these samples were submitted at the request of the District's sanitary inspector in an attempt to improve the quality of raw milk being sent to the local pasteurizing plants. While most of the herds coming under this program had not previously been tested the results were approximately the same as in former years.

The following tabulation compares the results of these analyses for the past two years.

Year	No. of Samples	Positive or Questionable	Negative
1956	1,986	36.1%	63.9%
1957	2,796	44.1%	55.9%

The bacteriological examination on these samples indicated that 68% of udders were infected with streptococci and of the remaining 32%, staphylococci infection was the most common.

The number of egg samples received through the Poultry Marketing Services, Canada Department of Agriculture nearly doubled during the year on account of heavy purchases under the Agricultural Prices Support Board. The eggs were bought on a grade basis and had to meet certain bacteriological and chemical requirements. This service was provided at cost.

Under the heading miscellaneous is grouped a great variety of material. It includes such items as milk, cream and butter to be examined for quality; milk and cream suspected of containing preservatives; a number of milk powders for chemical and bacteriological examination; chlorine and alkaline solutions to be checked for strength and honey samples for mould and yeast count, etc.

In addition the laboratory has continued to supply the cheese factories with starter cultures used in the making of cheddar cheese and some of the milk plants with cultures for making cottage cheese and fermented milks. The practise of furnishing standard solutions and indicators as needed in the operation of dairy factories has also been continued.

During the year the supervisor of the laboratory handled a considerable volume of correspondence on technical problems pertaining to the dairy industry.

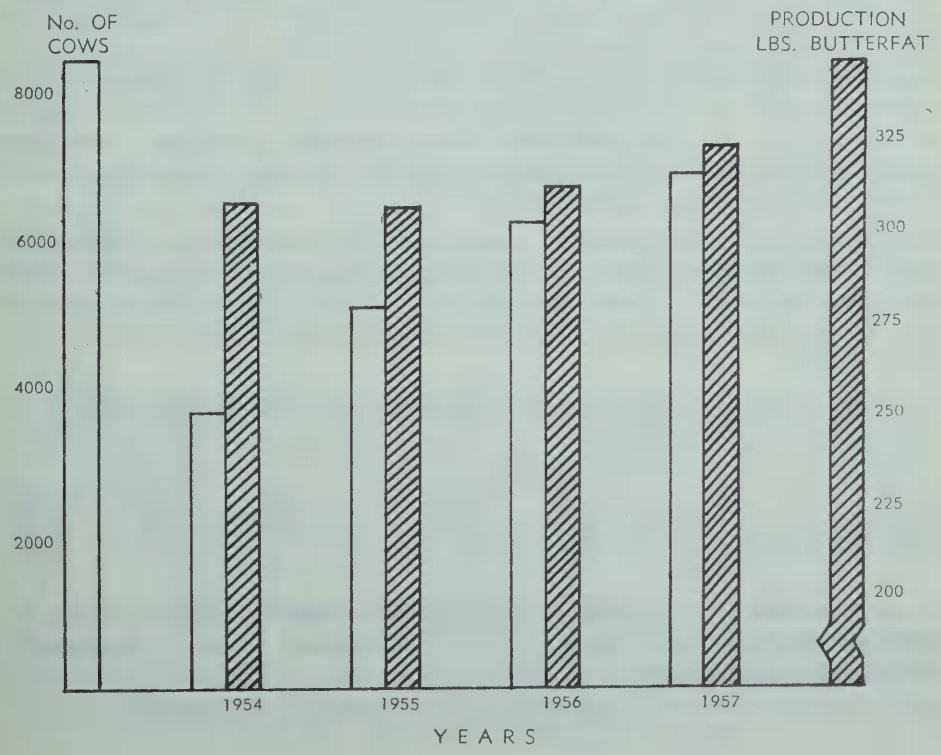
DAIRY CATTLE IMPROVEMENT SERVICE

Cow Testing

The report of this division for 1957 shows a substantial increase in herds and cows under test with a higher production per cow.

During the year 77 herds and 1,242 cows were placed under test. Of these, 14 herds and 423 cows were under the "Owner-Sampler Route Plan" system. There were 30 herds on test in 1956 which discontinued the service during 1957. Many of these were herds that had been sold during the year, or transferred to the Dominion R.O.P. Service for purebred cattle. The net increase for the year is, therefore, 39 herds and 761 cows.

To show the rapid increase in the number of cows tested and level of production during the past four years, the following graph is submitted:



With the increasing numbers of cows being placed on test, there has been additional testing at the centres and considerable more office work required. The installation of new equipment has aided the testing but the increased clerical work presents a problem. During the year, herd owners were circlularized regarding the issuance of individual certificates of production for each cow or a yearly herd report. The majority of the herd owners requested the continuance of certificates. The policy of issuing certificates has been maintained but the yearly herd report has been discontinued.

(a) Mail Order Testing

Two plans of mail order testing are offered herd owners throughout the province. Plan 1 is a system of testing based on daily weights of milk from each cow in the herd and monthly butterfat tests, while plan 2 is based on a record computed from one day's weighing and sampling once a month. In both cases weights of milk and samples are taken by the herd owner. Samples are forwarded monthly to testing centres for testing by Dairy Branch officials. All records are checked and extended in the Dairy Branch office and herd books are returned by mail.

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

	No. of Herds			No. of Cows		
	1955	1956	1957	1955	1956	1957
Plan 1	61	65	81	1,015	1,087	1,246
Plan 2	129	138	156	2,853	3,033	3,377

(b) Owner Sampler Route Plan

This system of testing has operated in the Edmonton area since June, 1954 and has proven a popular service in the fluid milk shed. Testing is done under either plan 1 or plan 2 as in the mail order system. A full-time fieldman visits each herd monthly delivering a sample box for next month's samples and at the same time picks up the current month's samples which have been lifted by the herd owner. At the time of this visit all heifer calves born since the previous visit are ear-tagged and identified. The fieldman checks the accuracy of the scale being used and assists the herd owner in his record keeping and herd improvement program. All new herds coming on test are sampled by the fieldman and the owner instructed in proper sampling procedure.

A total of 780 farm visits were made by the fieldman during the year; 397 heifer calves were identified and ear-tagged. Milk samples were lifted by the fieldman at the 14 farms covering new herds coming on test and 5 farms where "check tests" were being conducted.

The following table shows the extent to which this system of testing has been utilized:

	No. of Herds			No. of Cows		
	1955	1956	1957	1955	1956	1957
Plan 1	7	5	4	133	97	90
Plan 2	34	57	63	1,282	2,062	2,327
	41	62	67	1,415	2,159	2,417

From the above table it will be seen that the average size of herd on the route plan is 36 cows as compared to only 19 cows on the mail order system.

Testing Centres

Testing centres were in operation at Edmonton, Ponoka, Red Deer, Calgary and Lethbridge. The centre at Lethbridge was established during the year and testing started in August. All testing at the centres is done by Dairy Branch officials. The following table shows the number of tests conducted at each centre:

	1956	1957
Edmonton	22,475	28,568
Ponoka	6,668	7,880
Red Deer	9,484	8,525
Calgary*	3,230	4,375
Lethbridge**	.....	559

*Calgary commenced operation in February, 1956.
**Lethbridge commenced operation in August, 1957.

To indicate the extent to which the two plans have been utilized by herd owners, the following table has been prepared showing average production under each plan together with the provincial average for all cows under test. The previous year's figures are shown in brackets.

SUMMARY

	*Plan 1	**Plan 2	Total
No. of herds under test	85 (70)	219 (195)	304 (265)
No. of cows under test	1,336 (1,184)	5,704 (5,095)	7,040 (6,279)
Av. No. of cows per herd	15.7 (16.9)	26.0 (26.1)	23.2 (23.7)
No. of cow years (T)	936 (886)	4,193 (3,465)	5,129 (4,351)
Av. production of milk lbs.	9,626 (9,350)	9,438 (9,127)	9,472 (9,173)
Av. production of butterfat lbs.	338.5 (329.7)	322.5 (314.9)	325.4 (317.9)
Av. test %	.....	.....	3.43 (3.47)

*Plan 1 Daily weighing and monthly tests.
**Plan 2 Computed records from one day's weighing and monthly tests.

(T) Herd averages on the basis of cow years. 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 part of the year in which she produces is used.

From the previous table it will be noted that the average production of all cows under test shows an increase of 229 pounds of milk and 7.5 pounds of butterfat over 1956. It is also evident that over 81% of the cows tested were under plan 2. This plan has proven very popular with large herds. As already mentioned, 63 of the 67 herds on the route plan are testing under plan 2.

Reports and Competitions

Herd owners receive individual certificates of production for all cows completing the necessary requirements respecting yields of butterfat and period of recording. Yearly reports giving total milk and total butterfat produced are forwarded to each herd owner at the end of each cow testing year. Copies are sent to offices of the District Agriculturists for use at the time of field visits.

Herd improvement and increased production was encouraged through competitions and all herds on the cow testing service was automatically entered. Awards for the 10 herds having the highest butterfat production per cow and also the 10 herds showing the greatest improvement in butterfat production over the previous year were awarded at the time of the Alberta Dairymen's Convention.

The "Honour Roll" which includes herds of 5 cows or more that have been on test a full eight months and have an average production of 300 pounds of butterfat or over contains 149 herds. This represents an increase of 30 herds over the previous year and the highest number ever included in the honour roll.

Extension Work.

Supervision of the cow testing service was greatly extended due to the increased number of cows under test. Approximately one-half of the supervisor's time was taken up directly with the supervision of this service. During the summer months, a total of 14 dairy field days were conducted throughout the province in co-operation with the District Agriculturists and local committees. Assistance was given 4-H Dairy Calf Clubs through attendance at meetings and judging at 4-H Dairy Calf Club "Achievement Days." There were 19 dairy bulls placed under the Cattle Improvement Policy and Livestock Listing Bureau Service which were purchased by the supervisor. Farmers referred to this office by District Agriculturists were given assistance in locating breeding stock and dairy cows.

In addition to preparing articles on dairy husbandry for newspaper releases and radio, a monthly newsletter "Dairy Herd Improvement News" was prepared and forwarded to all herd owners on the cow testing service.

During the year, 10 co-operative artificial insemination units were in operation in the province and the supervisor acted as an ex-officio member on the bull selection committees of these units. Information and advice on frozen semen available from Ontario bull batteries assisted Alberta units in selecting the bulls from which semen was obtained. In addition to individual visits to units, 13 board meetings were attended. Attendance at the annual meeting of the National Association of Artificial Breeders at Toronto in August afforded the supervisor the opportunity of gathering the most recent information on artificial insemination for the benefit of the Alberta units. Continued interest and expansion of the artificial insemination program has undoubtedly created an active interest in cow testing and it is anticipated that 1958 will see more herds enrolled on the cow testing program.

FARM COST STUDIES

Production cost studies were continued on dairy farms in the four principal fluid milk markets of the province and also for two groups of farms in the irrigated sections east of Lethbridge.

Accounts were closed on a total of 143 farms during the year. The classification and general location of these farms is indicated in the following table:

Fluid Milk Farms		Irrigated Farms	
Edmonton	33	Taber Canning Crop	25
Calgary	31	Vauxhall (without canning crops or sugar beets)	34
Lethbridge	14		
Medicine Hat	6		

To close the farm accounts requires on the average two visits. Additional calls to milk and mixed farms brought the total farm visits to an estimated 416 for the year.

Fluid Milk Studies

During April and May a review of milk pricing throughout the province was made by the Board of Public Utility Commissioners. Evidence was submitted at all hearings, by the Division Supervisor. The findings and appraisals made in the various milk sheds under study provided the Board with accurate data on production costs. In order that up to date information could be presented, extra field calls were made at all fluid milk farms under study

as well as some farms in other areas where applications for price increases were received.

A report covering the previous year's operation was returned to each operator. It showed his position compared to the district average in income, organization and management levels. These reports, in addition to covering the complete farm operation also gave input and output data for milk production costs. At the year end analysis of the records for the current year were nearing completion and these will go forward early in 1958.

Following the trend in other areas, interest in formula pricing of fluid milk is increasing. Basic data on this subject was provided at producer meetings. A committee; consisting of the Supervisor of Farm Cost Studies, the Milk Administrator of the Board of Public Utility Commissioners and a representative from the Economics Department of the University of Alberta; was set up to work out a formula covering a period of years to be tested for Alberta conditions. A trial formula is now nearing completion and will be ready for checking early in the new year.

Mixed Farm Studies

A report covering the results of an economic study on 50 mixed farms in the Leduc-Wetaskiwin area for a five year period 1951 to 1955 was prepared and given rather wide distribution during the year. This publication has provided much valuable information for extension work. It indicates the effect of the many changing variables which affect farm incomes over a period of years, some of which are soil, weather, disease, prices, costs and general management practises. The amount of time required for consultations and preparing information on mixed farm production and marketing problems made it impossible to continue any formal studies on mixed farms.

Canning and Specialty Crop Studies

Studies were continued on the group of 25 irrigated farms in the Taber area which produce sugar beets, corn and canning peas. An additional 34 farms in the Vauxhall district were included as a separate study during the past year. These farms do not produce specialty crops under contract, but their main production is grain and livestock under irrigation conditions. From these 59 farms, 104 enterprises have been recorded and analysed in detail. Reports similar to those for other studies were prepared for the benefit of the co-operators and other interested parties in the area.

Extension Work

The demand from extension workers for agricultural economics information covering both production and marketing continues to increase. Questions concerning values of land, feed and livestock for different areas are quite common. Records had to be analysed for yields of forage crops and grain as well as the production of various classes of livestock to furnish needed information.

Representatives from this division attended a large number of meetings and short courses where illustrated addresses were given. Press releases and radio interviews were prepared as time permitted. Assistance was given in the settlement of claims, involving land, livestock, buildings and equipment. Information was provided to assist in the preparation of a brief on growing sugar

beets in Alberta for presentation to the Federal Minister of Agriculture.

To keep informed on new developments in Agricultural Economics, both in the research and extension fields, staff members attended special courses at Banff and Vancouver.

FROZEN FOOD LOCKER PLANTS

Industry Trends

A business trend similar to 1956, when the number of locker rentals declined due to a greater use of home freezers, was again evident during the year. This trend was not noticeable during the early part of the year but reversed itself late in the year, when a demand was created for lockers to store an abnormally large bag of big game.

Extensive alterations were made at several plants during the year. In most cases these changes meant adding a larger retail outlet for both frozen and fresh foods. This additional volume of business greatly assisted those plants in maintaining an economic operation. The greatly increased sale of commercial packed frozen foods indicates the increasing popularity of these products.

Five plants discontinued operation during the year bringing the total to 144 at December 1st. One small plant was closed for financial reasons, another due to poor health of the operator, while fire completely destroyed the plants at Acme, Eckville, Mundare and Strome. The plant at Acme was rebuilt, but it is unlikely that the other three plants will again be put into operation. A new complete service plant with a capacity of 190 lockers was put into operation in the City of Calgary during the month of October.

Inspection Services

A total of 1,109 inspections of locker plants were made by the eleven inspectors working under the direction of the supervisor, who was able to make at least one visit to each plant.

Assistance was again given to operators remodelling or constructing locker plants and slaughter houses. Meetings and the Annual Convention of the Alberta Quick Freeze Locker Association were attended and addressed by both the supervisor and Dairy Commissioner. To better serve the industry and locker renters, The Frozen Food Locker Act was amended at the 1957 Session of the Legislature and the regulations under the Act were completely revised during the latter part of the year. These new regulations will become effective January 1, 1958.

To select winners for the Merit Award Competition and determine those plants eligible for Proficiency Certificates scoring of all plants was again carried out by the inspectors. The top plants in each district for the competition awards were given a final score by a panel of three from headquarters staff. The 1956 winners were announced and presented with trophies at the Annual Convention of the Alberta Quick Freezer Locker Association held at Edmonton in March 1957. The shields for plants with more than 400 lockers was won by Taber Frozen Foods for the second year in a row. Redi-Food 'N' Freezers, Edmonton and Central Alberta Dairy Pool of Rimbey placed second and third respectively in this class.

The Beiseker Frozen Food Centre won the shield for plants with less than 400 lockers which also represented the second consecutive win. Spoors Meat Market & Lockers, Rocky Mountain House, and Peace River Meat Company Limited of Peace River placed second and third respectively in this section.

There were 38 proficiency Certificates awarded to operators compared to 27 for the previous year. These certificates are awarded to operators for general efficiency and high standards of operation during the year. These awards and certificates have done much to encourage better plant operations and are prominently displayed.

The following tabulations set forth the locker plant statistics for the year ending November 30, 1957. For sake of comparison the 1956 figures are included.

LOCKER PLANT OPERATIONS

	1957	1956
No. of plants in operation, December 1st	144	148
No. of plants reporting during 1957	149	151
No. of lockers installed	47,972	49,304
Average No. of lockers installed	322	327
No. of lockers rented, December 1st	39,762	40,159
Percentage of lockers rented, December 1st	82.9	81.5
Average lbs. of food stored per locker, with complete service	311.3	330.9
Average lbs. of food stored per locker, with incomplete service	185.6	176.5
Average poundage per locker, all plants	301.4	318.5
Average lbs. per locker on the basis of lockers rented for 12 months	329.6	320.5
No. of animal food plants	3	3
Inspections during the year	1,109	1,130

The fact that 1,332 less lockers were available at the end of the year was due entirely to fewer plants which were either closed or destroyed by fire during the year. The percentage of lockers rented at December 1st was 82.9 compared to 81.5 for 1956, which indicates an improved position. This is also emphasized by the fact that the average poundage per locker for the year was 9.1 pounds greater than in 1956.

PRODUCTS PROCESSED BY LOCKER PLANTS FOR LOCKERS

	1957		1956	
	Pounds	%	Pounds	%
Fresh Meat	9,577,572	79.9	10,066,571	78.7
Cured Meat	771,163	6.4	979,225	7.6
Lard Rendered	106,859	.9	138,977	1.1
Fish	45,514	.4	47,140	.4
Poultry	809,515	6.7	744,629	5.8
Big Game	300,426	2.5	369,589	2.9
Game Birds	57,272	.5	52,698	.4
Fruits and Juices	68,299	.6	88,468	.7
Vegetables	178,280	1.5	227,204	1.8
Miscellaneous	70,004	.6	77,630	.6
Total	11,984,904	100.0	12,792,131	100.0

FOR HOME FREEZERS

	1957		1956	
	Pounds	%	Pounds	%
Fresh Meat	3,237,901	80.8	2,226,037	78.9
Cured Meat	218,812	5.4	174,505	6.2
Lard Rendered	43,897	1.1	18,192	.6
Fish	31,822	.8	26,952	1.0
Poultry	57,280	1.4	45,831	1.6
Big Game	26,346	.7	16,897	.6
Game Birds	3,046	.1	150	.0
Fruits and Juices	151,059	3.8	121,139	4.3
Vegetables	113,967	2.8	98,405	3.5
Miscellaneous	124,516	3.1	94,098	3.3
Total	4,008,646	100.0	2,822,306	100.0
Total for Lockers and Home Freezers	15,993,550		15,614,437	

Processing for lockers was approximately 800,000 pounds less than the previous year, however, the processing for home freezers was 1,186,000 pounds more than for 1956, an over all increase in processing for the year of 379,000 pounds. These statistics indicate that locker patrons and home freezer owners are using the locker plant services to a greater extent.

Milk Control Report

Submitted by the

BOARD OF PUBLIC UTILITY COMMISSIONERS

J. B. Moore, Administrator of Milk Control

Fluid milk consumption, on the whole, during 1957 presented a more varied picture than has existed for the past few years. Consumption decreased fractionally in Calgary. The Crow's Nest Pass registered a 5.3% decrease—Ponoka a 1.2% decrease. Medicine Hat, Camrose, Lethbridge, Red Deer and Edmonton registered increases of .37%, .82%, 1.3%, 4.5% and 6.6% respectively.

Production decreased in only one area—Crow's Nest Pass.

Licensed milk producers totalled 908, an increase of approximately 2% over the number in 1956.

Application for producer price increases were made on behalf of Producers in Calgary, Edmonton, Lethbridge, Red Deer and Ponoka. Distributor applications for increased consumer prices were made in all the above areas with the addition of Medicine Hat. All applications were granted.

Necessary funds and active assistance were provided The Dairy Cost Survey. The Board continued to support actively and financially, the program of Milk Foundations in five controlled areas.

Two representatives of the Board attended at the International Milk Control Agencies Convention in Berkeley, California, held during the month of July.

Report of the Poultry Branch

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

INSPECTORS:

K. Rowe ..... Edmonton East
K. Darlington ..... Edmonton West
G. O. Johnson ..... Camrose
J. Plumley ..... Red Deer
W. Hutchison ..... Calgary

GENERAL REVIEW

Egg production in 1957 far exceeded that of any previous year. Largely as a result of the large volume of marketing here and across Canada prices remained at the support level for a longer period of the year, with the result that the average weighted egg paying prices by grade to producers is the lowest since pre-war years.

The Agricultural Prices Support Board continued in effect in 1957, establishing a wholesale price of 38c per dozen for Grade A large eggs at storage points. Active support of Grade A Medium eggs was discontinued. This year a support program for Grade B eggs was introduced. A wholesale support price of 31c per dozen for Grade B eggs was established. The net effect of this program has meant an additional 4c to 5c per dozen for Grade B eggs to producers than they might otherwise have received.

Poultry meat production was in excess of that of 1956 with prospects of reduced returns. A decrease in returns for fowl and turkey was halted by the announcement of price support programs and import controls in July by the Agricultural Prices Support Board. The support price of fowl with appropriate differentials between Toronto, Montreal, and Alberta market centres, meant on a live basis 24c and 21c for Grade A fowl over 5 lbs. and 3½ lbs. to 5 lbs., respectively. The net effect of this program has meant an additional 3c to 4c per lb. for Grade A fowl to producers.

Import controls and price support for turkeys was also introduced in July. Turkeys are supported at 25c per lb. Grade A live weight for birds over 10 lbs. and less than 20 lbs. delivered at Toronto and Montreal with appropriate differentials for other weights and market centres. As a result of import controls the domestic price of turkey was above floor level and, therefore, support was never used. Because of these controls, domestic supply and demand, and keen competition of produce dealers, turkey growers received 4c to 5c per lb. more this year than in 1956.

During 1957 a plan was proposed and presented to regulate and control the marketing of commercial eggs in the province of Alberta under the Marketing of Agricultural Products Act, being Chapter 5, of the Statutes of Alberta, 1955, (2nd Session). The plebiscite was carried out in the period from November 8th to December 6, 1957. As any such plan does not become operative unless approved by 51% of the eligible registered voters, and as only 48.41% voted in favor, the plan was declared defeated.

FLOCK APPROVAL

The poultry approval and turkey approval policies continue to be a major project of the Poultry Branch and were continued with some amendments. These programs keep twenty temporary inspectors, in addition to five permanent inspectors, fully engaged during the fall and winter months. In addition, the expanding broiler industry, while providing an all season program for some flock owners and hatchery operators, is extending the approval phase of the branch activities throughout most of the year. In the 1956-57 season 65 flocks comprised of 25,896 birds were inspected and pullorum tested for the production of broiler hatching eggs.

All hatching eggs set in licensed hatcheries must be from inspected and pullorum free flocks.

Table I summarizes the number of flocks and birds inspected and tested for pullorum disease.

TABLE I

SUMMARY OF FLOCK APPROVAL 1952-1957

(First Test on Completed Flocks)

Year	Method of Testing	No. of Flocks	No. of Birds	Av. Size of Flock	% Reaction
1951-52	Whole Blood	1,057	294,320	279	.261
1952-53	" "	1,078	302,599	280	.229
1953-54	" "	1,039	307,866	296	.242
1954-55	" "	1,043	319,501	309	.211
1955-56	" "	989	318,492	322	.221
1956-57	" "	1,056	369,434	349	.098

During 1957 a system of rating or scoring of hatching flocks was inaugurated. This system was endorsed by the Alberta Hatching Egg Producers' Association as a means of increasing returns to themselves by way of better egg production and hatchability, and also to produce the best possible product for the hatcheries. Ratings of hatching supply flocks were as follows:

Group	Rating	% of Flocks
Group I	Over 80%	10%
Group II	70%-79%	44%
Group III	60%-69%	38%
Group IV	Under 60%	8%

Flock owners in Group IV were notified that they would not be allowed to ship hatching eggs until conditions on premises were improved. A number of these did bring their premises up to satisfactory standards for acceptance as a supply flock for hatching eggs.

Production of turkey hatching eggs is becoming increasingly specialized, as evidence by a decease in the number of flock owners and an increase in size of individual breeding unit.

TABLE II

SUMMARY OF TURKEY APPROVAL 1952-1957

Year	No. of Flocks	No. of Birds	Av. Size of Flock
1951-52	62	12,587	203
1952-53	79	15,721	199
1953-54	65	16,677	256
1954-55	77	22,892	297
1955-56	52	22,416	431
1956-57	48	28,309	590

TABLE III

SUMMARY OF FLOCK APPROVAL BY BREED 1956-57

CHICKENS

Breed	No. of Flocks Tested	No. of Birds Tested
White Leghorns	341	140,778
New Hampshires	225	73,006
Light Sussex	220	66,868
White Rocks	125	42,419
Barred Rocks	71	21,641
Rhode Island Reds	11	5,007
Black Australorps	33	10,117
All Other Varieties	30	9,598
Total	1,056	369,434
TURKEYS		
Broad Breasted Bronze	42	27,030
Beltsville Whites	4	1,056
White Lancaster	1	201
Bourbon Reds	1	22
Total	48	28,309

LICENSING AND BONDING OF DEALERS IN POULTRY AND POULTRY PRODUCTS

A. **Produce**—The Poultry Branch administers regulations respecting the Licensing and Bonding of Dealers in Poultry and Poultry Products under the Alberta Live Stock and Live Stock Products Act. Every person carrying on a business as a dealer must obtain a license to conduct such business. As of January 1, 1956, as protection to producers, all wholesale dealers were required to furnish a surety bond in favor of the Minister ranging from $1,000 to $10,000, depending upon the volume of business conducted.

TABLE IV

Year	First Receivers	Reg. Egg Grading Stations	Reg. Poultry Processing Stations	Reg. Poultry Eviscerating Stations	Reg. Poultry Grading Stations	Temporary Grading Stations
1952	158	157	18	6	5	7
1953	120	154	20	7	4	8
1954	88	152	21	9	6	7
1955	70	146	21	9	6	6
1956	46	140	21	8	8	4
1957	33	141	22	10	8	3

B. **Hatchery**—The Poultry Branch administers regulations Respecting the Production and Sale of Chicks under the Alberta Live Stock and Live Stock Products Act. All commercial and custom hatcheries with an incubator capacity of 1,000 eggs or more are licensed. Since 1951 commercial hatcheries are required to furnish a surety bond, for protection of hatching egg producers, in favor of the Minister ranging from $2,000 to $5,000, depending upon incubator capacity.

TABLE V

DEVELOPMENT OF HATCHERIES

Year	Breeder Hatcheries	Commercial Hatcheries	Egg Setting Capacity
1952	7	51	3,900,055
1953	10	48	4,397,743
1954	11	49	3,917,388
1955	12	49	4,103,088
1956	14	51	4,466,034
1957	13	52	4,698,818

TABLE VI

CHICK PRODUCTION

Year	% Hatchability	Chicks Hatched	Chicks Not Sold	Chicks Exported	Chicks Imported	Chicks remaining in Province
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
1956	69.0	9,495,784	577,267	279,728	346,574	8,985,363
1957	69.05	11,167,818	630,880	365,290	244,848	10,416,496

TABLE VII

CHICKS HATCHED BY BREED

	1953	1954	1955	1956	1957
S.C. White Leghorn	1,516,603	1,959,290	1,726,607	2,055,068	2,218,486
New Hampshire	1,548,907	1,605,400	1,476,922	1,657,404	1,017,991
Barred Plymouth Rock	422,511	383,873	372,463	481,229	401,646
Rhode Island Red	29,962	4,506	8,248	5,239	118,726
White Plymouth Rock	528,471	710,829	787,955	879,235	1,337,963
Black Australorp	201,189	264,847	332,501	302,865	214,552
Light Sussex	1,533,148	1,579,723	1,393,610	1,491,650	1,513,543
Crosses	1,401,103	1,820,941	1,992,265	2,491,254	4,090,460
Miscellaneous	79,540	136,849	121,563	131,840	254,451

Poult production in Alberta hatcheries again reached an all time high in 1957 of 1,006,734, an increase of 24.4% over 1956. Imports of poults were considerably reduced, and according to Dominion Bureau of Statistics turkeys raised on Alberta farms increased by an estimated 5%.

TABLE VIII

POULT PRODUCTION

Year	Eggs Set	Eggs Imported	Poults Hatched	% Hatchability	Poults Imported	Poults Exported	Poults on Alberta Farms
1953	832,064	368,917	449,225	53.2%	65,483	9,337	505,371
1954	1,133,001	533,144	606,118	53.5%	227,689	8,383	825,424
1955	1,070,690	374,573	538,014	50.3%	64,994	6,905	596,103
1956	1,535,611	450,000	809,459	52.7%	197,770	8,280	998,949
1957	1,763,449	592,150	1,006,734	57.1%	83,461	39,906	1,050,289

Importations of breeding stock, or the franchised chick, have been increasing the past two years. Last year there were only about five different strains imported, which accounted for about 15% of chicks sold. This season there are 14 different franchised chicks offered by 16 of 52 hatcheries, and two franchised turkey poults by two hatcheries.

THE POULTRY INDUSTRY

Egg production in 1957 set an all time record. In 1956 the total net production was an estimated 45,465,000 dozen eggs and this year it increased approximately 10% to an estimated total of 49,752,000 dozen eggs.

The steady increase in egg marketings is indicated in Table IX. Registered egg grading station receipts represent about 43% of total production. While egg production has been increasing, returns to farmers on a weighted egg price to producers has been declining, also indicated in Table IX.

TABLE IX

	Egg Receipts at Registered Egg Grading Stations (30 dozen cases)	Weighted Egg Price to Producers by Grade Per Dozen
1953	533,814	36.8 cents
1954	531,433	30.2 cents
1955	548,215	31.8 cents
1956	597,380	31.9 cents
1957 (Est.)	673,339	26.4 cents

Receipts of poultry and turkey at registered stations, representing about 43% of total production, reveal marketing trends from year to year. Table X shows a steady increase in marketings.

TABLE X

POULTRY MARKETINGS THROUGH REGISTERED STATIONS (Pounds)

Year	Chickens		Fowl	Turkeys	Ducks	Geese
	Under 4 lb.	Over 4 lb.				
1953	1,044,026	1,365,692	2,673,518	4,351,491	81,973	357,587
1954	1,085,638	1,281,180	2,352,621	7,039,110	83,397	321,302
1955	1,726,485	1,316,711	3,148,113	5,904,921	97,205	473,119
1956	3,261,360	1,747,498	3,418,065	9,215,831	80,277	333,901
1957	4,129,761	1,987,221	4,220,058	10,656,603	70,905	565,705

TABLE XI

POULTRY EVISCERATED IN REGISTERED STATIONS

(Pounds)

Year	Chickens		Fowl	Turkeys	Ducks	Geese
	Under 4 lb.	Over 4 lb.				
1953	.....	705,908	263,178	255,954	542	1,644
1954	.....	934,893	287,056	1,101,497	6,394	34,830
1955	1,583,976	623,686	1,001,896	2,855,950	15,386	79,478
1956	2,682,148	1,158,402	1,575,042	6,297,954	30,836	116,455
1957	4,363,666	1,559,538	3,181,891	6,881,831	56,643	271,931

POULTRY AND TURKEY POPULATION

From the recently released agricultural census of 1956 information can be obtained which in comparison with the census of 1951, gives some indication of the development of farm flock sizes. A decrease is recorded in the number of farms having small sized flocks, while farms with larger flocks have increased in number. The census also shows a reduction in the total number of farms in the province from 84,315 in 1951 to 79,424 in 1956. The number of farms having turkeys has increased with a strong tendancy towards an increase in the larger unit.

TABLE XII

Birds Per Farm	Farms Reporting Hens and Pullets		Farms Reporting Turkeys	
	1951	1956	1951	1956
None	29,439	29,223	72,843	65,348
1- 7	2,776	2,197	4,212	4,714
8- 17	9,479	7,264	2,460	3,453
17- 47	25,770	22,352	2,723	2,445
48- 77	10,382	10,404	822	916
78-122	3,696	4,284	709	1,047
123-177	1,463	1,855	231	488
178-272	800	1,094	179	508
273-527	396	580	99	371
528 and over	141	144	37	134

TABLE XIII

FARM POPULATION

Year	Laying Hens	Turkeys
1953—Inter census revision not available	2,600,000	530,000
1954—Inter census revision not available	2,650,000	650,000
1955—Inter census revision not available	2,850,000	570,000
1956—Census (D.B.S.)	2,642,494	820,154
1957—Estimate (D.B.S.)	2,900,000	860,000

ALBERTA RANDOM SAMPLE TEST

In September, 1956, the Hon. L. C. Halmrast, Minister of Agriculture announced that in continuing the department's policy of serving the poultry industry that the Provincial Poultry Plant, Oliver, commencing early in 1957 would be operated as a Random Sample Test. Results of this first test will be available following its completion in August 1958. The second test commences April 1, 1958.

The Alberta Random Sample Test for poultry started April 1, 1957. This is the first such test in Canada to be operated at a Provincial level, and was set up to evaluate and compare strains of poultry produced by breeders, that may be made available to the Alberta farmer.

Briefly, the Random Sample Test operates as follows. First, samples of eggs are taken at random from the breeders' stock to be tested. The eggs are then shipped to the test site at Oliver for incubation. The chicks are raised under identical conditions of housing, feeding and management, and also when the pullets come into production, as near uniform environment conditions as possible are provided. Therefore, when differences between entries show up, they may be attributed to the genetic make up of the bird rather than to differences in feeding and care.

The factors tested for are those that add up in the end to the net profit per bird for the poultryman. These are such factors as mortality through the brooding, range and laying house periods, egg production, egg weight, feed efficiency, egg quality, etc.

Many interesting variations between the ten entries in our first test are now showing up. However, it is too early in the test to draw any definite conclusions as to the merits of any particular entry.

When the test is completed, some of the matings will likely be shown up as inferior and be discarded. Others will show up superior to the average, and these will be made available through our breeders and commercial hatcherymen to the farmer in Alberta keeping poultry. From the performance shown in the test, the farmer will know what to expect from the strain he selects. He will know what he is buying.

POULTRY SHOWS

The Toronto Royal Winter Fair was held again in November with entries of dressed poultry and eggs being made by commercial firms and producers. Alberta entries made a very creditable showing. This dressed show is considered the show window of the industry and exhibiting there is of great value to Alberta producers as a whole, as Eastern Canada is our major market of surplus poultry.

1957 ROYAL WINTER FAIR POULTRY PRODUCTS SHOW
(Alberta Awards)

	1956	1957
Championships	1	1
Firsts	31	18
Seconds	7	15
Thirds	1	2
Total	40	36

The Alberta Provincial Poultry Show was held in Calgary in December. Increased entries in all sections, excepting pigeon classes, were noted.

The annual Challenge Trophy awarded by the Alberta Department of Agriculture in the Egg Grading Station competition, Group B, was awarded to Mr. J. J. Koehler, Claresholm.

BRANCH ACTIVITIES

The Poultry Commissioner attended annual meetings of the Canadian Produce Association (Western Division) and of the Western Canadian 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.

During the season 90% of the approved flocks were reinspected. Members of the staff made 394 service calls to poultry producers requesting assistance and attention. Thirty poultry meetings, caponizing and culling demonstrations, and short courses as arranged by the Extension Branch were attended by members of the Poultry Branch staff. The annual Short Course for hatcherymen sponsored by the Poultry and Veterinary Services Branches was held in November. Interest in this meeting is keen, as indicated by almost complete attendance of those engaged in this field.

A poultry processing school, sponsored by the Western Canada Produce Association, Alberta Section, was held in Alberta for the first time this year. This meeting was very well attended and the information presented most valuable to the industry. A desire for future such schools was expressed by the association.

A conference of members of the Poultry Branch and temporary inspectors was held in August. Addresses were given by Dr. Clandinin, University of Alberta; Mr. E. V. Smith, Federal Marketing Services; Dr. C. H. Bigland, Veterinary Services Branch; and the Poultry Commissioner.

Report of the Fur Farm Branch

R. W. GILLIES, Fur Farm Supervisor

General

The past year proved to be a rather unsatisfactory season for the fur farmers of Alberta. This was due mainly to a rather sharp decline in the pelt markets of the world. Mink again, is the leading fur bearer produced, with 154,453 pelts at an estimated value of $2,413,400.00 being exported from Alberta.

The decline of the pelt market and an anticipated scarcity of feed in some areas, resulted in many mink farmers ceasing operations this year. As a result of this pelting out the greatest number of mink pelts in many seasons reached the fur trade.

Seventy-two less Fur Farmer's Licenses were issued in this period — about half this decrease is made up of people boarding a few mink on a share basis, and therefore have had little significance in the fur business of Alberta.

Extension Work

1. Field Days

Three very successful field days were conducted at Calgary, Lac La Biche and Canyon Creek-Widewater. The interest and attendance at these events was the best in years and again proved very educational. It is apparent that the breeders are becoming more appreciative of the field days held, and are finding it a necessary part of their herd improvement programme.

Evening meetings, followed by a social, were conducted after each field day. The attendance at both the field days and meetings was indeed encouraging to the attending field party.

Messrs. Cecil Johnstone of the Hudson Bay Raw Fur Sales, Montreal, acted as judge. He was assisted in Calgary by George Wilson of Edmonton, and John White of Hudson Bay Raw Fur Sales, Montreal, assisted at the Northern centres.

The Veterinary Services Branch again played a major part in the field day programme. Dr. Graham Wilton presided at Calgary, and Dr. Jim O'Donoghue participated in the programme at the Northern meetings. Bob Gillies, Fur Farm Supervisor, acted as chairman of meetings and organizer of the field days. Many pertinent problems on mink, nutrition, genetics, disease, and proper handling of pelts were discussed at these field days. Portable judging lights proved once again a valuable assist to the success of these events.

Chinchilla field days were held in Edmonton on July 21st and in Calgary on September 8th.

2. Office Extension Work

Ranch inspection and personal visits were extended by the Fur Farm Supervisor and advice and assistance rendered wherever possible. Many requests for information on mink, nutria, Chincilla, etc. were answered through the branch office. Pamphlets and bulletins are available on various subjects. These are mailed out when requested.

3. **Fur Breeders' Associations**

Fur Breeders' Associations in most districts have continued to be most active. Norman Shields, Executive Secretary of Canada Mink Breeders, visited the Province during the month of May. Mr. Shields was taken throughout Alberta by the Fur Farm Supervisor, and very interesting and educational meetings were conducted at Calgary, Edmonton, Lac La Biche, and Canyon Creek-Widewater.

Canada Mink Breeders' Association continues to operate efficiently on behalf of the Canadian mink farmers. The membership from Alberta shows a steady increase.

The Alberta Fur Breeders, with the assistance of the Fur Farm Branch, are in the third year of publishing "The Fur Bulletin". This paper has been keenly accepted and is a very useful medium in keeping the ranches advised of the latest fur farming methods and changes.

The Chincilla Breeders have well organized local associations in the Calgary and Edmonton districts.

4. **Live Animal Show**

The Alberta Fur Breeders 20th Annual Live Mink Show was held in Edmonton on December 12th and 13th, 1957. The December show date proved very popular, attracting a total of 425 entries from 22 exhibitors. The highlight of the show was the fine attendance of visiting fur farmers from all districts.

Alma Erikson of Sandy Utah, U.S.A., considered one of the top mink farmers in the U.S.A., judged the show. He was assisted by John Ross of The Hudson Bay Raw Fur Sales, Edmonton and Len Gorham of South Edmonton.

Mr. Erickson was feature speaker at a meeting held on the evening of December 11th prior to the show. His subject was "Genetics of New Type Mink". Dr. Hugh Vance of the Veterinary Laboratory also participated, speaking on "Virus Enteritis" and illustrating his talk with colored slides recently obtained from the Guelph Veterinary College. This type of meeting, a new innovation to the show was well attended by ranchers from all parts of the Province.

Health

The health report of fur bearing animals will be fully covered in the Veterinary Services Branch Annual Report. Five cases of distemper have been reported in Alberta this year.

The general good health conditions on the fur farms reflects that those remaining in business are giving more attention to their ranch management.

Feed

Feed during the past 12 months has been more plentiful. This has been due largely to the return of Lac La Biche as a producing lake. Lesser Slave Lake has also yielded a greater volume of rough fish and has improved the feed situation in this area considerably. This greater volume of fish has resulted in mink feed being more reasonably priced than has been the case for a number of years.

Marketing

The fur market for the year 1956-57 was somewhat depressed and discouraging, but the approaching market season of 1957-58 appears more encouraging.

Chinchilla skins have sold readily but at rather discouraging prices. Chinchilla quality has improved steadily, but methods of killing, handling and preparing pelts for market, are still far from satisfactory.

Nutria (South American Beaver) has obtained considerable publicity this past 12 months and it seems reasonable to expect that a number of nutria ranches will be established in Alberta.

Fox are still a neglected item.

Mura, a rodent developed in Germany and established in Alberta in the fall of 1956, are now located on a ranch at Scapa in Southern Alberta. A great deal of capital has been put into this enterprise.

No pelt market for mura has yet been established, but the promoter is quite optimistic.

FUR FARM STATISTICS FOR THE YEAR ENDING AUGUST 31st, 1957

NUMBER OF ANIMALS DECLARED ON FUR FARMS IN ALBERTA 1956-57

Kind of Animal	Total No. of Animals	Av. Value Per Animal Sept. 1/56	Total Valuation
Mink, Standard	72,004	$ 12.00	$ 864,048.00
Mink, Mutation	133,967	18.00	2,411,406,00
Fox	334	7.00	2,338.00
Marten	34	10.00	340.00
Chinchilla	4,488	12.00	53,856.00
*Nutria	16	3.00	48.00
*Mura	4,000	2.00	8,000.00
	214,843		$3,340,036.00

*Market price not established (estimated pelt value).

NUMBER OF ANIMALS PELTED ON FUR FARMS IN ALBERTA 1956-57

Kind of Animal	Total No. of Animalls	Av. Value Per Animal Fall 1956	Total Valuation
Mink, Standard	61,119	$ 12.00	$ 733,428.00
Mink, Mutation	93,334	18.00	1,680,012.00
Fox, Fresh Pelts	263	7.00	1,841.00
†Fox, Stale Pelts	307	7.00	2,149.00
Marten	24	10.00	240.00
Chinchilla	497	12.00	5,964.00
Nutria	Nil	.....	.....
Mura	1,366	2.00	2,732.00
	156,910		$2,436,366.00

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

NUMBER OF LIVE ANIMALS EXPORTED FROM ALBERTA 1956-57

Kind of Animal	Total No. of Animals	Av. Value Per Animal	Total Valuation
Mink, Standard	109	$ 50.00	$ 5,450.00
Mink, Mutation	642	75.00	48,150.00
Chinchilla	161	100.00	16,100.00
	912		$ 69,700.00

NUMBER OF ANIMALS RETAINED FOR BREEDING STOCK IN ALBERTA 1956-57

Kind of Animal	Total No. of Animals	Av. Value Per Animal Dec. 31/56	Total Valuation
Mink, Standard	10,776	$ 12.00	$ 129,312.00
Mink, Mutation	39,991	18.00	719,838.00
Fox	71	7.00	497.00
Marten	10	10.00	100.00
Chinchilla	3,991	12.00	47,892.00
Nutria	16	3.00	48.00
Mura	2,624	2.00	5,268.00
	57,489		$ 902,955.00

FUR FARM LICENSES 1956-57 SEASON

Mink	424	Foxes	4
Mink and Fox	6	Chinchilla	127
Mink and Marten	3	Mura	1
Mink and Nutria	1		
Nutria	1		567

Report of the Water Resources Branch

F. L. GRINDLEY, Director of Water Resources
R. E. Bailey, Chief Engineer
J. L. Reid, Supervisor, Hydroelectric Development
John Mould, Supervisor of Irrigation

General

The total discharge of the North Saskatchewan River for 1957 was 4,245,000 acre feet as compared to a long term average of 5,621,000. This 25% reduction in flow is a fair indication of conditions in the entire Saskatchewan basin.

In the Mackenzie River basin which comprises almost two-thirds of the area of Alberta, it is believed flow conditions were closer to normal. The extraordinarily high rainfall in the late summer and fall seasons in the Peace River area had a beneficial effect on northern navigation. Approximately one-quarter of a million tons of freight moved north by water. The effect of this high rainfall was disastrous to farm crops and also had a crippling effect on construction projects. The work at Falher and Grande Prairie went forward under very difficult conditions.

A drought of relatively short duration affected crop yields in the south and attention was once again focussed on the essential basic value of irrigation. Unfavorable autumn weather cut down the sugar content of the beet crop. There was considerable hail damage in the Enchant-Vauxhall area.

Very little flooding occurred on river bottom lands in 1957. There was some surface water ponding on areas north and east of Edmonton.

The City of Lethbridge built a large reinforced concrete weir at its intake on the Oldman River. The necessity for a weir has been evident for many years because of shifting low water channels at the intake and fluctuations in flow at low stages. Many other cities and towns either built new water and sanitation facilities for the first time or expanded existing facilities.

The Prairie Farm Rehabilitation engineers completed construction of the Rock Lake dam in the Eastern Irrigation District. The reservoir formed by the dam provides internal storage for the project, will eliminate a long section of canal and provide an excellent recreational area for the Duchess and Rosemary communities. The P.F.R.A. also made excellent progress on the Waterton-Belly canal which will augment water supplies for the St. Mary and Milk Rivers Development.

Surface runoff in the Special Areas at Hanna was disappointing. There was some irrigation by pumping along Berry Creek below the Carolside dam. The value of the stockwatering ponds created by Ducks Unlimited and P.F.R.A. in the Special Areas was clearly demonstrated.

Construction costs, especially the cost of structures, remained at a high level. It may be that some water development projects, which would normally be considered economically sound, will have

to be held in abeyance until either construction costs drop or the agricultural economy improves. The cost of earth works is still very reasonable.

Plans are being formulated to make a careful study of the causes and cures of the serious log jam formations on the East and West Prairie Rivers on the High Prairie-Enilda delta.

The large dam built by Canadian Utilities Limited on the Battle River near Forestburg filled with water and now provides an excellent supply of condenser cooling water for their power plant.

Calgary Power Ltd. continued its studies of possible hydro development of the Brazeau River. Borings taken of the foundation of the Bighorn site on the North Saskatchewan indicate over one hundred feet of gravel. Although this is unfavorable, it is not believed that this will eliminate the site from further study. The location of this project on the river and the excellent storage indicated may well counterbalance the foundation condition referred to above.

The provincial representatives of the Prairie Provinces Water Board received encouragement from P.F.R.A. that studies would be made of two or three upstream storage sites on the Saskatchewan basin in Alberta. The purpose of these storages would be to ameliorate flooding and augment low water flows in winter.

The Department of Northern Affairs and National Resources increased the number of hydrometric or water measuring stations with the emphasis on measurement of return flow from the irrigation districts. More attention is to be directed at measurement of northern rivers. The Department is considering asking for a much larger financial contribution from the provinces for this hydrometric service.

The situation with regard to co-operation between the Dominion and the Province on projects of national and provincial importance within the Province is still under review. The need for a policy to cover headwater storage and flood control projects is very evident.

It is evident also that some of the latest conceptions on hydrology have not received due consideration in this province. The idea had been accepted that there were unlimited quantities of water. It is now found that this is not the case. The newer instruments of science will need to be applied in this Province which is an extremely important water shed area.

General Inspection Services

Four hundred and fifty inspections of small drainage problems were made in 1957, a decrease of ten per cent from the previous year. This is of particular interest in that the number of small drainage problems received by The Water Resources Office varies directly with the wetness of the year. These inspections are made without charge and are worthwhile because they prevent what are essentially minor problems from getting out of hand.

General Office Work

In addition to the normal routine, the following should be noted:

(1) The regulations used in connection with The Water Resources Act were re-written. These regulations cover water resources and water power.

(2) A considerable number of mass curves and statistical studies were made of northern rivers. These were made in

connection with the Northern Alberta Resources Commission and the Wenner-Gren plan to harness the Peace River at Hudson Hope.

(3) A map study was made of a possible reservoir site on the Berland River (Athabaska) just below its junction with the Wildhay River. The storage indicated on topographic maps would approximate three-quarters of a million acre feet.

Comparative data on Major River in Alberta

Frequent requests are received for a comparison between the size of the Saskatchewan River and its tributaries and other rivers in Alberta. If the figure (1) is arbitrarily assigned to the average annual discharge of the Red Deer River at Red Deer, which has a mean annual discharge of 1,530,000 acre feet, the following comparison is noted:

Red Deer River at Red Deer	1.0
Bow River at Calgary	1.68
Oldman River at Lethbridge	1.74
South Saskatchewan at Medicine Hat	3.83
North Saskatchewan at Edmonton	3.90
Athabaska River at Athabaska	7.20
Peace River at Peace River	27.90

These figures also illustrate the potentialities of the northern rivers which are, for the most part, unused. Generally speaking, all of the above rivers have the same flow characteristics. Winter flow of the Bow River has been augmented by hydro development.

Drainage and Flood Control Projects

(1) Heart River Project.

The Heart River Project, on which construction began in 1949, was initiated to help alleviate flooding in the High Prairie-Grouard area, to facilitate water conservation and the stabilization of Lake Winagami and Lake Kimiwan and to provide a supply of domestic water to the McLennan-Girouxville area in northern Alberta.

In 1956 a contract was awarded for the construction of the McLennan-Girouxville canal which is the final stage of the project. This canal provides a much needed drainage outlet for the area. Spring flooding in this vicinity severely hampers agricultural activities and causes damage to the main highway and municipal roads. In addition to drainage this canal will carry a fresh supply of domestic water to the towns of Donnelly, Falher and Girouxville. Although the canal works were not entirely completed until the end of 1957, it was possible to provide these towns with water earlier in the year so that their recently installed water and sewer works could be utilized.

Construction during 1957 was seriously hampered by adverse weather conditions. Heavy continuous rains throughout the summer made it almost impossible to carry on with the work. Only the mild conditions during the early winter months made it feasible to complete the project in working order.

Some new ideas were incorporated into the design of the structures on this project with a view to simplicity and economy. These will be kept under close observation in the future to determine their relative merits for use on other projects of a similar nature.

(2) Kleskun Hill Project.

The Kleskun Hill Project was initiated for the purpose of providing flood protection for Highway No. 34 and flood and erosion

control on adjacent farmland in an area located eighteen miles east of Grande Prairie. The problems involved on the project were as many and varied as could be expected to be found on any flood control project. The "flashy" nature of the runoff together with the severe slope of the terrain prevented use of the usual accepted methods of control.

Preliminary investigations began in 1951. During 1954 and 1955 a concentrated effort was made on research and design of the project including hydraulic model studies carried out in the laboratories of the University of Alberta. The plans evolving from this called for two miles of flume ranging from a four foot diameter semi-circular metal flume to a four foot trapezoidal flume, some constructed of timber and some of reinforced concrete, together with various inlets and safety controls. The flume was to be followed by three miles of earth canal with a bed width ranging from twenty to thirty feet and containing six drop structures, four of which were to be built of reinforced concrete and two of timber.

A contract for the construction of the project was awarded late in 1956 and little was accomplished that year other than the excavation of the earth canal. Work continued during the 1957 season but extremely bad weather severely hampered construction operations to the point where completion cannot be expected until 1958.

Due to the unique nature of the problems encountered on this scheme, the project has developed into a proving ground for many new and heretofore untried conceptions of design and construction. These will be observed with keen interest in the future with a view to determining better and more efficient means of contending with problems of this type.

(3) Pembina River Flood Control Project.

During 1957 substantial progress was made on the Pembina River Flood Control Project. This project was initiated in 1955 following the last flood in 1955 which was the third major flood in ten consecutive years. The major zone of complaint is between Manola and Jarvie, a distance of approximately 80 river miles or 35 miles along a line in the middle of the valley. Besides this zone, further flooding occurred along the banks of the Paddle River which is a tributary to the Pembina River. The floods of 1944, 1948 and 1954, as all other floods wherever they may occur, were catastrophic. Their severity to the residents of the valley and along the banks of the Paddle River could best be illustrated by an estimated loss figure of $8,000,000 as damage to livestock, grain, feed, roads and small bridges. Each flood also damaged approximately 250,000 acres of land and flooded 1,000 farmsteads.

As a result of a report received from Mr. T. Blench, Professor of Civil Engineering at the University of Alberta, investigations to the possibility of using a system of co-ordinated "cut-offs", that is, eliminating exaggerated meander loops in the Manola-Jarvie area of the valley, were carried out this year. This engineering action of preventing a river from spilling into its natural flood plain, known as "river training" appeared to be the most practical solution as other methods such as storage dams and dyking proved to be either uneconomical or uneffective.

Engineers and survey crews surveyed 34 miles of the Pembina River and investigated eight meander loops for possible "cut-offs".

As a result of these investigations and surveys a contract was awarded in October for the cutting of two meander loops at a cost of $66,400. At the time of this report, one cut-off is completed and one in the final stages of completion. Work on this project will continue in 1958. A more concentrated survey to complete the river survey is planned with emphasis placed on the cut-offs presently under construction. Mr. W. Solodzuk, Civil Engineer on the Water Resources staff, is in charge of the project.

(4) East and West Prairie Rivers Project.

The annual flooding of the High Prairie-Grouard area has, for many years, been a problem of grave concern to the inhabitants affected by this condition. Many studies, surveys and reports have been compiled in connection with this problem since as early as 1917. Due to the nature of the difficulties involved and the cost of any proposed remedial measures, no action has ever been taken to effect a solution of the problem as a whole. To attempt to assist any individual or small group of individuals resident in the area rather than undertake an overall remedy, would result in ineffective peace-meal work which would, in the majority, transfer the individual problem from one place to another.

The construction of the Heart River dam and associated works in 1949 to 1952 has rendered considerable assistance in alleviating these flooding conditions. Although these works are an essential component of an overall remedial scheme, by themselves they represent only the first step in attaining a complete satisfactory remedy.

The main factor complicating the problem is the presence of driftwood and silt washed down by the East and West Prairie Rivers to form log jams in the lower and flatter reaches of the rivers. In 1951 a canal was constructed to by-pass an existing log jam located about one mile north of High Prairie on the West Prairie River. As far as the canal itself is concerned this has been very satisfactory, however, the formation of a log jam below these works has in the past two years backed up water causing damage to the canal and its dykes. Considerable effort was made to remove this jam and reinforce the dykes, however, it now appears that the value of this work is doubtful in view of the formation of another log jam.

Blasting operations have also periodically been carried out on the East Prairie River in an effort to prevent the formation of a persistent log jam which would endanger No. 2 highway. The results of these efforts have been discouraging and serves to further emphasize that peace-meal attempts to alleviate the conditions could continue for all time without any real accomplishment being realized.

The area affected by the flooding, if reclaimed, could be developed into productive farmland. whereas it is presently unoccupied or in the case of the few settled locations the farmers are flooded out nearly every year. During the summer and winter of 1957 field crews carried out extensive surveys with a view to determining a feasible solution to this problem. The results of this and other previous surveys will be compiled and analyzed early in 1958 and a definite proposal prepared for consideration. It is estimated that whatever the remedy the cost will be in the vicinity of $1,000,000. It has been proposed that Federal Government financial assistance be sought for this project and some action has been taken in this regard.

DRAINAGE DISTRICTS

The organization and construction of a new drainage district known as "'The Big Hay Lakes Drainage District" was completed in 1957. The government assisted in financing the district under the policy of purchasing debentures issued by drainage districts which amounted to $6,000. Engineers of the Water Resources Staff assisted in the survey, design and supervision of construction. This district presented a unique problem in that the outlet for flood waters from the district is another lake called Bittern Lake. The details of this problem are discussed in a subsequent heading "Special Investigations". This now brings the final number of drainage districts within the province to nine. Pertinent details of each district are given in the following table:

Drainage District	Date of Formation	Total Area in Acres	Acres Benefitted
Holden	April 15, 1918	50,560	12,430
Dickson	April 22, 1919	15,360	2,880
Daysland	June 19, 1919	74,720	15,000
Hay Lakes	February 17, 1922	9,600	2,390
Cygnet	August 18, 1948	4,200	4,000
Manawan	November 19, 1948	16,800	3,841
Cameron	July 29, 1949	2,600	916
Bearhills	April 20, 1954	4,000	1,190
Big Hay Lake	July 15, 1956	11,360	3,000
	Totals	189,200	45,647

The Holden, Daysland, Bearhills and Manawan Drainage Districts continued with the program of cleaning and reconstructing their ditch systems. Financial aid under the financial assistance policy was extended to the districts for this purpose.

FINANCIAL ASSISTANCE POLICY

The Financial Assistance Policy was continued during 1957. This policy, pursuant under the provisions of Part IV of The Water Recources Act, extends financial aid to towns, villages, counties, municipal districts and drainage districts facing serious drainage and flood control problems. Conditions under which assistance is rendered were published in the 1956 report and still apply. They are as follows:

(1) The drainage problems involve both roads and lands that are lacking in drainage.

(2) The municipal district becomes the implementing authority for the project.

(3) The government pays one-half of the cost up to a stated maximum following receipts of certified payment vouchers.

Thirteen financial aid projects were undertaken this year pertaining mainly to flood control and drainage projects with the estimated cost to the government of $53,650. Ten were undertaken by municipalities and three by drainage districts. Engineering assistance was extended to some muncipalities by The Water Resources Office while in others consultant engineers were engaged.

SPECIAL INVESTIGATIONS

(i) Bittern Lake

Bittern Lake, containing an area of 6,400 acres, falls in the category of lakes that do not possess an outlet. It is what is commonly known as an "alkali lake" and has been totally dry during past years. Engineers and surveys crews carried out a

complete survey for an outlet to Bittern Lake in 1957. The outlet will empty into the Battle River.

The need for an outlet arose with the formation of The Big Hay Lake Drainage District mentioned in the preceeding section of "Drainage Districts". The natural outlet and also the only feasible outlet from the Drainage District is Bittern Lake. It was therefore considered that, in the best interests of all concerned, the formation and construction of the Big Hay Lake Drainage District should be proceeded with and an outlet to Bittern Lake provided if and when the need should arise.

It is of interest to point out that this complete project is not a new one. A complete survey from Big Hay Lake to the Battle River was made in 1919 but never reached the construction stage. The lake level of today is fifteen feet lower than the level of 1919. It is for this reason that the need for an outlet is not considered immediate but plans will be completed in 1958 and available when the need should arise.

(ii) Whitford Lake

Another lake without an adequate outlet is Whitford Lake and an adjoining lake known as Rush Lake. During an extremely high level, as exists today, they make one continuous lake, inundating approximately 1,500 acres. The only feasible outlet is the North Saskatchewan River which was surveyed and designed by members of the Water Resources staff during 1957. Although the project is not finalized, it will fall under the category of a financial aid project.

(iii) Blackmud Drainage Project

This project deserves special interest in that it is the largest project undertaken by municipal districts under the Financial Assistance Policy. The project is located south of Edmonton within the Municipal Districts of Leduc and Strathcona. The problem is one of flood control, and to date the total cost for construction is $64,000 shared on a fifty-fifty basis between the Municipal District and the Government. Special investigations were carried out by the Water Resources Office into the possibility of continuing the project further south but as yet no definite plans are formulated.

Problems Solved by Use of Dynamite

The solution to certain flooding problems involving blockages of small water courses by natural debris, beaver dams, log jams and silt lend themselves to the use of dynamite. On numerous such problems the services of an Industrial and Agricultural Blaster were engaged to remedy the situation.

ST. MARY AND MILK RIVERS DEVELOPMENT

General

Construction activities on the St. Mary and Milk Rivers Development during 1957 were confined primarily to the completion of carry-over work from 1956, general clean up and improvements to existing works and the commencement of construction on the last of the proposed distribution areas. A beginning was also made on a drainage program, two small drains having been completed and a third larger trunk drain partially constructed.

In view of the extent and complexity of the various drainage and alkali problems resulting from inadequate drainage throughout the

S.M.R.D., a Drainage Committee was formed consisting of representatives from the S.M.R.D., Colonization, the Extension Service and Water Resources. This committee gives consideration to the details of each drainage problem and recommends a course of action thought most suitable in each particular case. Each agency concerned is directed by the committee as to its responsibilities with regard to information required or corrective measures to be employed.

In the past there has been a lack of correlation between the various departments or agencies engaged in the development of the S.M.R.D. A Co-ordinating Committee was therefore formed in 1957 consisting of representatives from the S.M.R.D., P.F.R.A., Colonization, Extension Services and Water Resources. The committee is responsible for co-ordinating and programming the activities of all concerned with the development of the district so that each is working toward a common objective at a regulated pace.

Completion of 1956 Contracts

Two construction contracts awarded in 1956 were completed in 1957.

1. Main Canal By-pass Structures in Division 5. This contract consisted of constructing by-pass drains around the main canal structures to facilitate drainage of the canal. The original drains in the structures were found to be inadequate.
2. Ditch Rider Houses No. 13 to 36 inclusive.

New Contracts in 1957

Only one contract was awarded in 1957. This was for the Cameron Ranch distribution system. Construction of this system has been under consideration for some years and has undergone several changes and revisions. Many of the residents of the area have been irrigating in the past with spill water from other areas but no proper system of distributary canals previously existed. This contract will be carried over and completed in 1958.

Construction by Water Resources Crews and Equipment

A variety of miscellaneous work was carried out by Water Resources crews and equipment in 1957. These included such items as decking bridges, extension of laterals and daylighting of deliveries, rip-rapping of checks and drops, construction of Texas Gates, construction of miscellaneous checks, drops and farm bridges and general improvement work necessary to put the system as a whole in good working order.

During the early part of the year it was necessary to carry out major repair work on four main canal drop structures which failed due to undermining and heaving of the floor slabs. The details of these conditions are covered in reports from Mr. Foss, P.F.R.A. and Mr. Francis, Water Resources Engineer.

Very successful experimental work was carried on toward the development and construction of Precast Concrete drop structures. A number of such structures were built and installed on wasteway drains at a cost much less than that for conventional types of structures. The precasting was done by Water Resources crews at the Grassy Lake Headquarters. Other irrigation districts have shown a keen interest in utilizing similar structures.

A start was made on the program of constructing drains throughout the district for the purpose of controlling ground water and alkali problems. Two small drains, the Brewin Drain and the Bonetti Drain, were constructed and are being observed as to their effects. Construction was also begun on the Taber to North Fincastle main trunk drain and this work should be completed early in 1958.

Some areas of the District which have become non-usable due to seepage and alkali have been purchased or are being purchased back from the owner to reclaim, if possible, under the direction of the Drainage Committee.

Expenditures

Commitments on new contracts in 1957	$ 156,053.50
Expenditure on construction contracts in 1957 including carry over of 1956 contracts	174,859.25
Contract labour	5,428.72
Water Resources and Equipment Rentals	84,166.45
Equipment purchased	16,266.47
Material purchases	119,278.43

Expenditure on St. Mary-Milk Rivers Development—Construction Vote

1949-50	$ 94,762.33
1950-51	1,673,563.07
1951-52	2,308,185.04
1952-53	3,861,149.31
1953-54	3,207,789.61
1954-55	2,974,392.55
1955-56	982,858.31
1956-57	662,418.70
1951-58 (estimated to March 31/58)	1,053,970.00
	$16,819,088.92

BOW RIVER DEVELOPMENT

(1) Carry-over Contracts

Four construction contracts were carried over into the 1957 season from 1956. These consisted of three main canal contracts and one distribution contract. These with the exception of Contract No. 11, which involves considerable concrete work, were completed in the 1957 season. In addition Staff Residencs Contracts Nos. 2 and 3 were completed.

(2) New Contracts

Six contracts were let in 1957, Distributaries "H", "J" and "K", the Enchant Drain, three Staff Houses, one hundred Texas Gates and twelve Precast Concrete bridges. Of these six contracts the three staff houses, the one hundred Texas Gates and the twelve bridges have been completed. In addition, two Precast Concrete bridges were completed over the syphon crossing on Distributaries "D" and "E" and on the Lomond Lateral permitting free passage of the canal system under the Canadian Pacific Railway tracks.

(3) Expenditures

Commitments on news contracts in 1957	$ 655,046.11
Expenditure on construction contracts in 1957 including carry over of the 1956 contracts	869,242.51
Contract labour	11,867.79
Water Resources labour and equipment rentals	63,426.83
Equipment purchases	40,865.55
Material purchases	349,783.03

General

The 1957 season was the first year of operation. 9,837 acres of deeded land could actually be irrigated. The land actually services was 2,500 acres. It is anticipated that there will be substantial increase in this acreage in 1958.

The radio communication system was completed and is operating efficiently.

Survey and investigation work is currently being carried on in the Retlaw area.

The construction of the 1958-59 season will consist mainly of cleaning up the 1957 contracts in addition to the construction of the sub-drains. The construction of the Sundial-Retlaw lateral is under consideration. Additional texas gates and staff quarters will be constructed as required. A fairly extensive bridge program on the Sundial-Retlaw lateral is anticipated.

As in the case of the St. Mary and Milk Rivers Development, a Co-ordinating Committee was organized for the Bow River Development. The Committee is comprised of representatives from the B.R.D., P.F.R.A., Colonization, the Extension Service and Water Resources. Under the direction of this Committee future development of the project will progress with a much improved unity of purpose than formerly existed.

Expenditure on Bow River Development (Western Block)—Construction Vote

1954-55	$ 644,094.08
1955-56	694,738.35
1956-57	1,533,603.96
1957-58 (estimated to March 31 /58)	2,392,510.00
	$ 5,264,946.39

Hydro-electric Progress

It is interesting to note that in all Canada a total of 1,501,560 horse power of hydro electric energy has been added in 1957. This is the second largest increase in history. The total capacity for all Canada in hydro plants is nearly twenty million horse power.

In Alberta, Calgary Power Ltd. added a new 23,000 horse power unit to its Cascade plant to help carry the peak load demand. Under construction are extensions to the Spray Lakes development to add 102,000 horse power in 1959. A second thermal unit of 66,000 KW is being added to the Wabumun plant. Condenser cooling water is obtained from Wabumun Lake.

Calgary District Office

During the past year the Calgary District Office dealt with numerous problems concerning the use of water, flooding and drainage. A set of new regulations, for use under the Water Resources Act, was prepared and work is progressing on the re-writing of the book entitled "Water Resources in Alberta". A number of stream flow studies were made for use by the Edmonton office.

Liaison was provided between the various irrigation districts along the Bow River and the problem of further storage in the Cypress Hills received consideration.

The spring runoff, due to cool temperatures, was slow and even though snow in the headwater area was heavy, there was little high water. Close liaison was maintained between this office and the Dominion Water Resources Office in regard to potential high water and flood danger.

The dykes on the Highwood River, west of High River, came through the year with no damage and are in good shape for next year's runoff. Erosion to the bed of the Highwood River, below the High River traffic bridge, necessitated the lowering of the gas line by the Gas Company some six feet in order to give cover for the line which was in danger of being washed out.

Investigation was continued into the problem of locating possible sites for upstream storage on the streams in the area.

In co-operation with the Fisheries Branch inspections were made of problems concerning potholes and the location of possible future potholes for fishing purposes. Bridge sites and culvert locations were checked along with the engineers of the Bridge Branch and a sanitary problem was inspected with members of the Health Department. Some municipalities requested inspections of various problems on which they were given advice as to the best solutions.

The Town of Carbon continued its work on cleaning of the channel of the Three Hills Creek under the fifty-fifty agreement with the Province. The repair of the headworks and cleaning of the Little Bow River were postponed due to the water problem of the Town of Carmangay. This work will be necessary in the spring of 1958.

Lethbridge District Office

In the St. Mary River at Woolford Provincial Park there were three groynes built to stop bank erosion which has greatly reduced the playground area in recent years. These groynes were constructed of coarse river-run gravel. It is planend to rip-rap the outer ends which are exposed to rapid flowing water. Gabions have been ordered for this rip-rap job and it will be done after the 1958 break-up.

For the Oldman River at Fort Macleod there were five groynes built in order to stop erosion which threatened to breach the dykes which was built in 1953. These fills are also constructed of river run gravel and they will be protected by gabions.

In the Coleman-Frank reach of the Crowsnest River, improvement work has been carried out on 14,000 feet of channel in order to increase its capacity and lower flood levels. Rip-rap protection has been placed on 6,450 feet of the bank in the Crowsnest and on 1,050 feet of bank in the Lyons Creek. Rock for this work was hauled from a cut which was being widened on No. 3 Highway in the Town of Coleman.

A small amount of construction work was done in the Municipal District of Willow Creek with costs shared between the Municipal District and the Provincial Government. On this job one drainage inlet to the Lethbridge Northern Irrigation District main canal was built. Three more inlets are projected, possibly in the spring of 1958.

During the year there were few drainage disputes and flood damage was at a minimum because of light prairie runoff and uniform sustained mountain runoff with only minor freshets. Water for irrigation was plentiful.

In August and September a detailed hydraulic survey was run on nine miles of Crowsnest River channel in the Coleman-Frank area. This survey pointed out some bottlenecks in the river which were later removed.

Most of the Oldman River watershed above the mouth of Willow Creek was inspected for possible reservoir sites. A few new sites for small reservoirs were located but the only good storage possibilities have already been surveyed by other agencies.

Milk River erosion at all critical points has been inspected during the year. There is a large amount of land affected but because of low land values and sparse population the damage is relatively small.

Groundwater Activities

General

The Ground Water Control Act as originally passed in 1953 provided for the licensing of all Water Well Drillers in the province. Pursuant regulations require that these drillers submit a report for each water well drilled. These reports are filed and provide a valuable guide in studies being carried on at The Research Council of Alberta with respect to eventually establishing potential groundwater reserves in the province. The number of reports received over the past year are encouraging and although there was in increase of nearly double the reports received in 1956, it is believed that this is far short of the actual number of wells drilled. Recent spot checks, however, give some indication of a general slowdown in the water well drilling business.

With the co-operation of the groundwater geologists with the Research Council of Alberta, a new type of water well driller's report was drawn up in book form. It is in triplicate so that the driller may retain a copy, the client receives a copy and the original is forwarded to the Water Resources Office. This idea is to stimulate new interest and present a more useful, complete and convenient form. Self-addressed stamped envelopes are also being supplied so that time and effort on the part of the driller is cut to a minimum. Response as a result of this new form and recent reminders stressing the importance of submitting complete, accurate reports will be seen during 1958.

	1956	1957
Number of licensed drillers	93	102
Number of reports received	170	316

Conditions and Inspections

One hundred and fifteen inspections were carried out over the past year of which less than ten were connected with groundwater complaints, the remainder being matters pertaining to surface water. Precipitation which is the main contributing factor in groundwater recharge was slightly below average over most of the province with the exception of the Peace River block which was from two to eight inches above average. Water tables and groundwater conditions generally seem unchanged and are considered satisfactory.

Lake Levels

Since seepage from large expanses of surface water plays an important role in groundwater recharge, periodic levels were taken on approximately fifteen important lakes in the central Alberta region. The copious rainfall in the Peace River area during the summer of 1957 held the level of Lesser Slave Lake. The following is a list of a few lakes showing a comparison of the median level between 1956 and 1957.

	1956	1957
Gull	92.79	92.50
Sylvan	78.89	78.43
Cooking	97.99	97.54
Buffalo	87.60	87.26
Lac La Biche	99.19	96.43
Lac Ste Anne	98.03	97.49
Wabamun	2,372.35	2,371.79
Lesser Slave	1,893.52	1,893.15

PUBLICATIONS

Two valuable water resources documents were received from The Department of Northern Affairs and National Resources.

1. "Glacier Variation and Trends in Run-off in The Canadian Cordillera". This document suggests that the persistent retreat of glaciers may have been arrested and that the flow from the "wasting away" of the glaciers is not as significant as in popularly believed.
2. "Floods in the South Saskatchewan Basin 1953". Many new all time high flood flows were recorded on the South Saskatchewan Basin in 1953. This document supplies all the statistical data and analyses on the effects of these floods. This treatise is excellent supporting materials for the idea of upstream storage.
   "Within our Borders"— August 1, 1957—Shortcuts may halt Flooding on Pembina.

Report of the Colonization Manager

P. M. Sauder, Lethbridge Northern Colonization Manager
P. M. Sauder, New West Irrigation District Manager
R. A. Simmons, St. Mary and Milk Rivers Development Colonization Manager
R. A. Simmons, Bow River Development Colonization Manager

LETHBRIDGE NORTHERN COLONIZATION MANAGER

One additional sale contract was issued in 1957, making the total land and water right agreements 1,101. During the year, 11 contracts were paid up, making at total of 1,086, or 98.7% paid in full. The owners of these lands will not have any more capital payments to make and will only have to pay the water service charge in future. Only 15 contracts are not paid in full and most of these are nearly paid up. The results would have been better if the contract holders could have marketed all of their wheat. The following table shows the standing of the contracts at the end of 1956 and 1957:

	1956	1957
Total number of contracts	1,100	1,101
Contracts paid in full	1,075—97.7%	1,086—98.63%
Contracts 50% or more paid	19— 1.7%	11— 1.0 %
Contracts 25% to 50% paid	3— 0.3%	3— 0.27%
Contracts less than 25% paid	3— 0.3%	1— 0.1 %
Contracts in arrears for interest	8	6
Contracts in arrears for rates	4	5

Some additional payments will be made on contracts, arrears of water rates and interest before spring.

Since 1957, financial assistance given by way of loans to Water Users has been limited to loans for beet labor and hauling. The total amount loaned in 1957 was $250,435.33 as compared with $258,846.70 in 1956. The Secretary-Treasurer of the Lethbridge Northern Irrigation District now looks after the office work in connection with the loans and the District bears the expense of this service.

Each year for several years, some of the sugar beet workers have taken other employment inside and outside of the district and others become tenants and purchasers of land. These have been replaced by new immigrants and Indians from Northern Alberta and Saskatchewan. There were not enough replacements in 1957 and much of the help obtained was unsatisfactory. Bad weather during the harvest in the fall added to the difficulties and while the gross tonnage of beets was about average, sugar content was down a little. Mechanical thinning was used on 1,568 acres in 1957 as compared with 2,249 acres in 1956. The area harvested with machines in 1957 was 6,921 acres or 54% of the crop as compared with 5,779 acres or 46% of the crop in 1956.

The following schedule gives statistics for sugar beet crops on the Lethbridge Northern Irrigation District for the years 1951 to 1957 inclusive:

Year	No. of Growers	Arces Harvested	Tons Harvested	Tons Per Acre	Sugar Content	Tolal Price Per Ton
1951	515	11,730	118,533	10.11	14.7%	$14.34
1952	514	13,148	165,299	12.57	17.3%	16.08
1953	510	12,516	144,641	11.56	17.3%	14.23
1954	514	13,184	152,869	11.60	15.7%	13.12
1955	511	12.988	146,390	11.27	17.7%	15.29
1956	491	12,545	151,551	12.08	17.2%	18.49
1957	481	12,788	157,798	12.34	14.9%	*

*Total price will not be known until all sugar is sold, but it will probably be lower than the price for the 1956 crop.

Sugar beets is, of course, the main specialized irrigation crop on the Lethbridge Northern Irrigation District and has done more to help the water users to become successful farmers than any other crop. Other crops such as potatoes, peas, turnips, carrots, cabbage, beans, parsnips, strawberries, cucumbers, corn, mustard and gladioli are also grown.

Feeding and marketing of livestock has also for some time been an important and profitable branch of farming in the Lethbridge Northern Irrigation District and at the first of the year 19,928 head of cattle and 5,330 head of sheep were being fed on the project. Despite the scarcity of labor and high production costs, there was fairly good production on the Lethbridge Northern Irrigation District in the year 1957.

The report of the Provincial Auditor for the year ended December 31st, 1957, will contain statements of advances made by the Province of Alberta on behalf of the Lethbridge Northern Irrigation District and the Assets and Liabilities of the Lethbridge Northern Colonization Manager.

THE NEW WEST IRRIGATION DISTRICT MANAGER

In the spring of 1952, the irrigation works belonging to the New West Irrigation District were transferred to the Minister of Agriculture of Canada. The water users now receive water from the Prairie Farm Rehabilitation Administration at the same price as the water users in the old Canada Land and Irrigation Company tract. Most of the lands are privately owned by the persons who farm them. The Manager still holds title to two parcels of land. It was expected that these two parcels would have been paid up in 1957 but marketing conditions have delayed collection of the balances owing. Doubtless they will be paid off in the not too distant future.

ST. MARY AND MILK RIVERS DEVELOPMENT COLONIZATION MANAGER

During the year 1957, 56 applicants for land were examined, of which 40 were classified as qualified to receive land.

Allotments were made to 8 veterans and 26 non-veterans.

This brings the total number of allotments made from 1951 to 1957 to 81 parcels to veterans and 92 parcels to non-veterans.

Agreements for sale were cancelled for two veterans and one non-veteran, for failure to fulfill their commitments under these agreements. These three parcels were leased in 1957 and plans are being made to reallot them early in 1958.

A limited number of parcels now remain to be allocated while a large number of applicants remain on our lists as being qualified to receive these lands. For this reason it is planned to cease accepting applications for land at the end of 1957.

The settlers generally made steady progress during 1957. Those who made use of the irrigation water during the dry summer months were rewarded with good average yields. Those settlers who have sugar-beet crops, and those who are establishing livestock units found their assets increasing during 1957. Those settlers who are slow to change from dry farming methods again found their progress retarded.

Land and water right payments by the settlers improved during 1957.

The Colonization Manager assumed responsibility in 1957 for operating the Land Levelling Trust Account. Land levelling was done on the project on 78 parcels, improving 2,480 acres. Of this amount 856 acres on 32 parcels were completed by the Government equipment and 1,624 acres on 46 parcels by privately owned equipment. Of these amounts 747 acres were done on 23 parcels of Colonization Manager lands. Some of the track-type levelling equipment has been replaced by rubber-tire equipment to enable more economical and efficient levelling to be done.

Collection of water rights ($10.00 per acre) for the entire project, was continued by the Colonization Manager and remitted to the Provincial Treasurer.

As Mr. P. M. Sauder wished to be relieved of his duties as Colonization Manager, he was appointed as Acting Colonization Manager effective April 1, 1957, on a part-time basis.

To serve the increased need Mr. John R. Hunt joined the staff to assist Mr. H. Stewart Ellis with field supervision. A Clerk stenographer was also added to the office staff.

During the year purchases and negotiations for purchase were made with owners whose lands have been damaged by seepage and alkali. These lands are to be operated by the Colonization Manager until such time as they are reclaimed and suitable for allotment.

In the fall of 1957 a coordinating committee for the St. Mary and Milk Rivers Development held an initial meeting with representatives of all those groups interested in the development of irrigation on the project. The Colonization Manager is a member of this committee.

The report of the Provincial Auditor for the year ended November 30th, 1957, will contain statements of advances made on behalf of the St. Mary and Milk Rivers Development, and the Assets and Liabilities of the St. Mary and Milk Rivers Development Colonization Manager.

BOW RIVER DEVELOPMENT COLONIZATION MANAGER

The first allotments of land in the Western Block of the Bow River Development were made in the spring of 1957. Additional allotments were made in the autumn of 1957. Altogether 17 allotments were made to non-veterans. The majority of these were made to former residents or sons of residents of the area.

During the year 1957, 41 applicants for land were interviewed, of which 39 were classified as qualified to receive land.

Applications for land in that area continue to be received and indications are that the keen interest for land in that area will continue in 1958.

Land inspections were carried out by the field staff and the Advisory Committee during the year in order to determine an adequate analysis of the quality of land available.

Water was distributed for the first year in Distributaries A, B and C. An extremely dry year was experienced in that area and those settlers who took advantage of the irrigation water obtained good average yields.

Land levelling was commenced in the late summer of 1957. Private machines improved 135 acres on 4 parcels. An increased amount of levelling is planned in 1958 as the distribution of the land continues. Plans are being made to operate the Government owned equipment in the Western Block in 1958.

Agreements for Sale were cancelled for two veterans in the Hays Division of the Central Block for failure to fulfill their commitments under their agreements. These two parcels were leased in 1957 and plans are being made to reallot them early in 1958.

Arrangements were made in 1957 for Mr. Andrew Graham to complete the sign-up of water supply agreements and to finalize purchases of right-of-way. There were 71 agreements signed in 1957 and 35 right-of-way purchases completed. This makes a total of 231 water supply agreements signed.

As Mr. P. M. Sauder wished to be relieved of his duties as Colonization Manager, he was appointed as Acting Colonization Manager effective April 1, 1957 on a part-time basis.

To serve the increased need Mr. John R. Hunt jointed the staff to assist Mr. H. Stewart Ellis with field supervision. Additional clerical assistance has also been added to the office staff.

In the fall of 1957 a coordinating committee for the St. Mary and Milk Rivers Development held an initial meeting with representatives of all those groups interested in the development of irrigation on the project. The Colonization Manager is a member of this committee.

The report of the Provincial Auditor for the year ended November 30th, 1957, will contain statements of advances made on behalf of the Bow River Development, and the Assets and liabilities of the Bow River Development Colonization Manager.

Report of the Agricultural Extension Service

STAFF

HEADQUARTERS

F. H. NEWCOMBE, Director
S. S. Graham, Assistant Director
L. W. Rasmusson, Supervisor of District Agriculturists
Mrs. V. G. Macdonald, Supervisor, Home Economics Division
Miss H. Moseson, Clothing Specialist
Miss C. M. Sanderson, Home Designing Specialist
C. A. Cheshire, Extension Engineer
J. L. Reid, Assistant Extension Engineer
R. E. English, Department Agricultural Statistician

DISTRICT OFFICES

Office	Agriculturists	Home Economists
Athabasca	G. L. Godel	
Assistant	W. C. Yule	
Barrhead	C. C. Robinson	
Berwyn	A. W. Beattie	Miss E. Mitchell
Bonnyville	L. Gareau	
Brooks	Ira Lapp	Mrs. N. J. Gray
Calgary	N. F. Bell	Miss A. Randle
Assistant	K. Sveinson	
Camrose	L. D. Williams	Miss N. Hooper
Cardston	D. L. Steed	
Claresholm	To be appointed	To be appointed
Coronation	J. D. Jantzie	
Drumheller	S. W. Pettem	
Edmonton North	J. M. Fontaine	Miss J. Krupa
Edmonton South	B. J. Whitbread	Miss J. Morgan
Falher	To be appointed	
Grande Prairie	R. C. Moffat	Miss L. Mitchell
Assistant	M. H. Jaque	
Hanna	D. R. Macpherson	Miss B. Ross
High River	C. E. Yauch	
Lac La Biche	To be appointed	
Lacombe	W. L. McNary	Miss M. Inglis
Assistant	G. R. McNaughton	
Lamont	G. W. Shewchuk	Miss E. Kubrak
Leduc	J. R. Gylander	
Lethbridge	A. E. Sherman	Miss E. Bartman
Assistant	R. M. Trimmer	
Mayerthorpe	H. B. Jeffery	
Medicine Hat	J. L. Anderson	
Olds	H. J. Fulcher	Miss H. Howard
Ponoka	J. L. Kerns	
Red Deer	R. D. Price	Miss A. Nelson
Rocky Mountain House	G. A. Ross	
Ryley	N. A. Chomik	
Sedgewick	A. E. Edwards	
Smoky Lake	F. Strashok	
Spirit River	E. C. Lowe	
Stettler	E. W. Walker	Mrs. H. Moore
Stony Plain	R. C. Bocking	
Strathmore	K. H. Walker	
St. Paul	M. Chevrette	Miss E. Zawadiuk
Assistant	S. C. Powers	
Taber	A. R. Jones	
Assistant	J. G. Calpas	
Two Hills	A. B. Letts	
Vegreville	W. N. Pidruchney	Miss P. Mascaluk
Vermilion	E. H. Buckingham	
Assistant	H. M. Douglas	
Wainwright	J. S. Duncan	Miss E. Craig
Westlock	W. A. Ross	To be appointed
Wetaskiwin	W. C. Proctor	Miss J. Halliday
At large		Mrs. B. Hucal
Irrigation Division		
C. J. McAndrews	Extension Irrigationist, Lethbridge	
L. D. M. Sadler	Drainage Specialist, Lethbridge	
D. G. Harrington	District Irrigationist, Bow Island	
N. S. Thomson	District Irrigationist, Taber	
R. H. Schuler	District Irrigationist, Enchant	
G. L. Steed	Agricultural Engineering and Soils, Lethbridge	

APPOINTMENTS

Headquarters

Miss C. M. Sanderson	Home Designing Specialist

District Agriculturists

R. M. Trimmer	Assistant at Lethbridge
E. M. Sandeman	Assistant at Calgary
G. R. McNaughton	Assistant at Lacombe
H. M. Douglas	Assistant at Vermilion
S. C. Powers	Assistant at St. Paul
K. Sveinson	Assistant at Calgary
M. H. Jaque	Assistant at Grande Prairie
D. R. Macpherson	Hanna

District Home Economists

Miss J. Thomas	Claresholm
Miss H. Howard	Olds
Miss J. Krupa	Edmonton
Miss P. Mascaluk	Vegreville
Mrs. H. Moore	Stettler
Miss B. Ross	Hanna
Miss E. Zawadiuk	St. Paul

PROMOTIONS AND TRANSFERS

Headquarters

Miss B. J. Lewis	Nutrition Specialist—leave of absence

District Agriculturists

E. M. Sandeman	Assistant at Calgary to Olds Schools of Agriculture
F. S. Goddard	Assistant at Medicine Hat to Field Crops Branch
A. B. Letts	Assistant at Vermilion to District Agriculturist at Two Hills
E. C. Lowe	Assistant at Lacombe to District Agriculturist at Spirit River
A. R. Jones	Assistant at Lethbridge to District Agriculturist at Taber
G. W. Shewchuk	District Agriculturist at Spirit River to District Agriculturists at Lamont

District Home Economists

Miss R. Whaley	District Home Economist at Edmonton to Fairview School of Agriculture
Miss M. Inglis	District Home Economists at Vegreville to District Home Economist at Lacombe
Miss E. Kubrak	District Home Economist at St. Paul to District Home Economist at Lamont

RESIGNATIONS

District Agriculturists

H. H. Michael	Claresholm
V. Surprenant	Falher
J. S. Lore	Lac La Biche
J. C. Brown	Hanna
H. F. Campbell	Assistant at Red Deer
R. P. Fodchuk	Two Hills
F. Magera	Willingdon

District Home Economists

Miss J. Thomas	Claresholm
Mrs. B. Moxham	Stettler
Miss D. Montalbetti	Westlock

RETIREMENTS

District Agriculturists

M. W. Malyon	Assistant at Brooks

NEW OFFICES

Lacombe	New office and District Home Economist appointed
Lamont	Office moved from Willingdon and District Home Economist appointed
Olds	New office and District Home Economist appointed

UNDERGRADUATE SUMMER STAFF

District Home Economists

Miss R. LeBourveau	Calgary
Miss B. Babcock	Edmonton

AGRICULTURAL SOCIETIES

Little change occurs from year to year with respect either to the activities conducted by these Societies or the interest of the public in them. Rising costs pose problems in financing for some of the Societies, although on the whole this problem would not

appear to be acute. The present total of 45 are shown hereunder and the status with respect to Fairs is indicated:

Agricultural Societies which normally conduct Fairs:

Class "B"—

- Camrose
- Lethbridge
- Lloydminster
- Red Deer
- Vegreville
- Vermilion

Class "C"—

- Athabasca
- Barrhead
- Battle River
- Benalto
- Cardston
- Darwell
- Donnelly-Falher-Girouxville
- Goose Creek
- Grand Centre
- Grande Prairie
- High Prairie
- Mayerthorpe
- Medicine Hat
- Olds
- Pincher Creek
- Priddis-Millarville
- Rimbey
- Vauxhall
- Westlock
- Wetaskiwin
- Wildwood
- Willingdon

Other Agricultural Societies

- Alix
- Argyle
- Central Alberta
- Drumheller
- Edmonton and District
- Fairview
- High River
- Lamont
- Lousana
- Nanton
- Okotoks
- Plamondon
- Rocky Mountain House
- Spirit River
- Stettler
- St. Paul
- Viking and Birch Lake

Activities other than Fairs conducted or supported by Agricultural Societies are shown below:

Tillage competitions	1
Livestock sales	3
Seed Fairs	3
Horticultural Exhibitions	4
Farm and Home Improvement Programs	22
Junior Club Display Competitions	7
Dairy Field Day	1

Field staff is not primarily concerned with the administration of these Societies but cooperated and assisted in the conduct of activities.

FARM LABOUR

General

The general demand for farm workers througout the season has been very light. While it may be difficult to state reasons in definite terms, the generally poor crop conditions, coupled with a shortage of cash in farmers' hands with which to pay wages have been contributing factors. There were a few periods when more men could have been placed than were immediately availabale but these periods were short, and based on general demand it is not believed that appreciable embarrassment occurred.

Seasonal Movements

(a) **Ontario Farm Workers**

The total of 13 workers sent forward under this movement would seem to be sufficient proof that Alberta farmers generally

were not interested in it. Since they were not asking for large numbers of extra workers for Alberta farms it is safe to assume that they were doing the work themselves and that this, among other things, precluded their going to Ontario.

(b) **Prairie Farm Workers**

In this movement, as with the workers to Ontario, the numbers despatched would scarcely appear to have justified the effort or the issuance of the special tariffs. Similarly, also, it is fairly obvious that the addition of the numbers moved to the provinces concerned can have had little impact on the availabale labour force. In general it may be said that all farmers requests for these workers were filled and at wages similar to last year. It is possible that some unskilled workers were paid less than $10.00 per day, but most of those who were competent to handle harvesting machines probably received $1.00 to $1.50 per hour. It is not known how many harvesters came from Ontario under their own arrangements and proceeded direct to previously arranged employment.

Unfavorable weather, together with a limited demand, made it desirable to return many of the labourers to their points of origin before the first returning date set out in the tariff.

(c) **Alberta Harvesters**

As in previous years, these formed the largest body of farm help for the cereal harvest. Weekenders and men on vacation from industry undoubtedly formed a part of this force.

Sugar Beet Workers

(a) **Immigrants**

The total of 395 immigrants, including 75 children and 320 workers, is nearly double the number introduced to the beet fields last year. These also constitute the most popular workers from the standpoint of the growers. It should be added, however, that these immigrants did not come by arrangement with the Farm Labour Committee. There is a gradual increase in mechanization, particularly with respect to harvesting, and there is evidence that eventually all beets will be harvested in this way.

(b) **Indians**

Indian families were again moved in to the sugar beet fields from Saskatchewan and Alberta, this being the third year for such a movement. With the experience gained in previous years, these workers are becoming generally more acceptable to growers and no difficulty is experienced in placing them. A few more Indians could have been procured than were ultimately required.

Custom Combines From U.S.A.

The small number of these brought into the Province this year reflects the genrally poorer crop conditions.

LABOUR STATISTICS

	1956	1957	
General Farm Labour:			
Province	714	744	
National Employment Service	6,456	5,261	
			6,005
Seasonal Movements:			
Ontario Farm Workers	26	13	
Prairie Farm Workers	350	146	
Alberta Harvesters	1,804	1,407	
Weekend Harvesters	650	.....	
			1,566
Sugar Beet Workers:			
*Immigrants	.....	320	
*Indians	407	560	
			826
Investigations and Transfers	51	101	
Combines from U.S.A.	29	10	
*Total including children:			
Immigrants	.....	395	
Indians	.....	611	

MASTER FARM FAMILY PROGRAM

Scoring committees this year did not consider that they could report any farm family as being fully up to the very high standard which must be maintained if this program is to have any significance. Accordingly, no families were declared under this program in 1957.

NAMES OF HOMES ACT

Ninteen registrations this year now bring the total of homes registered under this Act to 283.

FARM WATER SUPPLY ASSISTNCE POLICY

Number of dugouts subsidized this year	70
Total 1945 to date	2,452

PUBLICATIONS

Statistics with respect to the distribution of publications and plans on agriculture and homemaking are listed hereunder:

Agricultural (Departmenal)	101,457
Homemaking (Departmental)	69,368
Others (University, Federal Department, commercial organizations)	42,560
TOTAL	213,385
Publications and plans printed or reprinted during 1957	37

VISUAL AIDS

The following figures indicate the visual equipment in this Branch and its use during the year:

Motion picture projectors	8
Slide projectors	33
Films owned	47
Films on loan	82

At 361 public meetings, 566 films were shown to an aggregate of 17,129 persons.

STATISTICS

The Statistics Division co-operates with the Dominion Bureau of Statistics to provide statistics of agriculture for Alberta. The present co-operative arrangement has grown out of many years experience with adjustment between the two agencies taking place on a continuing basis.

The Agricultural Statistician attended the Dominion-Provincial conference on Agricultural Statistics held at Ottawa in early

December. Problems related to adjustment of intercensal estimates, poultry statistics and sample surveys were the principal items on the agenda.

Work on developing a satisfactory method of estimating forage crop seed production was continued in 1957. However, owing to bad weather at harvest time so small a percentage of legume seeds were threshed it was not possible to make an estimate of total production. The harvesting of grass seeds was completed and estimates of production arrived at.

Eleven crop reports and an autumn summary of crop conditions, live stock numbers and farm income statistics, were published in season. Thirteen summaries of crop conditions were prepared for use in crop reports issued by the Dominion Bureau of Statistics. In this connection, the assistance of some 250 crop correspondents without whose help our crop reporting service would not be possible, is gratefully acknowledged.

Monthly statistics on income from the sale of principal farm products in Alberta were prepared for publication in the "General Summary of Statistics" published by the Department of Industries and Labour.

During the year, a comprehensive loose-leaf system of reporting statistics of agriculture related to Alberta, to departmental staff was put into effect. When properly posted and indexed the material provided serves as a handy reference at head office or in the field.

Field Crops

Surface and sub-soil moisture supplies were good in the spring. At the same time, very little surplus moisture collected in low areas. The condition of the land was ideal for cultivation and seeding.

Seeding operations became general in the last week of April, but operations in the south were much advanced compared with other areas. Except for a little coarse grains and flax, sowing was completed early in June.

Rainfall was light during seeding and soils worked late, dried out to the depth of cultivation. As a result, the germination of late-seeded crops was spotty resulting in considerable second growth in many districts when rains came later in the season. On the other hand, early-sown crops germinated well developed a strong root system and made uninterrupted growth by fully exploiting the stored reserves of mositure.

Timely rains came to the south and parts of the Peace River country in mid-June. In July, western districts received general rains. In eastern and northern regions only scattered showers were received until August. Conditions were wet all over the province during most of August and September.

Cutworm damage was widespread in foothills, parkland and wooded areas. Garden crops, flaxseed, rapeseed and barley suffered most damage. The occurrence of hail storms was above normal in 1957 but resultant losses were only about average.

Rain delayed the ripening of crops and harvesting operations. However, practically all crops were finally taken off in southern and central districts. In northern areas relatively little grain remains in the field but considerable grain was threshed high in moisture. In the Peace River region, both rain and excessively wet

ground limited cutting and threshing. The completion of harvesting operations varied between districts and, where conditions are worst, the deterioration of crops under the snow could be serious.

According to the Alberta Wheat Pool wheat in the southeast of the province graded as follow: 2°, 40 per cent; 3°, 20 per cent; 4°, 10 per cent; No. 1, 2 and 3 amber durum, 24 per cent. North of Drumheller the proportion of wheat in each grade were: 3°, 5 to 25 per cent; 4°, 26 to 61 per cent; and No. 5, 6, and feed, 13 to 64 per cent. Early barley showed a good sample but only 25 per cent of the total will grade C.W. Only 3 per cent of the oats graded above extra 1 feed; 56 per cent is No. 1 feed.

Initial Canadian Wheat Board payments basis Lakehead or Vancouver are as follows: Wheat, No. 1°, $1.40; Oats, 2 C.W., 60 cents; and barley, 3C.W. 6-rowed, 96 cents.

The area devoted to brome seed production decreased in 1957 but an increase was shown in creeping red fescue seed production. Yields for both crops were higher than in 1956. Harvesting of all grasses were completed. Legume seed production increased but little was threshed owing to bad weather. What may be salvaged in the spring cannot be estimated at this time.

PRODUCTION AND VALUE OF FORAGE CROP SEED—1956 AND 1957

	Production		Value	
	1956	1957	1956	1957
	— pounds —		— dollars —	
Alfalfa	625,000	300,000	200,000	60,000
Alsike Clover	1,500,000	5,000,000	1,050,000	750,000
Red Clover	1,200,000	3,550,000	420,000	500,000
Sweet Clover	6,500,000	4,000,000	455,000	120,000
Timothy	200,000	250,000	20,000	20,000
Brome Grass	4,000,000	2,700,000	1,200,000	189,000
Crested Wheat Grass	100,000	150,000	30,000	22,000
Creeping Red Fescue	4,500,000	6,500,000	1,530,000	1,235,000
Kentucky Blue Grass	32,000	160,000	40,000	80,000
Other	28,000	15,000	4,000	1,000
TOTAL			4,949,000	2,977,000

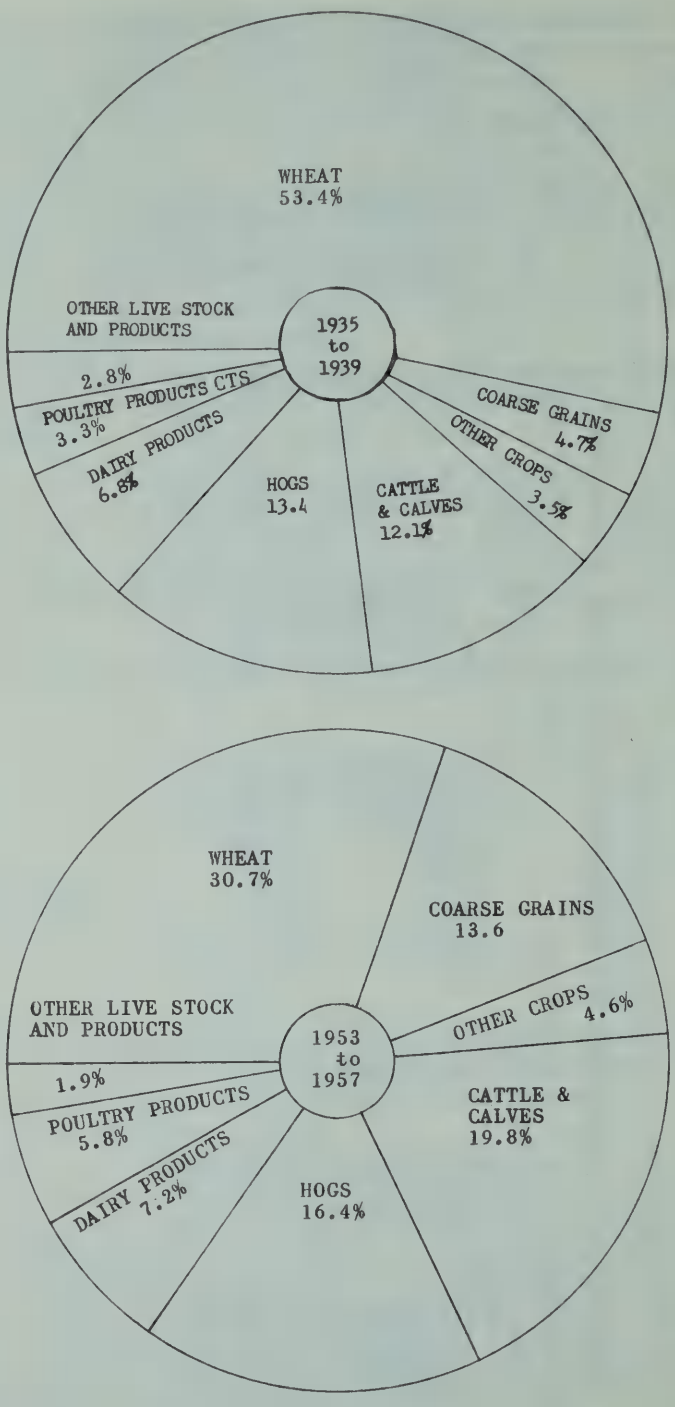
Yields of grass hay and the first cut of alfalfa were light. The second cut of alfalfa yielded better but was badly weathered. Again this year farmers made every effort to gather all the straw possible for bedding and fodder.

Statistics on the production of vegetables for canning and freezing in Alberta for 1957 are not available. It would appear, however, that the area producing these crops was reduced from 1956. The acreage in mustard seed also declined but rapeseed increased. However, much of the rapeseed grown in the Peace River was not harvested. For the first time about 15,000 acres of safflower was grown between Foremost and Medicine Hat. Its performance was favourably commented on. The area in sugar beet increased from 36,150 in 1956 to 37,089 in 1957.

ESTIMATED AREA, PRODUCTION AND VALUE OF FIELD CROPS, ALBERTA 1956 AND 1957

	Area		Yield per Acre		Production		Value per Unit		Total Value	
	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957
	— acres —		— bushels —		— bushels —				— dollars —	
Wheat	5,296,000	4,881,000	26.5	19.7	140,000,000	93,000,000	1.21	1.27*	169,400,000	118,110,000
Oats	2,935,000	2,791,000	48.7	35.8	143,000,000	100,000,000	0.49	0.47*	70,070,000	47,000,000
Barley	3,606,000	3,714,000	33.6	26.9	121,000,000	100,000,000	0.76	0.70*	91,960,000	70,000,000
Rye	83,600	114,000	15.6	16.7	1,300,000	1,900,000	.91	0.81	1,183,000	1,539,000
Flaxseed	511,000	572,000	13.9	10.0	7,100,000	5,700,000	2.50	2.53	17,750,000	14,421,000
Mixed Grains	189,000	215,000	38.8	29.3	7,333,000	6,300,000	0.66	0.62	4,840,000	3,906,000
Peas, dry	12,000	8,500	21.0	19.5	252,000	166,000	2.75	2.70	693,000	448,000
			— cwt. —		— *cwt. —					
Potatoes	19,500	16,600	114.0	84.0	2,223,000	1,400,000	1.68	2.43	3,735,000	3,402,000
			— pounds —		— pounds —					
Mustard Seed	137,000	92,000	971	772	133,000,000	71,000,000	0.038	0.035	5,054,000	2,485,000
Rapeseed	25,800	85,000	925	741	23,865,000	63,000,000	0.035	0.03	835,000	1,890,000
			— tons —		— *tons —					
Tame Hay	1,614,000	1,887,000	1.41	1.26	2,276,000	2,370,000	15.50	15.00	35,278,000	35,550,000
Sugar Beets	36,150	36,694	12.85	13.43	464,400	492,900	18.49	14.00*	8,587,000	6,900,000
Miscellaneous Crops	.....	.....	.....	.....	.....	.....	.....	.....	9,378,000	10,231,000
TOTAL VALUE OF FIELD CROPS									418,763,000	315,882,000

*Alberta Department of Agriculture estimates.



SOURCE OF INCOME FROM THE SALE OF FARM PRODUCTS

Live Stock

For the fifth consecutive year, estimated numbers of cattle on farms in Alberta showed an increase. Marketings were also considerably above those for 1956. Hog numbers were also up at June 1 but marketings decreased from the previous year. The number of sheep on farms was estimated at 450,000 in 1957 an increase of 11.2 per cent over census figures for 1956. However, marketings were about the same for the two years.

NUMBER AND VALUE OF LIVE STOCK ON FARMS IN ALBERTA 1956 AND 1957

	Number		Value	
	1956	1957	1956	1957
Cattle—				
Bulls, 1 yr. & up	50,900	54,000		
Steers, 1 yr. & up	359,900	408,000		
Heifers 1 to 2 yrs.:				
For Beef	247,600	267,000	162,987,200	181,961,000
For Milk	60,300	56,000		
Cows, 2 yrs. & up:				
Beef	733,900	770,000		
Milk	282,200	280,000	41,766,600	42,560,000
Calves	714,400	765,000	32,863,400	39,015,000
Total Cattle	2,449,200	2,600,000	237,616,200	263,536,000
Hogs—				
Over 6 mo.	337,300	360,000		
Under 6 mo.	874,200	940,000		
Total Hogs	1,211,500	1,300,000	27,679,000	42,360,000
Sheep—				
One yr. & up	219,400	226,000		
Under 1 yr.	185,400	224,000		
Total Sheep	404,800	450,000	6,292,000	7,426,000
Horses	154,700	140,000	9,899,000	10,080,000
Total Value of Live Stock on Farms			282,772,800	323,402,000

The total value of meat animals produced in Alberta increased from $161,783.00 in 1956 to $193,780.00 in 1957. The production of cattle and calves was sufficient to permit substantially heavier marketings as well as enlarge inventory holdings. Although hog marketings were down, higher average prices on sales and inventory build-up showed 1957 gains in hog production compared to the previous year. To a lesser degree, the same situation resulted in a favourable year for sheep producers.

ESTIMATED PRODUCTION AND VALUE OF PRINCIPAL LIVE STOCK PRODUCTS, ALBERTA, 1956 AND 1957*

	Production		Price per Unit		Total Value	
	1956	1957	1956	1957	1956	1957
Dairy Products	— pounds —		— dollars —		— dollars —	
Butterfat for creamery butter	24,791,000	26,361,000	.60	.62	14,768,000	16,477,000
Dairy butter produced	2,855,000	2,653,000	.56	.56	1,599,000	1,486,000
	— hundred pounds —					
Milk and fat for ice cream†	497,760	515,270	2.36	2.57	1,177,000	1,323,000
Milk for cheese and concentrating	573,340	651,040	2.42	2.59	1,387,000	1,685,000
Milk and cream for fluid sales	3,258,640	3,384,570	4.26	4.23	13,892,000	14,332,000
Milk consumed on farms	1,615,210	1,526,000	2.40	2.50	3,877,000	3,815,000
Milk for farm animals	586,120	581,000	2.40	2.50	1,407,000	1,452,000
Total value of dairy products	6,912,960	7,230,730	.35	.35	2,419,000	2,531,000
					40,526,000	43,101,000
Poultry Products	— dozen —		— per dozen —			
Commercial Eggs	44,229,000	48,497,000	.34	.30	15,102,000	14,270,000
Hatching Eggs	1,297,000	1,366,000	.60	.60	775,000	822,000
	— pounds —					
Poultry meat	54,112,000	57,996,000	.32	.31	17,561,000	18,208,000
					33,438,000	33,300,000
Honey	4,724,000	6,459,000	.16	.16	792,000‡	1,081,000‡
Wool	1,708,000	1,778,000	.35	.38	598,000	676,000
	Value of Pelts		Value Animals Exported			
Fur farming§	2,638,000	2,436,000	236,000	70,000	2,874,000	2,506,000
Miscellanous livestock products	.....	.....	.....	.....	4,281,000	4,784,000
Total value livestock products					82,509,000	85,448,000

*Preliminary.
†Milk equivalent.
‡Includes the value of wax produced.
§Year ending August 31.

PRODUCTION AND VALUE OF LIVE STOCK IN ALBERTA 1956 AND 1957

	Number		Value	
	1956	1957	1956	1957
Cattle	630,052	685,184	84,940,000	98,819,000
Calves	180,383	246,325	9,989,000	14,719,000
Sheep and Lambs	165,975	199,708	2,159,000	3,095,000
Hogs	1,743,902	1,806,959	64,695,000	77,147,000
Total Value Live Stock Production			161,783,000	193,780,000

Live Stock Products

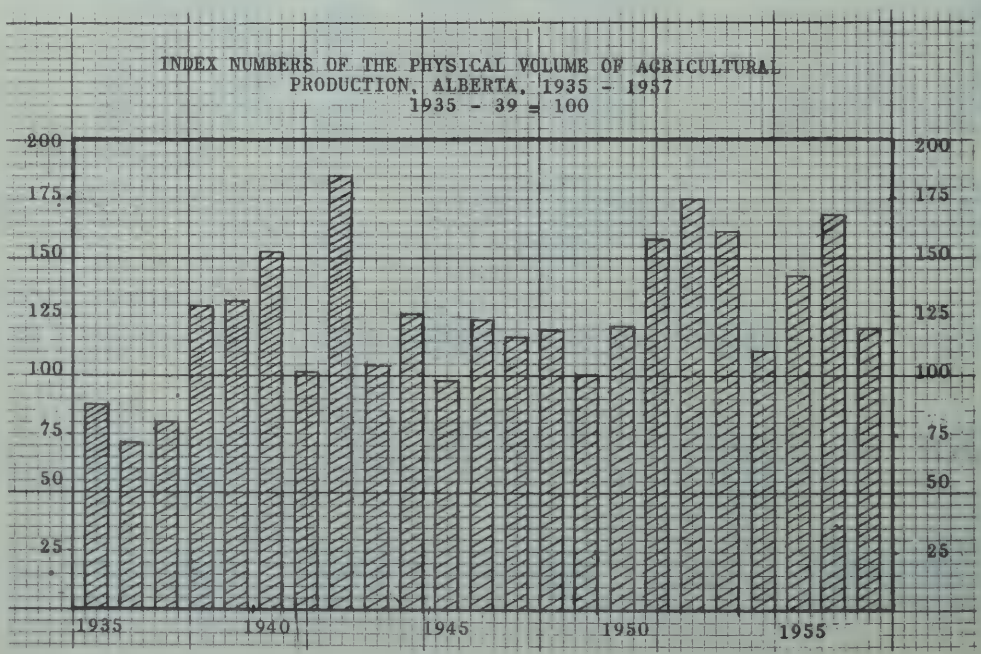
Farm cash income from the sale of dairy products increased in 1957 compared with 1956. Substantial increases are shown in amounts of milk and cream sold for fluid sale and deliveries of butterfat for making creamery butter also increased. While the production of eggs and poultry meat increased, income therefrom declined owing to lower prices. Higher yields increased the value of the honey crop.

SUMMARY OF THE VALUE OF PRINCIPAL AGRICULTURAL PRODUCTS IN ALBERTA 1954-1957

	— thousand dollars —			
	1954	1955	1956	1957
Wheat	138,600	175,560	169,400	118,110
Other Grains	121,206	168,197	185,803	136,866
Other Field Crops	39,927	57,917	53,560	60,906
Total Field Crops	299,733	401,674	418,763	315,882
Live Stock	176,443	164,468	161,783	193,780
Dairy Products	38,603	39,713	40,526	43,101
Poultry Products	29,433	30,086	33,438	33,300
Other Live Stock Products	5,454	5,890	8,545	9,047
Total Live Stock and Products	249,933	240,157	244,292	279,228

Index of Agricultural Production

The index of the physical volume of agricultural production (1935 — 39 = 100) decreased from 168.8 in 1956 to 118.2 in 1957. This compares to a low of 71.0 in 1936 and a high of 184.2 in 1942. A marked expansion in the production of live stock and their products, has tended to reduce fluctuations in the index of production.



Farm Cash Income

Canadian Wheat Board participation and advance payments amounted to 440.7 million dollars compared with 437.8 million in 1956 and 369.4 million in 1955. The all-time high of 501.1 million dollars was received by Alberta farmers in 1952. The percentage of farm cash income obtained through the sale of crops was 64.1 per cent in 1952, 49.1 per cent in 1956 and 43.8 per cent in 1957. Live stock as a source of farm income is becoming increasingly important. The percentage of total farm cash income derived from live stock and live stock products for the past three decades was; 1926-35, 30.2 per cent; 1936-45, 49.7 per cent, and 1946-55, 45.7 per cent.

NET INCOME OF FARM OPERATORS FROM FARMING OPERATIONS, ALBERTA, 1955-1957

	1955	1956	1957
	— thousand dollars —		
Cash Income from the sale of Farm Products	369,411	437,846	440,740
Income in Kind*	39,203	39,818	38,842
Value of Changes in Inventory	+43,908	+53,022	—41,623
Gross Income	452,522	530,686	437,959
Operating Expenses and Depreciation	249,099	259,909	254,302
Net income from Farming Operations	203,423	270,777	183,657
Supplementary Payments†	5,776	1,319	905
Net Farm Income	209,199	272,096	184,562

*Includes estimated rental value of farm homes.
†Received under the Praries Farm Assistance Act.

CASH INCOME FROM THE SALE OF FARM PRODUCTS AND SUPPLEMENTARY PAYMENTS

	1955		1956		1957	
Field Crops:	$,000	% of Total	$'000	% of Total	$'000	% of Total
Wheat*	99,975	27.0	134,531	30.6	120,085	27.2
Oats	7,534	2.9	11,418	2.6	8,986	2.0
Barley*	26,747	7.2	34,543	7.9	28,572	6.5
Rye	1,901	.5	3,857	.9	1,086	.2
Flaxseed	6,341	1.7	10,215	12.3	14,113	3.2
Clover and Grass Seed	3,789	1.0	4,949	1.1	2,346	.5
Potatoes	704	.2	1,983	.5	1,679	.4
Vegetables	2,482	.7	2,751	.6	3,485	.8
Sugar Beets	5,905	1.6	6,579	1.5	3,367	1.9
Other Crops	38,413	1.0	5,134	1.1	4,943	1.1
Total Field Crops	159,219	42.9	215,960	49.0	193,662	43.8
Live Stock:						
Cattle and Calves	77,220	20.8	87,776	19.0	110,561	25.0
Sheep & Lambs	2,391	.9	2,162	0.5	2,571	0.6
Hogs	67,208	18.1	67,258	15.3	65,475	14.8
Dairy Products	30,173	8.1	31,253	7.1	33,848	7.7
Poultry	9,871	2.7	14,700	3.4	15,402	3.5
Eggs	13,178	3.6	13,066	3.0	12,680	2.9
Wool	597	.2	586	0.1	668	.2
Honey	710	.2	765	.2	1,025	.2
Fur Farming	2,779	.8	2,693	.5	2,177	.5
Other Live Stock Products	1,784	.5	1,627	0.5	2,671	.6
Total Live Stock	205,911	55.6	221,886	50.6	247,078	56.0
Supplementary Payments (P.F.A.A.)	5,776	1.5	1,319	.3	905	.2
Total Farm Cash Income	370,906	100.0	439,165	100.0	441,645	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. Wheat Board cash advance payments for 1957 (*4,375,000) are included under wheat.

FARM OPERATION EXPENSES AND DEPRECIATION CHARGES, ALBERTA 1955-1957

	1955	1956	1957
	— thousand of dollars —		
Taxes	18,099	19,149	19,245
Gross Rent	18,967	18,829	14,443
Wages paid to labour	24,170	25,390	24,000
Interest on indebtedness	7,342	7,679	7,853
Feed and Seed purchases	15,036	15,616	15,435
Tractor expenses	35,359	38,028	37,907
Truck expenses	20,457	22,078	23,147
Automobile expenses for farm business	8,264	8,617	8,531
Engine and combine expenses	3,596	3,837	3,819
Machinery repairs and shop charges	12,173	13,215	13,500
Fertilizer	2,755	3,136	3,549
Fruit and vegetable supplies	3,318	3,655	3,720
Repairs to buildings	8,478	9,534	8,762
Electric power	1,095	1,334	1,500
Miscellaneous	13,150	14,051	13,859
Total operating expenses	192,259	204,148	199,270
Depreciation, buildings and machinery	56,840	55,761	55,032
Total operation expenses and depreciation	249,099	259,909	254,302

Farm Net Income

Net income of farm operators from farming operations was 184.5 million dollars in 1957 compared with 272.1 million in 1956, a decrease of 32.2 per cent. For a number of years relatively high net incomes have been partly the result of increasing farm inventories. For example, in 1956 the value of inventory increased by 53 million dollars; in 1957 farm inventory values decreased by 42 million.

IRRIGATION

Services were supplied in full to the new irrigation development areas and in part to the older irrigation projects by our staff from offices in Lethbridge, Taber, Bow Island, Medicine Hat, Enchant, and a Camp at Brooks. We believe we have provided a large measure of service to the irrigation farmer and the several project administrations.

The foremost achievements were an increase of effective land development services to the farmer, the institution of full scale land classification investigations, and an increase of more effective soils and drainage investigations.

Land classification work to determine the feasibility of land for irrigation which is yet to be developed was given priority. Investigations were carried out on the S.M.R.D. Highline area and in the Bow River Development area with the result that this information is now well ahead of construction plans. Some further investigations in the same areas will be necessary in 1957 in order to provide more thorough and detailed information on some of the lands.

The irrigable area classification of newly developed lands resulted in the completion of field surveys on the S.M.R.D. and the complete production of plans and reports of Distributaries "A" to "E" of the Bow River Development Project.

A start was made on the reclassification of the Taber Irrigation District and this is scheduled to be completed in 1958.

Land leveling design techniques received careful attention with the objective of providing the most efficient irrigation on a field with the minimum amount of earth moving. This careful design has resulted in a better job of levelling at a lower cost per yard of earth moved. Greater emphasis will need to be given to training operators for this specialized work.

A complete land development program requires a considerable amount of follow-up work after land levelling has been completed. Good progress was made in the designing and installation of farm distribution systems and in the development of irrigation methods. Interest on the part of the farmers was very good.

Drainage investigations were concentrated on the problems of the St. Mary and Milk Rivers Development. The information derived appears to be contributing greatly to the decisions being made with regard to seepage, alkali, and drainage problems. A systematic approach to investigations of an entire drainage basin appears to be most productive. Installations have been made in each of the areas investigated.

An Irrigated Community Pasture at Purple Springs owned by the Department of Lands and Forests received attention by our District Irrigationist at Taber, who supervised its development during the year. The supervision entailed advisory and administrative services.

It is the feeling of the Extension Irrigationist and his staff that as a result of their experiences in the services that they have been providing during the past years, that the trend should be to provide services that will increase the irrigation efficiency for both the farmer and the irrigation project administrations. We believe that we have accomplished more towards this end in the year 1957 than in any of the past years that this Service has been functioning.

The following is a statistical summary of the services rendered by the Irrigation Evtension Service in 1957:

Land Levelling

The services for land levelling include surveying, designing, supervision, and survey checking of the jobs in operation, and the providing of equipment to do a part of the total number of land levelling jobs in the new development areas.

Parcels with jobs completed	84
Acreage completed	2,722
Cost per acre improved (detailed levelling)	$37,20
Cost per acre improved (spot levelling)	$10.00
Alberta Department of Agriculture Equipment:	
Land levelling jobs worked	32
Acreage improved by land levelling	856
Cost per acre improved	$49.00
Miscellaneous jobs which included dugouts, farmstead trimming and grading, etc, wherein an area is not improved for farming purposes	9
Jobs completed by privately owned equipment under supervision	126
Total accumulative jobs since 1950 by Government machines and private operators' machines	424
Total accumulative area of acres improved since 1950 by Government and private equipment	19,037

Irrigation Methods

Investigations made to determine the best irrigation methods and practices on individual parcels of land	55
Irrigating services:	
Farm contacts	101
Head ditch surveys	195
Field ditch surveys	124
Practical irrigating assistance	79
Farms served	499

Land Classification

Our services in providing land classification includes land development investigations and cost estimates, soil investigations, soil survey, soil tests to a depth of 15 feet, soil field tests for permeability data, laboratory soil analysis for salts, salinity, alkali data, drainage investigations and cost estimates, and practical

inspections of the land to determine the feasibility of land for irrigation purposes.

Projects classified	4
Quarter sections classified	922
Irrigable acreage classified	61,500

Irrigation Acreage Classification

Our services under this subject provided an approved classification plan for the administration of the project. The farmer also receives a plan showing the areas which are classed suitable for irrigation along with information regarding the soil and topography of the land. Our services in providing this information consists of the surveying for bench marks, of head ditches and of ditches isolating non-irrigable areas from irrigable areas, the mapping of the irrigable areas and the drafting of each of these plans measuring the acreages and obtaining prints of the plans for the administration and the farmers.

Parcels completed	643
Irrigable acreage completed	47,817

Drainage Investigations

An investigation for drainage includes the logging of soil profiles to a depth of fifteen feet by use of the Sterling Drill, the installation of piezometers and water table wells for recording hydrostatic pressure, water table levels and permeability testing, the analysis of soil samples for salts, salinity, and alkali, the survey of test locations and the drafting, plotting, reporting and interpretation of field data into a final report.

Projects completed	15
Acreage of area	1,120

Soil Analysis

	Number	Tests
Samples analyzed in laboratory	3,011	14,205
Samples taken to the University of Alberta for further analysis	2,601	7,303
Field analysis for soil permeability	166	.....
Soil borings made by Sterling drill	911	.....
Installations for soil drainage studies	187	1,331

Inspections

The technical staff is continuously making inspections for the purpose of land and irrigation classification, land levelling, colonization, farm irrigation systems, pump irrigation systems, drainage, farm planning, survey procedures, drafting, equipment, and irrigation practices. These inspections are of a detailed type and do not include the passing observations made of land, plans and procedures.

Field inspections	759
Office inspections	485

Reports

Major reports of all kinds regarding all the various services performed	218

Miscellaneous Surveys

The miscellaneous surveys include a large number of various types. Included in this subject are surveys made to determine the boundaries of lands and surveys for drainage investigations.

Surveys	192

Miscellaneous Drafting

The drafing under this subject consisted of drafting for land classification data, charts, soil maps and plans.

Miscellaneous drafting jobs	652
Maps, plans, reports, etc., issued to administrative agencies and farmers as a result of our services	2,400
Bulletins, newsletters issued	13,619

Meetings, Field Days, Demonstrations, Short Courses

Extension programs participated in	15
Attendance	1,107
Lectures at Olds School of Agriculture	18
Attendance	61

Miscellaneous

Farm visits	672
Office interviews	1,283
Office visits	352
Telephone calls	1,986
Letters written	1,879

AGRICULTURAL ENGINEERING

Some trends which are apparent in the field of general Extension are observable also in this specialty. The number of meetings and short courses at which one of the engineers was in attendance dropped appreciably, from 53 in 1956 to 39 in 1957. However, the total attendance was almost the same at 2,690. Field days and demonstrations also decreased from 43 to 39, and attendance of 2,275 was down also. Among the most successful field days were the 14 dealing with spetic tank and disposal field installations, attended by about 800 persons.

An appreciable increase was evident in farm calls, with 252 in 1957 compared to 173 last year. Correspondence also increased to over 750 letters compared to 650 one year earlier. Surveying was carried out on 11 projects, mainly pertaining to drainage, in addition to about 30 sewerage installations which were listed as farm calls.

The Rural Electrification, Rural Welding and Rural Plumbing Schools all were carried on during the year, with increased attendance. Attendances were:

17 electrification schools	677
18 welding schools	500
12 plumbing schools	700

During the year, 109 calls were made at 37 of the District Agriculturist offices.

As recorded in the last annual report, the septic tank form service in the municipalities increased appreciably, with 15 sets of re-useable forms now in operation in the area between Berwyn in the north and High River in the south, Mayerthorpe in the west and Czar in the east.

During the year, 11 sets of plans were prepared for general distribution, most of them in cooperation with other Branches of the Department. The bulletin, "Dairy Barns for Alberta", was reprinted after some revision.

Farm Notes contained 10 items contributed by the office, while 12 radio talks were given, 6 over Call of the Land and 6 over other stations. In addition, 8 on-the-spot-stories were handled by personnel of the Radio and Information Branch that were suggested by the Agricultural Engineers. In the field of television, 2 programs were made, both for C.B.C. Country Calendar. One, on combine adjustment, was produced in Winnipeg, while the second, showing a step-by-step installation of a septic tank and disposal field, was made on a farm in the Fort Saskatchewan area.

In addition to the events attended by the Agricultural Engineers from headquarters, agricultural meetings and short courses have featured agricultural engineering topics handled either by the District Agriculturist or some local or visiting authority. For this

reason, the events at which agricultural engineering was reported, exceeded the number in the above report.

	Number	Attendance
Short courses and meetings	114	5,398
Field days and competitions	52	2,636
Schools (electrical, plumbing, welding)	43	1,606
Persons otherwise assisted	.....	2,872

FARM AND HOME DEVELOPMENT

From its early beginning and until relatively recent times, Extension procedure has, in the main, been based on effecting the improvement of agricultural practice and production by dealing separately with the component parts of the farm business. This has been commonly called the "project" approach to Extension procedure. Inherent in this approach has been a concurrence in the theory that the way to improve the quality of cattle is an attack on the quality of the breeding stock being used without necessarily having much regard for the impact of changes on the other parts of the farm business. In fact, it has been tacitly accepted that such improvement could not fail to improve the overall economic position of the farmer.

More recently there has been a growing awareness of the importance, particularly from an economic standpoint, of farm and home management. In this province, this awareness, beginning some nine or ten years ago, made us one of the pioneers in Canada of this concept, which is now almost universal throughout the United States and is finding more general acceptance in this country. This method in Extension procedure has been and still is designated by a number of different names or titles, e.g. balanced farming, farm and home planning, farm and home development, or simply farm management. Its distinguishing and essential principle is a regard for the whole farm and home as a unit of operations and this has led to the use of the term "whole farm approach".

In the early application of this concept it was envisioned that the Extension worker would, with the farm operator and/or his wife as the case might be, work out a revised farm or home program designed to improve his practice, improve his position and generally take the farmer from where he was to where it was believed he ought to be. Because individual contact is expensive in terms of time, methods have been sought whereby farm families might be approached in groups.

In this province, one of the early efforts in group approach was the farm and home improvement program, originally designed as an activity in which the Extension Service might cooperate with local sponsoring organizations, primarily Agricultural Societies. This program was designed in principle for encouraging farm families to adopt annual improvement projects as steps toward arrival at a long-time objective. Over a number of years it must be reported that appreciable improvement has been effected, albeit without as much emphasis as might have been hoped for in the setting of long-time objectives.

A staff training course, conducted at Banff in April of this year, served to confirm the adherence of this Service to the principle of the whole farm approach and also to modify methods and procedure. Among these modifications may be listed, first, a growing conviction that farm and home improvement generally is

more likely to result from the farm family itself coming to realize its need than for this need to be urged by the Extension worker; secondly, the importance is realized of the use of the discussion group using problem solving procedure as an effective tool by which farm families may come to a realization of their needs, and make sound decisions; thirdly, the importance of the home in farm operations stresses the need for greater consideration of the home and the family.

The present situation, therefore, in the use of the "whole farm approach" in this service is approximately as follows. Some of the farm and home improvement programs, as originally operated, are being continued as they were, while others have provided a source from which discussion groups have been drawn. In addition, encouragement has been given to the formation of common interest groups of six to ten families not previously connected with the farm and home improvement program. By means of step by step procedure, families in these discussion groups are encouraged to analyze all the phases of their farm and home operations and to pool the information of all group members as well as of the Extension worker. It is believed that following a series of group discussions, a measure of individual contact with these families will be necessary but that the extent of this will have been greatly reduced by the group meetings.

The following figures indicate the application of this concept during the past year:

Number of groups	67
Number of farms involved	1,017
Farm visits	2,109
Meetings of groups, field days and tours	230
Aggregate attendance	7,461

Participating families have studied and discussed the following specific phases:

Accounts and records	479
Farm business analysis	522
Cropping enterprises	617
Livestock enterprises	575
Analysis of enterprises and combinations	458
Other phases	365

Fifteen District Home Economists are assisting with the Farm and Home Program involving 480 families. They have made 534 home visits and attended 53 meetings in connection with this program.

Farm Management

Separtely from group procedure outlined above, management principles have been emphasized with farmers as listed hereunder:

Setting up accounts and records	593
Analysis of the business	546
Cropping plans	1,096
Livestock plans	894
Labour utilization	305
Building and equipment plans	614
Analysis of enterprises and combinations	318
Farm agreements	228
Marketing and other phases	1,543
Farm visits involving farm management	1,285

Soil Conservation

Land use for continuous production on a sustained yield basis continues to be one of the objectives of agricultural Extension workers. To this end, several special projects were conducted including gully filling, grassing of natural water courses, laying out of contour fields, regrassing of eroded areas, soil testing, etc.

Farmers assisted in special projects	275
Demonstration field days	88
Results of demonstrations observed by	1,268
Soil conservation meetings	104
Attendance at meetings	3,285
Soil samples forwarded for analysis	765
Persons otherwise assisted	2,292

Weed Control

District Agriculturists, as members of the Agricultural Service Boards, have taken an active part in all phases of weed control.

Community seed cleaning plants assisted	23
Farm plants assisted	47
Farm seed drill survey samples	1,849
Weed control demonstrations arranged or conducted including tillage, cropping and chemicals	69
Persons attending demonstrations	760
Weed control meetings	163
Attendance	4,757
Forage seed distributed	9,952 lbs.
Persons otherwise assisted	3,104

CROP IMPROVEMENT—FORAGE

Farmers assisted re: seed demonstration	47
pasture demonstration	311
rotation demonstration	69
variety or other demonstration plots	84
Seed distributed for forage demonstrations	56,607 lbs.
Fertilizer distributed for forage demonstrations	10,900 lbs.
Silage demonstrations or field days	37
Other forage demonstrations or field days	32
Attendance at field days and demonstrations	1,662
Persons otherwise assisted	5,043

CROP IMPROVEMENT—GRAIN

Demonstration plots	137
Number of field days	52
Attendance at field days and demonstrations	1,264
Registered seed distributed	41,344 bus.
Commercial seed distributed	199,864 bus.
Persons otherwise assisted	3,597

Field Crop Pests and Diseases

District Agriculturists identify crop pests and diseases, and prescribe control measures or refer requests to appropriate authorities.

Demonstrations re control of crop pests and diseases	32
Attendance	1,234
Specimens forwarded for identification	438
Persons otherwise assisted	2,442

Livestock Improvement

District offices report continued farmer interest in higher quality and improved performance of livestock as factors in profitable returns. This interest is reflected in:

(1) Use of proven breeding stock.
(2) Use of highest nutritional standards compatible with economy.
(3) Adoption of improved management practices.
(4) Selection of livestock enterprises.

Extension activities in this field are shown below:

Special livestock projects, including nutrition, pure-bred sire areas, artificial insemination units, etc.	60
Farmers participating	4,511
Livestock affected	115,717
Livestock demonstrations (excluding 4-H clubs)	66
Attendance	1,791
Meetings and short courses	248
Attendance	28,289
Herds or flocks culled or selected	774
Feed samples forwarded for analysis	374
Farmers assisted with registration of pure-bred anmials	1,007
Livestock involved	3,020
Farmers using Departmental dehorners	1,318
Cattle dehorned	12,364
Persons otherwise assisted	9,132

BREEDING LIVESTOCK PLACEMENTS

Horses	91
Cattle	2,342
Sheep	4,978
Swine	2,683
Poultry	2,260

Livestock Marketing

Public livestock sales assisted (excluding Calgary and Edmonton)	83
Animals sold	22,827
Estimate of dollars earned or saved for farmers	$90,605
Persons otherwise assisted	1,471

Control of Livestock Diseases

Activities and influence of Extension staff are reflected in the following statistics:

Farmers participating in calfhood vaccination	41,817
Calves vaccinated	287,450
Assisted with T.B. testing (farms)	1,543
Specimens forwarded for diagnosis	237
Enquiries (diseases—nutritional, parasitic, bacerial)	3,519
Preventive measures recommended (farms)	1,423
Demonstrations and meetings	71
Attendance	3,182
Persons otherwise assisted	1,765

Control of Livestock Pests

Farmers participating in coyote control	4,783
Estimate coyotes killed	41,024
Estimate livestock saved	$369,000
Farmers participating in warble control	5,599
Control of lice, flies, ticks and keds (farms)	1,985
Demonstrations and meetings	64
Attendance	1,479
Specimens forwarded for identification	120
Persons otherwise asisted	2,197

Dairying

Extension effort has been directed toward improvement in all phases of this important part of farming and producer interest increases in artificial insemination, loose housing, self feeding and use of silage.

Special projects and method demonstrations	62
Attendance	2,262
Farmers influenced re cow testing	184
Meetings	94
Attendance	2,580
Herd culling and selection	236
Persons otherwise assisted	1,897

4-H Clubs

The popularity of this work creates demands which would seem to require a greater use of local leaders if Extension workers are to have time for other activities.

	Agricultural Clubs
Clubs meetings, achievement days, rallies, tours and other functions attended	1,996
Attendance (aggregate)	72,017
Members trained for Provincial eliminations	102

The supervision of Girls' 4-H Clubs in the field is carried on by the District Home Economists. Assistance was also given by Field Summer Staff, the Clothing and Home Designing Specialists with the three Provincial Leaders' Courses, District and Provincial Judging Competitions and the four club weeks. The assistance given by Miss Moseson and Miss Sanderson from the Extension Branch on project work was greatly appreciated.

The following is a summary of the major activities undertaken by the district home economists in regard to 4-H club work.

	Number	Attendance
Girls' Clubs organized and supervised	171	2,042
Achievement Days attended (own)	131	7,467
Achievement Days assisted with or attended other than own	47	3,833
Field Days or rallies	29	3,197
Tours (Garden or others)	53	1,146
Short Courses	23	779
Camps—Lake	2	152
Fairs	6	479
Leaders' Visits	212	.....
Home Visits	175	.....
Clubs Visits	340	.....
Lectures and Addresses	445	12,139
Other functions	18	1,040
Number 4-H members assisted (other than through club project)	521	.....
Number of 4-H members assisted	92	.....
4-H Newsletters	60	.....
News Releases	55	.....
Radio Releases	13	.....
Films Shown	34	997

Agricultural Service Boards

The District Agriculturist serves as a member and technical advisor to the Board, which in turn is advisory to the M.D. Council in agricultural matters.

Board meetings attended	314
Farms under supervision	305
Special activities, e.g. projects and tours	95

Horticulture

Meetings and demonstrations	99
Attendance	3,340
Farmstead—plans—planting	1,221
Shelterbelts—planning, etc.	2,128
Tree orders placed for farmers	1,811,823
Demonstration orchards	46
Persons otherwise assisted	2,924

Beekeeping

Meetings and demonstrations	12
Attendance	215
Otherwise assisted	192

Information and Publicity

Newspaper columns	2,146
Radio	211
Television	30

Home Management

	Number	Attendance
Lectures and demonstrations	211	6,407
Individuals assisted	393	.....
Newspaper articles	103	.....

To meet an increasing awareness among rural homemakers of the importance of the role of "management" in the attainment of individual and family goals and its contribution to better living in the home, District Home Economists dealt with the following: "Records and Accounts", "Money Management", "Your Money's Worth", "Care of Home Furnishings", "Equipment", "Food", "Textiles and Clothing", "Saving Time and Energy".

Foods and Nutrition

Demonstrations and Lectures

Topic	Number	Attendance
Food Preparation and Service	98	3,570
Food Preservation	56	1,733
Food Buymanship and Standards	44	2,200
Meal Planning	9	144
Food and Health	36	1,626
TOTAL	243	9,273

Thirty of the above were meetings of food and garden clubs (or sponsored by) with a total attendance of 630. In addition to this, and not included in the above summary, were comments on food preparation, food preservation and food standards given at 4-H food and garden club achievement days.

A growing interest in food preservation, especially freezing, and in nutrition information was reported. One Home Economist stated "panel discussions aroused more interest than was ever shown before in food problems".

Reports indicate that while there were few actual talks on school lunches, the subject was stressed through newsletters, newspaper articles and individual assistance.

Expressly for information on food or nutrition there were 92 home visits, 619 letters, 867 phone calls, 562 personal interviews, 141 newsletters (circulation 6,488), 312 newspaper articles, 17 radio releases and 1 T.V. interview. Incidental to other topics, there were 230 home visits, 72 letters, 69 phone calls and 369 personal interviews. Additional information was given by District Home Economists during many contacts at fairs or other gatherings. Further information given to the Radio Information Branch was heard over Call of the Land Programs or appeared in Farm Notes.

Staff members assisted again this year with the frozen food tests being carried on at the Brooks Horticultural Station.

Clothing and Home Sewing

	Number	Attendance
Sewing clinics composed of 289 sessions	74	3,026
Lectures and demonstrations pertaining to sewing and use and care of sewing machine	166	2,886
Lectures pertaining to clothing selection	52	2,089
Lectures pertaining to textiles	30	1,495
Talks on judging standards for sewing and handicraft	69	4,052
Talks to 4-H Girls' Clubs on sewing	162	4,990
Other individuals assisted re clothing	984	.....
Home visits re clothing	159	.....
Newspaper articles and newsletter on clothing	231	.....
Radio Talks on clothing	15	.....

Higher clothing prices, new fabrics and a marked change in the style of women's clothes are causing an increased demand for more information in the clothing and textile field. The great increase in lectures in clothing selection and wardrobe planning indicates the homemaker's need for assistance in choosing clothing. A new approach to the study of clothing was tried this year. Following lectures on a particular topic, groups participated in solving specific clothing problems. This method showed exceedingly good results.

Sewing clinics continued to prove valuable in teaching sewing techniques. There is an increased demand for more advanced sewing due to the greater saving in the cost of garments requiring detailed construction. New types of sewing machines on the market have also resulted in many women taking a renewed interest in home sewing.

Every year brings an increase of new fabrics on the market. Homemakers are requesting more assistance in the choice and care of these partly due to the lack of informative labelling.

Clothing and sewing assistance was provided to the younger groups through the 96 4-H clothing clubs throughout the province.

Home Designing

	Number	Attendance
Assisted with home planning:		
(a) complete planning	114	.....
(b) partial planning	103	.....
(c) materials for new homes	72	.....
Assisted with house remodelling:		
(a) completely	54	.....
(b) kitchens	124	.....
(c) bathrooms	24	.....
(d) building materials	43	.....
(e) other living areas	73	.....
Assisted with major improvements:		
(a) water systems	35	.....
(b) heating systems	19	.....
(c) electrical systems	20	.....
Assisted with interior decoration	635	.....
Lectures:		
(a) kitchen planning	3	.....
(b) utility planning	2	.....
(c) building materials	9	.....
(d) interior decoration	53	.....
(e) rural electrification	13	.....
(f) home planning	10	.....
(g) others	30	.....
TOTAL		4,296
Home Visits:		
(a) home planning	192	.....
(b) remodelling	247	.....
(c) decorating	657	.....
Newspaper articles:		
(a) housing	29	.....
(b) decorating	48	.....
Radio releases	21	.....

The field of farm home modernization and remodelling received the majority of attention from the Home Designing Specialist and District Home Economists this year, although many homemakers took advantage of the assistance offered in the field of new home planning. As well as the individual assistance given to 1,076 rural families, 15 plans for new houses were drawn up, 35 detailed plans of proposed remodelling additions were drafted and 35 interior decoration schemes were planned by the Home Designing Specialist.

Lectures on these topics were still most popular. Audience participation through group discussion, attempted for the first time this year, proved very successful.

For the first time in some years there is an increasing interest in home decoration projcts in 4-H work. A section at the Leaders' courses was devoted to this project directed by the Home Designing Specialist, and this fall there has been an increase in Decoration Clubs.

Handicraft

	Number	Attendance
Lectures and demonstrations	122	3,001
Individuals assisted	361*	.....

*5 earn living by handicraft.

Handicraft and TV are, for the first time, becoming evident rivals as the rural homemakers main hobby. The Home Economics staff have continued to stress the production of practical crafts of good design. In addition to the above, illustrated lectures were given to encourage utility and good design in handicraft at 111 conferences and other meetings where handicraft and sewing were judged.

Other Demonstrations and Lectures

Topics related to etiquette, table setting, entertainment, group receptions and quantity service were discussed at 58 demonstrations attended by 1,891. Also 193 were individually assisted.

Six lectures were given dealing with Child Guidance and Happy Family Relationship, attended by 250 persons, and 48 individuals were given guidance in this field.

There were 188 general discussions outlining the services of this Branch with 9,030 in attendance. Specific information regarding the Extension Service and Schools of Agriculture was given 681 persons and 65 newspaper articles were prepared.

Short Courses, Field Days and Meetings

District Home Economists assisted in organizing, lecturing and demonstrating at 214 short courses and field days, 180 being in cooperation with the District Agriculturists, 11 the Canada Department of Agriculture, 5 the University Extension and 11 the Agricultural Service Boards. In addition, 49 meetings were at the request of such other organizations as Department of Indian Affairs, Rural Health Units, Veteran's Land Act, Farm Boards, Canadian Association of Consumers, etc. Advice and assistance was also sought by such local organizations as Relief Services, School Boards, Social Service Clubs, etc.

Judging at Fairs, Conventions and Conferences

District Home Economists judged at 173 Fairs, conventions and conferences, as well as 178 achievement days. Judging standards were discussed at 111 meetings. For the first time 3 "Schools for Judges" were held at Lethbridge, Calgary and Edmonton with the objective of greater uniformity in judging. In addition, 24 Fair Boards were assisted in organization and 15 exhibits prepared for Fairs and conventions.

Radio, Newspaper and Newsletters

Home Economists gave 88 radio and T.V. addresses, 21 of them on "Call of the Land".

Nine hundred and ten articles were prepared for 93 papers. All District Home Economists prepare regular weekly columns. District Home Economists have prepared 167 newsletters with a circulation of 6,488 giving timely information and announcements of new programs, services and publications.

Other Activities

The Home Economists assisted in judging 23 district and 13, regional families for the Master Farm Faimly award.

SUMMARY OF ACTIVITIES—AGRICULTURISTS

	1956	1957
Number of meetings (including short courses)	3,691	3,993
Attendance	184,607	174,246
Number of farm visits	22,672	22,399
Office interviews	59,004	53,739
Phone calls	95,572	45,431
Letters written	49,770	42,008

SUMMARY OF ACTIVITIES—HOME ECONOMISTS

	1956	1957
Number of demonstrations	1,947	1,852
Field days and short courses	129	214
Fairs, conventions judged and addressed	120	173
Total attendance at above	92,342	95,803
Average attendance	42	42
Radio and T.V.	56	87
Letters requesting information	14,204	22,229
Home visits	2,675	2,639
Girls' Clubs	167	171
Office interviews	5,016	4,291
Phone calls for information	8,979	8,917
Newspaper articles	558	910

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
J. K. Morrow, V.S., D.V.M., Supervisor, Brucellosis Control
G. R. Whenham, V.S., D.V.M., Veterinary Bacteriologist

General

During 1957, Alberta was fortunate again in not experiencing any severe epidemic or outbreaks of diseases in poultry or animals. The common diseases of bacterial, vital, parasitic or nutritional origin though continue to cause an estimated $30,000,000 to $40,000,,000 loss annually. Application of presently known facts and more research could reduce this loss appreciably. Through the laboratory and field investigations an alert was kept for diseases new to the province. With the increase in livestock populations expected in Alberta by 1980 according to the Gordon Commission report, the development of specialization, etc. more attention will have to be given by many to disease prevention in the future as concentration increases the dangers and effects of disease. More veterinarians will be needed to carry out prevention programs, to treat sick animals, provide meat inspection in small slaughter houses and to provide many other services that must be developed to keep expanded production as economical as possible.

A system of obtaining vital statistics on livestock and poultry diseases was inaugurated through practising veterinarians. This will give valuable information in determining the most common disease losses and to take remedial action when possible.

The rabies, bovine brucellosis and tuberculosis control programs, and inspection at Class D Stockyards (livestock auction markets) progressed favourably. Briefly, there were no cases of rabies, 287,450 calves were vaccinated, and 241,923 animals inspected at Class D Stockyards. These are described in more detail below. Due to an increase in export trade, plus the regular extensive movement of cattle for marketing and other reasons, cattleowners were urged to keep an accurate records of all eartags, certificates, etc. This Branch was often called upon by R.C.M.P. and others to trace ownership of lost, strayed or suspected stolen animals by eartag numbers.

The demands in the laboratory services increased again with 12,322 poultry and animal specimens submitted for examination, plus 26, 367 cattle and 662 poultry blood samples. With the increasingly scientific approach to disease identification and control a good laboratory service is a must. Bacterial cultures and parasites were supplied to research institutions. Service was rendered not only to poultry and animal owners but also to those dealing with wildlife. A great deal of knowledge of wildlife diseases in Alberta has been accumulated over the past few years.

During the year, Dr. G. R. Whenham, joined the staff as Veterinary Bacteriologist. Terms of reference include all culturing for vibriosis and other sterility problems, as well as the highly technical and often complicated bacteriological work necessary on various disease problems.

Other technical members of the staff were: Miss A. Quon, B.Sc. (to September), Miss G. Papas, B.Sc., Mr. J. Bacle, (Agr.-France) and Dr. K. Maybee (part-time).

Veterinary Students

The following is the number of Albertans attending the Ontario Veterinary College as students:

First year	7
Second year	8
Third year	7
Fourth year	5
Fifth year	3
TOTAL	30

The Department pays a $200.00 grant to each on successful completion of a year's studies. The purpose is to defray the travelling expenses as veterinary science is not taught in the province.

During the 1956-57 college term, the Alberta students won 7 of 13 proficiency prizes and 2 special prizes at the Ontario Veterinary College for academic achievements.

For several years talk has been current about another Veterinary College to be established in Western Canada. During 1957 several organizations actively supported consideration of such a project. Active study was given to all the aspects involved.

T.B. of Poultry and Hogs

The educational program was continued with approximately 1,200 letters being sent to owners whose hogs showed evidence of infection. A considerable number of replies were received indicating that the necessary management changes will be made to help reduce the infection.

Rabies

No positive cases were diagnosed. The last known rabid animal was in May 1956 in the Peace River area. Since that date over 100 heads of suspected rabid animals in Alberta has been examined at the Federal Veterinary Research Laboratory, Lethbridge. This indicates a continuing altertness of the public to the disease and gives a good cross-section to evaluate the presence or absence of rabies.

Lectures on rabies were given to R.C.M.P. personnel being trained for northern duty and to public health nurses in training at the University of Alberta. The Director explained the Alberta comprehensive rabies control program to the Eastern Iowa Veterinary Association. Those present from several parts of the United States were quite impressed with the size and results of the Alberta control program in wildlife, and the other aspects.

Coyote control was still urged to keep the numbers below the threshold for supporting an epidemic if the disease should occur again.

T.B. Restricted Areas

The Federal Health of Animals Division again speeded up the T.B. testing program by sending out extra veterinary inspectors from Eastern Canada throughout the year. As many as 8,000 to 11,000 cattle were tested weekly during much of the time. Private practitioners working as part-time employees of the Federal Department of Agriculture have given valuable service in the testing program.

Districts established as T.B. Restricted Areas during the year were: I.D. 132, M.D. of Vermilion River No. 71, and the County of Newell No. 4, bringing the total to 57 such areas.

Civil Defence

Five members of the staff have taken training in radiation monitoring and calculating to enable them to determine the usability of food for humans and livestock in case of necessity. Two took additional training at a radiological officers course at the Canadian Civil Defence College, Arnprior. Three Federal Health of Animals Division veterinarians and the City of Edmonton veterinarian took the radiological course at Alberta Civil Defence Headquarters for the same purpose. District Agriculturists, forestry officers and some science teachers were trained in monitoring by Alberta Civil Defence Headquarters, but the responsibility of determining the usability of food and disposal of exposed livestock will be that of the veterinarian due to the physiological and pathological aspects, as well as the possibility of other diseases being involved.

Addenda

Detailed disease charts and statistics will be printed in an addenda to the Branch report.

BRUCELLOSIS CONTROL

Dr. J. K. Morrow supervised the Brucellosis control and sterility investigations during the year. Sixty-three investigational trips were made and forty-two meetings attended during 1957.

New regulations were passed during 1957 governing the vaccination, sale and movement of cattle in Brucellosis Restricted Areas.

Brucellosis control measures of a stricter nature are being adopted by the other provinces and throughout the United States. During the fall of 1957 there was a great increase in the demand for export cattle into the United States. Heifer calves, replacement heifers and stock cows brought premium prices. Health requirements for entry required that these animals be either vaccinates or animals negative to the blood test. Stricter United States brucellosis regulations may have to be met shortly.

This year, the Federal Department of Agriculture announced the Brucellosis Cotnrol or Certified Areas program. This would be carried out under the Federal Health of Animals Division through the blood testing of cattle, with the payment of compensation for Brucellosis reacting animals. The program is to be established in areas, which have carried out a complete calfhood vaccination program for at least five years. Several Alberta municipalities or counties are eligible under the requirement of five years as a

Brucellosis Restricted Area first. Two have made application for their establishment as Federal Brucellosis Control Areas.

Calfhood Vaccination Program

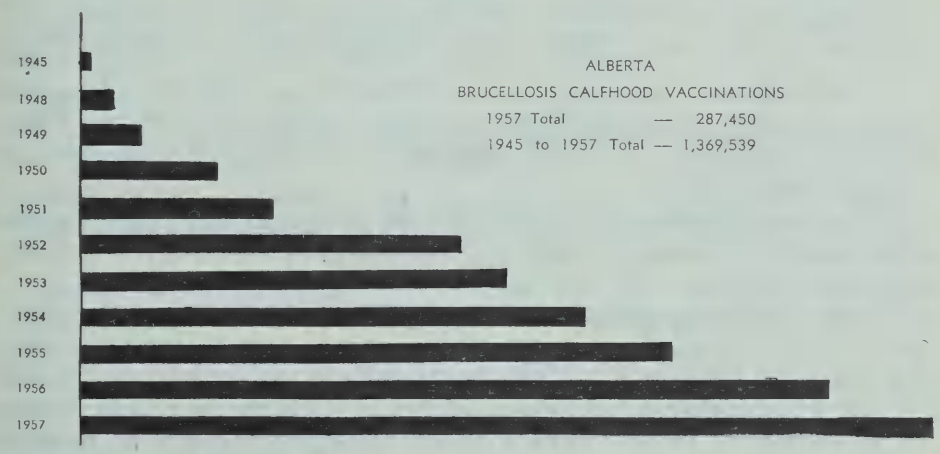
During 1957, the majority of calves were vaccinated with desiccated Strain 19 Brucella abortus vaccine. This is the same vaccine as used in previous years but now processed in a dry or desiccated form for superior keeping qualities.

With a complete file of vaccination eartags on records, it is a fairly simple matter to trace the ownership of animals having no other identifying marks. Through this service many stray animals are returned to their proper owners after at considerable distances from the premises of origin.

Except for a few early storms and iced highways, the veterinarians had good vaccination conditions. The new long dating of the desiccated vaccine assured ample supplies and there were not shortages reported.

A large number of voluntary vaccinations were carried out in those districts not under the area plan.

The total number of calves vaccinated in 1957 was 287,450 an increase of 26,566 over the number done in 1956 making a total of 1,369,539 vaccinated since 1945. The accompanying chart shows the yearly increase in calves vaccinated since 1945.



Brucellosis Restricted Areas

This program was commenced in 1950 and embraces a policy of complete Brucellosis calfhood vaccination of each calf crop, the blood testing of cattle sold at auction sales and the branding of reacting animals found on test. There are over a million and a half cattle in these areas and the breeding stock is receiving the protection desired through preventative immunity.

Four new areas were added during 1957 on the receipts of petitions from cattlemen in the districts concerned. These were the County of Thorhild No. 7, the M.D. of Barrhead No. 106, the M.D. of Willow Creek No. 26, and the M.D. of Cardston No. 6, making a total of 35; i.e. 30 municipal districts and 5 counties. The addition of the municipalities of Willow Creek and Cardston completes an unbroken series of these areas from the Montana border to Athabasca.

The Alberta Department of Agriculture grant to Brucellosis Restricted Areas of twenty-five cents per calf vaccinated was in-

creased to fifty cents during 1957. An agreement was reached between the Alberta Association of Municipal Districts and the Alberta Veterinary Medical Association standardizing vaccination fees throughout the areas. This new grant was designed to effect a direct saving to the cattle owner of forty cents per head on the cost of vaccination.

Diagnostic Services

Brucellosis infection in cattle is detected in the laboratory by the aggutination testing of blood samples drawn by veterinarians in the field.

The following table shows the results of the blood testing in the animal section of the laboratory. There was a large increase in the number of Dominion blood tests submitted from export cattle. The majority of tests were for sales, herd replacements, and public health purposes. Brucellosis tests were completed from buffalo, moose and elk to show the degree to which wildlife may be infected.

BLOOD TESTS FOR BRUCELLOSIS (BANG'S DISEASE) 1957

	Provincial Blood Tests	Per-centage	Dominion Blood Tests	Per-centage	Total Number of Blood Tests	Per-centage
Number Positive	1,662	7.2%	33	1 %	1,695	7.1%
Number Suspect	1,226	5.5%	70	2 %	1,296	4.3%
Number Negative	20,433	87.1%	2,787	96.5%	23,220	88.3%
Number Broken or Hemolyzed, etc.	150	.2%	6	.5%	156	.3%
Total Number of Blood Samples	23,471	100 %	2,896	100 %	26,367	100 %

Cattle owners, carrying out a calfhood vaccination policy, are no longer afraid of Brucellosis as a serious cattle problem. Plans are being prepared for some vaccination policy to be adopted in unorganized areas.

The development of the Brucellosis program has placed many veterinarians in areas, which may otherwise be without veterinary services.

Through the adoption of a calfhood vaccination policy cattlemen found that replacement female cattle were easy to move when the demand appeared. This applied both to export and interprovincial shipments and every effort will be made to assure the maintenance of these markets as far as Brucellosis health requirements are concerned.

Sterility

Poor breeding performance can mean serious economic losses to the stockman. There are many cases referred to the laboratory. Each year reproductive organs are forwared for tissue and bacteriological study to determine the cause of the breeding problems.

Breeding management and nutrition were found to play a large role in many cases. It was apparent that considerable educational direction was desirable on the use of vitamin and mineral supplement feeding. Many stockmen were erroneously under the impression that the supplemental feeds which they are using contain these essentials. Consultations with these owners revealed that they were using one type of supplement where another would have been of greater value.

Harvesting conditions and weather play an important part in the vitamin content of winter feeds. Certain essential vitamins

stored in the body during summer months are depleted by the time the vital spring period approaches. Livestock owners who have commenced the practice of vitamin supplement feeding, have reported excellent breeding records and stronger newborn animals. The use of this type of supplement is being adopted routinely by many owners particularly in the winter months, regardless of how good the type of feed available may seem. Veterinarians in the field have been able to give valuable assistance to stockmen with this problem. Laboratory reports to veterinarians on animals forwarded for examination as well as blood and feed analysis provides the guide for these suggestions on diet.

A recent aid in sterility work has been the development of an electrical apparatus for the collection of bull semen. Several veterinarians used these machines for the collection of samples in evaluating the breeding soundness of bulls. Microscopic examination revealed undesirable malformation of the sperm, as well as motility and degree of vigour. The equipment was portable and large numbers of bulls were individually examined on home premises or at veterinary clinics. Some purebred breeders are having these breeding soundness examinations made on bulls before offering them for sale. More complete studies of semen were conducted by the laboratory than those possible with facilities available in the field.

Leptospirosis and trichomoniasis which are two infectious breeding diseases of cattle causing serious problems in other areas, were not confirmed as sterility problems in Alberta during the year.

Vibriosis

This is an infectious venereal disease in cattle first diagnosed in Alberta in 1954. It is characterized by early abortion and abnormal breeding cycles. Field investigations in the past three years have shown the course of this disease and how it may be handled in the large range herd as well as small farm herds. In 1957 a bulletin was published on Vibriosis and the disease was given considerable publicity through meetings, radio broadcasts and press releases.

During the year 1,277 blood samples and 58 tampons were received by the laboratory. Veterinarians and stockmen submitted 199 foeti to the laboratory.

Special laboratory facilities have been prepared so that more intensive study can be given this disease.

EXTENSION

The extension activities under the direction of D. J. G. O'Donoghue include lectures at the University of Alberta and Schools of Agriculture, investigational and service trips, and participation in the supervision of disease control programs.

Investigational and Service Calls

Cattle	112
Swine	58
Sheep	6
Horses	0
Fur Animals	8
TOTAL	184
Meetings	87
Lectures	93

Vital Statistic Report

A vital statistic report comprising morbidity and mortality figures for the common disease conditions of domestic animals in Alberta was instituted in April 1957. Practicing veterinarians are requested to supply the information on a monthly basis. This information allows a more satisfactory assessment of disease problems to be made. While the report covers only a small percentage of the livestock population it does provide an accurate representative picture of the total disease loss.

Investigational Notes

The following are brief reports on disease conditions of current interest and economic importance.

1. **Cattle**

(a) **Vitamin A Deficiency**

This deficiency continues to cause losses in calves and to a lesser extent in feeder cattle. Continuing educational efforts are helping to promote the use of vitamin A supplements, particularly during pregnancy. Low cost supplements are now available and should be used routinely.

(b) **Respiratory Disease**

Pneumonia and the shipping fever complex are probably the most important infectious disease of cattle. Unfortunately biologics are not highly efficient in preventing these losses. Care in the handling and shipping of animals to prevent undue stress is imprtant.

(c) **Clostridial Infections**

Losses from clostridial infections are common. Blackleg is still of frequent occurrence and is usually due to failure to immunize or carelessness in the administration of biologics.

Losses from Clostridial infections other than blackleg or malignant edema are known to occur, and whenever possible are carefully investigated. As a result of this activity Clostridium perfrigens bacterins are being used with success in some areas where they are required.

(d) **Others**

Foot Rot, sterility, mastitis, bloat, and acute indigestion are major problems.

2. **Swine**

(a) **Inspections**

As required by the regulations governing the Advanced Registry Assistance Bonus 32 purebred swine premises were inspected. No applicant was rejected because of infectious disease or unsatisfactory sanitary conditions, although provisional approval only was granted in four instances.

These inspections have indicated the need for better farrowing facilities to provide adequate housing in winter months and which can be readily cleaned and disinfected. Failure to meet these requirements is causing economic loss to the swine producer.

The premises of origin of swine nominated for the Royal Winter Fair were inspected for atrophic rhinitis.

(b) **Erysipelas**

The incidence of this disease continues to increase. Educational efforts have helped to lessen the losses by prompt recognition and early treatment of outbreaks. It is hoped that efficient biologics will become available at which time the routine vaccination of swine will be actively promoted.

(c) **Rhinitis**

While not a problem in purebred herds it is not rare in commercial droves, as evidence by rejections at Auction Markets under government supervision and statistics reports. The only satisfactory control is the disposal of infected herds.

(d) **Glassers Disease**

A disease of young swine, characterized by unthriftiness, deaths, enlarged joints and coughing, with symptoms appearing at approximately four weeks of age. It was diagnosed on several premises in 1957. In one case an infected herd was placed under supervision for a six month period to determine satisfactory treatment and control measures. The information obtained was applied successfully on several other infected premises.

3. **Sheep**

(a) **Enterotoxemia**

In feed lot lambs, losses from overeating or enterotoxemia can be prevented with Clostridium prefrigens bacterion. Their routine use can be recommended.

(b) **Internal Parasites**

On a number of premises losses from roundworm parasites have occurred, the result of failure to incorporate parasite control as a part of management routine.

4. **Horses**

(a) **Equine Encephalomyelitis**

Nine cases were reported in 1957, from the following areas, Acme 2, Stettler 5, Brooks 1 and Pincker Creek 1.

5. **Fur Animals**

(a) **Distemper**

5 premises were quarantined for distemper during the year a decrease from 9 outbreaks in 1956.

(b) **Virus Enteritis**

Alberta remains free of this disease.

For the last several years efforts have been made to keep Alberta fur breeders informed on this condition. The purpose is to encourage them to exercise care in the importation of mink from areas where the disease is known to exist and to ensure prompt reporting of suspected outbreaks in the province.

VETERINARY INSPECTION SERVICE

This service, under the supervision of Dr. H. C. Carlson, is charged with the responsibility of supervising the veterinary inspection of Class "C" Stockyards (Buying Stations), and Class "D" Stockyards (Auction Markets) of the province. The inspection of these premises is directed toward the prevention of the spread of livestock diseases through these establishments. Revisions of the regulations concerning both of these classes of stockyards were made during the year.

Class "C" Stockyards Regulations and Inspection

Periodic inspections are made of these premises to see that the standards required by the regulations are maintained. A revision was made in the regulations which now permits the operators of this class of stockyard to resell livestock to the Class "D" Stockyards as well as to the Class "A" (Edmonton Stockyard) and Class "B" (Packers Stockyard) stockyards. Operators of Class "C" Stockyards are not allowed to sell animals directly back onto a farm or feed-lot.

Class "D" Stockyards Regulations and Inspection

The Class "D" Stockyards are the local livestock auction markets scattered in towns throughout the province. 24 Class "D" Stockyards were under inspection during the year.

Local practising veterinarians are employed by the Department to inspect all livestock presented for sale at these markets. The veterinarians are in attendance each sale day, and in addition to inspection of the livestock, they inspect the premises for general cleanliness and sanitation. The inspectors inspect all the cattle, horses, sheep and swine presented for sale for evidence of an infectious or contagious disease that would be a hazard to a purchaser's livestock. A total of 241,923 was inspected, of which 1.3% was rejected. This is an increase in volume of 86,384 head over 1956. The percentage of rejections has decreased from the 1956 percentage by 1.7%. The rejected animals may be sold through the auction market for slaughter only, or else must be returned to the original premises. 38 veterinarians were employed to conduct the Class "D" Stockyard inspections.

The regulations governing the Class "D" Stockyards were revised during the year. A system was devised by which animals rejected and consigned to the original premises are sprayed with an aerosol spray paint to identify them. This will prevent the possibility of such rejected animals being sold to an unsuspecting buyer. One individual was fined $200 for such an irregularity. A system of tagging cattle and sheep and tattooing swine sold for slaughter only was inaugurated. The following charts illustrate the Class "D" Stockyards, with the total number of animals passed and rejected at each. Cattle were rejected for: mastitis, lump-jaw, pneumonia, ringworm, lice, cancer-eye, pink-eye, foot-rot, urinary calculi, enteritis, pediculosis, warts, coccidiosis, diarrhoea, calf diphtheria, septicemia, stomatitis, blindness, arthritis, lungworm and wooden-tongue.

Hogs were rejected for: rhinitis, pneumonia, mange, dermatitis, erysipelas, arthritis, septicemia and enteritis.

Sheep were rejected for: pneumonia, actinomycosis, lungers, sheep tick and verminous pneumonia.

Horses were rejected for: strangles.

A meeting of all the inspectors involved in Class "D" Stockyards inspection was held. This meeting discussed some of the problems of inspection and their solution resulting in the revision of the regulations.

The co-operation extended by the owners of the stockyards in the application of the Class "C" and Class "D" stockyard regulations has been excellent.

The following chart shows the inspections activities:

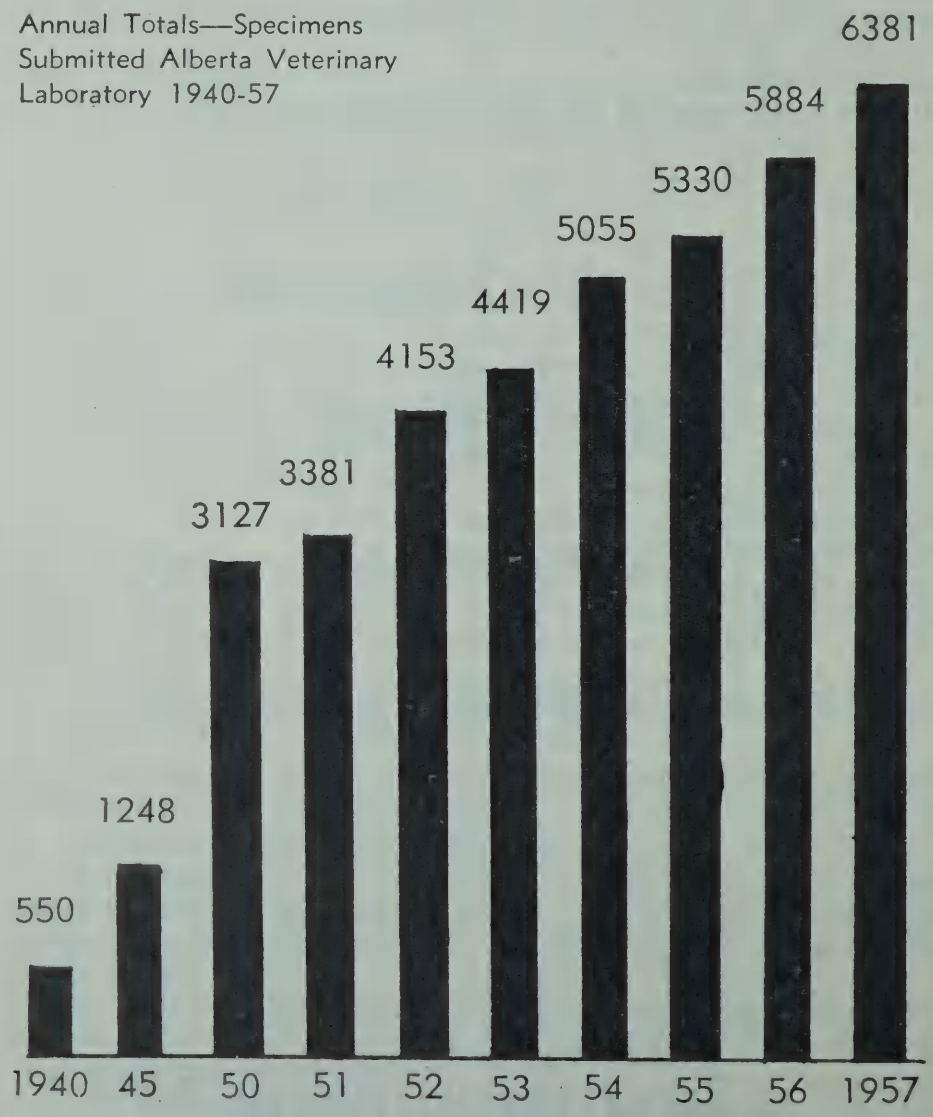
CLASS "D" STOCKYARDS

Stockyard	Cattle		Swine		Sheep		Horses		Total	
	Passed	Rejected	Passed	Rejected	Passed	Rejected	Passed	Rejected	Passed	Rejected
Market "A"	62	2	220	14	.....	.....	.....	.....	261	19
Market "B"	1,827	17	3,584	109	15	.....	88	.....	5,514	126
Market "C"	410	8	1,818	131	55	.....	.....	.....	2,283	139
Market "D"	9,912	59	3,295	35	5,809	6	79	.....	19,095	100
Market "E"	5,372	69	9,838	237	77	12	51	.....	15,338	318
Market "F"	3,015	45	6,618	285	7	.....	190	2	9,830	332
Market "G"	1,235	5	663	27	55	.....	56	.....	2,009	32
Market "H"	79	.....	267	6	.....	.....	16	.....	361	6
Market "I"	4,213	39	7,373	90	81	.....	224	.....	11,891	129
Market "J"	2,045	17	2,185	67	25	.....	24	.....	4,279	84
Market "K"	13,491	93	.....	.....	.....	.....	2	.....	13,493	93
Market "L"	7,584	7	17,050	436	346	2	381	.....	25,361	445
Market "M"	2,078	21	3,025	131	96	.....	45	.....	5,244	152
Market "N"	3,020	32	8,863	464	67	.....	152	.....	12,102	496
Market "O"	21,530	120	39,670	1,278	1,518	.....	941	.....	63,659	13,98
Market "P"	15,352	70	9,247	153	33	.....	697	.....	25,329	223
Market "Q"	1,546	43	6,205	209	175	.....	15	.....	7,941	252
Market "R"	2,596	5	1,070	4	50	.....	13	.....	3,729	9
Market "S"	998	5	945	37	70	.....	.....	.....	2,020	42
Market "T"	45	1	463	15	.....	.....	23	.....	531	16
Market "U"	2,249	22	549	65	2	.....	76	.....	2,876	87
Market "V"	162	3	57	12	.....	.....	73	.....	292	15
Market "W"	461	1	916	7	.....	.....	.....	.....	1,377	8
Market "X"	1,877	9	590	12	89	.....	9	.....	2,565	21
TOTALS	101,158	696	124,491	3,824	8,577	20	3,155	2	237,616	4,542
TOTAL INSPECTED	101,854		128,315		8,597		3,157		241,923	

ANIMAL DISEASES SECTION

This section is directed by Dr. G. S. Wilton, with assistance from Dr. H. N. Vance during approximately six months of the year. The chief function of the animal disease section is to give a diagnostic service to veterinarians and livestock owners. It is important that the diagnosis is made as rapidly as possible, yet maintains the accuracy essential to effective disease control and prevention measures. The laboratory performs many tests not possible in the field, and these efforts result in prevention of many disease losses which otherwise might continue unchecked.

The total number of specimens examined rose to 6,381 from 5,884 in 1956, an increase of over 8%. It is felt that this increase indicates an appreciation of the value of laboratory services in livestock disease management. The total number of submissions was 2,620 and indicates that a similar number of farms were served. The following chart shows the steady increase in specimens submitted during the years from 1940 to 1957.



Thirty percent of this year's submissions were from cattle, thirty-six percent from swine, and four percent from sheep and horses, but a total of 24 animal species were examined as listed in the specimen table below.

Species	Live	Dead	Portions	TOTALS
Antelope	.....	.....	1	1
Big Horn Sheep	.....	1	.....	1
Cat	1	27	25	53
Cattle	35	82	1,648	1,765
Chinchilla	1	35	9	45
Coyote	.....	.....	2	2
Deer	.....	.....	5	5
Dog	2	52	268	322
Elk	.....	.....	8	8
Goat	.....	.....	3	3
Guinea Pig	2	14	.....	16
Horse	1	2	45	48
Mink	48	209	5	262
Monkey	.....	1	4	5
Moose	.....	1	50	51
Mouse	.....	2	2	4
Mura	.....	6	.....	6
Rabbit	.....	5	.....	5
Rat	.....	.....	2	2
Rocky Mtn. White Fish	.....	1	.....	1
Sheep	2	27	97	126
Skunk	.....	1	.....	1
Swine	133	396	2,196	2,725
Weasel	.....	1	.....	1
Wolves	.....	6	.....	6
Blood Samples	.....	.....	.....	142
Fecal Samples	.....	.....	.....	15
Feed Samples	.....	.....	.....	98
Milk Samples	.....	.....	.....	440
Semen Samples	.....	.....	.....	31
Urine Samples	.....	.....	.....	31
Water Samples	.....	.....	.....	65
Tampons	.....	.....	.....	58
Miscellaneous	.....	.....	.....	43
TOTALS	.....	.....	.....	6,381

Blood Testing

In addition to the specimens above, 26,367 bovine blood samples, (an increase of over 3,000) were tested for brucellosis, and 1,277 were prepared and shipped to the Ontario Veterinary College for vibrionic abortion testing. The results of the brucellosis testing appear under the report of Brucellosis control.

Milk Samples

440 bovine milk samples were examined for evidence of mastitis, and in many cases the examination included a test to select the drug which would be most effective in treatment. A bacterin for use as an aid in controlling mastitis was prepared for use in 6 herds. Organisms isolated from positive milk samples are listed below.

Organism Isolated	Number
Staphylococcus spr.	120
Streptococcus sp.	39
Corynebacterium sp.	5
Escherechia coli (hemolytic)	5
Pasteurella multocida	1
Mixed cultures	34
Total	204

Foetus Examinations

The problem of infertility and abortions in livestock is of major importance, especially in cattle, and laboratory examination of aborted feti is often essential in diagnosing the cause. 199 feti were examined last year, with Bangs disease found as the cause of abortion in 34; vibriosis in 4; and Corynebacterium infections in 7. Another useful tool for infertility diagnosis is the vibrio tampon

test for which 100 sponges were prepared and sent to veterinarians. 58 specimens were forwarded to the Federal Branch Laboratory at Vancouver for final testing.

Biological Products

Various autogenous bacterins and vaccines (as listed below) were prepared on request of veterinarians or livestock owners. These products are made up from organisms or tissues taken from animals on the farm where the product is to be used, and in many cases appear to be of benefit where other control measures have failed.

Product	Amount	Species	Disease
Autogenous bacterin	1,850 cc's	Bovine	Mastitis
Autogenous bacterin	3,900 cc's	Bovine	Pasteurellosis
Autogenous bacterin	2,500 cc's	Porcine	Paratyphoid
Autogenous bacterin	500 cc's	Chinchilla	Listeriosis
Autogenous bacterin	50 cc's	Canine	Local Infection
Autogenous vaccine	30 cc'c	Canine	Papillomatosis
Autogenous vaccine	2,060 cc's	Bovine	Papillomatosis
Autogenous vaccine	7,660 cc's	Mink	Distemper

Laboratory Animals

Experimental animals are essential for work with Blackleg and allied diseases, Brucellosis, pathogenicity tests and under many other conditions. A colony of approximately 300 guinea pigs and 50 mice is maintained for use in diagnostic work, and last year 566 guinea pigs, 59 mice, 2 mink, 2 swine, 1 calf and 3 rabbits were used for disease transmissions trials or feeding trials. Careful examination of these animals, along with appropriate cultures and serological work, is a necessary part of the processing of many submissions.

Wildlife Specimens

These generally fall into two classes: samples from big game submitted in an effort to determine whether the carcass is fit for human consumption, or samples from various species submitted in an effort to determine the cause of illness or death. In the former, the various tapewarm cysts are often the factor placing the edibility of the meat in question, while in the latter a great variety of conditions are found. Specimens are submitted by the staff of the Provincial Game Branch, hunters, and other interested parties. A total of 59 specimens were examined during the year. Information gained from examination of these specimens may be helpful in controlling zoo losses, and in wildlife management.

Meat Samples

The lack of abattoir inspections and/or veterinary services in many parts of Alberta results in a number of meat samples being submitted to the laboratory to determine their fitness for human consumption. The dairy branch refers many of these specimens. A total of 41 samples were examined last year and 15 were judged unfit for human consumption.

Other Activities

While field investigations from this section are very limited, 9 such trips in the immediate vicinity of Edmonton were made. Two meetings were addressed on mink diseases, and one on swine diseases. One interview was recorded for radio, the subject being mucosal disease and the laboratory activities generally. The annual animal disease pathologists conference was attended, and material for presentation on 4 subjects was prepared.

Disease Conditions

The laboratory examines sufficient numbers of specimens from a very large area that a general picture of disease problems in the province can be envisioned from an examination of our records. It should be pointed out however, that this picture is not accurate in detail since in many diseases, specimens are seldom submitted for laboratory confirmation (e.g. bloat, urinary calculi, foot-rot). Following are some of the more noteworthy conditions encountered.

Cattle

Mastitis continues as the major disease problem in many dairy herds. Blackleg, Malignant Oedema, and Clostridium enterotoxemias (totalling 124 cases) are the major causes of death in growing cattle. Failure to vaccinate properly is responsible for most of the losses from Blackleg and Malignant Oedema, and a combination of vaccination and good feeding practices will control enterotoxemia losses. Another Clostridium infection, baciallary hemoglobinurea or red-water disease was seen in 1 herd.

Pneumonias, (34 cases) mostly of the shipping fever type, were again a frequent cause of loss through death or weight loss. Ten cases of mucosal disease were recorded, and 4 suspected cases of Infectious Bovine Rhinotracheitis (red-nose) indicate that this disease may become a problem for Alberta feed-lot operators, as it has in Colorado and other states. Various manifestations of Vitamin A deficiency were seen in 31 specimens, and pulmonary emphysema, an intoxication of uncertain origin, in 11 specimens.

Swine

Gastro-enteritis and its complications, due primarily to faulty feeding, was the most frequent diagnosis in swine. Among infectious disease erysipelas (99 cases), pasteurellosis (63), virus pneumonia (12), Glasser's disease (23), atrophic rhinitis (18), and Salmonella infections (13) were the most common. Pneumonias of origin other than those mentioned above accounted for 159 cases.

Diseases primarily of nutritional origin were very common and deficiencies in Vitamin A led the list (72) along with iron-deficiency anemia (36).

Other common conditions were gut edema (46)), necrotic enteritis (16), and mange.

Sheep

Pulpy kidney disease, stomach-worms and other parasites, and pneumonias are the most frequent conditions seen in sheep. Several heavy infestations with lung worms were seen in sheep this year.

Fur Bearing Animals

Distemper is the most devastating disease commonly effecting mink, and 5 ranches had outbreaks during the year. In two of these cases the disease recurred after a lapse of several months due to faulty vaccination procedures. No virus enteritis of mink has yet been diagnosed in Alberta.

Listeriosis of chinchillas was diagnosed on 8 ranches causing very heavy losses in one of these cases.

Poisons

We are indebted to the Provincial Analyst for examining 440 specimens submitted by this section during the past year. The more prominent poisons detected were:

Arsenic	49
Strychnine	11
Lead	4
Nitrate	3

Careless handling of insecticides and other farm chemicals, many of which are potentially poisonous, is probably responsible for many of these cases.

MICROPATHOLOGY SECTION

This section, under the direction of Dr. F. E. Graesser, is primarily concerned with the preparation and examination of sections produced from diseased tissues. The material, which is submitted by the Animal and Poultry disease departments of the Laboratory, as well as by practising veterinarians, is processed and examined microscopically for the purpose of interpreting and evaluating any pathological changes which may be evident. Many disease conditions produce characteristic changes in the tissues which may be recognized only by a microscopic examination, and frequently a diagnosis of a specific disease can be made from the histopathological examination alone. Certain virus diseases, such as distemper in mink and dogs, infectious canine hepatitis, and virus pneumonia of swine, fall into this category. The identification and classification of the many types of tumours which are encountered also is the responsibility of this section.

In addition to the histopathological work, this section produces photographic slides and prints for use within the Branch, as well as preserving and mounting gross specimens for display and educational purposes.

1. Histopathological Work

A total of 1,970 tissues were processed during the year, from which 2,143 sections were cut and examined microscopically. A breakdown, by species, of the work accomplished is presented in the following table:

TABLE I

DOMESTIC ANIMALS

Bovine	252
Canine	141
Equine	9
Feline	63
Porcine	357
Ovine	21
*Miscellaneous	29
TOTAL	872

*Includes: Coyote, moose, deer, monkey, goats, antelope, elk, fish, shunk.

POULTRY

Chicken	629
Turkey	97
*Miscellaneous	91
TOTAL	817

*Includes: Budgerigar, canary, crow, pheasant, falcon, hawk, duck, crane, finch.

FUR-BEARING ANIMALS

Mink	273
Chinchilla	8
TOTAL	281
GRAND TOTAL	1,970

Again, an increase in the volume of work accomplished over previous years is evident, as shown in Table II.

TABLE II

TISSUES PROCESSED SINCE 1953

	1953	1954	1955	1956	1957
Domestic Animals	375	468	589	712	843
Fur-bearing Animals	317	223	218	233	281
Poultry	151	359	303	463	726
Miscellaneous	18	15	35	82	120
TOTAL	861	1,065	1,145	1,490	1,970

Of 167 mink bladders examined, 44 revealed the presence of inclusion bodies wich are considered to be diagnostic for distemper. These represent outbreaks of this disease on 5 different premises.

Neoplastic conditions accounted for 152 of the submitted specimens. Of these, 105, or approximately 69%, were found to be malignant.

2. Preparation of Material for Extension Purposes

During the year, approximately 100 colour transparencies and 15 black-and-white slides were produced and added to the series of animal and poultry disease slides. Over 150 photographic prints were prepared at the request of members of the professional staff for purposes of reference and to illustrate scientific papers.

Replacement of fluid and repairs to the plastic containers were effected on 15 previously prepared display specimens.

In collaboration with the Poultry Pathologist, Dr. C. H. Bigland, a paper describing an avian compound monster was prepared and published in the Canadian Journal of Comparative Medicine.

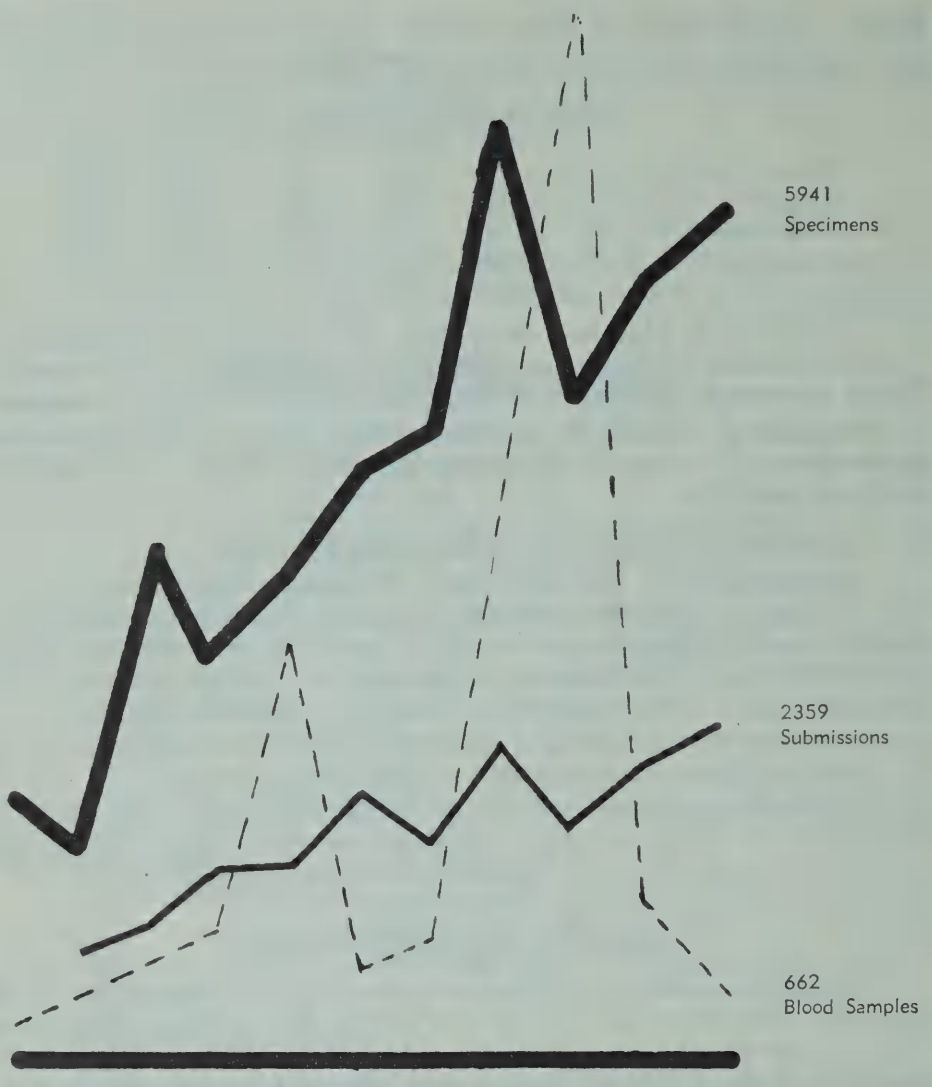
POULTRY DISEASE SECTION

The poultry disease section is under the direction of Dr. C. H. Bigland, assisted by Dr. H. N. Vance for 5 months in the spring "rush" period and by Dr. G. R. Whenham who conducted the majority of the PPLO-HI testing and the examination of suspected non-pullorum reactors. Primarily this section is responsible for the accurate diagnosis of poultry diseases. Specimens for diagnosis are received from all points in Alberta, submitted by veterinarians, farmers, hatcherymen, feed manufacturers and others connected with poultry management.

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. Disease prevention is of the utmost importance and this is stressed by the personnel in all letters, bulletins, personal contacts and meetings.

The accompanying graph illustrates the increasing volume of work handled by the poultry section over the past 10 years. This increase for 1957 over 1956 figures included:

Number of specimens or portions examined	5,941 (approx. 8% increase)
Number of persons submitting specimens	2,359 (approx. 7% increase)
Number of letters sent	5,123 (approx. 74% increase)
Number of telegrams sent	509 (approx. 74% increase)
Number of blood samples	622 (approx. 50% decrease)



POULTRY
1947 - 1957

Approximately 200 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
post-mortem
bacteriological
serological
virological
hematological
microscopic
micropathological
parasitological
fungus
chemical

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.

Poultry Disease Picture

The outstanding feature of the poultry disease picture is Alberta for 1957 was the lack of any one widespread or epidemic disease

condition, even though more specimens were examined from a greater number of premises. This reflected a fairly healthy poultry population throughout the province. Owners of sick birds are becoming aware that early, accurate diagnosis of disease results in lower death rate and decreased loss in income.

There was a decline in respiratory infections in baby birds, possibly as a result of a two year cycle experienced previously assisted by fairly widespread infectious bronchitis vaccination. Some cases of infectious bronchitis were seen in adult flocks. Chronic Respiratory Disease appeared to be on the increase, especially in broiler flocks and many adult flocks. There was a suggestion, however, that the harmful effects in infected flocks were reduced.

As in past years many poultry losses appeared to be due directly or indirectly to faulty feeding, management and sanitation. The majority of such losses occurred in the small "farm flocks" as larger poultry operators pay more attention to these factors.

Detailed statistics on disease conditions will be included in the report of the Veterinary Services Branch. However, the following conditions were considered worthy of special attention.

Newcastle Disease

One case of Newcastle Disease was reported in Federal Governmetn statistics as occurring in a hatchery in Alberta. No Newcastle Disease was confirmed in specimens handled at this laboratory.

Infectious Bronchitis

A diagnosis of infectious bronchitis was made in 5 adult laying flocks. The outbreak resulted in a rapidly spreading respiratory infection, cessation of egg production and a lowered percent production following recovery.

A survey of approved flocks by the Poultry Branch indicated that 55% of approved flocks had been vaccinated against infectious bronchitis, compared with 16% in 1956. In most cases this was done at the insistence of the Hatchery contracting for eggs from these flocks.

Figures on the importation of vaccine in Alberta indicated that 401,250 doses of infectious bronchitis vaccine, 270,100 doses of Newcastle vaccine and 178,000 doses of combined vaccine were distributed in the province in 1957. A large portion of this vaccine was used in broiler flocks.

Chronic Respiratory Disease

The diagnosis of Chronic Respiratory Disease (CRD) is based on positive pplo culture, pplo haemagglutination-inhibition blood testing and a typical clinical picture. 193 cases were diagnosed in 1957 from 74 farms, an increase of 10 premises affected. Aside from blood samples submitted for pplo-HI testing; 455 blood samples from routine cases suspected of being CRD were examined. Of these 278 were positve; 30 suspicious, and 147 were negative to pplo-MI testing.

Avian Tuberculosis

Good poultry management and sanitation can bring avian tuberculosis under control. However, in Alberta it is still costing Alberta poultrymen, hog raisers and the consuming public many thousands of dollars annually. Avian tuberculosis was diagnosed

in 167 birds from 113 farms in 1957, compared to 175 birds from 120 farms in 1956. Seven of the 1957 isolations were from pheasants.

Carbon Monoxide Poisoning

Poisoning with carbon monoxide resulted in the loss of more bay chicks and poults than any one specific disease condition. The majority of such losses could be eliminated by attention to brooding equipment and adequate ventilation. 155 cases were diagnosed in 1957 compared to 188 cases in 1956.

Paratyphoid

The number of paratyphoid infections increased from 352 specimens from 102 farms in 1956 to 442 specimens from 112 farms in 1957. These include 5 isolations from budgerigars and one each from a Golden finch and an American Long Earred Owl.

As these organisms are transmissable 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 1957.

SALMONELLA PARATYPHOID ISOLATIONS 1957

S. oranienburg	1
S. typhimurium	48
S. thompson	31
S. bareilly	14
S. anatum	1
S. bredeney	7
S. newington	3
S. tennesse	1
S. heidelberg	6
S. derby	1
S. montevideo	1
Not typed	2
TOTAL	116

Pullorum

A slight decrease in the number of Salmonella pullorum isolations was found in 1957. This organism was isolated from 117 chickens, chicks and poults from 59 premises in 1957, compared with 121 specimens from 60 premises in 1956. Many isolations being made from adult birds submitted for pullorum examination.

A statistical check indicates that only 9 chick flocks were affected this past year whereas 19 flocks of poults had pullorum infection. A follow up on the poult infections by the Poultry Branch revealed that 10 of these originated in other provinces, 7 of these from one hatchery in a neighboring province.

The pullorum testing program carried out by the Provincial Poultry Branch is highly instrumental in the lowered incidence of pullorum in Alberta.

In order to check on prevailing strains of S. pullorum so that testing antigens can be standarized, all such isolations were submitted to the Ontario Agricultural College for typing. The following table lists the typing of S. pullorum isolated in Alberta since 1950.

	1950	1951	1952	1953	1954	1955	1956	1957
Standard	22	34	70	58	86	34	65	46
Variant	2	5	39	21	48	10	28	8
Intermediate	9	7	11	30	9	31	0	1
Not Typed	0	0	0	0	0	10	4	3
TOTALS	33	46	120	109	143	85	97	58

Non-Pullorum Reactor Suspects

Post-mortem, bacteriological and serological examinations were made on 103 birds submitted by the Poultry Branch. These were showing questionable reaction to the whole blood test for pullorum. S. pullorum was isolated from 25 or 24% of the birds submitted which accounted for a large portion of the above pullorum isolations.

Fowl Typhoid

This condition was diagnosed in chickens and turkeys from 19 farms in 1957 compared with 23 in 1956. An extension of the "fowl typhoid" area east of Edmonton was evident with one isolation being made from Magrath in southern Alberta.

Examination of Birds Under Test

To correctly evaluated tests conducted on birds in the Random Sample Test and at the University of Alberta; the cause of all mortality should be determined. To assist in such a program, 109 birds were examined from the Random Sample Tests conducted by the Provincial Poultry Branch and 195 birds were examined from the University of Alberta Poultry Farm.

Newer Disease Conditions

Avian Encephalomyelitis—eleven cases were diagnosed in 1957, compared with 3 in 1956. Most of the cases occurred in broiler chicks.

Dissecting Aneurism—was seen in 3 flooks of young turkeys in 1957. The condition causes sudden deaths by internal hemorrhage in turkeys. The cause is as yet unknown.

Round Heart Disease—a heart degeneration of chickens was diagnosed in 14 cases in 1957, compared with 15 in 1956.

Infectios Hepatitis—a liver condition of chickens was diagnosed in 4 flocks in 1957.

Extension

A twenty minute motion picture in color and sound entitled "Talking Poultry Diseases" was completed in 1957. Two copies of the film was made available for showing to farm audiences depicting the spread and control of poultry diseases and an explanation of sound sanitary practices. The narration was by Dr. H. C. Carlson, technical assistance by Drs. E. E. Ballantyne and C. H. Bigland and production by Matan Productions of Edmonton.

The annual Hatcherymen's Short Course, sponsored by the Veterinary Services and Poultry Branches was addressed. Talks on Poultry Diseases were given to five producers groups and three field investigations undertaken. The annual lecture and demonstration to the Poultry Inspectors Short Course was given. The Veterinary Mid-Winter Conference in Red Deer and annual meeting of the Alberta Veterinary Medical Association in Lethbridge were attended. Fifteen leaflets of information on poultry diseases were prepared. Two courses in Civil Defence Radiological monitoring were attended at Edmonton and Arnprior, Ontario.

Scientific Presentations

Two papers were published in the Canadian Journal of Comparative Medicine entitled "An Avian Compound Monster" and "The Isolation of Erysipelothrix Rhusiopathiae from a Golden Eagle". Five papers on poultry diseases were presented at the Poultry Pathologist's Conference in Ottawa.

Experimental

In conjunction with experiments conducted on crows by the late Professor Wm. Rowan; experiments were conducted on the possible role of crows in the transmission of some of the common poultry diseases. It was found that crows can be mechanical carriers of fowl typhoid and parathyphoid infections.

SPECIMEN TABLE

Species	Live	Dead	Portion	TOTAL
Chickens	1,484	1,942	148	3,574
Turkeys	390	1,447	39	1,876
Budgeriger	4	21	13	39
Canaries	.....	6	.....	6
Alberta Sandhill Crane	1	1	.....	2
Crows	8	1	.....	9
Morning Dove	1	1	.....	2
Domestic Duck	.....	1	.....	1
Wild Duck	2	11	6	19
Duckling	1	1	.....	2
Prairie Falcon	.....	2	1	3
"Peales" Falcon	1	.....	.....	1
Perigrine Falcon	.....	.....	1	1
Golden Finch	.....	12	1	13
Lesser Canada Goose	1	.....	.....	1
Goose	.....	3	.....	3
Goslings	.....	2	.....	2
Goshawk	.....	1	.....	1
Ring Billed Gull	.....	5	.....	5
Grouse	1	12	1	14
Rough Legged Hawk	.....	1	.....	1
Red Tailed Hawk	.....	1	.....	1
Blue Heron	.....	1	.....	1
Mynah Bird	.....	1	.....	1
American Long Earred Owl	.....	.....	1	1
Hungarian Partridge	.....	2	.....	2
Peacock	.....	.....	2	2
Pheasants	17	37	2	56
Pigeon	1	4	.....	5
Sparrows	1	2	.....	3
Whistling Swan	.....	1	1	2
Cedar Wax Wing	1	.....	.....	1
Fish Parasite	.....	.....	1	1
Water	.....	.....	69	69
Feed	.....	.....	92	92
Eggs	.....	.....	47	47
Miscellaneous	.....	.....	80	80
TOTALS	1,914	3,519	505	5,939
BLOOD SERUM	.....	.....	.....	622
GRAND TOTAL	.....	.....	.....	6,561

Report of the Schools of Agriculture

J. E. HAWKER, Superintendent

J. E. Birdsall, Principal, Olds School
N. N. Bentley, Principal, Vermilion School
P. Jamieson, Principal, Fairview School

For the 1956-57 term, graduation exercises were held at each of the three Schools on April 10th. On this date Diplomas of Graduation were presented as follows:

	Olds	Vermilion	Fairview	Total
Diplomas in Agriculture	53	37	20	110
Diplomas in Home Economics	34	21	13	68
	87	58	33	178

The total of 178 graduates is 3 above that of the number graduating the previous year.

Effective in the fall of 1952 a special arrangement was made between the Department of Agriculture and the Vermilion School Division whereby certain facilities of the Vermilion School of Agriculture were leased to the Vermilion School Division from September 1st to October 18th and from April 1st to June 30th, 1953, for the purpose of offering a shop course for boys and a home economics course for girls to junior high school students. In the first year this involved the services of two instructors at the School of Agriculture.

In the fall of 1953 the plan was expanded to include two instructor in shop subjects and two in home economics at the Vermilion School and a similar plan was put into operation at the Fairview School.

In addition to the foregoing cooperative arrangements, a plan was worked out with the Town of Vermilion whereby the services of the instructor in recreation and mathematics at the School of Agriculture were made avaliable to the Town for the summer months for the purpose of organizing a recreation program. These arrangements operated satisfactorily through 1954 and 1955.

Effective only at the Vermilion School in the fall of 1956 arrangements were made to extend part of the teaching exchange into the regular School of Agriculture term.

Plans, as outlined above, were operative at the Vermilion and Fairview Schools through 1957. This has made for substantially greater use of the School of Agriculture facilities at both Vermilion and Fairview as indicated by the following table:

JUNIOR HIGH SCHOOL STUDENTS RECEIVING ISTRUCTION IN HIGH SCHOOL OPTIONS AT SCHOOLS OF AGRICULTURE

Period	Vermilion Students		Fairview Students		Total
	Shop	Home Ec.	Shop	Home Ec.	
*Fall, 1952	69	73	.....	.....	142
†Spring, 1953	52	56	.....	.....	108
Fall, 1953	133	135	.....	.....	268
Spring, 1954	146	160	.....	.....	306
Fall, 1954	127	130	67	74	398
Spring, 1955	148	154	66	74	442
Fall, 1955	112	116	105	116	449
Spring, 1956	159	165	102	113	539
Fall, 1956	108	112	91	84	395
‡Winter, 1956	20	21	.....	.....	41
Total	1,074	1,122	431	461	3,088

Note: *Fall Term—6 weeks
†Spring Term—10 weeks
‡Winter Term—24 weeks

The course for Indian boys and girls planned for the Olds School in co-operation with the Indian Affairs Branch of the Federal Department of Citizenship and Immigration was not held during 1957. Not enough applications were received to warrant offering the course.

The annual staff conference for all three Schools was held at the Vermilion School October 21st and 22nd. Excellent workshops and discussions were held on Examinations—the setting and marking of them, Teaching Methods and Techniques and Staff-Student Relations. The Superintendent gave a brief history of the Schools of Agriculture and discussed policies and regulations under which the Schools operate.

There were thirteen staff changes in 1957. This is rather a larger number than usual and was due in part to instructional staff leaving to do post-graduate work or improve their qualifications.

Board of Agricultural Education

The annual meeting of the Board was held in Edmonton, May 3rd, 1957. Considerable discussion took place with respect to per capita costs of students at the schools and the trend toward lower registration in recent years. The Secretary was instructed to supply statements of per capita costs at Schools for the 1956-57 term and, if possible, with the same data from similar institutions in Canada.

Opinion was expressed by the Principals on the effect of the Board's recommendation of 1956 that all students, registering at the Schools as from October 1956, be required to have Grade IX standing, with the possible exception of older students. They reported only three stuents who were not able to meet the new standard and felt that the ruling would do much to improve the standing of the Schools. In this connection, Mr. Evenson reported that, under Adult Privileges, people over 20 years of age were allowed to write Grade XII examinations and those over 18 could write Grade IX examinations whenever they felt qualified to do so. He added that the Department of Education provided evaluation and guidance service for any individual requesting such assistance.

It was recommended by the Board that:

(a) Effective in the fall of 1957, student transportation assistance as presently established for the Schools be abolished.

(b) Effective in the fall of 1957, mathematics be eliminated from the Second Year Course in Agriculture and that two of these periods be devoted to a workshop in Farm Management, and the third to the Farm Building Course.

(c) The regulation pertaining to the use of liquor by students at the Schools be redraughted to read: "'The use of intoxicating liquor by students while attending the School is forbidden. Any student found having it in his possession or under its influence will be required to withdraw".

(d) The Schools of Agriculture be kept up to modern standards and at least the equal of other educational institutions.

The 1957-58 Term

The trend toward lower enrollment for schools offering vocational agricultural courses reported last year seems to have levelled off. In Alberta, the total decrease from 1955-56 to 1956-57 in Agriculture was 16% while from 1956-57 to 1957-58 it dropped to 7%.

In the three Alberta Schools the total decrease for girls in Home Economics from 1955-56 to 1956-57 was 5% and from 1956-57 to 1957-58 it was 49%. It would appear that the One Year Course for girls instituted in the fall of 1956, and which replaced the Two Year and the Two-in-One course previously offered, has not attracted the enrollment which had been hoped for.

Enrollment figures at the opening of the term on October 29th were as follows:

	Olds	Vermilian	Fairview	Total
Home Economics:				
First Year	11	14	14	39
Agriculture:				
First Year	31	27	27	85
Second Year	28	18	13	59
Two-in-One	30	18	7	55
Totals	100	77	61	238

Attendance at Fairview continued to improve with an increase this year of 13% over last year's registration.

Maintenance and Construction

Major construction projects are being kept to a reasonable minimum. At Olds, one new residence is being completed and materials for a feed plant were purchased. Small construction items are referred to under individual school reports.

Major and emergency maintenance at the Olds School involved refitting the water tank with a new base and erection of a new stack on the heating plant. Conversion to gas heating in the boiler room was completed. At Vermilion the Mechanics classroom and Electrical Laboratory were remodelled. It was also necessary to make extensive repairs to and provide support for the ceiling in the Science Laboratory due to rot in the joists. Normal maintenance was carried out at all of the Schools.

Summer Program

Use of the Schools by organized groups during the summer continues to increase. Throughout the year for the Olds School alone, it is estimated that five thousand people visited the School as part of such groups. Regular programs for Farm Women's Week and 4-H Club Week are offered each summer at all three Schools. In addition other groups accommodated included 4-H Leaders' Conferences, Rural Musical Festival, District Conventions for the Farmers' Union of Alberta and the Alberta Women's Institutes, Alberta Hatchery Egg Producers Association, Fieldmen for the Veterans Land Act, 4-H Elimination Contests, A.W.I. Girls' Clubs,

Alumni groups, C.G.I.T. Conferences, Farm Planning Extension group, Extension Welding Course, Apprenticeship Welding Courses, High School Shop and Home Economic classes and Teachers' Conventions.

Appreciation

Liberal support for the work of the Schools continues to be provided by a large number of commercial concerns, organizations and individuals. Much of this support is in the form of scholarships and bursaries. The Department wishes to express its very sincere appreciation to all of these people for their very welcome contributions.

Officials from the University of Alberta and from the Federal Government have aided materially in the work of the Schools. Their co-operation is very much appreciated.

The active programs of Alumni groups at each School is greatfully acknowledged particularly in the field of student recruitment.

Throughout the year the co-operation of the Principal and staff at each School has been of the finest. Their efforts, often far beyond the line of duty, are greatfully acknowledged.

ATTENDANCE AT AND GRADUATES OF SCHOOLS OF AGRICULTURE AND HOME ECONOMICS 1913-1957

(Exclusive of Junior High School Students)

Note: (1) Attendance figures for each year are those for the class beginning that fall, e.g., 1951 attendance is the 1951-52 class.

(2) Graduation figures for each year are graduates of the spring of that year, e.g., 1951 graduates are the graduates of the 1950-51 term.

Year	OLDS		VERMILION		FAIRVIEW		CLARESHOLM		RAYMOND		GLEICHEN		YOUNGSTOWN		TOTAL	
	Attendance	Graduation	Attendance	Graduation	Attendance	Graduation	Attendance	Graduation	Attendance	Graduation	Attendance	Graduation	Attendance	Graduation	Attendance	Graduation
1913	104	.....	55	.....	.....	.....	86	.....	.....	.....	.....	.....	.....	.....	245	.....
1914	119	.....	55	.....	.....	.....	105	.....	.....	.....	.....	.....	.....	.....	279	.....
1915	165	30	58	23	.....	.....	117	35	.....	.....	.....	.....	.....	.....	340	88
1916	134	25	71	18	.....	.....	100	21	.....	.....	.....	.....	.....	.....	305	64
1917	147	21	75	23	.....	.....	107	22	.....	.....	.....	.....	.....	.....	329	66
1918	Flu	37	Flu	24	.....	.....	Flu	13	.....	.....	.....	.....	.....	.....	Flu	74
1919	159	Flu	*	.....	.....	.....	69	Flu	.....	.....	.....	.....	.....	.....	228	Flu
1920	163	33	35	.....	.....	.....	90	7	102	.....	49	.....	40	.....	479	40
1921	114	57	39	.....	.....	.....	50	24	56	.....	31	.....	41	.....	331	81
1922	149	41	55	14	.....	.....	74	17	55	12	.....	10	.....	11	333	105
1923	132	56	*	25	.....	.....	70	28	.....	10	.....	.....	.....	.....	202	119
1924	191	58	closed	.....	.....	.....	83	23	.....	.....	.....	.....	.....	.....	274	81
1925	194	44	92	.....	.....	.....	97	19	.....	.....	.....	.....	.....	.....	383	63
1926	210	60	130	.....	.....	.....	78	27	104	.....	.....	.....	.....	.....	522	87
1927	274	70	150	31	.....	.....	97	20	84	36	.....	.....	.....	.....	605	157
1928	243	97	176	35	.....	.....	78	23	64	37	.....	.....	.....	.....	561	192
1929	227	80	177	46	.....	.....	61	31	95	21	.....	.....	.....	.....	560	178
1930	145	62	120	45	.....	.....	41	22	79	21	.....	.....	.....	.....	385	150
1931	134	51	100	44	.....	.....	.....	17	.....	29	.....	.....	.....	.....	234	141
1932	132	44	98	49	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	230	93
1933	156	50	.....	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	156	87
1934	185	74	165	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	350	74
1935	206	69	169	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	375	108
1936	188	74	141	65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	329	139
1937	192	80	164	59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	356	139
1938	216	69	149	62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	365	131
1939	171	121	135	62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	306	183
1940	168	73	110	82	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	278	155
1941	178	75	.....	54	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	178	129

Year	OLDS		VERMILION		FAIRVIEW		CLARESHOLM		RAYMOND		GLEICHEN		YOUNGSTOWN		TOTAL	
	Attendance	Graduation	Attendance	Graduation	Attendance	Graduation	Attendance	Graduation	Attendance	Graduation	Attendance	Graduation	Attendance	Graduation	Attendance	Graduation
1942	164	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	164	77
1943	200	72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	72
1944	182	74	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	182	74
1945	204	84	120	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	324	84
1946	193	92	214	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	407	92
1947	181	124	175	112	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	356	236
1948	198	102	193	86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	391	188
1949	190	103	189	88	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	379	191
1950	182	100	185	92	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	367	192
1951	170	100	164	90	51	.....	.....	.....	.....	.....	.....	.....	.....	.....	385	190
1952	163	81	162	76	88	.....	.....	.....	.....	.....	.....	.....	.....	.....	413	157
1953	153	80	159	82	82	30	.....	.....	.....	.....	.....	.....	.....	.....	394	192
1954	157	75	158	82	55	45	.....	.....	.....	.....	.....	.....	.....	.....	370	202
1955	161	90	123	81	52	27	.....	.....	.....	.....	.....	.....	.....	.....	336	198
1956	142	89	95	62	54	24	.....	.....	.....	.....	.....	.....	.....	.....	291	175
1957	100	87	76	58	61	33	.....	.....	.....	.....	.....	.....	.....	.....	237	178
	7,536	2,981	4,532	1,746	443	159	1,403	349	639	166	80	10	81	11	14,714	5,422

*Special Courses

OLDS SCHOOL OF AGRICULTURE AND HOME ECONOMICS

The calendar year, 1957, can be recorded as one which witnessed a sharp drop in enrollment but was otherwise normal. The introduction of a grade IX minimum education for the two year course in Agriculture raised the average educational background of the students to a marked degree. Summer courses were well attended and participation of all groups was enthusiastic.

Little Royal and Achievement Day

The annual Little Royal and Achievment Day was held on April 3rd. A preview of the dress review, held on the previous evening, was attended by three hundred local people and agriculture students. Displays gave a good coverage of courses and showed a high standard of workmanship. Dr. L. W. McElroy, Chairman, Department of Animal Science, University of Alberta, judged the livestock in the Little Royal which was attended by about nine hundred people.

Graduation

The 1955-56 term ended on April 10th with the presentation of thirty-four diplomas in home economics and fifty-three in agriculture. Dr. A. G. McCalla, Dean, Faculty of Agriculture, University of Alebrta, delivered the address to the graduating class. Gordon Church, a two-in-one agriculture student, was class Valedictorian. A Surplus Wheat Board University scholarship was awarded to Miss Dixie Newman of Blackie. Her untimely demise in a tragic accident shortly after graduation is recorded with regret. Prizes for proficiency in various fields were awarded to graduating students.

Special Lectures During Regular Course

Two lecturers gave specialized courses of several days duration in January and February. Mr. D. Harrington, Extension Irrigationist, lectured to second year and two-in-one agriculture students on Irrigation and Mr. J. Edmunds dealt with Beekeeping in a series of lectures to two-in-one and first year agriculture students.

Special speakers who visited the school to give one lecture each included Mrs. V. G. Macdonald, Supervisor, Women's Extension; S. S. Graham, Assistant Director of Extension; W. H. T. Mead, Livestock Commissioner; D. H. McCallum, Dairy Commissioner; Dr. A. G. McCalla, Dean, Faculty of Agriculture; Miss H. McIntyre, Director, School of Home Economics; Miss Madeline Quirk, Director of Nursing Recruitment, Department of Public Health, Calgary; Miss J. Stewart, and Miss E. Clarke, Women's Division, National Employment Service, Calgary; W. R. Hanson, Chief Forester, Eastern Rockies Forest Conservation Board; J. W. McKay, Director of Highway Safety; Professor Cy Hampson, Faculty of Education, University of Alberta, and Mr. Edgar T. Jones of Edmonton. Prof. Hampson and Mr. Jones gave talks on "Alberta Wild Life" illustrated with slides and films.

Special Activities at the School

Immediately following the close of the regular course in April a two day 4-H Leaders' Conference was held with an attendance of fifty. This was followed by a musical festival for rural schools in the Olds area with over two hundred and fifty in attendance.

During June, district conventions for the F.U.A. and the W.I., a zone meeting of the Alberta Hatching Egg Producers Association and a short course for Veterans Land Act field-men were held. Total attendance at these functions was in excess of three hundred and fifty people.

Mid-summer activities commenced on July 15th and concluded on August 9th. These included Farm Womens' Week, 4-H Club Week, 4-H Elimination Contests, W.I. Girls' Club Week and the summer reunion of the Alumni Association. Total attendance at these functions was approximately nine hundred and forty-five people.

Activities just prior to school opening in October included a C.G.I.T. Conference, a C.G.I.T. Leaders' Conference and a 4-H Leaders' Conference. Total attendance was approximately two hundred and seventy.

During November and December the facilities of the school were made avalibale to the Extension Service for a short course in Farm Planning. A group of twelve veterans met one afternoon every second week with the District Agriculturist and the V.L.A. Settlement Supervisor. During the third week in December the school facilities were made avaliable for a five day Welding Course arranged by the Extension Service. Twenty-seven farmers attended the course.

During the year the number of people who came to the school in organized groups was approximately five thousand.

Summer Activities of Staff

During the summer Mr. Wilton remained at the school as Farm Manager; Mr. Holubowich in charge of grounds until he left for graduate studies at Berkely, California, in September, and Mr. Harrison in charge of Maintenance. Mrs. Hodgson spent part of the summer at her farm east of Calgary; Miss Daley worked with the Extension Service and Miss Wigmore was granted leave of absence for four months to visit her home in Prince Edward Island. Miss Bannman taught high school students at the Fairview School of Agriculture from April 15th to June 30th when she resigned to attend University. Mr. Macdonald returned to the Extension Service in April but resigned in September to study Civil Engineering at the University of New Brunswick. Mr. Sutherland was Assistant District Agriculturist at Red Deer during the summer; Mr. Kirk was employed part time at the school and part with the Extension Service; Mr. Armstrong was employed with the Field Crops Branch until September when he went to the Fairview School of Agriculture to teach high school students for six weeks. Miss Lockhart resigned to accept a position at the General Hospital in Calgary. Mr. Ratcliff spent the summer on his farm west of Olds. Mr. Rogers was on sick leave for several weeks and did inventory work at the school for the remainder of the summer.

Grounds and Plots

The grounds were maintained in good condition and many improvements were made. New plantings were made in the orchard and land was prepared for roadside tree plantings. A cooperative test of apple seedlings in cooperation with the Experimental Farm at Mordon was continued.

The plot area produced a good supply of vegetables for the Dormitory, seed grain for the farm and foundation stock creeping red fescue. Test plots of cereal and forage crops were grown in cooperation with the Lacombe Experimental Farm, and a fungicide test in cooperation with the Field Crops Branch.

Maintenance Program

An extensive maintenance program was carried out. Major items, including replacement of part of the water line, repairing and repainting the water tower, rewiring of the Metals shop, and erection of a new smoke stack, were done by contract. The smoke stack was about half done when cold weather necessitated cessation of construction.

The program of refurnishing boys dormitory rooms with built-in furniture and linoleum was completed with twelve bed rooms and a linen room being done. One floor of the girls' dormitory was redecorated; the dining room, kitchen and store rooms were redecorated, with a complete rearrangement of the store rooms, and the foundation was laid for a new rear entrance to the kitchen.

The pump house was insulated and painted inside and out; one barn roof was painted, and a number of repairs to houses were carried out.

New equipment was installed in the kitchen including a twenty cubic foot deep-freeze unit, a three oven pastry stove and a vegetable peeler.

New maintenance equipment purchased included a portable electric sander, a portable tilting arbor bench saw, and a portable electric hand saw.

Public Works Construction

The construction of one new house and one feed plant were provided for in the estimates. At the end of the year most of the materials for the feed plant were on hand but construction had not started. The house was closed in and ready for interior finishing.

The Farm

Climatic conditions for the 1957 growing season were characterized by several long dry periods although the precipitation equaled the long term average.

A severe hail storm struck the district in mid-August but the farm property escaped severe damage. Estimated damage was about fifteen per cent.

Due to the dry season, relatively light crops of forage were harvested but the quality was excellent. Grain yields were somewhat light. The following acreages were harvested:

	Acres	Yield
Grain:		
Oats	103	3,645 bus.
Barley	65	1,845 bus.
Forage:		
Silage (oats)	48	100 tons
Forage	80	120 tons

During the year, a new John Deere 620 tractor was purchased in exchange for the Minneapolis-Moline U. A new power mower, spray rig and hammer-mill were also purchased.

Twenty-five Suffolk ewes were obtained from the Vermilion School of Agriculture. This remedied a definite lack in the teaching of the Animal Husbandry course.

The 1957 Shorthorn calves were placed on a Performance Test with two objectives in mind; for instructional purposes, and to aid in culling the beef herd.

Several beef and dairy animals were culled from the herds by private sale or sold for slaughter.

A considerable number of Yorkshire boars and gilts were sold for breeding stock during the summer.

During the spring term the farm supplied the dormitory with meat, milk and eggs. Commencing with the fall term the amount of butchering as class work was reduced, no feeder cattle were purchased and more dressed meat was purchased from packing plants for the dormitory.

The 1957 Fall Term

Registration by classes was as follows:

Agriculture—1st year	31
Agriculture—2nd year	28
Agriculture—Two-in-One	30
Home Economics	11
	100

During the term one girl left for personal reasons.

The term was satisfactory in every respect. Discipline problems were at a very minimum; examination results were reasonably good and in spite of the low enrollment of girls a very good program of extra curricular activities was carried out.

Instructional and Administrative Staff for the Fall Term

When the fall term opened an instructor was still needed to teach horticulture and botany. In November the services of Mr. C. A. Weir were obtained on a part time temporary basis. By the end of the year Mr. D. Robertson was hired to fill the position during the spring term. The staff for the fall term was as follows:

J. E. Birdsall, M.Sc.—Principal, Farm Management
Mrs. Frances Hodgson, B.A.—Dietitian
Mrs. V. A. Charles, R.N.—Dean of Women, School Nurse, Home Nursing
E. E. Rogers—Dean of Men, Recreation
S. B. Wilton, B.Sc.—Livestock, Farm Manager
G. B. Harrison, B.Sc.—Farm Buildings, Maintenance Supervisor
Miss Gwen Daley, B.Ed.—Clothing, Interior Decoration
Miss Myrtle Wigmore, B.Sc.—Foods, Home Management, Employment Training
Mrs. M. K. Stiles—English, Economics and Cooperation, and Community Organization
H. W. Sutherland, B.Sc.—Field Husbandry, Farm Management Lab.
W. C. Kirk, B.Sc.—Farm Machinery, Farm Motors
H. J. Armstrong—Metals
C. A. Weir, B.S.A.—Horticulture and Botany
W. D. Ratcliff, B.Sc.—Dairying, Poultry, Mathematics
E. M. E. Sandeman, B.Sc.—Science, Entomolgy
G. A. Ogston—Farm Foreman, Assistant Instructor in Animal Husbandry
J. I. Mathieson—Typewriting and Record Keeping
D. G. Robb—Accountant
Miss Y. Dodd—Stenographer
Mrs. H. W. Sutherland—Stenographer
Mrs. B. Brown—Librarian

VERMILION SCHOOL OF AGRICULTURE AND HOME ECONOMICS

The 1956-57 Term

This term, as the previous term, continued to show a drop in enrollment in most classes. The regular programme of classroom and extra-curricular activities came to a successful conclusion on April 10th.

Visitors and Special Speakers

Visitors who inspected the School and addressed the students during the term included; Dr. J. G. O'Donoghue, Extension

Veterinarian, Edmonton; Mr. D. H. McCallum, Dairy Commissioner, Edmonton; Mr. R. M. Putnam, Deputy Minister of Agriculture, Edmonton; Mr. Dave Andrew, Canadian Hereford Association, Calgary; Miss Edna Craig, District Home Economist, Wainwright; Dr. A. G. McCalla, Dean, Faculty of Agriculture, University of Alberta, Edmonton; Mr. S. S. Graham, Assistant Director, Extension Service, Edmonton; Dr. C. F. Bentley, Associate Dean, Faculty of Agriculture, University of Alberta, Edmonton; Mr. W. H. T. Mead, Livestock Commissioner, Edmonton; Mr. M. Syrotuck, Senior Fieldman, Dominion Department of Agriculture, Edmonton.

Special Events

In addition to the regular programme of extra-curricular activities organized under the Students' Council the following events are noteworthy:

January 12th—Basketball Referees' Clinic and Visting Basketball Teams from Lloydminister
March 2nd—Third Annual Parents' Weekend and "Play-Nite"
March 8th—V.S.A. Alumni Re-Union
March 23rd—Gym Night
March 30th—Third Annual Colour Night
April 3rd—The "Little Royal" and Achievement Day
April 10th—Graduation Exercises

As in past years, Parents' Weekend, the V.S.A. Re-Union and the "Little Royal" and Achievment Day, continued to attract large numbers of visitors to the School. The support of the Alumni and the public in general is important in making these events worthwhile.

Mr. W. H. T. Mead, Livestock Commissioner, and Mr. J. Fox, Livestock Breeder, Lloydminster, were the guest judges of the livestock showmanship classes at the "Little Royal".

Graduation

At the Closing Exercises held on April 10th, Dr. C. F. Bentley, Department of Soils, University of Alberta, gave the Convocation Address. Mr. E. R. McCrimmon, Acting for Mr. R. M. Putnam, assisted with the presentation of awards. Miss Evelyn Tellier, a member of the Graduating Class, was guest soloist.

Diplomas of Graduation were awarded as follows:

	Agriculture	Home Economics
Two Year Course	25	4
"Two-in-One" Course	12	17
	37	21

Winners of **Scholarships** for distinction in various fields were:

Agriculture—

Vermilion Board of Trade—Mitchell Bendixen, Marwayne
V.S.A. Alumni—Lawrence Stelmach, Wostok
—Arnold J. Malone, Rosalind
Line Elevator Farm Service—Donald Thomson, Tofield
Craig Brothers—Robert Parker, Dewberry
Imperial Oil—Halvor Lofthaugh, Dewberry
Alberta Turkey Breeders' Association—Lloyd Miller, Winterburn
Alberta Wheat Pool (Henry Wise Wood Memorial—Kenneth Stiles, Didsbury

Home Economics—

Canadian Legion (Alberta Command)—Gail Parker, Morinville
V.S.A. Alumni—Laura Paul, South Edmonton
Alberta Women's Institutes—Myrna Trimble, Vegreville
—Laura Paul, South Edmonton
Alberta Wheat Pool (Henry Wise Wood)—Mae Swartz, Darwell

The Alberta Wheat Board Surplus Money Trust Scholarship tenable at the University of Alberta, was awarded to Victor Marchak, Edmonton.

Staff Medals were awarded to:

Steve Kuziw—Heinsburg
Arne Carlson—Gwynne
Joyce Featherstone—Langford Park
Janet Maciborski—Vegreville

The Summer Programme

In addition to the series of Short Courses held in July, numerous organizations used the Schools for special events as follows:

April 24th to 25th—4-H Leaders' Conference
June 18th—Achievement Day for High School Shop and Home Economics Classes
June 22nd—F.W.U.A. District Conference
June 28th—Women's Institute Constituency Convention
July 5th—V.S.A. Alumni Summer Re-Union
July 8th to 11th—Farm Women's Week
July 15th to 20th—4-H Club Week
July 22nd to 27th—4-H Club Week
October 10th to 11th—Joint Teachers' Convention
October 21st to 22nd—Joint Staff Conference (Schools of Agriculture)
November 11th—Vermilion Agricultural Society and Manitoba Young Farmers

Employment of the Staff During the Summer

In addition to the activities outlined above, members of the teaching staff were engaged in various activities connected with the School and other Branches of the Department.

Four instructors and four classrooms were employed for instruction in Shop Work and Home Economics by the Vermilion School Division. So employed were Mr. D. C. Folk, Mrs. M. McQueen-Smith, Miss Margaret Wright and Mr. J. A. R. Palin.

A similar arrangement with the Town of Vermilion was made for the services of Mr. S. C. Moore as Recreation Director for the summer months.

Three members of the Instruction Staff returned to their farm homes for the summer months. These were Mr. K. M. Stone, Mr. L. G. G. Seath and Mr. E. Boyko.

Mr. V. T. Janssen was transferred to Edmonton where he has assumed his new position as Assistant Supervisor of 4-H Clubs.

Mr. J. F. Harcus assumed the duties of Farm Manager, June 1st.

Mr. Wm. Baranyk and Mr. W. B. Olson remained at the School with duties on the grounds and maintenance respectively.

Maintenance

A normal maintenance and repair program was carried out throughout the year with the work being done by our maintenance staff. Mr. W. B. Olson continued in charge of the maintenance staff. Major projects included:

Replacement of shingles on a staff residence.
Construction of a new tool crib and mezzainine floor in the Mechanics Building.
Complete remodelling of the Mechanics Classroom and Electrical Lab.
Redecoration of three staff residences.
Remodelling of the Pump House.
Installation of approximately 200 yards of concrete curbing.
Construction of a poultry range shelter.
Construction of a livestock range shelter.
Building of some 50 storm windows and about two dozen screens for dormitory windows.
Replacement of some thirty doors in the dormitory building.
The programme of refitting student rooms with built-in bunks is being continued this winter.
Repair of the foundation and the building of a new entrance way to the basement of the Agronomy Building.
Repainting of the garages.
Repair and redecorating of the Science Lab and Apartment in the College Building.

School Grounds and Field Crop Plots

Our School grounds continue to attract considerable interest and favourable comment from all who visit our School during the summer months. As well as being a local beauty spot, the grounds with their attractive arrangement of lawn, trees, shrubs and flowers, serve as an excellent demonstration of landscaping that can be done in this area.

In spite of a dry period in the early part of the season, yields of vegetables were very good. These give a good supply of vegetables for the dormitory. A large surplus of potatoes was sold.

The Field Crops Demonstration Plots continue to attract public interest as well as to supply the School with classroom material for the Field Crops Classes.

Mr. Wm. Baranyk continues in charge of this work.

The School Farm

Good yields of grains were harvested this year in spite of adverse conditions in the early part of the season. The hay crop was light due to drought.

Crops harvested were as follows:

	Acres	Yield
Wheat	9	200 bus.
Oats	66	2,300 bus.
Barley	32	1,610 bus.
Hay	98	95 tons
Greenfeed	38	30 tons
Fallow	25	.....
Pasture (Cultivated)	96	.....
Breaking (Sod)	67	.....
Breaking (New land)	15	.....
	446	

Farm Sales to the Campus and Dormitory in 1957 were as follows:

Milk and Cream	$2,863.79
Eggs	736.50
Meat	1,757.84

Total Farm Sales for 1957 were $17,259.86.

Livestock inventories were as follows:

	Number on Hand as at Mar. 31/57
Dairy Cows	26
Heifers and Calves	12
Dairy Bull	*1
Stocker Cattle	14
Brood Sows	9
Boars	1
Feeder Pigs	42
Rams	3
Ewes	62
Lambs	56
Horses	3
Laying Hens	277
Chicks	229

*On loan from Olds.

The farm was under the supervision of Mr. V. T. Janssen until May 30th and from June 1st to year end, Mr. J. F. Harcus. Mr. Wm. Russel continued as Foreman.

The 1957-58 Term

Classes were enrolled on December 1st as follows:

	Agriculture	Home Economics	Total
First Year	27	.....	27
Second Year	18	.....	18
One Year Course	18	14	32
	63	14	77

Of this number one girl withdrew for personal reasons soon after School opened for the fall term.

Due to the fact that the enrollment this year is almost the same for First Year boys as it was a year ago, no significant change in numbers of Second Year boys for 1958 is anticipated. Therefore, it would appear that the drop in enrollment for boys has reached a plateau after a continuous dropping in numbers during the past several years.

The Present One Year Course for girls, which is now in its second year of operation, does not seem to be attracting the enrollment that was hoped.

The School has enjoyed generous support from many who have donated material and equipment for classroom work without which our work in Farm Mechanics, Farm Buildings and Home Management would be surely less efficient.

A full programme of extra-curricular activities was organized under the Students' Council with Lloyd Miller as President and Mitchell Bendixen as Vice-President.

Special events of the fall term included.

November 9th—V.S.A. Parade in the Town of Vermilion

November 13th—Election of Students' Council

November 22nd—V.S.A. Alumni Reunion

December 13th—Address by Dr. C. F. Bentley, Associate Dean, Faculty of Agriculture, University of Alberta

October 21st, 1957, Mr. N. N. Bentley, Principal, was given a one year leave-of-absence to work with U.N.E.S.C.O. in Cairo,

Egypt. Mr. J. A. R. Palin has assumed the duties of Acting Principal until Mr. Bentley's return.

Instruction and Administration Staff 1957-58 Term

J. A. R. Palin, B.S.A.—Acting Principal, Instructor in Farm Management
J. F. Harcus, B.Sc., B.Ed.—Farm Manager, Instructor in Animal Husbandry
W. Dietz, B.Sc.—Dean of Men's Residence, Instructor in Poultry and Dairying
Miss Agnes McLaughlin, R.N.—Dean of Women's Residence, School Nurse
W. Burton, B.S.A.—Instructor in Farm Mechanics
K. M. Stone, B.Sc.—Instructor in Field Husbandry
W. Baranyk, B.Sc.—Instructor in Horticulture, Instructor in Botany
D. C. Folk—Instructor in Farm Building
E. Boyko—Instructor in English
W. B. Olson—Instructor in Metalwork
Mrs. L. C. Johnson—Instructress in Clothing
Miss Margaret Wright—Instructress in Foods and Home Management
L. G. G. Seath, B.Sc.—Instructor in Science
S. C. Moore—Supervisor of Recreation
Miss C. Monkman—Dietitian
Miss H. Reason—Instructress in Typing, Record Keeping and Employment Training
Mrs. K. I. Bell—Secretary
H. Cooper—Accountant

FAIRVIEW SCHOOL OF AGRICULTURE AND HOME ECONOMICS

General

The year 1957 will be remembered in the Peace River as a trying year for farmers. A windy, dry spring made germination uncertain and sometimes spotty. Showers were local and few in number. Then came July and the rain—so continuous that a great deal of the hay, both grass and alfalfa, was spoiled. Summerfallowing became an ordeal.

The harvest was a disappointment with seldom enough dry days to counteract the rains and later the snows. By the time winter came the ground was so wet that this factor alone was holding up field operations with the threat of wet, muddy fields as a handicap in the spring of 1958.

In spite of all this, many farmers did harvest a lot of their crop although much of it was tough or damp, but a percentage will have to be written off.

1956-57 School Term

The operation of the School during the 1956-57 term went quite smoothly with good co-operation from the staff and student body. The enrolment for 1956 consisted of 13 girls and 41 boys showing an increase over 1955 of 4%. This was followed in 1957 by a further increase of 13% as described later.

Some highlights of the extra-curricular program were: Field Day and Reception, Harvest Ball, Student Elections, Two Literary Programs, Masquerade Dance, Frontier Night, Play Night, Parents' Day, Daffodil Ball, Gym Night, Graduation Tea.

Under the supervision of Mr. H. F. Irwin, the School Yearbook "The Aurora" was again produced successfully.

Little Royal and Achievement Day

This event held on April 3rd drew a crowd of six hundred visitors. A shownmanship competition was featured in the Mechanics Building with Mr. Ivan Coles of the Alberta Department of Agriculture as judge. The Grande Champion Shownmanship tray offered by the Canadian Bank of Commerce was won by Eugene Clark of Fauquier, B.C.

All classrooms and exhibits of work were on view and visitors gave many expressions of approval and encouragement.

Graduation

Closing exercises were held in the gymnasium on April 10th featuring a fashion show, the presentation of awards and scholarships with Mr. R. M. Putnam, Deputy Minister of Agriculture, addressing the students and presenting the diplomas.

Diplomas of Graduation were awarded as follows:

	Agriculture	Home Economics
One Year Course	.....	13
Two Year Course	16	.....
Two-in-One Course	4	.....
	20	13

Appreciation was expressed to the businessmen of Fairview and outside organizations for the valuable prizes offered to students for different phases of classwork and presented at graduation.

The following students were named scholarship winners:

Awarded in the spring of 1957:

W. P. Loggie Scholarship—Terry Peterson
Northwest Line Elevator Co. Ltd.—Gerald Hutt
Imperial Oil Co. Ltd.—Glen Kochendorfer
Val Newton Memorial Scholarship—Nels Lindberg
Robert Gardiner Memorial Scholarship—Richard Cust
Alberta Hatching Egg Producer's Scholarship—Earl Martin
Alberta Wheat Board Surplus Monies (University)—David Spurr

Awarded in the fall lof 1957:

Albright Memorial Scholarship—Mary Supernault
Alberta Wheat Pool Scholarship—Chas. White
Alberta Wheat Pool Scholarship—Nina Ciura
Alberta Wheat Board Surplus Monies Trust Scholarships—Denise Marie Lauzon, John Connelly, Ed Henneberg
United Grain Growers Scholarship—Linda Werklund
Alberta Women's Institute District No. 1—Coreen Hotte
Winnipeg Grain Exchange—Terry Peterson

Winners of Staff Pins:

Jerry Kramps
Eileen Zeise
Don Bruner

Courses for Welders

Under the new Welding Act of 1955, persons engaged in welding for the general public must pass efficiency tests and obtain a license. All persons now going into the welding trade must be apprenticed and for three years, must take one month of technical training and pass rigid examinations working towards Journeyman's Welder's Papers.

In the fall of 1956, Mr. C. E. Tupper, of the Department of Industry and Labour organized 45 welders into classes for November and December to take instruction and examinations using the facilities of the school welding laboratory and so working the time table as not to conflict with the regular students. These welders lived uptown and terminated classes at Christmas.

In June 1957, a regular class of 24 apprentice welders was accommodated. The Department of Industry and Labour expressed satisfaction with the way the trial class turned out.

In the fall of 1957 welders were brought in for training and tests in groups of 12, starting in November and to be replaced every month till the end of April 1958. It is expected that a total of over 60 trainees will be accommodated.

Summer Activities

Immediately after Graduation, work with the high school students in the Fairview School Division recommenced. Mr. V. W. Osbaldeston assisted by Mr. Klappstein in the spring, and Mr. Howard Armstrong of Olds in the fall, taught high school options to a total of 136 boys, and Miss Joyce Regehr with Miss Joan Bannman of Olds in the spring, and Miss R. Whaley in the fall taught Home Economics options to 134 girls.

Farm Women's Week was held in July followed by 4-H Club Week. 4-H Club Week was particularly well attended with young people from every area in the Peace River and also several points in British Columbia.

Among other events were:

District Planning Commission—June 26th
The Alumni Reunion was held—July 13th
Alberta Women's Institute Girls' Convention—July 17th
The Anglican Young Peoples' Convention—Octobter 12th, 13th, 14th
The North-Peace Teacher's Convention—October 10th, 11th

In addition staff members judged at a number of fairs. Speakers were provided for both men's and women's organizations.

Co-operation was given to District Agriculturists and Home Economists in their work, and assistance provided to numerous community groups.

Visitors both individually and in groups were taken through the school buildings and grounds and came to us from all parts of the continent and included Indian boys and girls from Paddle Prairie, a party of high school students from British Columbia, U.S.A. professional Agriculturists touring the Peace River, individuals from many points in Canada interested in Schools of Agriculture, and many former students.

Grounds

More work was done toward completing the landscape plans for the school grounds. The windbreak dividing the garden area and playground was extended and enlarged with planting of Poplar, Birch, and Preston Lilac. Some 600 trees were added to the woodlot planting, making it nearly complete and quite well established at this time. Thirty small demonstration plots of grasses, legumes, and mixtures were established. Very excellent growth followed the later germination of these plantings. These plots will provide excellent demonstration and classroom material.

Fair yields of good quality vegetables were produced despite the very dry spring and spotty uneven germination. No surplus of vegetables is expected with the increase in enrolment and the considerable number of meals served to those in the welding course.

The general appearance of the grounds, attractive displays of flowers and demonstration material in field crops, attracted a considerable number of visitors. Tree plantings of Northwest Poplar cuuttings in 1951 are fully 16 feet tall this year.

Mr. B. J. Godwin, Instructor in Horticulture and Botany, in charge of the grounds, garden and plots, added to his duties the care of our meteorological equipment and reports: "Limited weather observations began in September 1956 with the arrival of a Stevenson screen, maximum and minimum thermometers and precipitation gauges. Readings are taken at 9:00 a.m. each day and a monthly report supplied to the Department of Transport. More than one full year's data is now available".

Farm

The livestock on this farm consist of a herd of Holstein Dairy cows and a herd of Aberdeen Angus beef cattle, Yorkshire hogs, and White Plymouth Rock Poultry. Sixteen cows supplied milk to the Dormitory.

There were 13 Angus cows in the herd with a good calf crop which supplied animals for livestock judging classes, animals for the Little Royal, and a substantial quantity of meat for the Dining Room.

The Yorkshire herd serves the same purposes of dining room requirements and classroom demonstrations. Ten boars and fourteen sows were sold to district farmers.

This year 300 White Plymouth Rock chicks were purchased and raised. Eggs and poultry are used by the school. No breeding program is carried out.

The farm is laid out in a system of fields for rotational grazing by both the beef and dairy herds. Approximately 80 head run on six fields of 35 acres each and another 35 acres in oats is sown to green feed and silage. The balance of the land is in school grounds and plots.

Some hay is produced on the farm, and a quantity is bought in the district. Planing mill shavings are used for bedding.

The Principal acted as Farm Manager for the year with Mr. D. N. Macdonald as farm foreman.

On Mr. Macdonald's transfer to the Department of Highways, he was replaced by Mr. S. A. Rowe of Fairview.

Maintenance

General repair work was carried on throughout the building. The trim of the school buildings has been repainted outside and a number of rooms have been re-decorated and considerable curbing was run on the grounds. The bottom part of the beef barn was covered with plank shiplap and plank put around the dairy barn.

A drainage ditch was dug and tiled from the root house to the storm sewer, made necessary by the saturated ground.

An office was built in the south end of the Stock Pavilion classroom. Three of the staff houses have been re-decorated.

Some road gravel was spread on the roads; still more is needed. Classroom B was completed with the exception of flourescent lights.

The 1957-58 Term

Student registration took place on October 29th. Enrollment by classes was as follows:

	Agriculture	Home Economics	Total
First Year	27	14	41
Second Year	13	.....	13
Two-in-One	7	.....	7
	47	14	61

There have been several changes in the teaching staff. Mr. H. F. Irwin left to become Supervisor of Metis Colonies with the Department of Welfare; Mr. D. R. MacPherson left to become District Agriculturist at Hanna; Mr. and Mrs. D. C. Lien left to take up farming on land owned at Warner; Mr. D. J. McBride left Fairview to join the staff of the Chas. Campsell Hospital in Edmonton; Miss D. M. Hoel left the Government service after an illness in the spring; and Mr. R. O. Knight moved to Edmonton.

All these positions have been filled and the new people on the staff very quickly assumed their responsibilities and duties.

The amount of extra-curricular work necessary to keep a dormitory school operating smoothly is considerable and was assumed by the old and new members of the staff and carried out willingly and ably.

The Instructional and Administrative staff was as follows:

Peter Jamieson—Principal, Instructor in Community Organization
V. W. Osbaldeston—Instructor in Farm Motors and Farm Machinery
J. T. Lancaster—Instructor in Field Husbandry and Farm Management
B. J. Godwin—Instructor in Horticulture and Botany
L. T. Jones—Farm Manager, Instructor in Animal Husbandry
R. M. Warner—Instructor in English, Public Speaking, Mathematics, and Dean of Men
J. P. Tait—Instructor in Science, Entomology and Beekeeping, Economics and Co-operation
W. R.Knight—Maintenance Foreman, Instructor in Farm Buildings and Drafting
J. H. Warne—Instructor in Poultry and Dairying
F. H. Klappstein—Instructor in Metal Work and Utility Man
J. Knight—Accountant and Instructor in Bookkeeping
Miss T. Graham—Dean of Women, Dietitian and Instructress in Employment Training
Miss F. Falkous—School Nurse, Instructress in Home Nursing
Miss J. D. Regehr—Instructress in Sewing, Home Management and Interior Decorating
Miss R. G. Whaley—Instructress in Cooking, Nutrition, Home Management
Miss M. L. Scott—Secretary and Instructress in Typing
Mrs. W. Bartlett—Librarian

Report of The 4-H Clubs

C. L. USHER, Supervisor, 4-H Clubs
Priscilla A. Mewha, Associate Supervisor, 4-H Clubs
V. T. Janssen, Associate Supervisor, 4-H Clubs
Nancy Pasochnik, Assistant Supervisory, 4-H Clubs

Staff

In staff changes this past year we regret losing the services of two very capable men in 4-H work. On January 23rd R. H. Cooper, Associate Supervisor, 4-H Clubs, resigned to take work with a commercial organization while on November 15th D. Stelfox transferred to the Field Crops Branch of the Department. In turn Miss Nancy Pasochnik was taken on staff as Assistant Supervisor, 4-H Clubs, January 14th and V. T. Janssen assumed his duties as Associate Supervisor, 4-H Clubs on June 1st.

Additional summer staff included Miss Wanda Warnes of Stephens, Minnesota for the period of May through August and Walter Dietz of Galahad for the month of July. Other assistance was also given by numerous members of the staff of the Department. This was much appreciated and is gratefully acknowledged.

Club Membership and Distribution

The sharp decrease in membership noted a year ago was checked this year. The only marked drop was in the grain projects and this is directly attributed to the difficulty in disposing of grain at present.

4-H CLUB DISTRIBUTION IN ALBERTA—1956-57

Farm Projects	1957 No. of Clubs	1957 Members	1956 No. of Clubs	1956 Members
Beef Feeding	164	2,759	154	2,654
Beef Breeding	1	8	0	0
Dairying	38	556	32	504
Sheep	3	36	2	41
Swine	7	87	8	115
Poultry	2	33	4	65
Potato	3	38	5	79
Forage	1	9	0	0
Wheat	46	644	60	914
Oats	34	489	32	490
Barley	26	360	35	568
TOTAL	325	5,019	332	5,430
Decrease (Farm Projects			7 clubs,	411 members
Homemaking projects				
Clothing	96	1,169	86	1,106
Gardening	60	663	65	623
Foods	14	201	16	170
Home Decoration	1	9	0	0
TOTAL	171	2,042	167	1,899
Increase (Homemaking Projects)			4 clubs,	143 members
Total (All Projects)			496 clubs,	7,061 members
Difference (All Projects) Decrease			3 clubs,	268 members

Leadership Training

In a continued effort to make 4-H clubs less dependent on District Agriculturists and District Home Economists and at the same time to increase the effectiveness of our club program, emphasis was again placed on leadership training. Three Provincial Leaders' Courses were held, each of two days duration. Two of these were in April for leaders of the summer projects—grain,

garden, swine and poultry and one in October for leaders of winter projects—beef, dairy, clothing, food and home decoration. A total of 52 leaders attended the spring courses, which were held at the Olds and Vermilion Schools of Agriculture while 58 attended the fall course which was held at the Olds School of Agriculture.

In addition to the Provincial Courses a total of 21 regional one day leadership courses were held at the following points: Stettler, Drumheller, Hanna, Coronation, Stony Plain, Westlock, Wetaskiwin, Warburg, Brooks, Medicine Hat, Lethbridge, Calgary, Olds, Vegreville, Holden, Vermilion, Daysland, Lacombe, Red Deer, Berwyn and Grande Prairie. These courses were not a duplication of the Provincial Courses but dealt with local club problems and the co-ordinating of club activities within the districts. Junior leadership work was also stressed. All courses were considered highly successful by leaders and staff alike. The total attendance was 678 leaders and assistant leaders.

4-H Club Weeks

Four Club Weeks were held during July at the Schools of Agricudture—one each at Fairview and Olds and two at Vermilion. A total of 427 efficiency winners plus an additional 60 boys and girls attended these courses. Visiting delegations to these weeks included 8 club members from Manitoba at Olds and 15 members from the B.C. block at Fairview. A total of 21 scholarships from the Wheat Board Surplus Monies Trust Fund were awarded at these weeks as follows:

Vermilion (First Week):		
Girls Section	1.	Eileen Pinchbeck, Mayerthorpe
	2.	Loya Stonehocker, Cherry Grove
	3.	Florence Mills, Alcolmdale
Boys Section	1.	Bill Fox, Rife
	2.	Bernard Nesimuik, Glendon
	3.	William Golby, Pembridge
Vermilion (Second Week):		
Girls Section	1.	Mary North, Erskine
	2.	Marilyn Rasmuson, R.R. 1, Gwynne
	3.	Edith McVittie, Bluffton
Boys Section	1.	Gordon Henderson, Forestburg
	2.	Keith Langille, Rosalind
	3.	Gordie Rees, Ponoka
Fairview:		
Girls Section	1.	Inge Muehrer, Box 76 Woking
Boys Section	1.	Ken Allen, Fairview
	2.	Dave Ingledew, Beaverlodge
Olds:		
Girls Section	1.	Marjorie Newman, Blackie
	2.	Eileen Szymanek, R.R. 3, Eckville
	3.	Jewel Gough, Box 12, Okotoks
Boys Section	1.	David Robinson, R.R. 2 Calgary
	2.	Charles Lockton, Nanton
	3.	Fred Campbell, Balzac

The value of the above scholarships was increased this year from $75.00 to $100.00 each and at the same time the period for making use of them was extended from two to three years. It is felt that the scholarships will be more effective with these changes.

Provincial Elimination Competitions

This year for the first time the delegates for the Montana Exchange as well as those for National Club Week were selected at the Provincial Eliminations. This proved to be a very satisfactory arrangement. These Competitions which were held at the Olds School of Agriculture, August 6th and 7th attracted a total of 174 4-H'ers, each one a winner from district eliminations held earlier. For the second year, selection was on the basis of 50% for previous record in 4-H work and 50% for ability and knowledge in the project the member represented at eleminations.

The winners were as follows:

National Club Week—

Beef	—Keith Langille, Rosalind
	—Arnold Malone, Rosalind
	—Harley Hichael, R.R. 1, Clive
Dairy	—Gordon Platt, Olds
	—Dick Mutton, Sangudo
Swine, Poultry, Potato, Sheep	—Gordon Rees, Ponoka
Grain	—Kathleen Lane, Byemoor
	—Blair Shaw, Taber
Food	—Glenna Robins, Blackie
	—Louise Roose, Camrose
Clothing	—Rosemarie Wenger, Egremont
	—Priscilla Mewha, Markerville
Garden	—Joan Butterwick, Brownfield
	—Marie Kozack, Round Hill

Montana Exchange—

Mona Bulmer, Berwyn
Jean Reynolds, Erskine
Gordon Henderson, Forestburg
Gordon Church, Balzac

Alberta-Montana Exchange

For the eleventh consecutive year a 4-H exchange was carried on with the State of Montana. The Alberta delegation to the State 4-H Club Congress held in Bozeman, Montana in August was accompanied by Dave Stelfox and Miss Nancy Hooper, District Home Economist, Camrose. As usual the delegation was very well received and represented us capably at Bozeman.

In return, a group of four members from Montana along with their supervisors, Mr. and Mrs. W. Thomas of Hamilton, Montana, attended and took part in our 4-H Club Week program at Vermilion. These people were also guests of the Calgary Exhibition Board for the final day of the Stampede.

The Montana-Alberta 4-H Exchange continues to play a very important role in the interchange of ideas on 4-H and other matters as well.

National Club Week

The seven boys and seven girls representing Alberta at National Club Week this year were accompanied by J. L. Anderson, district agriculturist, Medicine Hat and Miss Prescilla Mewha. All delegates had an outstanding 4-H record behind them. This was reflected in the manner in which they conducted themselves and the ability they exhibited while taking part in the National Club Week program. Highlights of the week this year included such things as group discussions on national problems; a visit to the "Royal" and meeting with the Governor General and the Prime Minister of Canada.

Royal Winter Fair

Seed grain grown in Alberta was not up to its usual standard for show purposes this year. In spite of this, Alberta 4-H'ers again stood out in this field. At the "Royal" Eleanor Leonhardt of Drumheller won the Spring Wheat Championship, William Deurloo

of Granum won the reserve championship in the same class and other Alberta members were awarded 18 of the first 21 in the 4-H wheat class, first in late potatoes, four placing in oats and one in barley.

In Chicago, Jerry Leiske of Carbon set a new record for the International Hay and Grain Show by capturing the International Wheat Championship for the third consecutive year.

Scholarship Awards

Eaton Agricultural Scholarship

Alberta's representative selected to compete for the Eaton Agricultural Scholarship was Gordon Church of Balzac. Gordon has for many years been an outstanding 4-H member.

Canadian National Exhibition Scholarship

This scholarship, only in its second year, is to the value of $750.00 and is payable toward a University degree course in Agriculture, Home Economics or Veterinary Science for a 4-H boy or girl. The scholarship this year was awarded to Jack Yorgason of Claresholm. Jack is now enrolled in first year agriculture at the University of Alberta.

Camps, Rallies and Tours

These events are now forming an important part of inter-club activities and are proving popular and worthwhile educationally.

Very successful lake camps were held at Elkwater and Buffalo Lake while Fair Camps were held at Camrose, Vegreville and Vermilion. Lethbridge had a four day camp at the exhibition grounds while Edmonton had a one-day rally and five day camp in conjunction with the summer fair. This year for the first time a three day camp was held at Calgary as part of a newly developed rural Youth Week. This Week, which is being sponsored by the Calgary Exhibition and Stampede Association working in conjunction with the Department, also included this past summer 4-H beef, dairy, sheep and swine club Achievement Days.

A number of winter rallies, each involving from six to twelve clubs were again held. These were followed by summer rallies at the Schools of Agriculture, experimental farms and other suitable places. Such rallies generally included conducted tours of the institutions visited as part of their program.

Educational Displays

The building of Thematic displays and floats as a club endeavour again proved a popular part of the 4-H program this past year. These displays depicting 4-H club work, good homemaking and farming practises, were to be seen at all A and B Class Fairs and a large number of C fairs and 4-H Achievement Days as well. This activity is proving of value not only to the members but to many of the people who simply view the displays.

In the Provincial Competition ten displays were entered at Edmonton and eight at Calgary. These displays were judged at Exhibition time at the two centres and the winners were Willowdale Garden club and Balzac Beef club respectively. These two clubs then entered in the Interprovincial Competition at Regina where Balzac came second and Willowdale fifth.

4-H Club News

Two issues of this special 4-H club bulletin were produced by the Branch during the year. Copies were sent to all 4-H families and others directly or indirectly connected with the program. The bulletin has proved to be a good means of passing along much valuable information to all 4-H clubs.

Press and Radio

The very best of co-operation was received from the daily and weekly press and all radio and television stations in the carrying of news of 4-H activities.

The Department's "Call of the Land" staff produced some very worthwhile broadcasts on 4-H while the special 4-H program produced weekly by the CBC also proved popular.

Assistance of Organizations

The Alberta Wheat Pool, the United Grain Growers Limited and the Line Elevators Farm Service continued to assist as provincial sponsors of the grain, forage and garden projects. This sponsorship included help in defraying the cost of registered seed grain, of paying the total cost of garden seeds, of the transportation, room and board of members from these projects to Club Week and leaders to Leaders' Conferences, all of which amounted to $9,400.00. The above assistance plus numerous prize awards and assistance from field staff members on numerous occasions made the total contribution of these organization to the 4-H movement a very substantial one.

Further assistance for 4-H work was received from the various livestock associations, service clubs, boards of trade, agricultural societies, exhibitions, and a large number of other interested organizations and individuals. This assistance helped in many ways to strengthen the program.

Federal Assistance

The contribution of the Canada Department of Agriculture to 4-H in Alberta is primarily a financial one. Assistance given during the 1956-57 fiscal year for supplies, leadership training, awards and provincial eliminations amounted to $7,170.28. Besides this, purebred boars were made available to our swine clubs through the Federal Boar Loaning Policy. Assistance from field staff members was also appreciated.

AGRICULTURAL PROJECTS

Beef Feeding Clubs

A substantial increase of ten clubs in this project brought it to a record high of 164 clubs with 2,759 members each feeding a beef animal throughout the winter months. The Achievement Days and Sales this year were spread out from May to August in an effort to avoid too many being held at any one time. At the later sales, in particular, the animals were generally well finished. The co-operation and support of the Shows and Sales by the communities, packer-buyers and merchants was excellent.

A complete set of project study material was made available this year with the distribution of the Third Year Beef Project book. These project books are being very well received by members and leaders alike.

Dairy Calf Clubs

Again this year we note a continuation of the steady growth that has marked this project for several years. One of the chief stabilizing influences here appears to be the supplying of calves through the Dairy Heifer Calf Policy. The work involved in this policy was again ably handled by the Livestock Branch. A total of 384 calves selected from the Edmonton Milk Shed were supplied to members at $32.50 each through the policy.

Fourteen members representing all clubs south of Red Deer were guests of the Alberta Dairymen's Association at their Annual Convention in Calgary. The members, selected for the award on the basis of their general efficiency, gained much from the trip.

The Provincial 4-H Dairy Show was again held in conjunction with the Red Deer Fair. Each club is allowed two entries in this show—one calf and one yearling. This year a total of 25 clubs competed with 23 calves and 16 yearlings. Top awards in the calf class went to Joanne Tremmel of Botha and the top award in the yearling class to Shirley Jackson of Bearspaw. Best showman was Bobbie Enman of Wetaskiwin. The co-operation and assistance given by the Alberta Dairymen's Association and the Red Deer Fair Board helped in a very real way to make this show a success.

Swine Clubs

Only limited interest is being shown in this project at present. However, the clubs that are operating are bringing the results expected. Appreciation goes to the Canada Department of Agriculture for their assistance in loaning boars and in providing a limited Advanced Registry scoring service for the members.

Sheep Clubs

A new set of regulations has been drawn up for sheep clubs providing a feeding and a breeding project. With these two new projects available it is expected there will be an increase in sheep club activity in 1958.

Poultry Clubs

This is another of the minor projects carried on in this province. Two clubs, however, had a successful year. Appreciation goes to the Poultry Branch for their assistance with the project.

Crop Clubs

For the second consecutive year the problem of the marketing of grain was strongly reflected in the membership of grain clubs. In spite of this these projects continued as major ones and strong competition was evident with field plots and prepared samples as well.

Winners in the Provincial Plot Competition were:

Wheat—Ross J. Clovechuk, Three Hills
Oats —Gary Evaskevich, Hythe
Barley —Victor Grose, Clive

Again this year exhibits at Achievement Days were grouped according to quality rather than being placed numerically. This system, introduced a year ago, has found favor with members and leaders alike. Many joint Achievement Days were held through October and November with a good attendance of parents and other interested adults being registered.

The 14th Annual Provincial Junior Seed Fair was held in conjunction with the Calgary Chamber of Commerce Seed Fair and Short Course. Two new classes were added this year, one for potatoes and one for Durum wheat. A total of 520 samples were exhibited in the 11 classes. Several hundred people were in attendance for the two days of the fair.

HOME ECONOMICS PROGRAM

The Girls' Club program is continuing to provide instruction in homemaking to girls in rural areas.

This year there were 171 clubs carrying projects with a membership of 2,042.

The interest in club work is continuing to increase and the standard of general club and project work done by the girls is improving greatly. The number of clubs and membership has shown an increase for the past year. Leadership training has again been stressed and the results of this have been evident in the excellent leadership given to the clubs by their leaders.

Twelve projects, three in Clothing, three in Foods, three in Gardening and two in Home Decoration are available. Clothing still continues to be the most popular with 96 clubs enrolled with a membership of 1,169. The food clubs number 14 with a membership of 201. The garden projects are sponsored jointly by the Alberta Wheat Pool and the Department of Agriculture. 60 clubs with a membership of 663 were enrolled in the garden project. There was only one club with a membership of 9 taking the project Home Decoration.

This year work was begun on the revision of the Clothing Project Books. Revision of the first year book "Good Grooming For Teens" was completed and the book is now in use.

The assistance given by Miss Moseson and Miss Sanderson, from the Extension Branch, on project work was greatly appreciated.

Awards

All garden plots were judged by the district or headquarters staff with assistance from the Alberta Wheat Pool Fieldmen or the District Agriculturists. The Alberta Wheat Pool awarded 59 prizes for the best garden plot in each club and 16 clubs with awards for obtaining the highest standing in each Home Economist's district. The latter was in the form of a book to be added to their club library. The "Better Homes and Garden Garden Book" was presented this year.

The T. Eaton Company again presented pinking shears or timers to the winner in each food, clothing and home decoration club. The selection for the award was based on the club member's record. Ninety-six awards were made in Clothing clubs, fourteen in foods and one in home decoration projects.

The Alberta Wheat Pool Scholarship of $200 each to students in first, second and third year Home Economics at the University of Alberta were awarded to:

Third Year —Joan Woloshyn, Derwent
Second Year—Ann Mitchell, Czar
First Year —Natalka Semotiuk, Newbrook

These scholarships are available only to members of garden clubs.

In addition to the three Provincial and 21 Regional leaders courses, one regional garden course was held for members from the garden clubs and one regional clothing course for leaders of these clubs. These proved to be very successful.

Two members were selected to attend the Alberta Locker Accociation Convention. These were Sybil Groom of Mecca Glen and Laura Wecker of Evarts. These girls spoke on 4-H work and the work done in Freezing by the food and garden clubs.

This year Alberta was asked to be in charge of the dress review at National Club Week. All Alberta Girls participated. Also for the first time the commentating was done by a 4-H girl who this year was one of the Alberta Delegates.

Many club events were held this year. Twenty-nine field days or rallies, 53 tours, 23 short courses were scheduled. A number of 4-H members attended the six fairs and two lake camps where instruction was given by this staff and district home economists. At these events attendance totalled 5,753.

Miss Nancy Pasochnik, Assistant Supervisor ably assisted with Girls' Club Work. Miss Wanda Warnes was employed during the four summer months to assist with 4-H work.

In addition to the above mentioned work the following was done by the Girls' Club Supervisor, Miss Pasochnik and Miss Warnes.

Achievement Days	83
Meetings	54
Short Courses, Field Days, Rallies	36
Club Visits	12
Leaders Visits	8
Home Visits	65
Talks given	294
Camps attended (lakes and fairs)	2
Club Weeks and Elimination Competitions	5
Radio and T.V.	7
Letters written	2,103

Assistant was again given at Farm Young Poples' Week and supervision was given 4-H clubs in districts where there were no home economists.

Report of the Radio and Information Branch

E. B. SWINDLEHURST, Supervisor

E. V. Hamula, Senior Commentator-Writer
C. Scott Flewitt, Commentator-Writer
Miss R. C. Wohlgeschaffen, Secretary-Writer

GENERAL

To provide useful and authoritative information on farm matters is the aim of the Radio and Information Branch. With many agencies offering suggestions and advice to the farmer it is more than ever necessary that appeal and attractiveness be given consideration.

The spoken and the written word go hand in hand in the spread of knowledge, and in no way can the spoken word reach such a large number of people in so short a time as through the medium of the broadcast. The Alberta Department of Agriculture's "Call of the Land" is well established as a source of worthwhile farm information, and no effort is spared to maintain and increase its appeal and value.

Like others, farm people prefer their facts simply and attractively presented. In writing as in radio the aim is clarity; not only that reading time may be reduced but because the simply worded message is more likely to be read and acted upon. That the releases from this Branch are appreciated is shown from their use by radio and press and by comments and letters received.

Many people have contributed to the success of our work during the past year and very pleasant associations have again been enjoyed with staffs of the Canada and Alberta Departments of Agriculture, the University of Alberta, farm people throughout the province and many other organizations and individuals. To all these we extend our sincere appreciation.

Radio Production

"Call of the Land" a Monday to Friday noonday farm radio feature was broadcast 261 times this year. The ten minute program, now in its 5th year of production, is carried over seven radio stations in Alberta. Stations broadcasting "Call of the Land" are as follows:

CFGP, Grande Prairie	12:05 p.m.	CKRD, Red Deer	12:45 p.m.
CFCW, Camrose	12:05 p.m.	CFCN, Calgary	1:00 p.m.
CFRN, Edmonton	12:45 p.m.	CHAT, Medicine Hat	1:05 p.m.
CKUA, Edmonton	12:30 p.m.		

The primary objective of radio personnel in this branch is to make best use of radio as an agricultural information medium. In order to achieve this, effort is continually being made to provide broadcasts of an appealing nature to as many rural Alberta homes as possible. This year a great deal of attention was concentrated on variety of programming, service to and closer liaison with commercial farm broadcast personnel, more on-the-spot interviews with farmers throughout the province and advertising of Alberta Department of Agriculture services. In search for a less competitive time for the Edmonton area, the broadcast time on CFRN

was changed from 12:15 to 12:45 p.m. These efforts have assisted greatly in maintaining a sustained interest in the broadcast.

The program is produced and distributed in its entirety from the studios of the Radio and Information Branch in the Terrace Building. This makes the program available at the lowest possible cost.

Listener Appeal

Instead of a rural listener survey being conducted, a fairly extensive investigation into general farm broadcasting was carried out. With commercial survey results on radio listening habits indicating a change towards less speech and more music it was felt that "Call of the Land" should perhaps be patterned to conform. Agricultural extension radio editors in twenty American states and three Canadian provinces were contacted by mail questionnaire. Opinions of managers of stations carrying "Call of the Land" were also obtained. Information from these sources indicates the most desirable type of farm broadcast is the fast moving 5 to 10 minute feature aired daily during the noonhour. Television appears to be the main reason for the changing trend in radio listening habits. A majority of the state extension services operate farm radio services and broadcasts similar to what is produced by this branch. The same holds true for Saskatchewan, and more recently Manitoba has shown an interest in such a service.

In general, and concluding from comparisions as well as listener response, it is felt that "Call of the Land" and other farm radio services conducted by this branch are supplying an essential and highly rated service to rural Alberta.

Programming

In gathering material for broadcast this year a concerted effort was made to provide an interesting variety of material pertaining to all phases of farming in Alberta. Also a great deal of attention was given to varying presentation of the material. A greater effort was made to obtain on-the-spot broadcasts, editorial commentaries and panel discussions. This is borne out in the following table:

Type of Programming	No. of Programs 1957	No. of Programs 1956
The personality interview	109	168
News Items and Announcements	31	43
On-the-spot broadcasts	70	33
Editorial commentaries (by commentators or guests)	35	15
Panel discussions	15	0
Musical (Special days—e.g. Christmas)	1	2
	261	261

To maintain an interesting as well as a fast moving broadcast a time limitation of 5 to 6 minutes was placed on interviews and a maximum of 3 minutes per commentary or news item. Many interviews were of the very short (2 to 3 minutes) type and many news items were edited down to about one minute thus providing an opportunity to present as many as 6 to 7 items per broadcast.

The following table shows nature of material used and the number of times dealt with during the year:

Nature of Material	Incidence
General Agriculture (including world and national items, management etc.)	127
Field Crops (including weeds and soils)	122
Livestock	90
Veterinary Science	26
Dairy	26
Horticulture	22
Farm Safety	22
Schools of Agriculture	19
Poultry	18
4-H	15
Farm Mechanics	12
Agricultural pest control	11
Beekeeping	8
Fur Farming	6
Miscellaneous (announcements and topics other than those above)	69
	593

This year more farms were visited and more personalities outside the government service were interviewed. On most programs two or more persons were heard from. Sources of personality appearances for the year as compared to last year were as follows:

	No. of appearances 1957	No. of appearances 1956
Alberta Department of Agriculture	85	215
Other Alberta Government Departments	12	13
Canada Department of Agriculture	21	17
University of Alberta	8	16
Farm people (including 4-H members)	128	82
Others	108	61
	362	404

To provide the desired variety extra travel to all parts of the province and many special series of programs were necessary. Among the special series were seven daily features originating from the Royal Winter Fair. In addition daily night press letter reports of Alberta winnings at the "Royal" were supplied to two Alberta daily newspapers, four radio stations and one television station. These reports and broadcasts were prepared by E. V. Hamula. The broadcasts contained on-the-spot interviews and reports of the "Royal" which were aired the following day. This was the third successive year in which reports to Alberta from the "Royal" were made by this branch. Many complimentary remarks were received on the quality and type of coverage.

A tape service instituted last year was continued and expanded this year. A total of 25 tapes containing panel discussions with groups of veterinarians were distributed to all farm radio directors in the province. Other tapes containing messages from department and other personalities were also distributed.

Among the many special programs series aired were daily coverage of the Alberta Federation of Agriculture, the Farmers' Union of Alberta, the Alberta Dairymen's Association, the Western Stock Growers Association, the Canadian Seed Growers Association, the Alberta Veterinary Medical Association and the Canadian Hereford Congress Conventions as well as the Calgary and Edmonton Exhibition livestock shows. Other specials were the School of Agriculture and rural education series, the Agricultural service board series, the weekly Farm Forum reviews, Farm safety week and other farm safety features, several on Forest Fire prevention and a series on Alberta Highways Inspection Service.

During the year this branch was instrumental in assisting radio farm commentators in other parts of Canada in providing leads for radio and television stories about agriculture in Alberta. In one instance branch personnel accompanied a Wingham, Ontario editor on a week long recording trip from the Peace River district through to the southeastern corner of the province.

During 1957 twenty-seven programs featured guests from other countries. This was an increase of 21 over last year. They included 19 from the U.S.A., 4 from Great Britain, 4 from Australia and one from India.

This branch sincerely appreciates the excellent co-operation received from the Department of Lands and Forests, the Attorney General's Department and the Departments of Municipal and Economic Affairs who assisted in making many of the above programs posible. Also appreciated is the fine association with the many Agricultural organizations in the province.

As of December 31, 1957 this branch has produced 1,240 continuous daily farm broadcasts.

Science and the Land

Periodic visits to the agricultural research centres in Alberta resulted in release of 70 issues of Science and the Land during 1957. This publication, prepared in cooperation with research personnel, contains popular reports of results and progress of scientific investigation as it affects the farmer.

Visited during the year were the Plant Pathology, Field Crops Insect, and Veterinary and Medical Entomology sections of Science Service at Lethbridge; the Science Service Laboratory of Plant Pathology in Edmonton; the Experimental Farms at Lethbridge, Lacombe and Beaverlodge; the Economics Division of the Canada Department of Agriculture, the Soil Survey sections of the Research Council of Alberta and of the Experimental Farms Service in Edmonton, and the University of Alberta Departments of Entomology and of Soil, Plant and Animal Science. Excellent relations were experienced and assistance of the scientists at all places visited was appreciated.

Science and the land topics in 1957 included soils and fertility, cereals, forage crops, horticulture, weeds, plant diseases, insect pests, honey bees and livestock. Presented in non-scientific language, the information was made available weekly to press, radio, government personnel, commercial concerns and libraries.

The annual meeting of the Entomological Societies of Canada and Alberta held in Lethbridge this year provided an opportunity for further insight into some of the problems of insect pest control research. Other meetings of scientists attended included the various sections at the Agricultural Institute of Canada 1957 Convention and the annual meetings of the Alberta Advisory Committees on Fertilizers, Cereal Zonation, Forage Crops and Fertilizers. A discussion with horticulturists at the Provincial Horticultural Station, Brooks, also provided useful information on the encouragement of horticultural effort in Alberta and the production and introduction of vegetables, fruits and ornamentals adapted to prairie conditions.

Farm Notes

"Farm Notes", containing practical and informative articles on agriculture and home economics was released every Friday during the past year. Radio stations, daily and weekly newspapers, magazines and other publications were the principal avenues through which these items reached the public and good use was made of them. Also on the mailing list were TV stations, officials of federal, foreign and provincial governments, libraries, commercial companies and others.

The mailing list in 1957 numbered 750 and among topics dealt with were field crops, home economics, live stock and veterinary science, dairying, agricultural engineering, farm mechanics, poultry, beekeeping, fur farming, 4-H activities and schools of agriculture.

Edited and distributed by the Secretary-Writer, who gathers and prepares the material in cooperation with department specialists, Farm Notes releases in 1957 numbered 52 and contained a total of 265 articles. Special releases during the year featured hail research, agrologists scholarships, dairy month, vertical integration, 4-H and Royal Winter Fair information.

Report of the Land Conservation and Utilization Committee

G. R. STERLING, Chairman

The personnel of the Land and Forest Utilization Committee remains the same as that shown in the 1956 Department of Agriculture Annual Report. The Committee met four times during the course of the year. The following work was undertaken during 1957.

Rannoch Community Pasture—M.D. of Eagle

The Government provided money to buy farm lands in the area designated as Rannoch Community Pasture, which actually contains the following lands: Sections 5, 6, 7, 8 17, 18, 19 and 20 in Township 55, Range 10, West of the 4th Meridian, and Sections 1, 2, 11, 12, 13, 14, 23, and 24 in Township 55, Range 11, West of the 4th Meridian. An Order-in-Council was passed to the effect that farmers in this area would be offered a price for their land based on the following formula. Cultivated land assessd at $11.10 per acre was purchased at the rate of $20.00 per acre plus $4.00 per acre for bush covered land. The land assessed at less than $11.10 per acre was paid for on a proportionate basis.

At the close of 1957 all of the land as mentioned above was either held in the name of the Crown or the Department held Agreements to Purchase on it with the exception of the following quarters:

SE	5-55-10-4	NE	19-55-10-4
SW	5-55-10-4	SE	20-55-10-4
NE	5-55-10-4	NE	20-55-10-4
SE	6-55-10-4	NW	20-55-10-4
NW	8-55-10-4		

During the summer the Municipal District of Eagle requested that the following lands be added to the 16 sections mentioned above: Sections 4, 9, NW 15, Section 16, 21, 22, 27, 28, 29, 30, 31 32, all in Township 55, Range 10, West of the 4th Meridian and being south of the North Saskatchewan River: Sections 3, 10, 15, 22, 25, 26, 27, 34, 35 and 36 in Township 55, Range 11, West of the 4th Meridian, all being south of the North Saskatchewan River. This in total would include another 20 sections more or less. A few small fractions occur along the south side of the Saskatchewan River. No decision was reached by the committee as at the close of 1957.

Wanham Area

Farmers on the Wanham Project requested that investigation be made of the area and demonstration farms established. The committee discussed this problem and requested Dr. Bentley and the Chairman to investigate the area and report on the advisability of establishing such demonstration farms. The two men subcommittee recommended that such farms be established and approval for establishment for four such demonstration farms was

obtained late in 1957. Three of these farms will be located in the Wanham Project area and the fourth in the Silver Valley area.

Klesken Hill

The Water Resources Branch requested the committee to establish farming practices on the slopes of Klesken Hill which would retain as much water as possible on the hill and thereby lessen the flow through the new canal which is being constructed to carry surplus water off of these slopes. Five farmers on this water shed were assisted with the laying out and the building of contour terraces. The purpose of these terrances is to retain moisture on the slopes where it is bady needed for crop and grass growth and to lessen the flow of water off of the hills.

M.D. of Wetaskiwin

The Municipal District of Wetaskiwin asked the committee to investigate the area surrounding Buck Lake Mountain, which is located in Township 47, Range 5, West of the 5th Meridian. The carrying capacity of this general area was determined with a view to establishing a community pasture. This information was given to the Municipal District of Westaskiwin but no definite request to establish such a pasture has come forward from the Municipal District.

M.D. of Minburn

Municipal District of Minburn requested the committee to investigate and establish a community pasture covering the following lands: Sections 18-22 and 27-33 in Township 48, Range 9, West of the 4th Meridian; Sections 5-8 and 17-20 in Township 49, Range 9, West of the 4th Meridian; Sections 13-24 in Township 48, Range 10, West of the 4th Meridian; and Sections 1, 12, 13-24 in Township 49, Range 10, West of the 4th Meridian. A brief survey of the area by the chairman was made and he suggested to the committee that this area should be established as a community pasture. A thorough investigation was not made because funds were not available to develop the area during 1958. This project will probably be reconsidered at a later date.

M.D. of Westlock

The committee recommended to Cabinet that individual parcels of land belonging to the Municipal District, namely the general area north and east of Clyde, be seeded to pasture and leased on behalf of the Municipal District. At the close of the year no action was taken on this recommendation.

Green-Yellow Areas

Toward the close of the year the committee gave considerable study as to what should be done with farmers living in the green (forest) areas. It is difficult to provide social services, roads, etc., to these isolated farmers. The committee finally recommended that farmers in the green area be bought out and the land used for forest purposes. It is further recommended that a start should be made in the south west part of the Province north of the Bow River. It is anticipated that this program would be in effect during 1958.

Soil and Feed Testing Laboratory

The Chairman of the Conservation and Utilization Committee was a member of the Supervising Committee of the Agricultural Soil and Feed Testing Laboratory. Four meetings were attended in connection with this work. The total number of samples handled by the Laboratory increased over the 1956 calendar year. While the number of feed samples was down somewhat the number of farm soils and greenhouse soils increased considerably. The table below gives a breakdown of the types and kinds of samples handled. A total of 1,649 samples were analyzed compared with 1,543 during 1956.

SAMPLES SUBMITTED TO ALBERTA SOIL AND FEED TESTING LABORATORY JANUARY 1-DECEMBER 31/57

	Feeds	Farm Soils	Greenhouse Soils	Total For Quarter
January 1-March 31	101	132	91	324
April 1-June 30	11	326	95	432
July 1-September 30	33	170	174	377
October 1-December 30	116	224	176	516
Total for Year	261	852	536	1,649

BREAK DOWN OF FEED SAMPLES SUBMITTED

	Grains	Hays	Silages	Flax	Mis-cellaneous	Total For Quarter
January 1-March 31	17	37	27	17	3	101
April 1-June 30	7	4	...	...	...	11
July 1-September 30	10	21	1	1	_	33
October 1-December 31	47	36	17	8	8	116
Total for Year	80	98	45	26	11	261

Report of the Board of Trustees

of the Surplus Wheat Board Monies Trust Received by the Government of the Province of Alberta, 1916-1919, from the Canadian Wheat Board

HONOURABLE L. C. HALMRAST, Chairman, Minister of Agriculture

R. M. Putnam, Deputy Minister of Agriculture
H. W. Gaebel, Secretary, Department of Agriculture
Richard Ballhorn, Farmer, Wetaskiwin, Alberta
Arthur Pierson, Vice-President and Treasurer of the Independent Grain Co., Calgary

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Receipts for the year ending December 31, 1957 totalled $3,386.02 all of which was in payment of interest on investments.

Payments for the year ending December 31, 1957 amounted to $2,180.00 and were made up as follows:

Scholarships awarded	$2,150.00
Board Expenses	30.00

A statement of receipts and expenditures along with a statement of assest and liabilities is attached hereto.

Investments

Investments as shown on the attached balance consists of:

(1) Government of Canada	3¾ %	debentures	$ 2,500.00
(2) Province of British Columbia	3 %	debentures	45,000.00
(2) Province of New Brunswick	3½ %	debentures	45,000.00
(4) Province of Newfoundland	3¾ %	debentures	4,000.00
(5) City of Calgary	3½ %	debentures	4,000.00
			$100,500.00

Meetings

A meeting of the members of the Board was held on May 29, 1957 and scholarships made available were increased from $75.00 to $100.00 and from $100.00 to $125.00 totalling $3,575.00.

General

The Board has continued the policy of conserving the principal remaining in the trust fund, making all expenditures from the income received from investments. A further sum of $4,000.00 of the bank balance will be invested in debentures.

Scholarships totalling 392 in number and valued at $32,066.36 have been awarded and paid since the Board instituted the policy of providing scholarships.

List of Scholarship Winners Named during 1957

Junior Club Winners:

David Robinson, Calgary
Fred Campbell, Balzac
Eileen Szymanek, Eckville
Bill Fox, Rife
William Golby, Pembridge
Loya Stonehocker, Cherry Grove
Gordon Henderson, Forestburg
Gordie Rees, Ponoka
Marilyn Rasmussen, Gwynne
Ken Allen, Fairview
Inge Muehrer, Woking
Charles Lockton, Nanton
Marjorie Newman, Blackie
Jewell Gough, Okotoks
Bernard Nesimiuk, Glendon
Eileen Pinchbeck, Mayerthorpe
Florence Mills, Alcolmdale
Keith Langille, Rosalind
Mary North, Erskine
Edith McVittie, Bluffton
Dave Ingledew, Beaverlodge

University of Alberta Young People's Week Winners:

Robert Kunkel, Lomond
Carol Nelson, New Norway

To University of Alberta from Agricultural Schools Winners:

Dixie Newman, Blackie
Victor Marchak, Edmonton
David Spurr, Notikiwin

Winners of Open Scholarships for any Young Person to attend a School of Agriculture:

Ralph Tiede, Strathmore
Frank Seibert, Sangudo
John Edward Connlley, Elmsworth
Lance W. Wheeler, Dalemead
Wayne B. Foresberg, New Norway
Denise M. Lauzon, Falher

TREASURERY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
Balance Sheet as at December 31, 1957

ASSETS

Investments:	Par Value	Book Value
Government of Canada 3¾% due January 15, 1978	$ 2,500.00	$ 2,520.80
Province of British Columbia 3% due December 15, 1969	45,000.00	44,723.10
Province of New Brunswick 3½% due April, 1 1967	45,000.00	44,874.30
Province of Newfoundland 3¾% due June 1, 1976	4,000.00	3,994.16
City of Calgary 3½% due July 1, 1968	4,000.00	3,859.68
		$ 99,972.04
Cash in Bank		4,824.26
Accrued Interest		597.83
		$105,394.13

LIABILITIES

Trust Fund December 31, 1956	$104,142.95
Add: Surplus for year 1957	1,251.18
	$105,394.13

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
Accrued interest as at December 31, 1957

Government of Canada Debentures:		
$2,500.00, 3¾%, January 15, 1978, 5½ months		$ 42.97
Province of British Columbia Debentures:		
$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
Province of Newfoundland Debentures:		
$4,000.00, 3¾%, June 1, 1976, 1 month		12.50
City of Calgary Debentures:		
$4,000.00, 3½%, July 1, 1968, 6 months		70.00
Bank Interest:		
November 1957 $ 5,974.25 @ 1¾%	$ 8.59	
December 1957 6,049.26 @ 1¾%	8.99	17.58
		$ 593.05
Add: Accum. of Discount:		
Accrued on Province of British Columbia	$ .96	
Accrued on Province of New Brunswick	3.21	
Accrued on Province of Newfoundland	.80	
Accrued on City of Calgary	.26	
	$ 5.33	
Less: Amor. of Premium:		
Accrued on Government of Canada	.55	
		$ 4.78
Net Earnings Accrued to December 31, 1957		$ 597.83

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
Statement of Receipts and Payments for the year ended December 31, 1957

Bank Balance December 31, 1956		$ 3,618.24
Interest on: $ 2,500 Government of Canada Debentures	$ 93.74	
45,000 Province of British Columbia Debentures	1,350.00	
45,000 Province of New Brunswick Debentures	1,575.00	
4,000 Province of Newfoundland Debentures	150.00	
4,000 City of Calgary Debentures	140.00	
Bank Balances	77.28	
		3,386.02
		$ 7,004.26
Deduct Payments:		
University of Alberta Scholarships	$ 250.00	
Fairview School and Farm Scholarships	275.00	
Olds School and Farm Scholarships	875.00	
Vermilion School and Farm Scholarships	750.00	
Richard Ballhorn — meeting expense	10.00	
A. Pierson — meeting expense	20.00	
		2,180.00
		$ 4,824.26

Report of the Farm Purchase Credit Act

G. R. STERLING, Executive Assistant

The Farm Purchase Credit Act was transferred from the Treasury Department to the Department of Agriculture as of August 15, 1957. The Treasury Department had prepared all of the necessary forms but at that date no Farm Purchase Boards were formed. Applications from Municipalities, Counties, Improvement Districts and Special Areas, requesting that Farm Purchase Boards be formed for their areas, have been forwarded to the Department on a voluntary basis. Appropriate agreements as required in the Act were signed between the applying authorities and the Government and the Boards duly constituted by Ministerial Order.

The following districts have established Farm Purchase Boards. The list shows the area served by each Board.

M.D. of Cardston No. 6 —Western Board
Twps. 1, 2, 3, 4, 5, Rge. 24; Twps. 1, 2, 3, 4, 5, 6, 7, Rge. 25; Twps. 1, 2, 3, 5, 6, Rge. 26; Twps. 1, 2, 3, 4, 5, Rge. 27; Twps. 1, 2 3, 4, 5, Rge. 28; Twps. 1, 2, 3, Rge. 29; all West of the 4th Meridian.
—Eastern Board
Twps. 1, 2, Rge. 19; Twps. 1, 2, Rge. 20; Twps. 1, 2, 3, 4, 5, 6, 7, Rge. 21; Twps. 1, 2, 3, 4, 5, 6, 7, Rge. 22; Twps. 1, 2, 3, 4, 5, 6, Rge. 23; all West of the 4th Meridian.

M.D. of Forty Mile No. 2 —The whole of the Municipal District of Forty Mile No. 2.

M.D. of Lethbridge No. 25 —All of the Municipal District of Lethbridge No. 25.

M.D. of Minburn No. 72 —The whole area of the Municipal District of Minburn No. 72.

M.D. of Mountain View No. 49 —All that part of the Municipal District of Mountain View No. 49 lying east of the west boundary of Range 4, West of the 5th Meridian.

M.D. of Rocky View No. 44 —The entire area of the Municipal District.

M.D. of Strathcona No. 83 —The whole of the Municipal District of Strathcona No. 83.

County of Grande Prairie No. 1 —The whole of the County of Grande Prairie No. 1

County of Newell No. 4 —All of the lands contained within the boundaries of the County of Newell No. 4.

County of Ponoka No. 3 —Rimbey Board
All that portion of the County of Ponoka West of the 5th Meridian.
—Ponoka Board
All that portion of the County of Ponoka East of the 5th Meridian.

County of Vulcan No. 2 —Whole area.

Improvement District No. 11 —All of Improvement District No. 11

Improvement District No. 65 —All of Improvement District No. 65

Improvement District No. 102 —All of Improvement District No. 102

Improvement District No. 108 —All of Improvement District No. 108

Improvement District No. 132 —All of Improcement District No. 132

Improvement District No. 138 —All of Improvement District No. 138

Improvement District No. 139 —All of Improvement District No. 139

Special Area No. 2 —All of Special Area No. 2

Special Area No. 3 —All of Special Area No. 3

The following districts have made application but at the close of 1957 boards were not duly constituted. It is anticipated they will be constituted early in 1958.

M.D. of Athabasca No. 103
M.D. of Beaver No. 73
M.D. of Stony Plain No. 84
M.D. of Sturgeon River No. 90
Improvement District No. 77
Improvement District No. 78
Improvement District No. 109
Improvement District No. 124
Improvement District No. 125
Improvement District No. 131
Improvement District No. 134

Treasurey Department had started negotiations with an insurance company to provide insurance covering the life of each applicant. The Department of Agriculture continued these negotiations and at the close of 57 the plan was finalized, other than signing the agreement with the insurance company.

This plan calls for insurance to a maximum of $15,000.00 on the applicant's life with the Farm Purchase Board being the beneficiary. This insurance scheme provides protection to public money and at the same time would give clear title for the land to the applicant's estate.

Many enquiries regarding the operation of the Farm Purchase Board have been processed by the Department of Agriculture. However, no loans were actually completed during 1957.

Report of Alberta Civil Defence

AIR VICE-MARSHAL G. R. HOWSAM, Provincial Co-ordinator
A. J. Lavoie, Deputy Co-ordinator

Civil Defence in Alberta was organized and administered on a provincial and municipal basis. The vast majority of persons engaged in this work voluntarily donated their time and services.

The factors which make civil defence an essential aspect of present-day existence have been set out in the previous report. The arguments in favor of expanding and developing the Civil Defence Corps and its work are strengthened by the deterioration of international relations during the past year.

Civil Defence is authorized by the Alberta Civil Defence and Disaster Act and its amendments. The Act was assented to on April 7, 1951. The administrative and controlling authorities are:

(a) The Cabinet Committee for Civil Defence, consists of the Honourable E. C. Manning, Premier, the Honourable L. C. Halmrast, Minister of Agriculture and Minister responsible for Civil Defence (Chairman of the Committee), and the Honourable F. C. Colborne, Minister without Portfolio.
(b) The Honourable L. C. Halmrast, Alberta Minister in Charge of Civil Defence.
(c) Air Vice-Marshal G. R. Howsam, Provincial Co-ordinator of Civil Defence.
(d) Advisory Committee on Civil Defence, consisting of the Federal Civil Defence Co-ordinator; the Alberta Civil Defence Co-ordinator, the G.O.C., Western Command; The A.O.C. Tactical Air Command; and the Assistant Commissioner of the R.C.M.P.

The Alberta Civil Defence Headquarters (A.C.D.H.Q.) staff comprises of 17 committees, including the Cabinet Committee, a Co-ordinating Committee, the Committees for Agriculture, Communications, etc., together with liaison officers from the Armed Services. Most of the Headquarters staff are unpaid voluntary workers representing branches of Government, Commerce, the Professions, the Clergy, and the Military Forces. The small full-time Secretariat in Alberta includes the staff of the Northern and Central Zones.

Headquarter meetings were held twice monthly and special staff meetings when required. Individual Committee meetings were held at the discretion of the chairman.

Though civil defence in each municipality was the municipality's direct responsibilty, A.C.D.H.Q. furnished all possible assistance and co-operation in the execution of civil defence programmes. Close liaison between A.C.D.H.Q. and municipalities was maintained and at the end of the year over 272 visits were made to municipalities by senior members of A.C.D.H.Q.

For civil defence purposes Alberta is divided into four zones, as follows:

(a) Peace River Zone (pending), was administred directly from A.C.D.H.Q. Headquarters to be established in Grande Prairie in 1958.

(b) Northern Zone, surrounding the City of Edmonton, administered—under the supervision of A.C.D.H.Q—by Northern Zone Headquarters, located in Edmonton and consisting of two full-time staff officers.

(c) Central Zone, surrounding the City of Calgary, administered—under the supervision of A.C.D.H.Q—by Central Zone Headquarters, located in Calgary and consisting of two full-time staff officers.

(d) Southern Zone (pending) which includes the Lethbridge-Medicine Hat area, was administered directly from A.C.D.H.Q. Headquarters to be established in Grande Prairie in 1958.

Western Association of Civil Defence Directors continued to ensure the co-operation of its members in all civil defence matters affecting the western portion of North America. Membership consisted of the eight states of the western United States, Hawaii, and Alaska, with British Columbia, Alberta, and Saskatchewan as associate members.

CIVIL DEFENCE COMMUNICATIONS

General—during 1957, good progress was made towards the establishment of a reliable system for emergency communications throughout Alberta, with extensions to flanking provinces and to the neighbouring State of Montana. Alberta Civil Defence will use the main media of communications—telephone, telegraph, and radio—which will be controlled and co-ordinated for Civil Defence purposes from mobile communications centres.

Telephone—under an agreement with Alberta Government Telephones, Civil Defence emergency calls were given priority rating by the telephone offices.

Telegraph—arrangements were made for circuit reservations covering teletype lines along the east-west and north-south axis of the province. The east-west line connected A.C.D.H.Q. to the provincial Civil Defence Headquarters in British Columbia, Saskatchewan, and Manitoba, and the Federal Headquarters in Ottawa. The north-south line had outlets at the major municipalities, north and south of Edmonton which also provided an alternate link into British Columbina, via Fort St. John. A separate teletype circuit was reserved for communications with the State of Montana, Civil Defence Headquarters.

Radio—provision was made for the back-up of the most essential wire line circuits by radio. Within the Civil Defence Zones a radio system tied the major municipalities to the Zone C.D.H.Q. Two networks of this type have been organized, to serve the Northern Zone (Edmonton area) and the Central Zone (Calgary area). Both radio systems were based on radio amateur operators and equipment. Regular practice schedules were held every Sunday by each of the amateur zone networks.

At the level of the Provincial Civil Defence Headquarters, the province-wide radio networks of the Alberta Government Forestry Department and of Canadian Utilities Limited were used, on a shared-service basis. Apart from these wide-coverage systems, special point-to-point links were required. These were arranged on Civil Defence frequencies, as the establishment of mobile communications centres progressed.

Alberta Civil Defence Headquarters made firm arrangements with respect to the engineering of three complete mobile communications centres which met the requirements of the Provincial Headquarters and the two Zone Headquarters. With regard to the A.C.D.H.Q. network, a large trailer and four (4) Volkswagen panel trucks were purchased and the work of installing communications equipment is now in progress.

There are three "radar fences" which enable the early detection of enemy planes approaching North America over the North Pole and the seas flanking the continent:

The Dew Line (Distant Early Warning) runs roughly along 70th parallel. It is a U.S.A. project, begun in 1954 and completed in 1957. The Line is part of a continental defence belt extending from Hawaii in the Pacific over Alaska, Canada, Greenland, and Iceland to the Azores in the Atlantic.

The Mid-Canada Line (McGill Fence) is approximately along 55th parallel. Wholly Canadian and using automatic stations. Construction began in 1953 and is now completed.

The Pine Tree Line stretches more or less along the 50th parallel, north of the U.S.A.-Canada border. It is a joint U.S.A./ Canada project and is fully manned around the clock.

These three "radar fences" were extended seawards on both the east and west coasts of the continent by radar-equipped picket ships and partrol aircraft, and also by "Texas Towers" erected on the Atlantic Continental Shelf.

The Ground Observer Corps consisting of civilian volunteers continued to operate on a 24-hour basis controlled by the R.C.A.F. for the purpose of spotting and reporting aircraft. Personnel of the Corps were located throughout Northern Alberta and in the North West Territories to supplement radar, particularly in the event of low altitude air attacks. Costs of the Corps was charged to Federal Funds. Provincial Forestry Officers have undergone civil defence training and with their short-wave wireless equipment provided an integral part of the Ground Observer Corps work.

The priority call telephone network for the transmission of civil defence warnings between Vancouver and Edmonton has been in existence since July, 1952. This network was operated at federal expense and was manned in Alberta by A.C.D.H.Q. personnel and the R.C.M.P. on a round-the-clock basis.

The Alberta Government Telephone Warning System was given its first test call in March, 1955. The system now includes 231 A.G.T. offices in Alberta. Arrangements regarding call procedure, etc. were completed with all Civil Defence organizations in municipalities, and tests were carried out periodically to ensure the efficient functioning of the system.

A warning message can now be passed to all municipalities in Alberta in 12 minutes, with the larger key centres getting the warning in from 30 seconds to 2 minutes. This system is operated at provincial expense.

The Cities of Edmonton, Calgary, Lethbridge, and Red Deer have been supplied with sirens at federal expense. The costs of installation, maintenance, and telephone line rental were shared jointly by the Municipal, Provincial, and Federal authorities. A new policy is now being implemented whereby the Federal Govern-

ment will absorb these charges retrocative to January 1, 1957. The Federal Government is providing more powerful sirens to ensure better waring coverage. An additional survey of the Edmonton area was completed in 1957.

FIRE-FIGHTING

The standardization of fire-fighting equipment in 82 municipalities was completed early in 1955 and legalized by statute. The cost was borne on a one-third federal two-thirds provincial basis.

The five Civil Defence fire pumpers allotted to Alberta in 1953 by the Federal Government were used during the summer months to train civil defence and regular firemen throughout Alberta, in all but the larger cities, which have equipment and full-time fire personnel and were capable of carrying out their own training. During the winter months, when it is impossible to do outdoor traning, it was the policy to allocate the pumpers—on a temporary loan basis—to selected municipalities, based chiefly on their progress in Civil Defence, their location in the province, and their ability to use and care for the equipment. For January to March, 1957, the pumpers were allotted to the City of Drumheller, and the Towns of Grande Prairie, Westlock, Ponoka, and Blairmore. For November and December, 1957, they were allocated to Peace River, Athabasca, Lacombe, Hanna, and Milk River, and this allocation will continue until the early summer of 1958.

TRAINING

Between October, 1950 and December, 1957, Alberta has sent 805 candidates to the Canadian Civil Defence College at the expense of the Federal Government.

Since September, 1951, when the Alberta Civil Defense School was inaugurated, 2,884 candidates from Alberta municipalities have been trained at the School in various aspects of Civil Defence work. Most of the cost of training was on a federal-provincial matching funds basis.

The Alberta Civil Defence Extension School has conducted courses in Civil Defence during 1957 at Vulcan, Grande Prairie, Lethbridge, and Hanna.

Four candidates from Alberta have attended the U.K. Staff College at federal expense. Fourteen candidates from Alberta have attended United States Federal Civil Defence Administration College Courses at Olney, Maryland, and Battle Creek, Michigan, for the most part at federal expense.

The Twelve-hour Course of training for Alberta nurses in aspects of atomic, biological, and chemical warfare, originally given by Civil Defence, has now been incorporated in the basic curriculum of nine Schools of Nursing throughout the province.

ST. JOHN AMBULANCE TRAINING

Regular First Aid Course: 5,809 candidates took this course in 1957, bringing the total who have taken it since January 1, 1949 to 43,191 persons.

Civil Defence Basic First Aid Course: Since January, 1952, (when the Course began) 1,196 persons have taken this course. This course is no longer given, as A.C.D.H.Q. prefers that Civil Defence volunteers qualify in the Advanced First Aid Course.

Civial Defence Advanced First Aid Course: 610 candidates took this Course in 1957, bringing the total number who have taken it since January, 1952 (when the Course began) to 1,183.

Civil Defence Home Nursing: This type of training was first introduced in Civil Defence in 1957 and a total of 177 candidates have completed this course.

Training of Civil Defence Auxiliary Firemen: The fire pumpers mentioned on Page 191 were used during the summer months to train Civil Defence auxiliary firemen throughout Alberta. During 1957 training was carried out in 46 municipalities. The total number of persons trained, or undergoing training, to date is 1,806 auxiliary firemen, plus 2,221 regular firemen. The cost was mainly on a federal/provincial matching funds basis.

OPERATIONS

To date, nineteen Civil Defence Exercises have been staged in Alberta since Civil Defence was organized in November, 1950. Costs, for the most part, were shared on a federal/provincial matching fund basis. An Exercise was held in 1957, and is shown further in the report.

To date, fourteen Civil Defence Demonstrations have been staged in Alberta municipalities since March, 1954. Costs were borne on a federal/provincial matching funds basis. Two demonstrations were held in 1957.

Hospital Disaster Institutes: Eleven Alberta hospitals have prepared Disaster Plans. As at December 31, 1957 ten hospitals had held Disaster Institutes (i.e., actual tests of Disaster Plans). Three Institutes were staged during 1957, at the Lamont, Lacombe, and Claresholm Hospitals. Costs, for the most part, were on a federal/provincial matching funds basis.

Special Visitors to A.C.D.H.Q. during 1957 included:

Major General F. F. Worthington, Federal C.D. Co-ordinator
Major General G. S. Hatton, Deputy Federal C.D. Co-ordinator
Brigadier G. Creffield, Federal C.D. Planning Team
His Excellency Monsieur Francis Lacoste, Ambassador for France to Canada.

Municipalities Organized or in the process of organizing for Civil Defence are:

(a) Cities	8
(b) Towns	64
(c) Villages	52
(d) Municipal Districts	25
(e) Counties	7
(f) National Parks	4
Total	160

TRAINING DETAIL

Federal Civil Defence School

Since the inauguration of Civil Defence in Alberta, candidates from the Province have been selected every year for training in various aspects of Civil Defence at the Canadian Civil Defence College. Costs incurred in such training are borne wholly by the Federal Government. A limited number of senior Civil Defence

Officers have also had training at the United Kingdom Civil Defence Staff College, Sunningdale, England, and the United States FCDA Staff College.

Following is a table listing the courses held at the Canadian Civil Defence College and including mention of the United Kingdom and the U.S. Staff Colleges. The table also shows the number of Alberta candidates trained at these courses:

	Number of Courses		Personnel Trained	
	1957	Total To Date	1957	Total To Date
(1) Orientation and Staff Courses	8	21	24	50
(2) Planning Staff Courses	3	5	13	21
(3) Operations Staff Courses	3	5	6	10
(4) ABC Warfare Courses	Nil	12	Nil	19
(5) ABC Medical Courses	Nil	3	Nil	22
(6) Welfare General Courses	1	18	5	66
(7) Welfare Emergency Feeding	2	6	8	35
(8) Welfare Emergency Lodging	Nil	3	Nil	10
(9) Welfare Emergency Clothing	Nil	3	Nil	10
(10) Welfare Registration and Inquiry	3	8	10	40
(11) Welfare Personal Services	Nil	2	Nil	9
(12) Welfare Instructors	1	1	7	7
(13) Senior Warden Courses	Nil	7	Nil	26
(14) Rescue Courses	4	27	7	58
(15) General Instructors' Courses	Nil	15	Nil	36
(16) Tactical Fire Study Forums	1	3	5	17
(17) Radiological Monitoring	5	9	16	28
(18) Pilot Police Forums	1	3	4	9
(19) Tactical Study Forums	Nil	4	Nil	15
(20) Industry Forums	Nil	2	Nil	9
(21) Women's Courses	Nil	1	Nil	11
(22) Technical Reconnaissance	Nil	1	Nil	2
(23) Communications Courses	3	7	13	39
(24) Disaster Study Forums	Nil	3	Nil	13
(25) Casualty Simulation	1	7	4	23
(26) Casualty Simulation Instructors	2	3	7	11
(27) Pharmacists' Indoctr. Courses	1	4	7	23
(28) Newsmen's C.D. Conference	Nil	2	Nil	22
(29) Shelter Courses	Nil	1	Nil	4
(30) C.D. Officers' Instructor	Nil	4	Nil	9
(31) Educational Forums	Nil	1	Nil	6
(32) Nurse Educator and Specialists	1	5	5	27
(33) Engineers' Forums	2	3	8	12
(34) FCDA Staff College	1	10	1	14
(35) U.K. Staff College	Nil	4	Nil	4
(36) Physicians' and Dentists indoctrination	2	4	20	30
(37) Health Services Conferences	Nil	1	Nil	7
(38) Prov. Co-ordinators' Conference	1	4	12	35
(39) Training Officers' Conference	1	2	6	10
(40) Directing Staff Conference	1	2	6	10
(40) Directing Staff Conference	1	1	11	11
(41) Civil Air Patrol Forums	1	1	1	1
(42) Fire and Police Radiation Monitoring	11	1	3	3
(43) Clergy Conferences	1	7	1	7
(44) Transportation Forums	1	1	2	2
TOTALS	52	235	206	823

Alberta Civil Defence School

(a) Provincial Civil Defence training began in September, 1951. From that date onwards the Alberta Civil Defence School has provided various courses of training for selected candidates from the Province.

(b) The table below lists the courses held at the School and gives the total number of candiadtes trained to date:

Courses	Number of Courses 1957	Number of Courses Total To Date	Personnel Trained 1957	Personnel Trained Total To Date
(1) General Instructors' Courses	Nil	9	Nil	240
(2) Fire Instructors' Courses	Nil	12	Nil	282
(3) Summer School for Teachers	1	6	88	706
(4) Rescue Courses	4	11	85	206
(5) Orientation Courses	5	19	155	422
(6) Welfare Courses	3	11	99	361
(7) Gov't Inspectors' Courses	Nil	1	Nil	36
(8) Alta. Forest Rangers	Nil	2	Nil	133
(9) Pharmacists' Courses	Nil	1	Nil	6
(10) Orientation Courses, Agriculturists'	Nil	2	Nil	199
(11) Orientation, Nurses	1	1	34	34
(12) Radiation Monitoring	9	12	179	259
	23	87	640	2884

The following table shows the number of candidates trained in Extension Schools in Alberta:

Courses	Number of Courses 1957	Number of Courses Total To Date	Personnel Trained 1957	Personnel Trained Total To Date
(1) Orientation Courses	2	2	80	80
(2) Casualty Simulation Courses	1	1	11	11
(3) Rescue Courses	1	1	33	33
TOTALS	4	4	124	124

OPERATIONAL ITEMS

Civil Defence Exercises: Since the inauguration of Civil Defence in Alberta in November, 1950, nineteen exercises have been staged in the Province, mainly on a federal/provincial matching funds basis. Of this number, Exercise Co-operation I was held on 10/11 May, 1957.

Civil Defence Demonstrations: Fourteen Civil Defence Demonstrations have been organized between March, 1954 and 31 December, 1957, the cost having been borne mainly on a federal/provincial matching funds basis. Two demonstrations were held in 1957, as follows:

(a) Advanced Treatment Centre at Hanna, June 26, 1957.

(b) Advanced Treatment Centre at Red Deer, October 4, 1957.

Conferences

(a) **Federal Conferences—at Federal Expense**—Up to the end of 1957, representatives from Alberta attended twenty-one Federal conferences held at Arnprior. Of this number, five as specified hereunder were held during 1957.

(i) Conference of Mayors and Reeves, 11/13 March

(ii) Directing Staff Conferences for Exercise "Co-operation I" 8/12 April

(iii) Conference of Clergy, 23/25 July

(iv) Conference of Training Officers, 9/13 September

(v) Conference of Provincial Co-ordinators, 21/25 October

(b) **U.S.A. Conferences—at Federal Expense**—Up to the end of of 1957 representatives from Alberta attended fourteen F.C.D.A. conferences held in the U.S.A. Of this number, only one, as specified below, attended in 1957:

(i) Health Planning Conference, Battle Creek, Michigan 4/8 March

(c) **Conferences Elsewhere in Canada—at Provincial expense—** Up to the end of 1957 representatives from Alebrta attended five conferences elsewhere in Canada. Of this number, two as specified below, were attended in 1957:

(i) Staging Area Conference, Castlegar, B.C. October 6

(ii) Staging Area Conference, Chilliwack, B.C., October 12