ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

OF THE

PROVINCE OF ALBERTA

FOR THE YEAR

1963

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON, ALBERTA
Printed by L. S. WALL, Queen's Printer for Alberta
1964

TABLE OF CONTENTS

TO HIS HONOUR,

J. PERCY PAGE,

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 1963.

I have the honour to be, Sir,

Your obedient servant,

HARRY E. STROM,
Minister of Agriculture.

Report of the Deputy Minister

R. M. Putnam

The Honourable Harry E. Strom,
Minister of Agriculture.

Sir:

I have the honour to submit the annual report of the Alberta Department of Agriculture for the year ending December 31, 1963.

Crops

Nineteen hundred and sixty-three will go down in history as one of the better crop seasons. The yields of wheat, oats and barley exceeded the long-time average. The Canadian wheat crop was one of the best on record, amounting to 723,000,000 bushels, and sales of 550,000,000 bushels, including a number to Russia, Mainland China, Czechoslovakia and Poland, were special features of the marketing program for this year. These sales extended over a two- to three-year period. Unfortunately, the Peace River area suffered from a drought and had a low-yielding crop. Hail and grasshoppers did not cause extensive damage in any part of the Province. Alberta farmers planted 2,394,455 trees which were supplied by the Government Stations at Oliver and Brooks. Vegetable trials were continued and extended somewhat in an attempt to assist the vegetable growing industry with its production and marketing problems.

In the Annual Report for 1962 reference was made to a vote on a potato marketing plan. The vote took place early in 1963. The plebiscite failed to receive the necessary percentage of votes in favour of the plan.

Livestock

The cattle industry enjoyed a good year, even although lower prices during the last three months reduced income from this source. Artificial insemination was expanded and the Department appointed a supervisor for its artificial insemination program. It also appointed a man to devote more effort to quality hog production. This year was one of some uncertainty for hog producers, especially the last five months. The health of all livestock was generally good, and it was protected by the attention of the Veterinary Services Branch through a number of effective programs. The dairy industry established a record by producing the highest fluid milk production per cow. In the poultry industry there was a slight decline in commercial egg production, while the volume of chickens, broilers and turkeys increased slightly. The Department gave much more attention to residues of pesticides and herbicides in food products. In this program it was closely associated with the Alberta Department of Public Health in a number of cases.

Branches and Staff

The extension and vocational educational work of the Department continued to be carried out through the Extension Service and the Agricultural and Vocational Colleges Branches. The semester system was adopted as a major change by the latter

branch and the courses offered were adjusted accordingly. The Extension Branch was called upon to serve more people than ever before. The Farm Economics Branch, which was established in 1962, grew rapidly by the addition of a number of staff members and undertook several projects that will provide information or assist farmers with the business of farming. The branch also gave much assistance to other branches in the field of economics. The Director spent four months in Bechuanaland making a survey of livestock production and marketing for F.A.O. The ARDA program was expanded considerably, but much of the work done was preparatory to other projects to follow. A more formal organization to implement the ARDA program in the Province was set up. This consisted of local advisory committees, a provincial advisory and a provincial co-ordinating committee and the Director of the ARDA program. The program of irrigation was continued on much the same level, but plans were underway to conduct certain studies through the ARDA program. The irrigation land development policies were continued and a start was made on a new land levelling assistance program.

At the end of December, 1963, the number of permanent staff employed by the Department was as follows:

	1962	1963
Technical and professional staff	239	232
Other staff	330	352
Total staff	569	584

1963 Special Features

Under the auspices of the Government a two-day Agricultural Seminar was held at Red Deer on December 5th and 6th. The purpose of this Seminar was to give agricultural organizations the opportunity of making suggestions concerning policies and programs which were being conducted by the Department of Agriculture. Approximately 150 people attended.

Another event in which the Department was closely involved during the last six months of the year was a television short course on the subject, "This Business of Farming". The preparation of the short course took place from about June 1st until the end of November; the actual broadcast was made from January 6th to 10th, inclusive, 1964.

I wish to express my appreciation to you for your counsel and guidance during the year. I also wish to express my appreciation to all members of this Department who have carried out their duties in a most exemplary way.

Finally, it is my pleasure to extend, on behalf of the officers and staff of this Department, our appreciation to the many individuals, institutions and organizations who in various ways have assisted the Department to carry forward programs and policies in order that they might be of greater value to the people for whom they are designed.

Respectfully submitted,

R. M. PUTNAM,
Deputy Minister.

Report of the Field Crops Branch

A. M. WILSON, B.A., B.Sc., M.Sc., P.Ag., Commissioner
O. G. BRATVOLD, B.Sc., P.Ag., Crop Improvement
L. G. JORGENSON, B.Sc., P.Ag., Special Crops
W. LOBAY, B.Sc., M.Sc., P.Ag., Soils and Weed Control
A. W. GOETTEL, B.Sc., M.Sc., P.Ag., Asst. Soils and Weed Control
J. B. GURBA, B.Sc., P.Ag., Crop Protection and Pest Control
P. J. PROCTER, B.Sc., M.Sc., P.Ag., Asst. Crop Protection and Pest Control
P. D. McCALLA, B.Sc., P.Ag., Horticulture
P. D. HARGRAVE, B.Sc., M.Sc., P.Ag., Supt. Horticultural Station, Brooks
T. KILDUFF, B.Sc., M.Sc., P.Ag., Asst. Supt. Horticultural Station, Brooks
S. MOLNAR, B.Sc., P.Ag., Horticultural Station, Brooks
J. W. EDMUNDS, B.Sc., P.Ag., Apiculture
F. S. GODDARD, B.Sc., P.Ag., Special Projects
D. STELFOX, B.Sc., P.Ag., Crop Clinic

REPORT OF THE FIELD CROPS COMMISSIONER

A. M. Wilson

The yield of all grain crops exceeded long term averages. For wheat the yield per acre was 25.1 bushels compared to the long term average of 19, for oats 51.2 compared to 36 and for barley 34.9 compared to 26.5. There was a shift in acreage from less summerfallow and a smaller acreage of oats to an increase of 570 thousand acres of barley and 100 thousand acres of wheat.

The Canadian wheat crop was the largest on record, amounting in total to 723 million bushels. The carry-over at the end of the crop year was 488 million. Fortunately completed contract sales to Russia, Mainland China, Czechoslovakia and Poland over a two- and three-year period together with the regular export trade will provide a market for an estimated 550 million bushels. Coarse grain reserves continued to increase due mainly to above average yields for two successive crops. Export markets for barley declined sharply from 42.9 million in 1962 to 15.4 million. Oat marketings to eastern Canada were expected to increase due to a 20 million bushel decline in eastern production. Although over-all yield was excellent the Peace River area, despite an exceptionally heavy snow cover during the winter, received very little rain during the growing season, and due to this drought produced one of the lowest yielding grain crops on record. Late summer and fall showers brought on second growth which made a difficult harvesting operation even worse. Hay and pasture crops were light and livestock feed was limited to the point that necessitated cutting back on herds or the purchase of feed from outside the area. The Grande Prairie area, having larger numbers of livestock was most severely affected. Fortunately the fescue seed crop, although on a much reduced acreage produced unexpected satisfactory yields and prices paid growers rose to an approximate 28¢ per pound.

The other dry location was again the very south-easterly part of the province. Here light snows and a minimum of summer moisture resulted in light crops and little grass.

The following table gives the area, yield and production of the principal field crops for 1963 compared with 1962.

	Area		Yield per Acre		Production	
	1962	1963	1962	1963	1962	1963
	— 000 ac. —		— bu. —		— '000 bu. —	
Wheat	5,807	5,933	19.3	25.1	112,000	149,000
Oats	2,646	2,424	46.5	51.2	123,000	124,000
Barley	2,839	3,408	31.3	34.9	89,000	119,000
Mixed Grains	367	309	36.8	42.1	13,500	13,000
Fall Rye	128	174	15.6	15.5	2,000	2,700
Spring Rye	30	26.4	13.2	18.2	400	480
All Rye	158	200.4	15.2	15.9	2,400	3,190
Flaxseed	340	303	10.0	12.2	3,400	3,700
Peas (Dry)	7.8	2.8	17.2	21.8	134	61
Potatoes:			— cwt —		— '000 cwt. —	
Commercial	13.16	13.42	148.8	137.0	1,958	1,838
Home Garden	8.84	8.08	133.5	81.7	1,180	660
			— lb. —		— '000 lbs. —	
Mustard Seed	44	72	534	850	23,500	61,200
Rapeseed	172	200	774	735	133,000	147,000
Sunflower Seed	2.5	1.5	800	1,025	2,000	1,538
			— tons —		— '000 tons —	
Tame Hay	2,626	2,564	1.52	1.48	4,000	3,800
Sugar Beets	40.3	39.8	13.20	14.57	532	580

CROP IMPROVEMENT

Three Crop Improvement Projects made up the policy. Three Projects were discontinued in 1963 and one new Project was initiated. Projects discontinued were: (1) Project B — Pasture Improvement, (2) Project C — Balanced Farming, and (3) Project F — Soil and Crop Improvement on Grey Wooded Soils. A Range Improvement Project was added to the policy.

(1) RANGE IMPROVEMENT PROJECT

This Project was initiated to encourage greater use of cultivated forages in the range areas of south-eastern Alberta, where recurring shortages of fodder had been experienced in recent years. The Project was applicable to the following areas:

Improvement District No. 11 & No. 22
County of Forty Mile No. 8
County of Warner No. 5 (East of Range 15)
County of Vulcan No. 2 (East of Range 23)
County of Wheatland No. 16 (East of Range 23)
M.D. of Starland No. 47 (East of Range 19)
M.D. of Acadia No. 34
Special Areas No. 2 & No. 3
County of Paintearth No. 18 (South of Township 38 & East of Range 14)

A total of 110,000 pounds of forage seed was distributed to 281 farmer applicants on which total assistance provided amounted to $12,704.35.

(2) PROJECT D—FIELD DEMONSTRATIONS, CROPS AND FERTILIZERS

Under this Project seed was supplied directly to the District Agriculturist without cost for their use in demonstrating the value of different kinds and varieties of field crops. A total of 697 pounds of forage seed was supplied to District Agriculturists.

(3) PROJECT G—VARIETY OR SPECIES DEMONSTRATION PROJECT

This Project was continued in 1963 and was used to demonstrate the value of new varieties or species of forage crops. A total of 2,225 pounds of seed was distributed.

FORAGE CROPS SEED PRODUCTION

Total forage seed production in 1963 about equalled that of 1962. Fescue production dropped by about 4 million pounds. Yields of creeping red fescue were relatively high in the Peace River area but acreages had been substantially reduced. Fescue prices average approximately 30¢ per lb. compared to approximately 12¢ in 1962. Prices for other forage seeds, while somewhat higher than in 1962, did not rise as spectacularly as that of fescue. Quality of most forage seeds was very high. The following table gives forage seed production of the most important kinds in the years 1959 to 1962 inclusive with preliminary estimates for 1963.

	1959	1960	1961	1962	1963
			— 000 —		
Alfalfa	1,427	1,880	2,723	2,000	2,000
Sweet Clover	2,330	750	7,205	4,430	6,000
Red Clover	2,622	4,250	4,113	2,800	4,000
Alsike	4,647	9,225	11,275	7,700	7,700
Timothy	1,154	840	591	400	500
Crested Wheat	750	736	606	480	540
Brome	7,758	4,000	3,939	4,000	4,000
Creeping Red Fescue	11,878	12,100	17,046	9,000	5,000

PRODUCTION OF REGISTERED SEED

Cereals and Flax

The following table summarizes the estimated yields in bushels of cereals and flax inspected for registration and certification.

	1959	1960	1961	1962	1963
			— 000 —		
Wheat	3,477	2,802	1,301	929	1,315
Oats	987	1,229	1,209	1,490	828
Barley	1,079	597	481	526	499
Flax	344	210	101	64	62

Forage Seed

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

	1959	1960	1961	1962	1963
Streambank Wheatgrass (Sodar)	—	—	—	—	18
Brome (Parkland)	10	10	10	—	—
(Lincoln)	215	235	80	20	—
(Manchar)	38	38	38	—	—
(Carlton)	—	—	—	18	17
(Fischer)	—	—	—	355	160
(Saratoga)	—	—	—	32	162
Creeping Red Fescue (Olds)	262	877	881	1,471	713
(Duraturf)	346	259	—	109	100
Crested Wheatgrass (Summit)	977	860	732	463½	130
(Nordan)	178	638¼	1,238	1,317	762
(Fairway)	501	343	50	170	90
Timothy (Climax)	9,006	3,145	1,769	2,218	2,536
Alfalfa (Vernal)	297	262	251	225	264
(Rambler)	438	531	818	907½	765
(Grimm)	—	35	110	50	—
(Ladak)	—	75	—	46	51
Red Clover (Altaswede)	57	21	15	—	40
(LaSalle)	261	469	597	364	529
Alsike (Aurora)	—	—	—	619	514
Sweet Clover (Cumino)	33½	—	362	—	417
Kentucky Bluegrass (Merion)	166	597	164	157	40
Orchard Grass (Chinook)	—	73	205	317	205
(Tardus II)	—	—	—	—	10
Rye Grass Perennial (Norlea)	—	—	—	—	18

DISTRIBUTION OF FORAGE SEED

As in previous years the Field Crops Branch co-operated with the Canadian Forage Seeds Project in the distribution and multiplication of Breeder and Foundation forage seed. The following quantities were distributed:

BREEDER:

Sawki Russian Wild Rye ..... 5 lbs.

FOUNDATION:

Rambler alfalfa	328 lbs.
Olds Creeping Red Fescue	525 lbs.
LaSalle red clover	730 lbs.
Frontier Reed Canarygrass	55 lbs.
Climax timothy	2,965 lbs.
Carlton bromegrass	550 lbs.
Chinook Orchardgrass	68 lbs.
Beaver alfalfa	2,500 lbs.

THE ALBERTA VARIETAL ZONATION COMMITTEE

This Committee continued to test different varieties for suitability. The annual meeting was held in December and the following changes were made in the cereal recommendations:

Cypress wheat was added in Zones 1, 2A, 2B and 2C and Park wheat was added in Zones 3A, 3B and 4A.

There were no changes in the recommendations for oats, barley and flax.

FORAGE CROPS ADVISORY COMMITTEE

This Committee held its annual meeting in December at which research, plant breeding, extension and promotion of forage crops was discussed.

THE SEED DEALERS ACT

Twenty-five seed dealers were licensed under the Act.

AGRICULTURAL RELIEF ADVANCES ACT

Assistance was provided to 31 farmers in I.D.'s 11, 22 and 102 for the purchase of seed grain, fuel and lubricating oils. Total assistance amounted to $8,574.86.

THE SEED CONTROL AREAS ACT

The seed control areas namely Hays, Wanham and Peers although still officially in operation have ceased to exercise control over crop grown in the districts.

OTHER ACTIVITIES

Numerous inquiries re all phases of crop production were answered by correspondence, telephone or office visits. Several talks were given on radio and at the Agricultural Short Courses.

A Pasture Improvement Program was continued in the Edmonton Milk Shed and 42 farms were entered. This program was designed to focus attention on the need for more grassland cropping and better management practices.

Other activities included judging at Seed Fairs and 4-H Achievement Days, preparing articles for Agricultural Notes and assisting in the preparation and revision of pamphlets.

THE ROYAL AGRICULTURAL WINTER FAIR—TORONTO

The Department continued its policy of assisting exhibitors at the Royal Agricultural Winter Fair, Toronto. The Field Crops Branch assembled and shipped exhibits to the Show paying the shipping costs both ways. In addition to supervising the exhibits at the Show all prize monies won by Albertans at the Royal were

increased by 50%. A special honorarium of $25.00 was paid for each first prize in the classes for wheat, oats, barley, rye, flax, alfalfa, alsike, red clover, sweet clover, brome, fescue, timothy, crested wheatgrass, field beans, russet (netted gem) seed potatoes, potatoes in the Vegetable and Cooking classes and 4-H Club exhibits. Such honoraria was increased to $100.00 for championships won with exhibits of wheat, oats, barley, rye and forage seeds.

The names of the 1963 winners at the Toronto Royal Winter Fair were as follows:

World Championships:		
Wheat (Chinook)	George Luco	Lethbridge
Oats (Victory)	Jeffrey Abbott	Edmonton
Reserve Champion:		
Wheat (Chinook)	Lawrence Gibson	Carbon
Champion:		
Beans	Mrs. Glenn A. Waddle	Vauxhall
First Prizes:		
Wheat (Hard red spring)	George Luco	Lethbridge
Wheat (Hard red winter)	George Luco	Lethbridge
Wheat (Durum)	Mrs. Chris Deurloo	Granum
Field Beans (White)	Mrs. Glenn A. Waddle	Vauxhall
Field Beans (Red)	Mrs. Glenn A. Waddle	Vauxhall
Alsike	Frank Cox	Carnwood
Oats	Jeffrey Abbott	Edmonton
Potatoes (Netted)	T. Fujimoto & Sons	Rainier
4-H		
Wheat	Lawrence Gibson	Carbon
Oats (Early)	Daniel Slemko	Smoky Lake
Oats (Late)	Myron Zacharko	Bruderheim
Barley	Billy Bachynski	Thorhild

SPECIAL CROPS

ACREAGE OF SPECIAL CROPS IN ALBERTA:

	1962	1963
Potatoes	14,000	14,000
Onions	250	300
Corn	580	700
Cabbage	300	250
Carrots (includes processing)	375	380
Cucumbers	275	200
Turnips	400	420
Dry Beans	700	500
Sunflowers	2,300	1,500

POTATOES:

Marketable yield per acre was 140 cwt. This is a slight decrease from 1962. A total of 9,350 acres of potatoes were grown in the irrigated areas of southern Alberta.

The Alberta Potato Growers' Association requested a referendum on a Marketing Board for potatoes. This referendum was held in 1963 and failed grower approval by two votes. A strong marketing organization was definitely needed to stabilize the potato industry.

A cost of production study was completed by the Economics Division of the Federal Department of Agriculture. This study shows potato growers in Alberta to be in a very favourable position compared to other potato producing areas.

A potato starch factory went into operation in Vauxhall. This plant processed approximately 10,000 tons of cull potatoes into potato starch.

ONIONS:

Most of the onions were grown in the Medicine Hat and Coaldale areas. All of the onions in the Medicine Hat area suffered hail damage in the early part of August. Good weed control, using chemicals, was still one of the major problems facing the development of this crop. Good curing and storage facilities were a necessity. The supply of onions from Alberta was very limited and the price was good.

CORN:

The corn crop was good again this year but the prices were low. Hail during the early part of August damaged all of the early corn from Medicine Hat. Trial shipments of hydro-cooled corn from Medicine Hat, Taber and Brooks were very well received on the Calgary and Edmonton markets. In order that Alberta may stay on the corn market, hydro-cooling of corn will be a necessity.

CARROTS:

The carrot acreage was up slightly. Only 120 acres of carrots were grown for the fresh market. As long as proper varieties were grown and care taken in grading, packaging and merchandizing, local growers were able to compete quite successfully with California and Texas carrots, being imported.

CANNING CROPS:

Approximately 11,000 acres were devoted to canning crops. This includes peas, beans, corn, carrots and a small acreage of pumpkins. Disagreement between processors and the canning crops Marketing Board continued to cause considerable friction. This disagreement could result in more vertical integration by the canners.

GREENHOUSE CROPS:

Alberta's greenhouse industry occupied 2,265,000 square feet of glass or approximately 52 acres. Production value was approximately $5,000,000.00. Specialized assistance provided by the University of Alberta helped to overcome some of the problems of this industry.

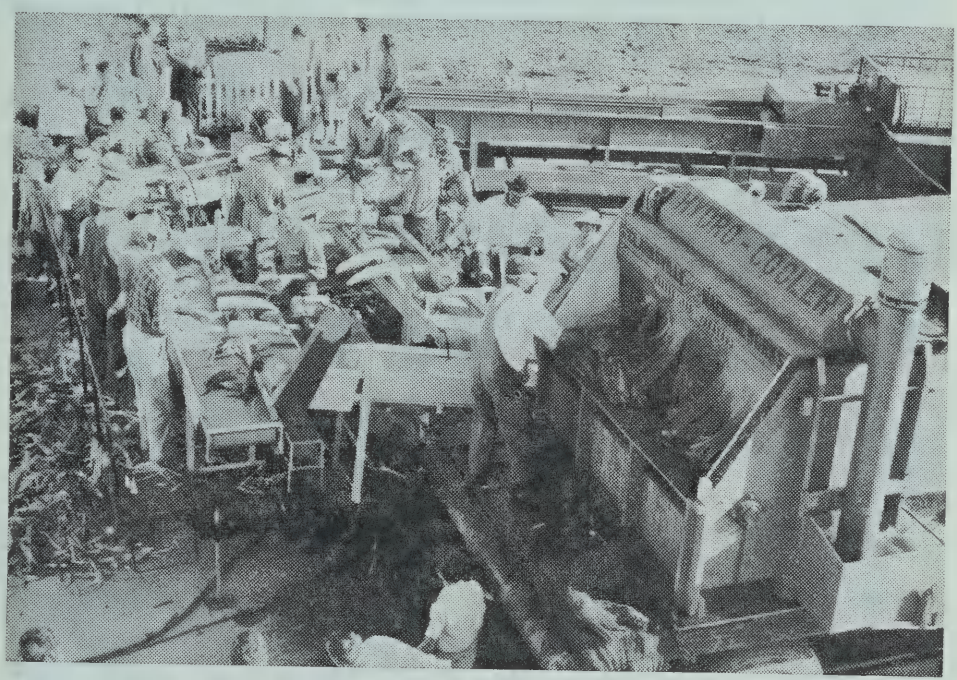
OTHER ACTIVITIES:

The Special Crops Supervisor addressed 44 grower meetings, short courses and field days. A total of 83 farm calls were made during the course of the year and 34 business calls on topics related to special crops. Four radio talks were given and three appearances were made on television.

Three herbicidal trials were carried out on onions. Two were located at Medicine Hat and one at Bow Island. Liquid Cyanamid, Randox and C.I.P.C. gave varying results. Weather and soil conditions appeared to greatly influence herbicidal action.

Fifty interested persons took part in a tour of the vegetable growing areas in California. Much information was gained on this trip.

The Pilot Plant initiated in 1962 was continued. In addition to the equipment that was purchased in 1962, a portable hydro-cooler was added in 1963. As well as handling test shipments of carrots, onions, parsnips, celery, lettuce and tomatoes from the Horticultural Station this equipment was used by seven farmers who grew fresh vegetables. All of these operations were supervised and the product placed on the market was very acceptable. Only by proper growing, storage, packaging and handling will we be able to gain our fair share of the fresh vegetable market.



Hydro Cooler and Grader processing sweet corn at the Horticultural Station at Brooks.

Interest in the production of fresh vegetables certainly increased. The completion of the cost of production study on vegetables has helped to give growers a better understanding of the economics of growing these crops. The increasing interest in the production of fresh vegetables was exemplified by the field day held at the Horticultural Station in Brooks. This field day attracted 640 people.

In order to answer some of the questions on storage requirements, an experiment was carried out using liquid nitrogen to remove field heat from vegetables. This experiment provided us with some interesting results on behaviour of fresh vegetables in storage.

Progress was made towards the formation of a Vegetable Council. It was hoped that this Council would include all interests in the vegetable field, i.e., fresh vegetable growers and handlers, processing growers and canners, potato growers and handlers. This Council was in the organizing stage and had difficulties in financing its anticipated operations.

SOILS AND WEED CONTROL

Weeds and Weed Control

GENERAL

The early growing season was hot and dry in central areas. Later heavy rains delayed spraying and fallow operations in this region. In the other areas of the province, especially in the Peace River area and in the extreme south-east, it remained dry, the crop looked poor to fair, and less than usual weed spraying was done. There was a considerable reduction in the wild oat infestation as compared to 1962, but Canada and Perennial Sow-thistle were still quite prevalent.

An open frost-free fall permitted farmers in all regions to work on fallow and stubble land for weed control.

WEED SURVEYS

(a) Weed surveys as reported here are investigations into the extent of certain problem infestations reported by the District Agriculturists and Field Supervisors, with information supplemented by headquarters' staff. Data obtained in 1963 on the weeds, indicated below, show the infestations to be as follows:

	Infestations (acres)		
	Light	Medium	Heavy
Perennial Sow-thistle	3,078,000	2,647,000	951,000
Canada thistle	3,729,000	1,716,000	2,750,000
Tartary buckwheat	200,000	2,000,000	500,000

(b) **FIVE BAD WEEDS (PERSISTENT PERENNIALS)**

Survey reports obtained from the 54 Agricultural Service Boards conducted over a number of years now indicate the following infestations in the province.

Weed	Farms		Acres		Some General Areas of Infestation
	1962	1963	1962	1963	
Hoary Cress	1,073	288	7,393	6,900	Strathmore, Lethbridge, Cardston.
Russian Knapweed	296	192	650	680	Lethbridge, Claresholm, Pincher Creek.
Field Bindweed	1,398	480	6,624	5,719	Cardston, Lethbridge, Taber.
Leafy Spurge	248	264	4,801	4,664	Cardston, Lethbridge, Provost.
Toadflax	6,240	6,729	38,616	45,301	Throughout the Province.

Toadflax infestations showed some increase particularly in a number of new patches located.

(c) Kochia increased on cultivated fields in south-eastern Alberta.

(d) Scentless Mayweed had also increased but other than in the Peace River region, this plant is still confined to roadsides and non-cultivated land.

WEED INSPECTION AND ENFORCEMENT

There were 54 full-time weed inspectors (Field Supervisors) employed by municipalities. This covered 47 municipal districts and counties, 16 improvement districts and 2 Special Areas. Thirty-nine of these inspectors had one or more part-time assistants, such assistants totalled 87. Increase in weed control activities in municipalities resulted in 11 municipalities appointing full-time assistants to Supervisors.

There were also 11 I.D. inspectors employed during the summer months in areas where no Service Boards exist.

Only one provincial Weed Supervisor was employed, who was located at Fairview. He assisted Field Supervisors and Weed Inspectors with weed control programs and activities in the Peace River region and with setting up of weed control demonstrations in the Edmonton area.

One hundred and sixty part-time weed inspectors were engaged in weed control in cities, towns and villages.

The following table shows the number of official notices served to land operators by weed authorities, the acreage involved and court cases held (1962 record is listed for comparison purposes).

Year	No. Notices to Destroy Weeds	Acres Affected	No. Notices to Prohibit Seeding	Acres Affected	No. Notices Prohibiting Threshing	Court Cases
1962	2,174	48,826	497	19,954	10	9
1963	2,145	41,859	617	25,394	8	11

It is of interest to note that well over 25,000 acres of good arable land was prohibited to be seeded due to severe infestations of noxious weeds.

CHEMICAL WEED CONTROL

(a) Selective Herbicides

There were 7,728,000 acres of field crops treated for weed control with 2,4-D and MCPA. This is 906,000 acres less than last year, mainly due to drought conditions, but still was an impressive 64% of the total acreage planted to cereal crops and flax and was the second highest on record. The table below shows the total acreage treated with 2,4-D and MCPA during the last 6 years:

Years	1958	1959	1960	1961	1962	1963
Acreage treated:	5,307,000	6,216,000	7,123,000	6,583,000	8,634,000	7,728,000

There were 18,030 miles of roadsides sprayed for weeds and 4,806 miles of roadsides sprayed for brush control. About 1,200 miles of irrigation ditches were treated.

Twenty-six municipalities through the Agricultural Service Boards distributed selective herbicides to farmers at cost. Of the 26 municipalities, 20 purchased the chemical from the Alberta Association of Municipal Districts and 6 obtained it from private companies. The remaining Boards were not involved in any direct distribution program.

(b) Soil Sterilants (Total Vegetation Control Chemicals)

The Department continued to supply soil sterilants to municipalities at cost. Through the Service Board Agreement 49 municipalities shared equally with the Department and the farmer the cost of the sterilant for the control of the 5 bad weeds. The maximum Department share was $1,000.00. The Department also shared equally with the municipality in supplying sterilants for persistant perennials on municipal roads—with maximum Department share being $200.00 per municipality.

Under this Policy, a total of 422,074 lbs. of chemicals were purchased by municipalities for the control of small patches of persistent perennials. There was a reduction over the amount used in the last four years due to eradication of a number of patches of the weeds. There was a trend away from Sodium Chlorate in favor of Borate-Chlorate compounds.

The kinds of sterilants and the amounts used are shown below, with 1958-1962 totals for comparison:

	1958	1959	1960	1961	1962	1963
Sodium Chlorate	222,656	229,040	243,040	254,688	225,232	185,584
D Bor Granular	57,450	90,150	111,300	94,200	129,350	140,450
Polybor Chlorate	35,265	75,340	85,300	88,403	73,930	92,665
Conc. Borascu	24,650	35,700	8,400	11,700	17,800	—
Monuron	—	—	2,000	—	—	—
Benzabor	—	—	—	2,000	6,825	3,375
	340,021	430,230	450,040	450,991	453,137	422,074

The above totals do not include purchases from other sources.

(c) Spray Equipment

There was an increase and an improvement in farm sprayers during the year. In 1963 there was approximately 22,000 low volume type sprayers owned by farmers—about 2,000 more than in 1962.

To promote proper sprayer use, a series of field days and meetings were held in June. Ten such meetings were held, attended by headquarters' personnel, with a total of 221 in attendance.

Forty-five Agricultural Service Boards now own 85 sprayers for use in weed, brush and insect control programs.

WEED CONTROL TRIALS AND DEMONSTRATIONS

There were about 80 weed control demonstration plots set out. These were mainly chemical weed control projects including: Avadex and Carbyne for wild oat control, Banvel D, H-430 and MBC-102 for Tartary and Wild Buckwheat control, Celatox for hemp nettle control, Butyrics for weed control in legume crops, and propionics for controlling a number of other weeds. Trials were also set up using Tordon for controlling persistent perennial weeds and brush.

A new soil sterilant project site was located and established at Hardisty by the Branch in conjunction with the local Service Board and the Research Station at Lacombe. In addition to the many well known sterilants, this trial includes Atrazine, Monobor Chlorate, Hyvar X and Tordon. This now makes 2 rather extensive soil sterilant projects—one at Millet on Toadflax and the other at Hardisty on Leafy Spurge.

Chemical bush control was continued at Rocky Mountain House but was confined to fall spraying in late 1962 as a dormant spray. Assessment made in the summer of 1963 showed partial, but rather irregular kills. Willows were definitely affected but the results on poplar trees were not too satisfactory. Assessment made of early summer spraying two years ago showed willows completely removed and the area was broken for crop production.

In co-operation with Allied Chemical Services, Calgary, a series of plots were placed at Hobbema on Toadflax control using Fenac. Preliminary work done with this chemical showed good possibilities. A series of trials were also set out at Sibbald Flats (southwest of Calgary) on a pasture seriously infected with Field Scabious.

WEED CONTROL WITH FORAGE CROPS

A program known as Project 2, whereby forage seed was available to farmers at half cost for special weed problems was

continued. The seed was limited to 20 acres per farm, but in exceptional cases was extended to 30 acres. All applications were approved by the District Agriculturist.

The following table indicates the extent of participation by districts and the quantity of forage seed used. The extent of this project used during 1958-1962 is shown to indicate its acceptance:

	1958	1959	1960	1961	1962	1963
No. D.A. districts participating	14	19	23	20	20	25
No. of applicants	30	146	200	315	271	245
Amount of seed supplied	15,718	35,595	53,447	65,315	66,285	58,565
Acreage planted	1,309	2,909	4,454	5,882	6,200	5,800

The Field Supervisors used this project extensively where Notices to Prohibit Seeding were issued or land was placed under supervision due to the weed problem.

WEEDS ON CROWN LANDS

Three special weed problems were investigated on Crown lands by I.D. weed inspectors. Soil sterilants, grass seed and 2,4-D were again made available to aid with the problems. A total of 300 lbs. of soil sterilants were used under this policy as well as 5 gallons of selective herbicides.

Any expenses incurred in weed control on Crown land was paid by the Department of Agriculture. This was charged against the land as improvement and the amount expended was returned to the Department if the land was sold.

ROADSIDE SEEDING AND SPRAYING

(a) Highways

This Branch continued the policy of seeding highways. The Highways Department purchased the seed stocks. The figures below show the mileage seeded, and the pounds of seed used during the last five years.

	1958	1959	1960	1961	1962	1963
Miles seeded	650	380	600	433	502	526
Pounds seed used	32,500	22,000	43,000	32,050	40,275	45,022
Pounds seed used on median strips and approaches	—	—	—	6,800	14,645	—

The Department of Highways purchased a new Hydro seeder for use on "cuts" and "fills" and on median strips. Assistance was provided to help set up and calibrate the unit. This unit was used extensively in 1963.

The rate of seeding was 80 lbs. per mile complete, (both sides). The basic mix of grass seed was brome, creeping red fescue, and crested wheat for the drier areas with alsike, white Dutch and Kentucky bluegrass substituted for crested wheat in areas of more rainfall.

(b) Municipal Roads

The Department continued the policy to provide suitable forage seed mixtures for seeding newly constructed back-sloped roads in areas where Service Boards are operative. Sufficient seed to plant four miles of road per Division was the maximum allowable for this demonstration project. Due to limited funds a maximum of 1,200 lbs. of seed was allocated to each municipality.

The table below indicates the amount of seed supplied and the number of miles seeded. Municipalities purchased substantial additional quantities of seed to meet their requirements. The table also shows the extent of mowing and spraying done by municipalities through their Service Boards. Years 1955-1962 are included to indicate the trends in these projects.

Year	Lbs. 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
1958	37,850	2,216	20,083	17,220
1959	51,800	1,883	23,011	17,837
1960	52,553	2,708	25,074	17,873
1961	53,525	2,282	24,893	19,979
1962	51,650	2,708	16,962	22,910
1963	58,200	3,021	21,990	18,030

As a result of the assistance and demonstrations many municipalities have accepted back-sloping and seeding as part of their road-building program. There were 2,854 miles of road back-sloped in municipalities.

ALBERTA ADVISORY WEED COMMITTEE

The object of this Committee among other obligations was to appraise the various herbicides for their use in Alberta and make other observations and suggestions for more effective weed control. It also provided an opportunity for the various weed workers to become better acquainted with the regulatory, extension and research work done in the province.

The fifth meeting of the Committee was held in December, 1963.

The Committee accepted the report of the findings of the National Weed Committee (Western Section) at their meeting held in Vancouver in December; such a report forms the basis of weed recommendations for 1964.

AGRICULTURAL SERVICE BOARDS

(a) No new Agricultural Service Boards were formed in 1963. There were 54 Boards operating, which included all municipalities except the M.D. of Acadia #34.

(b) Upon the Boards' recommendation there were 8 parcels of land placed under supervision in 1963, 84 were held under supervision from previous years and 10 parcels were released from supervision. There were also 2 parcels of land placed under reclamation, 22 parcels were continued from previous years and 4 were released from reclamation.

(c) Agricultural Service Boards held 226 field days and arranged 42 tours, where various aspects of weed control were featured. Personnel from the Soils and Weed Division took part in 32 such meetings. Members of the Division spoke at 18 short courses on timely weed topics and related subjects.

SERVICE BOARD AGREEMENTS

By agreement between the Minister of Agriculture and the municipality the Department continued to provide grants to Service Boards. These were on the same basis as last year, except that the grant for Field Supervisor's salary was extended to pay one-half of

the salary without the maximum limit previously in effect. In addition to grants paid for soil and weed control projects, under the Service Board Agreement, financial assistance was also available for the following programs: Brucellosis control, construction of municipal seed cleaning plants, forage seed for back-sloped roads, tree planting and pest control.

SOIL CONSERVATION

GENERAL

A survey of erosion damage conducted by Agricultural Service Boards indicated the wind erosion damage was not as severe and water erosion was about the same as in 1962. Twenty-two of 54 municipalities reported wind erosion damage occurred on 1,950 parcels and 33 municipalities stated that damage by water occured on 1,136 parcels. District Agriculturists and Field Supervisors in co-operation with this Branch conducted 71 soil conservation demonstrations such as gully filling and seeding, seeding eroded land, fertilizer use, etc.

SOIL CONSERVATION ACT

The Soil Conservation Act was passed in 1962 and increased interest has been noted by farmers and municipalities during 1963. The Act was established to encourage the adoption of proper soil conservation practices and to prevent the loss of soil through negligence and misuse. Information on soil erosion control and other soil problems was made available by this Branch to soil conservation officers appointed under the Act. Soil conservation officers have been appointed by most municipalities.

The Act also provides for the passing of by-laws by a municipality to prohibit or control the removal of top-soil and the burning of stubble. Eighteen municipalities have passed by-laws controlling the removal of top-soil by a system of permits. Fifteen municipalities have passed by-laws controlling the burning of stubble.

SOIL FERTILITY

Fertilizer demonstrations were again conducted by more than thirty Service Boards under supervision of this Division. Fertilizer was supplied by grants through Service Board programs and by the fertilizer trade. Cereal grain samples were threshed for yield determinations. Results were compiled and reported to the Alberta Advisory Fertilizer Committee as well as to the District Agriculturists and the co-operating farmer.

The use of commercial fertilizer continued to increase. The amounts sold in Alberta during the last six years are shown below:

	1958	1959	1960	1961	1962	1963
Tons	47,952	65,185	79,878	104,000	126,865	169,273

The use of fertilizer increased by almost 30% in 1963 over the previous year.

SOIL RECLAMATION PROJECT

This project was established to assist District Agriculturists and Agricultural Service Boards to promote proper soil conservation practices and to reclaim land by the use of forage crops and fertilizers. Each municipality was limited to 15 applications. Appli-

cants received assistance in the amount of one-half the cost of seed and fertilizer for 20 acres. The following table indicates the extent to which this project was used each year for the period 1959 to 1963.

	1959	1960	1961	1962	1963
No. of demonstrations	186	256	264	307	316
No. of D.A. areas participating	23	28	27	25	32
Total amount of forage seed (lb.)	37,238	54,654	66,178	68,272	70,130
Total amount of fertilizer	2,000	5,880	22,680	4,400	1,600
Total acreage covered	—	—	6,316	6,800	7,000

There was a considerable increase in the number of demonstrations with a small increase in total forage seed. The amount of fertilizer distributed under the project has been reduced to 400 pounds per applicant.

EXTENSION ACTIVITIES

(1) The Soils and Weed Division arranged for and took part in regional Service Board Conferences at Two Hills, Mayerthorpe, Provost, Foremost, Red Deer and Spirit River.

(2) Special chemical dealers' schools were held at Morrin, Grande Prairie, and Rycroft. A very successful dealer-farmer school was also held in November at Acme.

(3) Members of the Division spoke at 39 short courses on timely soils and weed topics. Fifty-two special meetings were attended.

(4) For the first time in many years no weed inspectors' schools were held, although much individual assistance particularly to new supervisors and weed inspectors was given.

(5) During April and May, eight short weed talks were broadcast on radio farm programs dealing with the Control of Canada, Sowthistle and Tartary Buckwheat. Eighteen other broadcasts were made dealing with timely topics on soil fertility, conservation management and some phases of weed control. Two television interviews were made on weeds and brush control.

(6) Thirty-two press releases were prepared, on weed and soil topics, for the weekly "Farm Notes".

(7) Four publications on weeds were revised and printed.

(8) The publication "Fertilizer Recommendations for Alberta" was completely revised and printed for distribution. Articles for general distribution were prepared on gully erosion control, the value and handling of straw and the clearing and breaking of land.

(9) The Assistant Supervisor attended the National Soil Fertility Committee meeting at Winnipeg, at which joint sessions were held with the National Soil Survey Committee.

(10) A series of four meetings were conducted on soils and soil management at Claresholm with approximately 35 members of the Argyle Agricultural Society taking part.

(11) The Assistant Supervisor took part in the prairie regional television short course "This Business of Farming". The first day's program was devoted to soil resources and land use.

(12) The personnel of this Division acted as Secretary to: Alberta Advisory Weed Committee, Alberta Advisory Fertilizer Committee, Land Utilization Committee, Agricultural Rehabilitation and Development (ARDA) Committee.

CROP PROTECTION AND PEST CONTROL

CROP PESTS

Grasshoppers

The total area infested with grasshoppers in 1963 increased 25% over the previous year's area. The accompanying map illustrates the areas of outbreaks and their relative intensities. The area shown and rated as "severe" totalled 5 million acres, the area rated as "moderate" was 3.3 million acres and the "light" area 11.4 million acres. The infestation was comprised of the 3 major pest species of grasshoppers. The clear-winged grasshopper occurred mainly in the infestation north of highway No. 1. The two-striped and migratory grasshoppers were the predominant species south of that highway.

Hatching in outbreak areas started in mid-May but unsettled weather caused hatching to become spotty and irregular. The extreme lack of moisture in the southern section of the province made the value of chemical control questionable but timely rains at the end of June aided in 'hopper control. North of highway No. 1 an increase in roadside, pasture and fence-line spraying was noted. This was attributed to experience gained from several years of combating the clear-winged grasshopper and the availability of a more efficient non-residue insecticide. Areas where chemical controls had been used in 1962, showed noticeably fewer 'hoppers. Damage to crops was confined mainly to the borders and margins of fields. The general rain which occurred across the infested area at the end of June removed the threat of additional damage.

Under the grasshopper policy, the Department distributed Dieldrin, Malathion and Dimethoate insecticides at cost, less shipping and handling charges, through municipal and district offices. Dimethoate was supplied for the first time as an alternate to Malathion and proved more efficient over a wider range of use than Malathion. Both chemicals were supplied for use where the residues of Dieldrin would be objectionable. Farmers buying any of the three insecticides were required to sign a declaration to emphasize correct usage of all chemicals particularly Dieldrin.

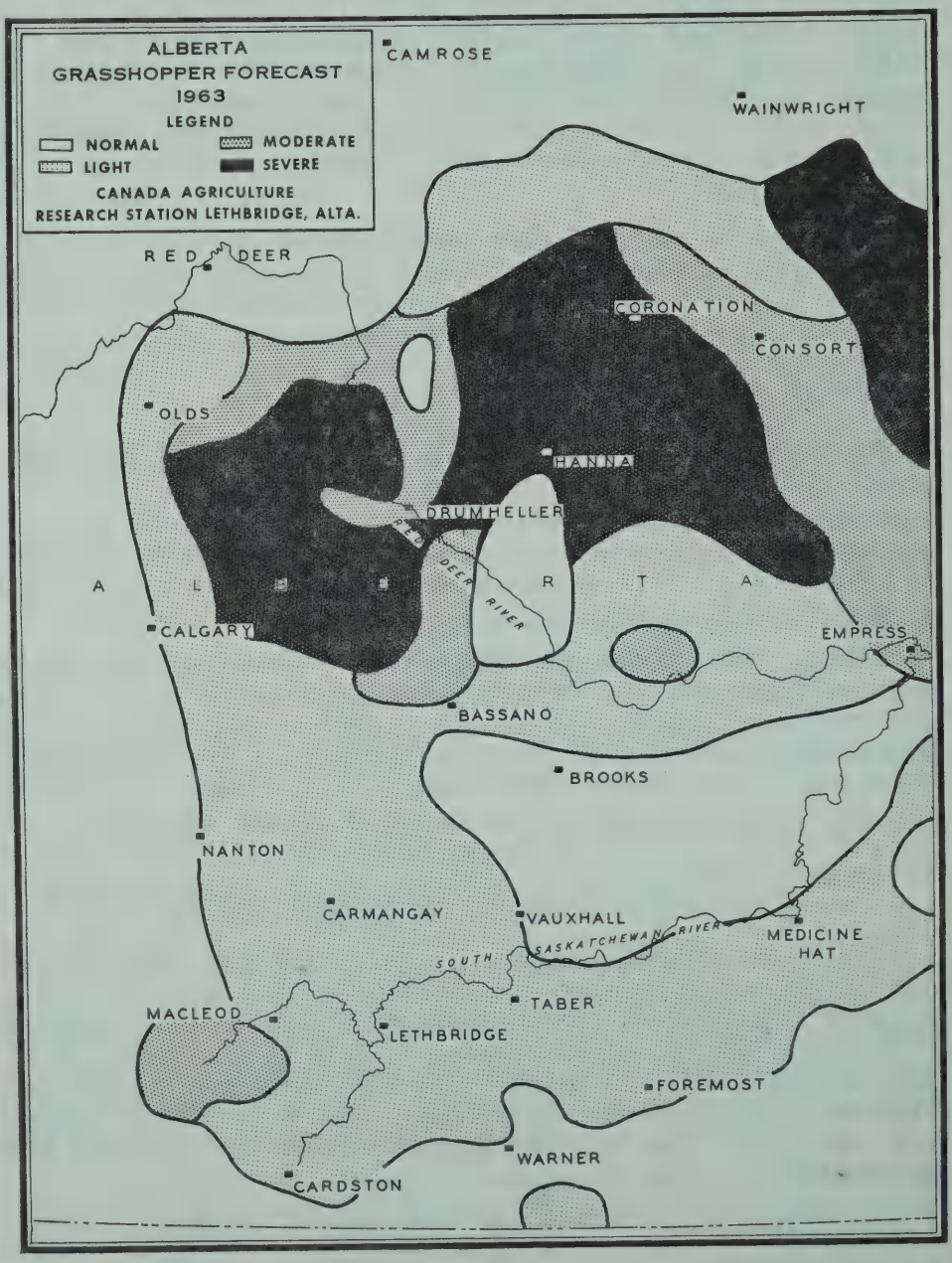
The 1963 grasshopper policy, forecast and map, were printed and distributed to municipal, district offices and other interested agencies. Grasshopper control information was distributed through Publication 139 "Chemical Control of Field Crop Insects—1963" and the revised Publication 145 "Grasshopper Control in Alberta". Four mimeograph sheets on different aspects of 'hopper control were distributed. The following table compares 1963 data with that of 1960-62:

	1960	1961	1962	1963
Acres Land Infested	6,800,000	12,000,000	15,500,000	19,700,000
Acres Crop Menaced	900,000	1,700,000	2,500,000	3,250,000
Acres Crop Destroyed	4,000	20,000	25,000	15,000
Lbs. Tech. Dieldrin Used	10,140	63,690	63,750	40,000
Lbs. Tech. Malathion Used	—	—	175,650	36,000
Lbs. Tech. Dimethoate Used	—	—	—	52,200
Acres Sprayed with Dieldrin	163,000	1,019,500	1,020,000	640,400
Acres Sprayed with Malathion	—	—	351,300	58,600
Acres Sprayed with Dimethoate	—	—	—	278,200

The 1964 grasshopper forecast as prepared by the Lethbridge Research Station indicated a decline in infested area by ⅓ with no "severe" outbreak areas. Indications are that the infestation has

passed its maximum intensity and is subsiding to levels of uneconomic importance.

An insecticide use survey was carried out in the grasshopper infested regions while active control measures were being used in the field. Farmers were interviewed and the effectiveness of rates of the different insecticides being used was assessed. Type of field use and possible areas of misuse were also examined in the survey.



Cutworms:

The Pale Western Cutworm was of little economic importance in 1963. Some damage did occur and a limited amount of spraying was done. Most damage was obscured by the severe drought conditions of April, May and June which existed in southern Alberta. The forecast and summerfallow control practices were mimeographed and sent to municipal and district offices.

The Red Backed Cutworm was of minor importance in 1963 and most occurrences were in gardens and scattered fields in north-central Alberta. The forecast prepared by the Lethbridge Research Station indicated a light and spotty infestation for 1964. The forecast and cultural control practices were sent to municipal and district offices.

The Army Cutworm appeared in outbreak numbers in the spring of 1963 from Drumheller to the U.S. border. Damage to crops was first reported in early May and continued until mid-May when the worms had completed their development. Due to characteristic early appearance of this insect, most damage occurred in winter wheat. Extensive chemical control aided in preventing damage in this and in other crops.

Say's Stink Bug

This insect occurred in numbers higher than had been recorded for twenty years. The infestation was confined to the Medicine Hat-Lethbridge area and extended north to Lomond and south to U.S. border. The mild winter of 1962-63 plus the limited spring rainfall contributed to the large increase in numbers. Normally the bug feeds on Russian thistle and other weed plants but when outbreak numbers occur, the second generation of insects appearing in mid-August, attack grain. Damaged in some fields due to shrunken kernels was high but very spotty and complicated by drought damage. Little insecticide control was used due to the difficulty of spraying headed out crop. Some spraying of ditches and roadsides was done to prevent the stink bugs migrating into adjacent fields.

Wireworms

Damage by wireworms remained at a low level in 1963 but some scattered locations reported damage. Increasing amounts of seed treated for wireworm control indicated the continual farmer awareness of the problem. Seed treated with insecticide for wireworm control by municipal seed cleaning plants increased by approximately 10% and now accounts for 8% of all seed cleaned. Wireworms have become an increasing problem in commercial potato fields and use of chemical control generally increased.

Aphids

Aphids did not reach levels of economic importance in 1963. Some reports of occurrence were reported in the Peace River area on rape seed and legume crops. No instances of the need of spraying were reported.

Forage Insects

Sweet Clover Weevil continued to be numerous throughout the province. Damaged fields were reported for nearly all parts of the province but personnel at the Lethbridge Research Station indicated that some damage to sweet clover stands attributed to weevils was caused by cultural practices. Investigation into these problems was planned for 1964. An appraisal of control by non-residue insecticides will also be continued in the next season.

Alfalfa Weevil populations present in the Milk River and Lethbridge region remained at last year's low levels. Damage was slight and little insecticide used.

Vegetable and Special Crop Insects

Flea Beetles were observed on rape seed and mustard crops during 1963. Most severe damage occurred in the northern and Peace River regions requiring protection for the seedling stage by either seed treatment or spraying. Beet Webworm populations were lower than in 1962 with no damage reported serious enough to require chemical control. There were 12,000 acres of sugar beets treated for protection against the Sugar Beet Root Maggot. Root Maggots in vegetable gardens were numerous particularly on cruciferous vegetables and onions. Colorado Potato Beetles were fairly numerous in potato fields as far north as Edmonton. Leaf Miners in beets and spinach were also a problem in the Edmonton district.

Shelterbelt Insects

The Forest Tent Caterpillar again caused serious defoliation of poplars in central and northern Alberta. Many shelterbelts particularly in the Peace River region required protection with insecticides. Canada Department of Forestry surveys indicated there should be some decline in the outbreak in 1964 especially in the older portions. Shelterbelts of aspen in southern Alberta were also badly defoliated by the Grey Willow Leaf Beetle during the spring months. Larvae of these beetles were responsible for defoliation on native willow later in the summer. The Yellow-headed Spruce Sawfly was present on some native stands and spruce shelterbelts in the north-central to east-central portion of the province. Some spraying was done to prevent serious defoliation. No additional districts used the Department's 50% grant for sprayers for insect control. The number of municipalities with these sprayers remains at 21. Approximately 280 shelterbelts were treated in 1963 with county and municipal equipment.

Other Insect Pests

Stored grain insect pests were of little importance during 1963. Most inquiries for information came from feed mills where these insects were a problem. Where requested, safety equipment such as gas masks and canisters were supplied for the safe use of fumigation chemicals. Numerous requests for control information on stored grain insects in household foods were also handled. Some 40 insect specimens were identified in addition to those handled by the Crop Clinic and numerous pamphlets and other information were supplied for requests in controlling Larder Beetles, Silverfish, Clover Mites and other household pests.

Bird Problems

Blackbird damage to corn and sunflowers continued to be a problem in the irrigation area. The new federal publication "Blackbirds in Field Crops" was distributed. Sparrows and starlings are frequently reported as pests of feedlots and farm yards. Information on live trapping, scaring devices and other control methods were supplied for blackbirds, starlings, sparrows and other bird problems.

CROP DISEASES

Diseases of Cereals

Smuts and Root Rots of cereals were generally low, partly due to extensive seed treatment. Stem Rust of wheat was scarce in central and northern areas but showed up at high levels on susceptible varieties in the south-west region. Wheat Streak Mosaic was also abundant in this area. Leaf Rust was moderate to severe and, combined with heat damage, resulted in reduced yield and grade. Barley Leaf Diseases such as Scald were generally low. The incidence of Ergot was generally lower than in 1962. Timely articles were released on seed treatment and disease control by crop rotation and good management practises. Municipal seed cleaning plants treated 4,046,300 bushels or 39.6% of total seed cleaned compared to 3,361,000 bushels in 1962.

Diseases of Other Crops

White Rust and Downy Mildew of rape were less severe than in 1962. There were further losses in older hybrid poplar shelterbelts infected by **Septoria** and **Cytospora** Canker. Fireblight of apples, mountain ash and related ornamentals continued high, especially in urban areas. For the first time, mountain ash was killed by this disease.

Diseases of Potatoes

(a) General

The annual field disease survey began on August 26 with 10 inspectors employed. Good weather and crop conditions allowed for a thorough survey of potato fields. Blackleg and Rhizoctonia were more prevalent, probably because of higher moisture. Leaf Roll, Wilts and Common Scab were generally low in most districts. Early Blight was widespread. It occurred early and reduced yields, particularly in the Taber-Brooks area where some fields were air-sprayed with a fungicide. Late Blight occurred in trace amounts only. On larger commercial fields especially, the use of certified seed, good sanitation and management showed in more vigorous crops.

(b) Bacterial Ringrot

The control program was continued in established Pest Areas. Ringrot infected stocks generally were disposed of before planting to reduce the use of infected seed and to prevent contamination of certified seed purchased. Except in a few cases, growers co-operated well in cleaning up and disinfecting storages. No official notices were served. Department high pressure sprayers working out of Edmonton and Lethbridge disinfected 20 cellars, plus machinery and equipment. Larger growers were encouraged to get sprayers for year-round disinfection; a number have done this. Certified seed lists were supplied to all commercial growers. Growers with ringrot in 1962 planted certified seed or seed grown on separate seed plots. Basic precautions proved effective in eliminating or preventing ringrot but generally the disease situation deteriorated.

The following table shows the crop situation and survey results, with 1959-62 data for comparison purposes:

RESULTS OF RINGROT SURVEY BY PEST AREAS FOR 1959-63

Pest Area	Year	No. Farms Inspected	No. Farms Infected	Acreage Inspected	Acreage Infected	% Infected Farms	% Infected Acreage
Lethbridge	1959	208	35	6,749	1,165	16.9	17.3
	1960	198	53	6,937	1,944	26.8	28.0
	1961	178	64	7,077	2,590	35.9	36.5
	1962	168	40	7,143	1,934	23.8	27.1
	1963	161	60	7,045	3,316	37.3	47.1
Calgary	1959	41	9	353	100	22.0	28.3
	1960	39	2	291	11	5.1	3.8
	1961	35	4	261	4	11.4	1.5
	1962	28	0	321	0	0.0	0.0
	1963	19	4	237	11	21.1	4.6
Brooks	1959	36	8	1,594	196	22.2	12.3
	1960	36	10	1,745	565	27.8	32.4
	1961	38	11	2,014	551	28.9	27.3
	1962	36	5	2,270	220	13.9	9.7
	1963	35	7	2,477	260	20.0	10.5
Edmonton	1959	148	25	2,956	507	16.9	17.1
	1960	126	16	3,123	264	12.7	8.4
	1961	124	27	3,114	973	21.8	31.2
	1962	110	6	3,387	430	5.5	12.7
	1963	112	22	3,902	715	19.6	18.3
TOTAL	1959	442	77	11,676	1,968	17.4	16.8
	1960	408	81	12,138	2,784	19.8	22.9
	1961	370	106	12,466	4,118	28.6	33.0
	1962	342	51	13,121	2,584	14.9	19.7
	1963	326	93	13,597	4,302	28.5	31.6

A total of 13,597 acres on 326 farms were inspected. The Canada Department of Agriculture co-operated in certified seed field survey in Pest Areas and provided diagnostic service for the Lethbridge area. Diagnosis of specimens from the Edmonton, Calgary and Brooks districts was done by the Field Crops Clinic. More infected farms were found in all areas with an increase in the total number to 93 from the 51 of 1962. The increase was considered due mainly to misses under the difficult inspection conditions of 1962 and the use of poorer quality seed.

As in previous years, most infections occurred in trace amounts. However, in the irrigation area especially, some large fields showed levels from 1 to 5%. A special meeting of officials and growers was called at Brooks in October to review the situation. Proposals to improve control were discussed at grower meetings held at Brooks, Vauxhall and Taber in November. All growers with ringrot infection were contacted by registered mail and by personal interview to advise and assist with orderly crop disposal and control measures. A circular "Bacterial Ringrot" was distributed to affected growers, along with various publications and disease charts.

LIVESTOCK PESTS

Cattle Grubs and Lice

Field testing and promotion was continued with new livestock systemic insecticides. Data from field tests of previous years was supplied and was of special interest to districts forming cattle spraying associations. The principle of larger area control through co-operative use of equipment or joint action was further emphasized. The municipalities of Grande Prairie, Wetaskiwin, Stettler and Paintearth began area control projects. There are now in Alberta a total of 47 spraying associations, plus numerous individual and custom operations. Most Agricultural Service Boards provided sprayers for demonstration or service spraying. There was some curtailment of this service following the outcome of the

court case at Lethbridge where a county, the field supervisor and a chemical company were held liable for damage to Malathion sprayed bulls. Some 112 demonstrations were held and 866 herds with 59,000 cattle were treated for warbles and lice.

The Forestburg Warble Test Project completed in 1962 was kept under observation. The 2 spraying associations in the area have continued treatment of about ⅔ of the 6,000 cattle in the project. The 2 systemic insecticide sprays, Co-Ral and Ruelene, have given almost complete control of warbles and louse control was effective for 4 to 5 months overwinter. Spring checks were made on 5 field tests in various districts to get further data on Co-Ral "pour-on". Investigations were made in the Manville and Athabasca districts on black flies attacking cattle. Fourteen field trials were conducted during the year for information on control of warbles with medicated mineral, house fly control with treated cords and bands, etc. Publication 157 "Control of Livestock Insects" was revised and distributed. Several timely articles were prepared for TV, radio, the farm press and district offices.

Magpie Control

Few reports of magpie damage to livestock were received. Control by winter poisoning provided relief where needed. Control demonstrations with poison sets have been conducted in practically all districts to train municipal officials, who then could assist with individual and local programs. The Division cooperated in control campaigns in the Medicine Hat, Warner, Cardston, Lethbridge, Brooks, Consort, Castor, Stony Plain and Spirit River districts. Publication 120 "Magpie Control in Alberta" and other printed information and forms were supplied. Agricultural Service Boards reported that 379 recorded poison sets were used and an estimated 19,500 magpies killed under the winter control program.

Coyote Control

During the fall coyote damage increased in the parkland and wooded areas since rabbits and other wildlife food supplies were scarce. However, many coyotes were taken for the increased value of their pelts and the use of poison decreased. The following approved poisons were supplied free of charge to 87 approved districts which cover all settled areas of the province: cyanide guns (coyote getters), strychnine and sodium fluoroacetate (compound 1080). Since 1951 when the Department undertook the control of coyotes in agricultural areas, a total of 43,090 coyote getters, 117,640 cyanide cartridges and 1,030,300 strychnine pellets were distributed to farmers by provincial and municipal pest control officers. For farm use, the easier-to-apply strychnine was preferred over coyote getters. The latter have been recalled wherever not actively used, in the interest of animal and public safety.

The following table shows the amounts of major coyote control material supplied and estimated coyote kills by the 3 poisons used, with 1959-62 figures for comparison purposes:

	Coyote Getters	Cyanide Cartridges	Scent (2 oz. Jars)	Strychnine (Pellets)	Estimated Coyotes Killed
1959	240	820	1,330	66,000	32,700
1960	110	1,170	1,150	59,000	28,300
1961	720	1,120	910	39,000	26,600
1962	230	1,780	1,050	53,000	28,800
1963	600	1,300	990	50,800	21,800

Coyote control was continued in areas outskirting settlement. Four provincial pest control officers were employed during the winter in Improvement Districts without Agricultural Service Boards. During the summer 7 provincial weed inspectors handled coyote control along with regular duties.

The poison 1080 was set in sparsely settled areas to help individual farmers using other control measures on their own land. Under a co-operative program with approved municipalities the following 1080 baits were prepared and set during the winter season:

District	No. Baits Set
Athabasca, County No. 12	14
Bonnyville, M.D. No. 87	4
Cardston, M.D. No. 6	27
Grande Prairie, County No. 1	2
Kneehill, M.D. No. 48	12
Lacombe, County No. 14	11
Leduc, M.D. No. 75	15
Lethbridge, M.D. No. 25	2
Mountain View, County No. 17	5
Newell, County No. 4	8
Pincher Creek, M.D. No. 9	12
Ponoka, County No. 3	2
Red Deer, County No. 23	15
Starland, M.D. No. 47	6
Stony Plain, M.D. No. 84	13
Strathcona, County No. 20	5
St. Paul, County No. 19	12
Taber, M.D. No. 14	3
Thorhild, County No. 7	7
Vermilion River, M.D. No. 71	14
Warner, County No. 5	6
Westlock, M.D. No. 92	6
Wetaskiwin, County No. 10	15
Wheatland, County No. 16	17
Willow Creek, M.D. No. 26	11
Special Areas No. 2 and 3	12
I.D. No. 11	26
I.D. Nos. 22 and 24	12
I.D. Nos. 58, 65, 68 and 69	19
I.D. Nos. 77, 78 and 95	16
I.D. Nos. 85 and 101	7
I.D. No. 102	12
I.D. Nos. 107 and 122	7
I.D. Nos. 108 and 109	11
I.D. Nos. 124, 125 and 126	2
Total Baits, 1963	368

A total of 80 districts are now approved as areas where 1080 may be set. No new districts were approved in 1963. The following table shows the 1080 program for the last 5 years:

	1959	1960	1961	1962	1963
Number of Sets	632	529	605	573	368
Number Districts Using	55	54	53	59	47
Number Districts Approved	72	73	74	80	80

The Supervisor, his Assistant and 3 Fieldmen, working out of Edmonton and Lethbridge, serviced 47 districts using 368 baits.

RODENT CONTROL

Pocket Gopher

There was considerable interest in control of the pocket gopher in forage crop fields, gardens and shelterbelts. Publication 124 "Pocket Gophers" was used to supply control recommendations for small infestations in urban and rural areas. For larger infestations, testing and demonstrating was continued with the Department's "burrow builder machine". Field tests were also continued to find grain baits that were more suitable than strychnine-carrot baits. Demonstrations were held in 4 districts and assistance was given in 5 districts in the operation of the Elston gopher getter machine. Fourteen municipalities now have machines available for mechanical bait application by farmers on their own land.

Other Field Rodents

Rabbit damage to ornamentals and shelterbelts decreased since the rabbit population dropped significantly in most areas. Mouse damage to nursery stock remained a problem; further testing was done with repellents and control materials. The Columbian ground squirrel was reported troublesome in the Porcupine Hills and the southern foothills. Some co-operative investigation was begun with the Fish and Wildlife Division.

Norway Rats

The control program was continued in all parts of the province with special emphasis on the east border. The following table indicates the rat situation on December 31, 1963, with 1961-62 data for comparison purposes:

	Year	Verm. River M.D. No. 71	Wainwright M.D. No. 61	Provost M.D. No. 52	Special Areas No. 2 and 3	Acadia M.D. No. 34	I.D. No. 11	I.D.'s 85 and 101	Totals
Premises Checked	1961	817	366	568	566	182	457	265	3,221
	1962	1,071	300	568	556	177	482	242	3,396
	1963	1,072	263	573	482	173	493	335	3,391
No. Infestations Exterminated	1961	36	8	7	35	13	13	24	136
	1962	33	5	4	12	3	5	21	83
	1963	28	6	4	11	2	4	11	66
No. Infestations Remaining Dec. 31	1961	3	0	0	2	1	1	3	10
	1962	0	0	0	1	0	1	0	2
	1963	2	0	0	2	0	0	0	4

A total of 70 premises were infested during the year as compared to 85 in 1962. All but 4 infestations were exterminated by the end of the year and these were being systematically eliminated. The invasion from the east further decreased, showing the results of steady, concerted action in all districts along the east border. A joint meeting of Alberta and Saskatchewan authorities was held in February and considerable assistance was given during the year to Saskatchewan officials. Their control program, covering the region between the North and South Saskatchewan rivers, east of our border, further helped to decrease the invasion. Co-operation of the public was generally excellent. No Notices to Control Pests were issued and no court action was necessary. Rats were held all along the 380 mile front and confined to a narrow strip along the east border.

The Department's 50% grant toward the salaries and expenses of municipal pest control officers was continued in 6 border districts. Two full-time provincial officers worked closely with municipal men and residents, and supervised control in northern Improvement Districts. Some 250 pest control officers were appointed by rural municipalities, cities, towns and villages to handle local infestations. Outside the east border area, 65 suspected rat cases were investigated. In the border control area, emphasis was placed on long-term control measures such as improvement of garbage disposal grounds and rat-proofing of buildings. Warfarin and Pival poison baits were widely distributed, free of charge, to residents in the east border area. The following quantities of bait were used during the year: Ready Mixed—16,000 pounds and Water Soluble—1,800 packages. Estimates based on average rat infestations and amounts of poison used, indicate that over 21,000 rats were killed.

Educational rat displays and demonstrations were used at summer fairs, TV, radio and other media. Rat control films, colored slide series, live and mounted rat specimens and control materials were used and supplied for various meetings in Alberta and Saskatchewan. Newly appointed pest control officers were supplied with control kits, posters and publications. Field trials were conducted to test new poison formulations. Several timely articles were prepared for the press and Department publications.

PEST CONTROL COMMITTEES

The 7th annual meeting of the Pest Control Advisory Committee was held in December, with the Supervisor serving as secretary. The Predator and Wildlife Sub-Committee also met in December. The Supervisor attended the 2nd annual meeting of the National Committee on Pesticide Use in Agriculture and served on 2 working parties handling assignments for the NCPUA. Meetings of the western Canada sections on field crop insects and livestock pesticides were attended. Various problems of mutual concern were dealt with by the above committee on a provincial, regional and national basis.

MISCELLANEOUS

The Supervisor and his Assistant spoke at 63 meetings, short courses and field days. Twenty-seven conferences and committee meetings were attended. Fourteen articles were prepared for Farm Notes and the farm press; 26 radio and TV interviews were made. Various investigations were carried out, in co-operation with the Food Residue Committee, on positive cases of pesticide residues at farms and processing plants. There were 228 field investigations made on various pest problems.

HORTICULTURE

HORTICULTURE SERVICES

Alberta farmers planted 2,394,455 trees from the Provincial Nurseries at Oliver and Brooks. This is an increase of 692,125 over the previous year. The number of farmers receiving trees was 4,282, an increase of 617 over 1962. The losses were small except in the south-east part of the Province and an area around Edmonton where moisture was a limiting factor during the planting season.

TREE NURSERY—OLIVER

There were 2,089,855 trees supplied to 3,973 farmers from the Oliver Nursery. This is an increase of 706,545 trees and an increase of 563 applications over the previous year. In addition to the trees supplied to farmers 328,750 were provided for forestry purposes and to local organizations for beautification and shelter. A grand total of 2,723,205 trees were shipped in 1963, an increase over 1962 of almost one hundred percent.

An inventory of trees, at the end of 1963, included 3,876,745 field stock, 1,932,355 seedling material, 1,716,065 trees heeled in for 1964 shipment, 2,357,895 evergreen seedlings for the Department of Lands and Forests and 13,735 trees and shrubs for planting in Provincial Parks. In addition to these 9,896,795 trees the Nursery staff made approximately 926,000 hardwood cuttings of several varieties of willow and poplar.

Seed of the following varieties was extracted and cleaned, maple, green ash, tartarian honeysuckle and villosa lilac. Because of a poor seed year in the forest areas of the Province the extraction of spruce and pine seed for the Department of Lands and Forests was greatly reduced.

One and one-half miles of windbreaks were planted on the new land. The following varieties were used: Russian and North-west poplar, Manitoba maple, green ash and China willow. Forty acres were summerfallowed for planting in 1964 and forty acres broken for planting in 1965. Manure supplied and delivered free by Western Stockyards Limited was spread over 60 acres and ploughed under. In addition, several thousand tons were stock piled for future use.

Three hundred seed beds were constructed and seeded for the Department of Lands and Forests. An improved type of seedbed was developed, made from iron instead of wood which speeded up the construction and laying out the beds. In addition to the seed beds planted for forestry purposes 300 were planted for shelterbelt purposes.

The greenhouse was doubled in size to accommodate the new projects for the Department of Lands and Forests. The site for the new cold storage plant was cleaned and leveled. Construction is underway and the building should be ready for use in 1964. A small laboratory for testing the germination of tree seeds was established and over 300 tests will be made during the winter of 1963-64.

The bullet planting project was continued in 1963 for the Department of Lands and Forests. Twelve thousand seedlings were started in bullets and shipped to Hinton for planting in the forest region. Seedlings were grown under both mist and in a hydro tank. A new hydro tank and pump were installed in the greenhouse. Limited grafting of Western Larch was done in 1963 in order to evaluate this variety.

Two thousand seven hundred feet of 3″ aluminum pipe was purchased to improve the movement of water on the Nursery for irrigation purposes. The following equipment was added to the Nursery inventory, a manure spreader, roto tiller and a cultivator. A machine to spread sand on the seed beds was designed and constructed by the Nursery Staff. A small lath house was built by the staff. A new concrete spillway was constructed on the Horse Hill Creek, to prevent wash out at the dam and damage to the Nursery. A new form to increase the efficiency and speed of handling tree shipping was introduced.

Thirty large spruce trees were moved to new locations on the Nursery and a few supplied to the Department of Education for landscaping the Northern Alberta Institute of Technology. All the poplars were pruned in the permanent shelterbelts and all diseased or damaged material removed. Sesone was used for weed control throughout the Nursery and new herbicides were evaluated.

Four lots of registered seed of grass and legume were cleaned for the Department. A new carter disc was purchased and installed.

The Nursery employs the following staff, 4 permanent men, 11 for summer work and 48 casual men hired during the shipping season. One man employed by the Department of Lands and Forests is stationed at the Nursery on a 12 month basis.

HORTICULTURAL ADVISORY COMMITTEE

This Committee was made up of representatives of the University, Research Stations of the Canada Department of Agriculture, personnel from the Field Crops Branch and representatives of commercial and amateur horticulture industry in the Province. The Committee was responsible to and reported to the Crop Production Board.

ALBERTA HORTICULTURAL ASSOCIATION

The Association held its 11th annual meeting at Red Deer in March. The 9th annual Provincial Show was held in Red Deer in August in conjunction with their annual Bench Show. The Executive met twice and four issues of the Alberta Horticulturist were published and well received by the public.

NURSERY INSPECTION

In co-operation with personnel of the Plant Protection Service of the Canada Department of Agriculture, the Supervisor of Horticulture inspected 19 Commercial Nurseries. The inspection was carried out to check the Nurseries for disease and insects with particular attention paid to imported stock. As a result of this inspection the Department intends to issue in 1964 a list of approved nurseries.

TUBER INDEXING OF FOUNDATION POTATO SEED

The service of indexing foundation potatoes was continued by the Field Crops Branch, Horticultural Station, Brooks and the Canada Department of Agriculture. One thousand, six hundred and forty-two tubers were prepared and grown in the greenhouse at the Provincial Horticultural Station and disease readings taken on March 11th and 12th. Sprouting was a little slow but later plant growth was exceptionally good. Virus infection was very heavy. In 1963 only 49.9 percent of the tubers were returned to growers as compared to 79.3 percent in 1962. This difference was likely due, at least in part, because of the severity of the readings and to the new method of taking eyes from the sprout end of the tubers. The largest number of rejects were because of the virus diseases, mosaic and Leaf Roll. A small percentage did not germinate. The varieties tested were Netted Gem, Warba, Red Pontiac, Early Gem, Chinook, Kennebec and Bliss.

POTATO PRODUCTION IMPROVEMENT COMMITTEE

This Committee appointed by the Horticultural Advisory Committee was composed of potato growers from all producing areas of the Province and Government personnel interested in potato production and marketing. It has the responsibility of assisting the potato industry in the Province and acting in an advisory capacity to the Horticultural Advisory Committee. The Committee met only once in 1963, the annual meeting being held in Edmonton in December.

SEED POTATO PRODUCTION

The following table is an 8-year summary relative to potato seed production in Alberta:

	1956	1957	1958	1959	1960	1961	1962	1963
No. of Growers	72	65	61	68	62	57	51	50
No. of Fields Inspected	220	222	203	266	253	249	190	182
Acres Inspected for Cert.	1,328	1,577	1,615	2,070	1,847	2,196	1,617	1,607
No. of Fields Rec. Cert.	186	188	172	236	223	158	179	160
Acres passed for Cert.	129	272	1,300	1,716	1,547	1,442	1,415	1,475

OTHER ACTIVITIES

The Supervisor of Horticulture addressed 21 public meetings. In addition he spent time in 28 District Agriculturist areas assisting with tree planting, farmstead planning and beautification and other horticulture matters. He assisted at four 4-H Garden Achievement Days. He also addressed 4-H Leader Conferences and acted as a judge at the 4-H elimination contest at Olds. He attended eight monthly meetings and three Executive meetings of the Edmonton Regional Planning Commission. Twelve visits were made to the University to discuss matters of mutual interest and concern. Two talks were given on the Department's daily radio program "Call of the Land" and one radio and three TV appearances on the C.B.C. Twenty press releases were published in the Department's Weekly Newsletter "Farm Notes". Sixty-four trips were made to the Oliver Tree Nursery and four trips to Southern Alberta and two to the Peace River to attend meetings and Field Days regarding special crops and problems in the areas. He is a member of the Alberta Horticultural Association and attended the annual meeting and also the judging school sponsored by this organization. He acted as judge at eight local Fairs and Horticulture Shows. Five visits were made to the Crop Clinic to discuss problems of mutual concern. Horticulture advice and information was given to several hundred parties by mail and telephone. He represented the Department at the 1963 meeting of the Canadian Horticulture Council held in Ottawa.

HORTICULTURAL STATION, BROOKS

INTRODUCTION

Basic programming of the Station's work was divided into four sections: Tree Production, Vegetable Growing, Tree and Small Fruit Studies, and Woody and Herbaceous Ornamental Trials. This work was conducted on some 445 acres of farm land of which some 345 acres were irrigable. One hundred acres were in rotation crops. Twenty to 25 acres were actively used for vegetable trials. Orchards, and the growing of trees and shrubs for farm windbreaks occupied about 200 acres. Super-imposed on this applied horticultural program was a broad educational program.

VEGETABLE TRIALS AND PRODUCTION

Commercial Pilot Plantings—Eight types of vegetables were used in the commercial vegetable production program. These included varieties of carrots, tomatoes, onions, parsnips, corn, celery, lettuce and turnips. Carrots, grown primarily to introduce an Alberta grown product, well graded and attractively packaged for the commercial trade, formed the basis of the program. Yields of carrots, dependent on date of seeding and cultural program, varied from 10 to 15 tons per acre. Marketed as bulked, washed, rough graded carrots at $70.00 to $80.00 per ton or as polypacked 2- and 3-pound bags at $120.00 to $160.00 per ton, they had a satisfactory net return. Prices advanced, with lengthened storage periods to over $200.00 per ton. Storage problems made heavy cull-out and shelf life was reduced as storage period lengthened. In competitive sales on supermarket shelves, Alberta carrots outsold, at comparable prices, imported carrots on a two to one ratio. Trial shipments of this product were accepted favourably by all the major wholesalers

in Alberta. Consumer reaction has been excellent. The crop harvested in the fall of 1962 was marketed at regular intervals through wholesalers and chain stores up to April 24. This program presented major storage problems and the effort of the past year was directed towards finding solutions.

Four tomato varieties were used in this year's trial. Early plantings had the first ripe fruit harvested on August 2nd. This picking was 14 days in advance of the normally planted crop and by August 16th had produced 20 times as much ripe fruit. Comparative yields have been tabulated as follows:

TOMATO YIELDS IN POUNDS/270 FOOT ROW

Variety		Aug. 2	Aug. 16	Aug. 20
Red Bobs	E	26	470	536
	L	—	23	43
Globe Trotter	E	12	491	605
	L	—	1	30
Alpha 5	E	12	488	633
	L	—	2	20
Bush Beefsteak	E	2	475	615
	L	—	9	14

E—Planted May 10 under hot caps
L—Planted June 6

Hot caps for tomatoes advanced the crop 14 days and produced 20 times as much fruit.

Some tomato varieties yielded in excess of 25 tons per acre by August 29th. Harvesting, cooling and packaging of this crop presented many difficulties before it met wholesaler acceptance. Flesh firmness was a major weakness.

Parsnips were again grown to test market acceptance. This crop, on a limited acreage, would produce a high return per acre, per dollar invested. Yields varied from six to ten tons per acre and returned from $120.00 per bulk ton to $240.00 per ton in 2-pound poly bags.

Pilot plantings of lettuce were harvested and shipped to the wholesale outlets. High summer temperatures limited the produc-

tion of this crop, with the varieties available at present, and it would be much more adaptable to areas of higher elevation and more northerly location. Tip burn and aster yellows were limiting factors in southern Alberta.

Nine hundred to 1,000 dozen cobs of sweet corn per acre were harvested, hydro-cooled, husked and poly-packed. This product met a good customer acceptance even at prices sufficient to meet the high cost of processing. Corn handled in this way during the past season gave a net return of between $250.00 and $300.00 per acre.

Two varieties of celery were used in a pilot planting and were marketed through wholesale outlets. Cost of production of this crop runs in the vicinity of $900.00 per acre. A net return in the neighborhood of $1,200.00 per acre justifies the management and production cost. This crop with a high tonnage and market value was readily acceptable.

Onions are a proven crop in southern Alberta. Better varieties and cultural procedures are necessary. Weed control involved high labour costs and to date herbicidal weed control has not been satisfactory. Curing and storing techniques need considerable work,

Vegetable Varietal Trials—697 varieties of 45 kinds of vegetables were included in the 1963 program. Major emphasis was placed in the screening tomatoes, sweet corn, and celery varieties. Specialty crops, including brussel sprouts, broccoli, and peppers, attracted favourable comment from the wholesale trade. They expressed interest in the potential production of these crops.

Tomato Breeding—In 1963 over 26,000 plants comprised the 335 selected lines reviewed. From this body of material, 143 outstanding plants were selected. On hand, awaiting introduction were three promising seedlings. Of two varieties of tomatoes already introduced, Globe Trotter and Red Bobs, the latter has been favourably received. Both were used as breeding material because of their color and earliness. Selected paste type varieties were included in the breeding program.

Potato Breeding and Selection—Seven to eight thousand seedlings were grown in our two-fold program of potato breeding. Our first aim has been a main crop potato variety, similar in type and quality to Netted Gem, free from scab but with a two-week earlier maturing date and fewer of the temperamental growth habits of the Netted Gem. A potato, for our early market, with scab resistance, has also been sought. From controlled-cross seed, seven thousand, eight hundred and nineteen seedlings were greenhouse grown and harvested. From the 1962 seedlings production of 7,422 seedlings, 139 selections were made. The 275 field selections from 1961 were reduced to 95 in the annual re-selection program. Appraisal of yield and marketable percentage, the application of culinary and other tests as stock became available, reduced the 1960 and 1959 entries to 34 clones. Of eight numbered varieties from 1958, 1957 and 1956 six have reached the National Adaptation Trials and two others are ready for entrance. In addition, several very promising stocks were on hand among the younger selections.

SHELTERBELT TREE PROGRAM:

Tree seed collected and cleaned ready for storage or planting amounted to 4,020 pounds. With a carry-over from 1962-63 this left a net tree seed stock of 5,843 pounds. Some 1,729 pounds of tree seeds were stratified and seeded. There were 380,000 hardwood cuttings of poplar and willow species prepared and planted. On hand for our next shipping season are 378,000 seedlings of trees and shrubs suitable for roadside, field and shelterbelt planting. Supplementing this are 130,900 rooted poplars and 54,000 rooted willows. This makes a total of 563,000 trees for spring shipping.

During the spring shipping season, the Station distributed to the people of rural Alberta 304,600 trees. This was supplemented by 20,000 trees shipped to the University of Alberta campus, Calgary, and a planting on the Station grounds of 32,700 trees.

Tests were continued to investigate stratification problems and it has been found that native Mountain Ash (**Sorbus decora**) if treated with sulphuric acid before stratifying in peat moss had an earlier germination and stronger growth. Heavy shade was necessary for land in which this seed was planted to promote germination. The same was true with native Buffaloberry (**Shepherdia argentia**). Normal stratification, even over a long period of time, gives very poor germination. Pre-treatment with sulphuric acid and stratification in peat moss has been found to give early germination and strong growth. Hawthorns have always been most difficult to grow from seed. The Russian Hawthorn (**Crataegus maximowiczi**) has been found to germinate well if treated with sulphuric acid and stored clean in heavy polythene bags. The seed was washed once a week in fresh water and regularly changed from a low temperature of 38°F to a high temperature of 65°F. Other hawthorns have not responded to this treatment.

FRUIT BREEDING AND SELECTION

Tree Fruits—A block of 5,311 apple seedlings from the Prairie Co-operative Fruit Breeding Program, planted in 1953, has given 14 selected trees which have been propagated for further study. Selection was limited by the late spring frost in the second similar block of apple seedlings, which should have come into production during the past year. As a result of the same frost no apricots, and very few plums, set fruit. Similarly, in the Sandcherries, Nanking cherries, and Mongolian cherries, only four selections were possible. Propagation of an early outstanding plum, B#58, was continued.

An outbreak of fireblight in 1962 was not checked effectively by the use of Agristrep and other standard sanitary measures. It exploded in 1963, causing extensive casualties in apples, crabapples, and destroyed a newly set out pear orchard. It infected **Crataegus, Sorbus,** and Cotoneaster stocks, and was also noted on **Prunus.** To aid in combating this outbreak, NIA 3514, a systematic bacteriacide, was tried on some 600 trees, two-thirds of which showed infection at the time of application.

Requests filled for farm and demonstration orchards numbered 367 and some 2,885 named or numbered apples, crabapples, plums and apricots were made available. Three large plantings of seedling apricots were established with farm growers in the central and eastern parts of the province.

Small Fruit—Five years of yield data have been completed in the raspberry trials. There are 45 named or numbered varieties in this trial planting. Trent and Honey King were in the top five for yield in both 1961 and 1963. The varieties Ridieu, Chief, and Latham were also among the top five high yielders.

Trailing raspberries from Wyoming seed, fruited and one selection was made. Four new varieties of Elderberries, received from Kentville, N.S., did well, showing very little winter kill.

Eleven thousand strawberry seedling crosses comprised the 1960 planting and thirty-five selections were made. Further crosses, in fifteen combinations of varieties, were made seeking quality and hardiness. Greenhouse started, 2,643 new seedlings went into the 1963 spring planting. In varietal and seedling trials to date, British Sovereign has proven the hardiest and most vigorous, and highest in both yield and quality of berries.

ORNAMENTALS

The ornamental work at the Station continues to increase in extent and importance. It appeals to and affects the largest number of people reached by the Station program.

The gladiolus collection was a major source of attraction. It now has 1,112 varieties of which 140 were added as new introductions in 1963. Forty-five of these were donations to the collection. Approximately 22,000 blooming size corms, plus the increase, occupy nearly one-half an acre of land (3,300 were seedlings from Station-grown seed).

The shrub and garden type rose collection had 76 new varieties added during 1963 bringing this collection to 160 varieties. Other herbaceous ornamentals in collection form are the chrysanthemums with 80 varieties, the iris with 35 varieties, and the lilies with 61 varieties, (this includes the complete introduction group of the late Dr. Patterson), and 22 fall blooming asters. The Nurserymen's request for the naming of Brooks No. 2, a white-berried saskatoon, with very attractive fall foliage, was granted.

An effort has been made to encourage the greenhouse and nursery trade to propagate the new race of Harvest Giant mums developed by the Grand-Mere Nursery, Niles, Michigan. These large hardy outdoor chrysanthemums have proved a major attraction during the late fall months.

No further additions were made to the tulip or peony collection which, in their season, were the focus of visitor attention.

HERBICIDES

Herbicidal work with vegetable crops was closely linked with our vegetable production. Sound, practical methods have been developed for weed control in carrots and they were used under commercial production. Control of weeds in celery and tomatoes has been satisfactory and we can now carry the pilot program into practical work. Residual problems presented themselves in weed control programs applied to corn. This is not a factor if corn is to be grown for a number of years in the same field. A satisfactory control program for weeds in onions has not been found and will form a major part of our continuing program.

A practical program of weed control in orchards and shelterbelts has been generally worked out and was put into practice during the past season. It is based on the use of 2,4-D, Embutox, Tropotox and Reglone as directed sprays. The screening trials brought out a promising new herbicide, FW925, to which many crops show tolerance.

PROCESSING

Quality was assessed in fresh and frozen fruits and vegetables. Boiling, chipping, French frying and baking qualities were checked for 60 potato varieties and seedlings produced in the National Trial Studies and the Early Tuberizing program. Seedlings selected from the Brooks potato breeding program, 136 in number, were evaluated with similar quality tests. Taste panel appraisals were made on 210 varieties of vegetables which included fifteen different kinds. Similar trials were carried on eleven varieties of seedling strawberries, 23 varieties of raspberries and 68 rhubarb seedlings. The strawberries and raspberries which were processed are selected seedlings from the breeding programs carried on with these fruits. Using honey as a sweetening media, trial tests were run on strawberries for the Provincial Apiarist. Recommended processing methods for cucumbers were checked for the District Home Economist.

CO-OPERATIVE PROGRAMS

Participation in seven co-operative programs included the Prairie Fruit Breeding Co-operative program, the Ornamentals Varietal Testing Program, the National Potato Trials, the Forage Corn Trials, the Sunflower Varietal Test program, the Carrot Fertilizer program and the Onion Hybrid Trials.

The Forage Corn Trial included 36 field corns, both hybrids and open pollinated varieties, four hybrids between sorghum and sudan grass, one forage sorghum hybrid and three grain sorghum hybrids. The sorghum sudan grass hybrids proved themselves well suited to silage and late summer pasture use. The best of the silage corn hybrids are yielding above 7 tons of dry matter per acre and the mature ear corn varieties are yielding above 9 tons of dry matter per acre.

Nine varieties of sunflowers were grown, including 7 of the newly introduced Russian varieties, the Advance hybrid, most commonly grown on the prairies, and a Mennonite variety which has been selected for a number of years at this Station.

A preliminary fertilizer block was laid down in co-operation with the soils section of the Canada Research Station, Lethbridge, in the hopes of determining a fertilizer program that would give earlier high yielding crops of carrots. No definite pattern was apparent as a result of the first year's work.

EDUCATION

The major field day of the season was attended by 640 registered guests. These people represented a wide cross-section of horticultural interests. It gave an opportunity for grower, processor, wholesaler, and retailer to evaluate the projects and discuss

their problems with one another. Nine minor field day groups made use of the organized facilities on the Station to broaden their knowledge of applied horticulture. During the 1963 season 2,087 guests registered their attendance at the Station. The Station was pleased to act as joint hosts at lunch with our Minister and Deputy Minister when the heads of the Provincial Departments from across Canada visited the Station. Two students from Somali, Africa, spent some time at the Station observing cultural methods, irrigation and the various programs. A group of Florida vegetable growers were very much impressed with our fresh vegetable production program.

The Station staff covered a wide section of the province assisting at meetings and conferences. These included 11 short course lectures, 16 service club and society meetings, the supplying of 24 judges for flower shows, ten visits to nurseries and nurserymen's association meetings, and participation in five field days and trips in connection with horticultural development. The vegetable pilot plant project entailed 85 calls. Three meetings to co-ordinate the work between the Station and the Canada Research Station at Lethbridge were held. A shelterbelt survey, in co-operation with the District Agriculturists, was commenced. Five newsletters were released through the Radio and Information Branch and some 2,517 first class letters were handled by the office staff. A welding and a plumbing course, under supervision of the Extension Branch, made use of Station facilities.

Three student workers are registered in horticulture at the Olds Vocational Agricultural College and three of the classified staff are registered in the Horticultural Correspondence Course with the Ontario Agricultural College, Guelph. Landscaping service, conducted during the winter months by the Station staff, prepared 15 farm plans, four public building plans, two parks plans, and ten residential property plans. Six visits relative to landscaping problems were made.

The Vegetable Pilot Program, in co-operation with the Special Crops Supervisor, saw the hydro-cooler, vegetable washer, and the grading machinery meet an increased demand from growers. The Station staff was closely associated in the supervision and operation of the equipment.

CAPITAL STRUCTURES AND MAINTENANCE

The surfacing of the main road to, around the offices, and the parking area was the largest major undertaking. A drainage channel was started through the low lying area of Plot 2. This was a substitute for deep tile drainage and pumping sumps. Replacement of the boiler heating the main buildings was effectively accomplished. Two double cold-frames were added to the greenhouse establishment. Construction of an ice house has made natural ice available for vegetable processing.

New machines added to the equipment at the Station include a heavy duty cultivator and mulcher-packer. A tandem trailer has been mounted under the vegetable hydro-cooler. A two-wheeled trailer, for transportation of the grading equipment, was constructed in the shop. Spray washers and chlorinators have been added to the washer-grader equipment.

REPORT OF THE APICULTURE SECTION

The honey crop was one of the largest in the history of the province, and was estimated to be the largest produced in any province in Canada. The per colony production was also one of the highest on record.

Weather is undoubtedly one of the most significant factors in honey production. A few areas in the north-west of the province suffered from continued lack of moisture and produced a small crop. Generally, weather was satisfactory for above average yields.

Spring weather conditions in California were very bad for package bee production and queen rearing. Many delays in deliveries occurred and there were complaints of quality of queens received. All orders were filled, but many late.

Many colonies were retarded in spring build-up due to late installation coupled with shortage of feed in brood chambers. Due to the small crop in 1962, stores of honey and pollen in combs was lacking, however, the extended period of honey flow offset any early disadvantage.

MARKETS

Canadian honey production was the highest in fifteen years. Decreased imports and increased exports made markets and prices for the crop the strongest they have been for several years.

There was a world shortage of honey and Canadian honey moved into many new European markets.

The three Prairie Provinces were the only areas of surplus production in Canada. These areas were also showing the largest production increase. Exports to deficient areas in Canada and other countries were necessary to maintain a healthy market situation in this area. Alberta showed the greatest increase in colonies and production.

Prices for bulk honey were one to two cents per pound higher than 1962. The cash bulk price was 14¢—15½¢.

INVESTIGATIONS

An attempt was made to study temperatures occurring in bee vans hauling package bees from California. A Thermistor-Thermometer unit with six thermocouple probes were installed in a bee van—three top and three bottom locations were chosen. Temperatures were recorded from the six locations to determine temperatures and note the variation in temperature within a load. Normal procedure is to locate one remote reading thermometer near the centre of the load. A temperature range of 55°F. to 70°F. is considered satisfactory.

RESULTS

Approximately 160 temperatures were recorded for each of the six locations. It was obvious from the variations which occurred within a load that one thermometer gives no reliable information as to conditions which exist. The highest temperature was 86°F. and the lowest 38°F. The front portion of the load was generally much cooler than the remainder. The high temperatures usually occurred at the centre top.

More suitable temperature control appears very desirable.

DISEASE CONTROL

Disease inspection remained a problem. With the trend of fewer bee-keepers and larger units, the availability of satisfactory part-time inspectors was more uncertain.

Eleven percent of the bee-keeping establishments inspected had some level of American foulbrood infection present in their apiaries. Generally inspections were concentrated in the suspected apiaries and areas.

Nosema remains an apparent threat to the industry. An antibiotic, fumagillin, has shown some control. Because of high cost, lack of microscopic symptoms, and lack of information on incidence of the disease, the antibiotic was not generally used.

A summary of inspections for disease is as follows:

	1962	1963
No. of colonies inspected	4,534	9,284
No. of apiaries inspected	377	579
No. of colonies with A.F.B.	210	450
No. of colonies with E.F.B.	26	2

Nosema Samples

210 winter colonies	47 positive
120 queens	13 positive
173 samples of workers from packages	13 positive

STATISTICS

	*1962	**1963
No. of colonies	65,400	71,600
No. of bee-keepers	1,260	1,100
Average yield per colony (lb.)	105	160
Total honey production ('000 lbs.)	6,867	11,456
Value of honey ('000 dollars)	927	1,660
Value of wax and honey ('000 dollars)	942	1,680
Price of honey per lb.	13½¢	14½¢
Price of wax per lb.	45¢	45¢

* Final
** Preliminary estimate

SPECIAL PROJECTS

During the summer two more Seed Plants were built, one at Granum, the other at Gibbons. The Gibbons Co-op Seed Cleaning Association Limited built the fiftieth Plant under the Assistance Policy established in 1948 whereby the Department of Agriculture provided a grant of one-third toward the cost of the building and equipment. The total grants made to the fifty Plants amounted to $762,000.00.

Below is a summary of the volume of work done by the forty-eight Plants which operated during the fiscal year ending June 30, 1963.

GENERAL SUMMARY

	1962-63	1961-62	1960-61
Total Commercial Seed Cleaned	10,108,741	8,937,589	7,536,685
Total Pedigree Seed Cleaned	105,181	118,052	177,897
Total Seed Cleaned	10,209,731	9,071,667	7,714,582
Total Dockage Cleaning	946,078	811,376	875,943
Total Bushels Cleaned	11,155,320	9,885,356	8,590,524
Total Bushels Treated (Fungicide)	4,046,295	3,360,911	2,804,457
Total Bushels Treated (Wireworm)	865,803	780,462	581,972
Average Number of Bushels Cleaned per Plant	232,402	224,667	209,525

Five active Associations were in the process of organization or having done so were raising share capital. Two of these, Medicine Hat and Coronation almost completed their share selling campaign and contemplate building in 1964.

CROP CLINIC

The services of Dr. A. W. Henry, Plant Pathologist, for many years at the University, were secured on a part-time basis. His experience has been particularly valuable in dealing with diseases difficult to diagnose and in handling disease problems requiring special investigations. During the year the Supervisor and the Pathologist attended 14 meetings and conferences, made 12 field trips and conducted 8 special investigations.

The total number of specimens received for identification, diagnosis and recommendations increased again in 1963. The following table, by classification, lists specimens diagnosed:

	Diseases	Insects	Plant Identification	Misc.	Total
Cereals and Forage	98	33	41	....	172
Special Crops	72	2	....	....	74
Ornamentals	180	87	9	....	276
Shelterbelts	22	47	1	....	70
Vegetables	108	14	3	....	125
Fruits	84	20	2	....	106
Storage Foods	....	17	....	....	17
Household	....	40	....	....	40
Miscellaneous	....	14	33	14	61
Weeds	....	....	273	....	273
Total	564	274	362	14	1,214

INSECTS

Specimens of leaf feeding insects such as forest tent caterpillar and willow leaf beetle were again received from points covering a wide area of western and north-central Alberta. On garden crops and special crops such as rape, mustard and sugar beets, flea beetles and leafhoppers were numerous, particularly in southern areas. Indications are that army cutworm infestations were heavy in wheat southward from Drumheller. An outbreak of wheat shoot miner occurred in east-central Alberta. Barley thrips again caught fields of late seeded barley in the Peace River country and in the foothills. A stem-mite in wheat, coupled with severe drought conditions, caused considerable damage to some fields of spring wheat near Lethbridge. A number of poplar shelterbelts were killed by gall mites, in the extreme southern part of the province, and other shelterbelts were found to be infested as far north as the Red Deer River. Reports of spruce gall aphids, and specimens received, indicated a general broad infestation though damage to trees was negligible. Aphids were very abundant on a number of species of ornamental trees such as ash, elm and maple. Specimens of scale insects were more numerous on shrubby ornamentals and heavy infestations were observed on **Ribes** and **Cotoneaster** species in the Calgary and Brooks areas. All insect specimens received at the Clinic were examined and identified where possible. Control measures were suggested where the situation, or the type of insect, warranted action. Through routine correspondence an attempt was made to impress on the public the need to protect beneficial insects.

DISEASES

To meet an increased demand for extension publications on plant diseases, the Clinic prepared one bulletin and made a start on two more. The need for a better coverage, of plant diseases and their control, through bulletins, mimeographs, and form letters

has become evident as the number of submissions has increased. Plant disease specimens comprised nearly fifty percent of all submissions handled during the year, and occupied two thirds of the time of the Staff. In addition to the routine diagnosis of bacterial ringrot of potatoes, a number of positive reactions were obtained in samples showing none of the symptoms typical of the disease. The potato diseases, blackleg and early blight affected this crop over a wide area. They were apparently favoured by seasonal conditions. Leaf rust in wheat was prevalent over a large part of south-central Alberta, particularly in the south-west. Stem rust caused damage to susceptible varieties in scattered locations. A breakdown of carrots in plastic storage containers at Brooks was tentatively attributed to common soil organisms, and methods for its prevention suggested. A number of cases of wilt of red elder were examined and a fungus suspected as the casual organism was isolated at the Clinic. The bacterial disease fireblight continued to show up frequently in apple trees. In one case the disease was established in plums. Preliminary investigations on a canker problem of hybrid poplar did not produce any conclusive results, as far as confirming the primary source of infection. Isolations of the causative organism were obtained from native and cultivated poplar leaf samples collected from scattered locations throughout the province. The Clinic, also, assisted in a joint federal-provincial survey of shelterbelt problems in the province. Numerous samples of vegetation from gardens, fields and windbreaks in the Pincher Creek area were examined for possible sulfur dioxide damage. Complaints of vegetation damage in this area were referred to the Lethbridge Research Station for field investigation. The Supervisor attended three meetings of the Provincial Department of Health Scientific Advisory Committee on Air Pollution and reported on botanical aspects of current studies in the Pincher Creek area.

WEEDS AND OTHER PLANTS

Among the 362 plant specimens examined at the Clinic approximately three-fourths were classed as weeds. The remainder included cereal and forage varieties, ornamental plants, fruits, fungi and algae. Scentless Mayweed has become a serious pest in forage fields, especially in the Peace River country. One pasture in the Sibbald flats south-west of Calgary was found to be seriously infested with Field Scabious. Poisonous weeds were suspected of having caused the deaths of a number of livestock in at least a dozen locations from High Prairie and St. Paul southward to Hanna and Olds. Losses of five to ten cattle on individual farms were reported west of Ponoka. The plants most commonly associated with these losses were death camas, arrowgrass, water hemlock and larkspur.

Report of the Livestock Branch

W. H. T. MEAD, B.Sc., P.Ag., Livestock Commissioner
W. C. GORDON, B.Sc., P.Ag., Livestock Supervisor (Cattle)
A. J. CHARNETSKI, B.Sc., P.Ag., Livestock Supervisor (Sheep & Swine)
R. A. REDDON, B.Sc., M.Sc., P.Ag., Livestock Supervisor (Swine)
I. A. COLES, B.S.A., Supervisor of Feeder Associations
J. S. LORE, B.Sc., P.Ag., Livestock Supervisor (R.O.P. Cattle)
H. B. JEFFERY, B.S.A., M.Sc., P.Ag., Livestock Supervisor (A.I.)
J. J. KALLAL, Livestock Fieldman (Cattle)
S. B. CLARKE, Brand Recorder
J. BELZER, Livestock Investigator
H. M. LINK, Chief Clerk, (Supervisor of L.I.D. Pounds)

1963 can be summarized as an outstanding crop year, producing excellent grass, forage and feed grains supplies in that part of the province South and East of Edmonton, but with light to poor crop conditions from Edmonton North through the Peace River area. The east-central and south-east areas that are normally deficient in rainfall produced excellent crops with exceptional grass and forage growth. An extremely late open fall resulted in later cattle marketing than normal.

Livestock prices were relatively strong for the first nine months but lamb prices dropped sharply about August 1st, followed by sharp reductions in cattle prices starting about October 1st and hog prices about October 15th. The drop in hog prices was not as sharp or relatively as great as with sheep and cattle, largely because of lower relative numbers marketed.

The fall in cattle prices resulted from heavier marketings than in 1962, with virtually no export of slaughter cattle to the U.S. after June 15th, and export of feeder cattle and calves only about one-quarter of the number exported in 1962, and practically non-existent for the last three months. It was estimated that at year's end there were easily 15% more cattle in Alberta feedlots than at the end of 1962.

Weekly hog marketings were substantially less up to October 15th when compared with corresponding weeks in 1962 and barely held even with 1962 figures from October 15th to the end of the year. The reduction in total marketings for the year was about 20% below 1962. This represented a serious situation because not only did Alberta producers fail to produce hogs in volume to supply the Alberta and B.C. demand, but American pork was regularly imported into this area to fill the deficiency. This situation developed during a period of good prices and good feed supply and must certainly set a precedent for this province.

Sheep and lamb marketings were down from 1962. Prices broke sharply about the first of August, but the exceptional price feature was the wide differential between Alberta and Toronto prices during May, June and July. About twice as much lamb was imported into Canada as was produced here. It was estimated that lambs in feedlots number about 50% more than in 1962. As in 1962 the price of range ewes was disappointing.

CATTLE

Cattle condition was generally good following the 1962-63 winter. Spring pasture growth was slow. Summer pastures were fair to good in most areas but poor in the Peace River area.

Feed supplies for the 1963-64 winter were ample except for a few areas in the Peace River and extreme southern part of the Province.

Cattle and calf population was estimated at 2,935,000 at June 1st, 1963 which was 2.5% higher than June 1st, 1962.

Stock inspection figures indicated an increase of 1½% in marketings compared to 1962.

BRAND INSPECTION RECORD OF LIVE CATTLE AND CALF SHIPMENTS OUT OF PROVINCE

	1959	1960	1961	1962	1963
British Columbia	73,267	82,831	71,275	56,543	54,459
Saskatchewan	1,408	4,619	8,933	6,747	2,686
Manitoba	23,881	25,463	14,657	19,868	6,960
Ontario	52,569	77,423	98,727	81,587	70,015
Quebec	15,684	15,267	3,017	1,776	1,105
Nova Scotia	377	1,492	1,675	145	16
New Brunswick	.....	.....	.....	632	340
United States	79,928	45,112	110,502	107,084	27,143
Newfoundland	.....	.....	.....	.....	.....
Prince Edward Island	.....	.....	.....	.....	.....
Total	240,114	252,207	308,786	274,382	162,724

Purebred breeders sold 3,328 beef bulls through 31 consignment sales that were approved by the Department. Sales were held at the following points: Grande Prairie, Olds (three), Calgary, Edmonton, Innisfail, Lethbridge (three), Red Deer, Camrose, St. Paul, Stettler, Vermilion, Fort Macleod, Mayerthorpe, Medicine Hat, Thorhild (two), Westlock, Cereal, Lloydminster, Hardisty, Brooks, Taber, High River (two), Lacombe, Drumheller and Sangudo.

Breed	No. Sold	Total Value	Average Price
Hereford	2,412	$1,323,345.00	$549.00
Aberdeen Angus	589	294,535.00	500.00
Shorthorn	327	147,118.50	450.00

The average price was up approximately $40.00 per head for Herefords, $30.00 for Angus and $65.00 for Shorthorns over the previous year.

Cattle Improvement Policy

Under Section "A", the option of an applicant to make his own selection of a bull from a local breeder subject to approval as to quality and price by a member of the Department was withdrawn effective January 1st, 1963. The "A" section continued to operate on the basis of direct orders to the Department. The low placement of bulls through this section in 1963 was entirely attributable to withdrawing the "local deal" option. There were 62 direct orders filled in 1962 as compared to 67 in 1963.

There was no change in Policy "B" during 1963.

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

Year	Policy "A"	Policy "B"
1959	1,484	1,401
1960	1,911	1,690
1961	1,961	1,686
1962	1,248	1,563
1963	67	1,477

Federal-Provincial Beef Cattle Performance Testing Program

This program was initiated in the fall of 1959 and the procedure through which it came into being can be found in the 1959 Annual Report.

An Annual Report of the Alberta section of the Federal-Provincial Beef Cattle Performance Testing Program is printed at the termination of each year's results in June. Copies can be obtained from the Livestock Branch.

The following table shows the extent of participation by purebred breeders in the first five years:

Year	No. of Herds	Male Calves Weighed	Female Calves Weighed	Total Calves Weighed
1959	52	489	364	853
1960	63	987	823	1,810
1961	60	1,112	1,015	2,127
1962	75	1,421	1,306	2,727
1963	90	1,584	1,502	3,086

22 new herds entered the program this year while 7 dropped out.

In addition to the purebred herds, six members of the Alberta Beef Cattle Performance Association requested supervision of weights, and approximately 1,100 head of commercial cattle were weighed in 1963.

The Alberta Advisory Committee of Performance Testing met on January 31st, at Red Deer. A motion was received asking the Provincial Government to assume the responsibility of collecting data on the steers in the Progeny Testing Program at Western Feed Lot, Strathmore, as they were slaughtered. Douglas Hunter, a third year agriculture student at the University of Alberta, was hired for the period May 6th to September 20th to record data on approximately 200 steers slaughtered. On the termination of Mr. Hunter's employment the data was turned over to the Animal Science faculty of the University of Alberta for further processing.

The progeny test program was initiated by the Alberta Beef Cattle Performance Association in co-operation with the Federal and Provincial Governments. It is designed to identify outstanding sires by their progeny's performance and carcass. 16 Bulls and 8 different crossbreeds were tested in the test just completed.

Two private Performance Test Stations were established in Alberta in 1963. The station at Bassano is owned and operated by Maple Leaf Milling Company and is a combined research and performance test station. In addition to the feed research, the station will be used to progeny test sires, and a limited number of bulls will be performance tested.

The other station is owned and operated by Rod James of Lacombe, and was used to performance test young bulls. The Lacombe station was open to all breeds, but only had Charolais bulls in it this first year of operation. Both stations have requested Government supervision of initial and final weights so their weights will be regarded by the trade as authentic.

5 performance test field days were held with a total attendance of 258. The field days were held where a herd was completing

the test to help familiarize cattlemen with the test and show them how to apply the results to their selection of breeding stock.

28 meetings were held where performance test results were discussed.

There was no meeting in 1963 of the National R.O.P. committee.

TORONTO ROYAL AGRICULTURAL WINTER FAIR

The 1963 Royal Agricultural Winter Fair was held November 15th to 23rd. The Alberta livestock exhibit consisted of 22 carloads which were shipped via C.P.R. The shipment loaded in Edmonton November 6th and Calgary November 7th.

The exhibit included 45 single steers, 6 carload lots of 12 steers, 5 groups of 5 steers, 53 head of beef breeding stock, 39 dairy cattle, 11 dual purpose cattle, 24 hogs, 70 sheep and 15 horses.

The Alberta Department of Agriculture received nominations, coordinated selection, assembled the shipment and provided feed and bedding from point of assembly until return. The arrangement whereby freight charges are borne 75% by the Canada Department of Agriculture and 25% by the Alberta Department of Agriculture continued in force. Selections were made by persons appointed by the various breed associations under the directions of the Live Stock Board.

The following table summarizes prizes won by Alberta exhibitors:

	Horses	Beef and D.P. Cattle	Market Cattle	Dairy Cattle	Sheep & Wool	Swine	Total
Grand Champion	....	....	....	....	1	....	1
Reserve Grand Champion	....	1	1	1	1	....	4
Champion	....	2	4	2	4	....	12
Reserve Champion	1	1	4	1	1	....	8
First Prize	....	9	10	3	8	....	30
Second Prize	1	9	5	3	8	....	26
Third Prize	1	9	9	6	7	3	35
Fourth Prize	3	11	5	2	8	....	29
Other Prizes	7	29	22	19	39	12	128
Total	13	71	60	37	77	15	273

OUTSTANDING ACHIEVEMENTS

McIntyre Ranching Co. Ltd., Lethbridge—Champion carload steers
Byers Flour Mills, Camrose—Reserve Champion carload steers
Jim Forsythe, Crossfield—Champion group of five steers
McIntyre Ranching Co., Ltd., Lethbridge—Champion Hereford steer and Reserve Grand Champion single steer
Ed. F. Noad, High River—Reserve Champion Hereford steer
T. J. Noad, Olds—Champion Grade or Crossbred steer
McIntyre Ranching Co. Ltd., Lethbridge—Reserve Champion Grade or Crossbred steer
T. J. Noad, Olds—Reserve Champion Shorthorn steer
Highland Stock Farms, Calgary—Senior Champion and Reserve Grand Champion Angus bull
John Yurkiw, Radway—Reserve Junior Champion Percheron stallion
Mrs. S. E. Atkinson & Son, Lacombe—Junior Champion Red Poll female
Wm. Soetaert, St. Albert—Reserve Junior Champion Red Poll female
Richards Bros., Red Deer—Junior Champion and Reserve Grand Champion Ayrshire bull
Richards Bros., Red Deer—Senior Champion Ayrshire bull
Richards Bros., Red Deer—Junior Champion Ayrshire female
John Wilson Jr., Innisfail—Champion Range fleece and Grand Champion fleece
Tom Hebson, Okotoks—Champion Hampshire ewe and Reserve Grand Champion ewe
John Wilson Jr., Innisfail—Champion Corriedale ram
John Wilson Jr., Innisfail—Champion Corriedale ewe

LIVESTOCK FEEDER ASSOCIATIONS

Thirty-five feeder associations operated under the Feeder Association Guarantee Act during the 1962-63 season. There were 1,201 active members who fed 38,393 cattle and 7,599 lambs, utilizing a credit of $4,776,559.93.

Twenty-four associations operated under annual guarantee and eleven associations operated under continuous guarantee.

All loans under the 1962-63 annual guarantees were repaid.

Loans outstanding at August 31st under continuous guarantees totalled $1,005,379.91, covering 8,519 cattle.

Big Rock Feeder Association Ltd. amalgamated with Okotoks and District Feeder Association Ltd. The name of the continuing association is Okotoks and District Feeder Association Ltd.

New associations were organized in the fall at Barrhead and Delburne.

At December 31, 1963, there were thirty-six associations operating under the Act; twelve under continuous guarantee and twenty-four under annual guarantee.

1962-63 FEEDER ASSOCIATION OPERATIONS

Association	No. of Members	No. of Cattle	No. of Sheep	Credit $
Acme	21	623	.....	81,348.54
Andrew-Willingdon	24	520	.....	62,559.58
Bashaw	64	1,644	1,169	216,565.81
Battle River	62	1,651	.....	215,965.82
Big Rock*	9	425	.....	50,401.19
Big Valley	28	967	.....	128,912.29
Bowden	14	537	.....	78,861.44
Bow Valley	61	1,851	384	186,571.85
Cardston	30	942	1,113	114,804.08
Carstairs*	32	1,421	.....	182,949.38
Central Alberta*	52	2,173	.....	253,470.28
Central Peace	30	537	.....	63,811.76
Drumheller	9	235	.....	37,265.86
East Central*	53	2,170	.....	267,860.18
East Olds	35	1,061	.....	123,365.91
Glenwood	8	118	250	15,195.37
Grande Prairie*	38	1,492	.....	179,970.13
Innisfail	13	476	.....	55,089.15
Knee Hill Valley	30	831	.....	117,545.00
Little Bow*	35	1,236	.....	158,310.84
Mannville	27	761	.....	66,996.26
Marwayne	42	1,161	.....	147,096.93
Meadowbrook	17	659	446	94,933.53
North Peace	47	1,072	275	114,260.59
Okotoks*	15	689	.....	86,474.98
Parkland-Stavely*	27	1,166	.....	131,979.68
Ponoka	46	1,419	.....	203,602.98
Raven*	28	1,122	.....	137,208.24
Raymond-Magrath	11	475	205	47,172.49
Red Deer*	41	2,187	.....	296,762.54
South Slope	63	1,817	1,571	199,073.01
Taber	72	1,960	1,949	257,280.31
Tilley-Rolling Hills	56	1,232	52	142,338.41
Vegreville*	14	337	.....	54,411.54
Western	47	1,426	185	206,143.98
Total	1,201	38,393	7,599	4,776,559.93

* Associations operating under continuous guarantee.

SUMMARY OF FEEDER ASSOCIATION OPERATIONS COVERING THE PAST FIVE YEARS

Feeding Season	No. of Associations	No. of Members	Cattle	Sheep	Amount of Credit
1958-59	34	876	21,707	9,623	2,803,826.05
1959-60	33	1,201	37,194	13,350	4,303,155.09
1960-61	36	1,262	41,743	23,730	4,684,108.24
1961-62	38	889	28,246	10,884	3,130,628.90
1962-63	35	1,201	38,393	7,599	4,776,559.93

ARTIFICIAL INSEMINATION

Expansion of A.I. in terms of numbers of cows bred and herds served has continued. It is estimated that cow numbers will have increased by 10%, bringing the total number of cows serviced in Alberta up to approximately 88,000 head. A good share of the increase was with beef, particularly from the larger ranches and community pastures.

COWS BRED ARTIFICIALLY IN ALBERTA BY BREED—1957-1962

	1957	1958	1959	1960	1961	1962
Holstein	15,991	23,939	30,785	37,475	42,326	46,645
Ayrshire	1,466	2,143	2,396	2,934	3,051	3,060
Guernsey	653	1,049	1,325	1,840	2,122	2,188
Jersey	1,486	2,055	2,432	2,891	3,103	2,944
D.P. Shorthorn	566	1,074	1,703	1,901	2,120	2,049
Red Poll	185	264	260	254	252	361
Brown Swiss	.....	.....	15	186	847	1,270
Total Dairy	20,347	30,524	38,916	47,481	53,821	58,517
Herefords	901	2,995	4,550	7,509	8,195	8,684
Angus	540	1,126	2,081	3,479	5,604	7,271
Shorthorn	845	1,064	1,171	1,544	2,652	2,074
Charolais	38	1,106	1,970	2,450	2,790	3,369
Other	118	.....	46	86	81	512
*Total Beef	2,442	6,291	9,824	15,068	19,322	21,910
Total Breedings	22,789	36,815	48,740	62,549	73,143	80,427
Percentage Female Breeding Population	2	3.5	4.5	5.7	6.4	6.9
No. of Herds	2,893	4,854	6,172	7,796	7,940	9,287

* Includes all cows of ALL BREEDS BRED to Beef Bulls.

Genetic improvement through A.I. was further guaranteed by the "Young Proven Sire Programs" adopted to some degree by all semen producing businesses serving Western Canada. It is reasonable to expect that within the next year over 50% of all cattle bred artificially in Alberta will be to progeny proven sires, including both Dairy and Beef. All bull semen used in Alberta comes from one of three sources, The Ontario Association of Artificial Breeders, the B.C. Artificial Inseminating Centre and American Breeders' Service.

There are 32 inseminating businesses operating in Alberta, 18 farmer co-operative associations and 14 private units. Each unit is franchised by a separate semen producing organization and essentially only handle semen from that source.

In 1962 the average first service 60-90 day non-return for all units in Alberta was 69%. The lowest reported average for the year was 62% and the highest 73%. 20 units have now converted to liquid nitrogen for semen storage.

Amalgamations occurred between the Camrose and Flagstaff, and between Lacombe and Wetaskiwin units. A small private unit at Bonnyville ceased operation and a new privately owned unit started at Berwyn. Quite possibly economies of the future will influence further consolidation. The few fringe areas now not served may eventually be provided service through the establishment of sub offices by the larger units. Generally with the exception of some of the more isolated areas, farmers throughout Alberta now have A.I. available to them at a cost of from $6.00 to $10.00 per cow, depending on the area.

The first litter of pigs to be born in Alberta as a result of Artificial Insemination of swine were born on the Akitt farm near Eckville on September 13th. The sow was successfully inseminated on May 22nd by Mr. Carl Fisher of the Eckville Artificial Breeding Unit using semen from a Lacombe boar. There were 14 live pigs in the litter.

In April of 1963, a supervisor of Artificial Insemination was appointed for the province. Since then the following events were attended: 6 farm meetings and field days with attendance of 228; 11 directors meetings and 6 committee meetings.

The O.A.A.B. Western Technicians Conference at Guelph was attended and American Breeder's Service were visited both at Chicago, Ill., and Madison, Wis. Direct personal contact was made with 28 units operating in Alberta including all of the co-operatives. A preliminary study was conducted on A.I. under range conditions at the Seven Person's Community Pasture. Several articles of information were also written and circulated among the offices of A.I. Units and District Agriculturists throughout the province.

Previous to the Supervisor's appointment various events including Annual meetings of co-operative A.I. units were attended by the Livestock Commissioner and the Supervisor of Dairy Herd Improvement.

Considerable work was done, and negotiations conducted toward drafting suitable regulations to govern the application of A.I. in Alberta.

DAIRY HEIFER CALF POLICY

This policy operated as in previous years. One hundred and eleven calves were shipped to 14 clubs. A few clubs placed small orders to supplement the calves obtainable locally. Elimination of effective railway express service required that all calves be delivered by truck.

SWINE

Nineteen Sixty-three was a year of uncertainty and change for Alberta pig producers. Interest in pig production was good at the beginning of the year and this was reflected in higher than average prices for breeding stock at the spring sales of purebred stock. Export sales for cereals, especially wheat, announced in August-September attributed to some degree to decreased grower interest as the year advanced resulting in an overall 20 percent decline in number of pigs marketed during 1963. At the fall swine sales many quality breeding animals were passed because of failure to obtain bids at the upset price of $60.00 for boars and $50.00 for sows. The average market price for carcasses held steady in 1963 when compared to 1962. Average "A" price at Edmonton was $26.40/cwt. versus $26.70 a year ago. The high, which held at that level for three weeks during August was $28.70/cwt. with a low of $23.30 November 2nd. This stability in price in conjunction with the decreased market pig sales resulted in the appearance of American pork in Alberta.

The federal deficiency floor price for pigs was unchanged from 1962 but the premium on pigs yielding grade 'A' carcasses was

increased back to the pre-September 4th, 1962 level of $3.00 per head on April 1st.

The general disinterest in pig production throughout the province toward the year end did not include the larger steady producers. Change and expansion seemed to be the trend with these operators. Many of these producers have been dissatisfied with housing modifications made in recent years and are incorporating new ideas, both tried and untried, into their programs. Several barns were under construction embodying the slatted floor-pit principle in conjunction with a lagoon. Mechanized mixers; automatic feeders; the long, narrow feeder pen; floor feeding; elevated slatted floor farrowing stalls and automatic manure flushing systems were all part of the trend toward the change in specialized production practices. There was increased interest in the Alberta Healthy Herd Program for pigs and breeders were becoming conscious of the benefits to be derived from crossbreeding. The S.P.F. pig laboratory at Acme did not operate during 1963 due to lack of producer interest. Calgary Power Limited sponsored a tour to the larger pig producing states of the American midwest during November. More than thirty Alberta farmers plus representatives from industry and the Provincial Department of Agriculture participated.

Quality of market pigs continued to improve but this improvement was not as pronounced as in 1962. Provincial Swine Improvement policies unchanged from 1962 and the Live Bacon Hog to Carcass Demonstrations (6 held) conducted on the same basis as the previous year, continued to contribute to the overall betterment of quality. Two members of this Branch presented papers at The Alberta Federation of Agriculture Hog Quality Conference held November 1st at Edmonton. It was pointed out that while Alberta had produced 25% of the nation's commercial hogs for a number of years, test station space made available to this province under the Federal R.O.P. Program is only 15% of total station space across the country.

Record of Performance testing continued at the same rate as the previous year. During the period April 1st, 1962 to March 31st, 1963, 50 breeders tested 135 sows; 74 Yorkshire, 59 Lacombe, and 2 Landrace at the test station. An additional 33 sows; 10 Yorkshire, 20 Lacombe and 3 Landrace were home tested by 22 breeders. R.O.P. evaluation is a Federal program designed to improve the quality of Canadian pigs. Provincial assistance to breeders participating in R.O.P. testing continued as in 1962. The Swine Improvement Policies "A" and "B" and the Livestock Listing Bureau also operated as during the previous year. Policy "B" was applied to 20 approved swine sales with assistance in selection and culling at these sales provided by the Branch.

PRICE AVERAGE COVERING ALL ALBERTA SALES (Including R.O.P.)

	BOARS				SOWS			
	1962		1963		1962		1963	
Breed	No.	Av. Price	No.	Av. Price	No.	Av. Price	No.	Av. Price
Yorkshire	589	90.07	541	99.68	619	89.46	618	107.55
Tamworth	7	78.95	15	94.16	2	66.25	8	93.12
Landrace	8	79.06	1	60.00	5	65.00	....	....
Lacombe	71	102.08	94	113.96	151	87.10	102	98.00
Total & Average	675	91.09	651	101.47	777	88.73	728	106.19

AVERAGE PRICE FOR ALL SWINE BREEDS AT CALGARY AND EDMONTON SALES

	1962		1963	
	No.	Av. Price	No.	Av. Price
Boars	327	89.44	318	111.59
Sows	447	90.20	389	117.52

AVERAGE PRICE OF LACOMBE BREED SPECIAL SALE

	1962		1963	
	No.	Av. Price	No.	Av. Price
Lacombe boars	23	108.69	13	161.15
Lacombe sows	36	86.87	22	87.38

AVERAGE PRICE AT CAMROSE R.O.P. SWINE SALE

	BOARS				SOWS			
	1962		1963		1962		1963	
Breed	No.	Av. Price	No.	Av. Price	No.	Av. Price	No.	Av. Price
Yorkshire	24	96.35	75	89.23	16	101.06	56	76.02
Lacombe	3	123.35	15	92.33	6	90.00	17	81.17
Total & Average—	27	99.35	90	90.33	22	98.05	73	77.22

SWINE PLACED UNDER LIVESTOCK LISTING BUREAU AND IMPROVEMENT POLICIES "A" and "B"

	L.L.B.	POLICY A	POLICY B
Year	Gilts	Boars	Boars
1959	11	15	257	288
1960	3	27	264	370
1961	10	24	186	376
1962	7	22	162	341
1963	13	25*	106*	373

* This total included 99 Yorkshires, 25 Lacombe, and 7 Landrace.

RECORD OF PERFORMANCE SOW BONUS POLICY

Number of sows qualifying for bonus:

Breed	1960	1961	1962	1963
Yorkshire	43	22	20	33
Landrace	5	....	....	1
Lacombe	9	20	13	22
Total	57	42	33	56

ALBERTA HOG GRADINGS FOR YEARS 1959 TO 1963

Grade	1959	1960	1961	1962	1963
	%	%	%	%	%
A	22.30	22.40	27.40	33.10	35.10
B	49.30	47.60	45.40	43.20	42.90
C	13.80	15.20	11.60	8.10	7.40
Light	2.60	3.10	2.80	3.40	2.60
D	1.30	.90	.90	1.10	.70
Heavy	2.50	4.20	3.90	3.60	4.40
Extra Heavy	1.80	1.70	1.70	1.60	1.80
Injured	....	....	....	....	....
Rdlg.	.50	.50	.50	.50	.60
Stags	.60	.60	.60	.60	.40
Sows	5.30	3.80	5.20	4.70	4.10

NUMBER AND VALUE OF INSPECTED SLAUGHTER HOGS OF ALBERTA ORIGIN

Year	Total Number	Value Per Pig	Total Sale Value
1959	2,265,430	32.99	74,729,118.00
1960	1,764,695	32.76	57,809,266.00
1961	1,659,909	38.89	64,537,262.00
1962	1,674,177	39.80	68,611,312.00
1963	1,350,490	41.22	55,667,363.00

ESTIMATED NUMBER OF SWINE ON ALBERTA FARMS AT JUNE 1st

1959	1,780,000
1960	1,385,000
1961	1,540,000
1962	1,200,000
1963	1,165,000

SHEEP

Preliminary statistical and marketing information indicated an approximate 8% reduction in Alberta Sheep marketings in 1963. Comparative reduction for Canada was 11%.

The 1963 price average at Edmonton Stockyards for choice and good lambs was $19.00/cwt. A sharp break in the price of lambs occurred week-ending August 24th, when from a January-August average of $20.53/cwt., the price dropped to average at $16.21 for the balance of the year. For the period of January to August the average lamb marketings for Alberta and Canada were 1,348 and 6,436 head respectively while for the period of August 24th to December 21st, weekly marketings were 3,248 and 17,155 head respectively. This heavy late season marketing coupled with an import into Canada of over 45,000,000 pounds of low priced lamb and mutton, a 39% increase over the 1962 imports no doubt caused this price break in domestic lamb market. In addition to lamb carcasses, 43,000 live slaughter lambs were imported from the U.S. This was twice the number imported in 1962. The 1963 imports amount to almost twice the year's total Canadian lamb production. Under these circumstances—if continued for the next few years, the economic existence of the Canadian sheep industry will be severely threatened.

90% of Alberta lambs marketed for slaughter graded choice and good carcasses. The Federal Stabilization Board support price on choice and good lambs within 36 to 56 pounds weights remained at $18.80/cwt. basis national average. As of April 1st to December 21st, 1963, the cumulative National weighted average price per cwt. live weight for eligible lambs remained at $19.93. The Federal lamb premiums at $2.00 per head on choice and $1.00 on good, 36 to 56 pound carcass lambs remained in effect.

Only two sheep shearing and management schools were held this year. Power shearing, management, market preferences or requirements and selection and R.O.P. testing of breeding stock were featured at these schools.

Feeder lambs were in keen demand at prices ranging from $14.50 to $19.50 per cwt. An estimated 62,500 feeder lambs went into Alberta feedlots this fall. For Western Canada (mainly Alberta) statistics indicated that only 2,069 feeder lambs and some ewes were exported to U.S.A. compared to 18,679 head in 1962.

The 1963 wool clip was approximately 1,925,000 lbs. (slight reduction from last year) or 36.6% of the total clip for Canada. Wool grading reports indicate Alberta wool was more carefully prepared for the market, resulting in the general up-grading of the total clip. Management schools over the past years were generally credited with greater care being exercised in the preparation of wool for the market.

The Federal wool deficiency price remained at 60¢ per lb. F.O.B. Toronto. The net average returns for Alberta wool, including deficiency payments was approximately 50¢ per lb.

A cross breeding sheep program was continued at the three Schools of Agriculture. A Dorset Horn ram was included in this demonstration and crossed with Suffolk ewes. Cross bred ewes of the various crosses involved in the project were moved to Fairview

School and all were bred to Suffolk rams. The pure bred Rambouillet ewes were disbanded and pure bred Romnelet ewes were moved from Fairview to Vermilion School of Agriculture.

The Record of Performance sheep testing program was continued at Vermilion and Olds School of Agriculture. It was used in selecting replacement ewes which have proven to be superior in gainability and other desirable productive factors. A number of private commercial sheepmen also use this R.O.P. program for testing of their flocks.

The Sheep Improvement Policies A and B continued to function in accordance with 1962 revisions. Policy A provided for a bonus and prepayment of shipping charges on graded rams ordered direct through the Department. Policy B provided only for bonus payment on graded rams purchased personally by sheepmen at approved and graded sheep sales. Only commercial sheep producers were eligible for bonus, on one or two pure bred registered rams in each two year period. This Branch also operated a Livestock Listing Bureau which provided purchasing service only, but no bonus nor prepayment of shipping charges. Under this L.L.B., provision was made for the purchasing of ewes and rams for those who do not qualify under the Policy A.

Statistical information and details on the operation of sheep policies A and B and L.L.B. are given hereunder:

Year	L.L.B. Gr. Ewes	L.L.B. Rams	Policy "A" Rams	Total Bonus Policy "B" Rams	Total all Rams
1959	276	8	91	86	185
1960	140	6	93	116	215
1961	120	13	56	74	143
1962	....	3	30	45	78
1963	....	3	36	26	65

1963 Ram placement consisted of:

14 Suffolk
4 Columbia
3 Corriedale
11 North Country Cheviot
1 Romnelet
1 Rambouillet

COMPOSITE SUMMARY OF PUREBRED SHEEP SALES AT CALGARY AND EDMONTON

Rams	1962 Number	1962 Av. Price	1963 Number	1963 Av. Price
Suffolk	41	53.23	23	65.32
Hampshire	11	56.13	15	51.00
Border Cheviot	2	32.50	1	35.00
North Country Cheviot	24	47.50	21	62.38
Corriedale	6	60.83	3	64.17
Southdown	4	40.00	3	43.16
Oxford	3	40.83	4	35.00
Columbia	2	45.00	3	72.50
Total and Average	93	50.99	73	58.79
Ewes				
Suffolk	34	33.68	8	36.69
Hampshire	4	15.00	7	22.14
North County Cheviot	19	31.31	7	27.50
Corriedale	3	32.50	....	....
Oxford	1	30.00	3	22.75
Columbia	14	32.37	....	....
Total and Average	75	32.37	25	24.34
Grade Ewes	96	11.21	19	29.75

AVERAGE COMPARATIVE PRICE OF "A" AND "B" GRADE RAMS— CALGARY AND EDMONTON SALES

Year	"A" Grade Rams Number	"A" Grade Rams Price Average	"B" Grade Rams Number	"B" Grade Rams Price Average
1961	79	60.04	61	45.20
1962	82	52.89	14	39.65
1963	42	64.94	31	50.46

NUMBER AND VALUE OF ALBERTA SHEEP AND LAMBS SOLD AT INSPECTED PLANTS

	Total No. Sold	Value Per Head	Total Sales Value
1961	214,412	13.86	$2,981,715.00
1962	197,232	14.94	2,947,347.00
1963	166,952	16.07	2,684,057.00

ESTIMATED NUMBER OF SHEEP IN ALBERTA AT JUNE 1st

1959	530,000
1960	555,000
1961	554,000
1962	445,000
1963	424,000

HORSES

The picture of horse production and sales changed very little from the previous year. The population on farms at June 1st was listed as 103,000 head or about 5½% below that of June 1st, 1962. This was consistent with the trend that has been prevalent for several years. The export of horses was practically the same as in 1962, but horses were imported by the Alsask Processors from the other western provinces and Montana.

Alberta auction markets handled about 10% fewer horses than in 1962. While the main volume of trade continued to be in meat horses, interest in light horse breeding and shows continued at a high level, indicating a very active public interest in horses as recreational and hobby animals.

There remained some demand for good sound work horses for export to Eastern Canada, but the numbers available was too small to properly fill the demand. There was no evidence of any switch from mechanization that would tend to strengthen the heavy horse business.

ALBERTA LIVESTOCK AND LIVESTOCK PRODUCTS ACT

Stockyards and Stockyard Licensing

Three hundred and seventy-nine Stockyard Licenses were issued in 1963, compared to four hundred and fifteen in 1962.

Twenty-three licenses were altered due to change in ownership, re-classification or discontinuance, resulting in three hundred and forty-nine stockyards being in operation at the end of 1963. There was an increase of one Class "D" stockyard (auction market) at Boyle.

Empress was reclassified from a Class "D" to a Class "E" stockyard. Four Class "D" stockyards ceased operation, and four Class "D" stockyards licenses were cancelled and re-issued due to change in ownership.

The following table shows licenses issued by classes:

Class	B	C	D	E	F	G	Total
Number	13	41	60	3	4	258	379

A total of 52 Class "D" Stockyards were in operation at December 31st, 1963.

The following table shows the number of livestock sold at Class "D" stockyards (auction markets) during the year 1963:

	1959	1960	1961	1962	1963
Cattle and Calves	164,477	276,612	350,020	396,800	424,551
Hogs	271,211	224,521	303,416	271,754	293,779
Sheep	15,724	29,014	32,224	41,919	31,797
Horses	6,481	8,940	8,200	10,935	9,729

Class "E" and "F" stockyards, operated at Pincher Creek, Lundbreck, Pakowki, Park Bend, Walsh, Lea Park and Empress handled 23,507 head of cattle, compared to 22,926 in the previous year.

Livestock Dealers and Dealers' Agents

No changes were made in the Livestock Dealers' regulations in 1963. It was necessary to recall the proceeds from two bonds. Action to recall the proceeds from two other bonds was commenced.

Dealers and agents totalled 936 in 1963, compared to 874 in 1962, an increase of about 7%.

There were five prosecutions and a number of warnings issued for dealing without a license.

Stockyards were visited whenever possible and a number of investigations were conducted as a result of complaints from producers, market operators and shippers of livestock with respect to trade practices.

RECORDING OF BRANDS

Continued activity in the cattle business was manifest by the high number of new brand registrations. Demand from individuals for the 1962 brand book was greater than has been experienced before. Cattle brands in good standing at December 31st was 30% above the total at the end of 1956.

Following is a summary of brand recording activity:

	Cattle	Horses	Sheep	Poultry	Fur Bearing	Total
New Brands Issued	2,212	181	....	....	....	2,393
Transfers Registered	420	47	....	....	....	467
Certified Extracts Issued	2	....	....	....	....	2
Brands Renewed	6,755	873	5	2	1	7,636
Brands Cancelled	318	70	....	....	....	388
Total	9,707	1,171	5	2	1	10,886

The number of brands in good standing at December 31, 1963:

Cattle	33,416
Horses	4,093
Sheep	24
Poultry	10
Fur Bearing	2
	37,545

There were a total of 3,645 letters written during the year, which in the most part dealt with brand applications and the use of unregistered brands.

THE STOCK INSPECTION ACT

Stock inspection reached a record total of 1,484,505 head. Due mainly to lack of export outlet, inspection of cattle returning to feedlots, cover crop and pasture from the public stockyards and community sales was up about 11%. Total inspections, in and out of markets totalled 1,741,800 head.

Arrangements were made with the Saskatchewan Department to pay the salary of one additional inspector at Lloydminster. Mr. Fred Judin was appointed to that position under conditions of the Alberta Public Service Act.

Regular and part time inspectors conducted inspections at 70 regular inspection points. Numerous spot inspections were carried out at other points largely for export shipments. Inspection was started at markets at St. Paul, Vegreville, New Sarepta, Rimbey, Bashaw and Thorsby. Auction markets with very small volume at certain times of the year continued to be a problem.

Inspection by members of the R.C.M.P. was continued under special circumstances. R.C.M.P. inspections declined further to 0.3% of total inspections.

The number of stock held up for further investigation remained constant at approximately 2,000 head. All were cleared by local inspectors investigation with the exception of 37 files covering 54 cattle. These were further investigated and cleared by Branch personnel.

Two hundred and twenty-four butchers and hide dealers were licensed and of this number only 143 slaughtered for resale. Reports of theft and convictions were about normal, indicating that thefts were of scattered nature on small scale without any evidence of organized rustling.

IMPROVEMENT DISTRICT STRAY ANIMALS ACT

This Act is concerned with administration of pounds in Local Improvement Districts only. Active pound districts numbered 146 with four new districts organized and brought into being during the year.

THE HORNED CATTLE PURCHASES ACT

The main problem in horn eradication continues to be farm herds which neglect to dehorn calves. The provincial average of horned cattle marketed was 8%, the same as the previous year.

The following table shows the percentage of cattle with horns marketed at the main market centres:

	1949	1960	1961	1962	1963
Edmonton	19.9	11.8	11.0	11.2	10.9
Calgary	15.6	7.0	6.5	5.9	5.6
Lethbridge	....	7.5	5.8	7.3	5.4
Medicine Hat	....	....	....	3.1	3.5

GENERAL

Branch personnel serviced numerous extension meetings in addition to those normally falling within the administration of policies. Following is a summary of meetings and official duties attended or conducted by Branch personnel:

Farm Visits	Meetings and Short Courses	Livestock Judging Assignments	Culling and/or Purchasing at Sales	Stockyard Visits
1,006	228	57	59	103

It is with regret that the death of Mr. Robert Holgate, brand inspector at Calgary, is reported. Mr. O. B. W. Coates was retired by reason of health.

Appointments to two new supervisor positions were made with appointment of Mr. H. B. Jeffery as supervisor of artificial insemination and Mr. R. A. Reddon as supervisor of swine extension. Brand inspector appointments included Messrs. R. Hines and R.

Smith at Edmonton, Mr. B. Flewelling at Calgary and Mr. F. Judin at Lloydminster. Mr. M. E. Coates, formerly of Edmonton was transferred to Red Deer as inspector in charge at that point.

The Livestock Commissioner attended the National Livestock Brand Conference at McCall, Idaho, in July. Mr. Lore attended the Performance Registry International Meeting at Toronto in June. Mr. Jeffrey attended a specialized artificial insemination course in Ontario in October and at the time visited breeding stations in Ontario and Wisconsin. Messrs. Reddon and Charnetski visited the mid-western United States in November studying swine production, management and housing matters in that area. Mr. J. J. Kallal accompanied the livestock train as immediate supervisor of the Alberta livestock exhibit to the Royal Winter Fair, and Mr. W. C. Gordon attended that Fair as Departmental representative and overall supervisor of the exhibit.

ACKNOWLEDGMENTS

The continued co-operation of the various livestock interests, including breed associations, all segments of the trade, exhibition and sale associations; together with the support of the R.C.M.P. in matters of investigation and enforcement, of other Branches and Departments of the Government, and the Federal Production and Marketing Services was very greatly appreciated and is hereby acknowledged.

Report of the Dairy Branch

D. H. McCALLUM, B.S.A., P.Ag., Dairy Commissioner
G. A. MacALLISTER, B.Sc., P.Ag., Supervisor, Dairy Plant Inspection
R. P. DIXON, B.Sc., P.Ag., Supervisor, Dairy Cattle Improvement
V. W. KADIS, Ph.D., Director, Dairy Laboratory
L. H. ARNOLD, Supervisor, Frozen Food Locker Plants
W. A. McGRATH, Charge of Dairy Statistics

GENERAL REVIEW

Highlights of the 1963 report on dairying were; the highest average milk production per cow on record which exceeded 6,000 pounds, and an increase of $677,000.00 in the farm value of dairy products which reached a total of 51.9 million dollars. Total milk production for the year amounted to 1,677,000,000 pounds, an increase of 9,400,000 lbs. or .6 per cent above the 1962 total. Milk cow numbers at June 1st were reported to be 3,000 head less than at the same date a year earlier. A total of 15,333 cows were tested under the Provincial Cow Testing plan with an average production of 10,711 pounds of milk, both figures represent all time records.

Less than normal rainfall in the northern part of the province, where dairying was most concentrated, adversely affected pastures and milk flow during the months of heavy production. However, with the early completion of harvest, stubble fields were pastured to a greater extent than normal during the fall months resulting in increased milk production during that period.

Farm prices for milk and cream remained at levels similar to those existing in the previous year. Slight changes were made in support prices at the commencement of the new dairy year, May 1st. The 12 cents per pound subsidy on creamery butter was replaced with a subsidy of 14.5 cents per pound butterfat to eligible producers whose milk or cream was used in the manufacture of creamery butter. Producers who sold part of their milk for fluid consumption were not eligible for the subsidy. To encourage some diversion from butter to cheese, a subsidy of 30 cents per hundred pounds of milk was paid to patrons supplying cheese factories. The 25 cents subsidy which had been paid to all producers supplying manufacturing milk during the previous year was withdrawn April 30th. A decrease of $183,000.00 was reported in the factory value of dairy products due mainly to the reduced value of creamery butter which received a support price of 52 cents rather than 64 cents after May 1st.

Slight changes occurred in the utilization of milk during the year. Larger quantities were used in fluid sales, ice cream, cheese and concentrated milk products. There was a decrease in the percentage used for the manufacture of butter, 55.7 as compared to 56.9 in the previous year, a smaller percentage of the total milk was consumed on farms and fed to livestock.

The greater use of home freezers caused a further reduction in the number of frozen food locker plants in operation, but an additional million pounds of food was processed by the remaining plants for storage in either lockers or home freezers.

ESTIMATED FARM VALUE OF ALBERTA MILK PRODUCTION 1963

The quantity, price, value and utilization of milk production during 1963 is reported in the following table. To indicate changes from the previous year, the 1962 figures have been included.

	Year	Pounds	Milk Equivalent Pounds	Per Cent Total Milk	Price	Value
Butterfat for Creamery Butter	1963	31,504,000	900,128,000	53.7	$ .657 per lb.	$ 20,698,000
	1962	31,887,000	911,056,000	54.6	.661 per lb.	21,077,000
Farm Dairy Butter	1963	1,432,000	33,509,000	2.0	.56 per lb.	802,000
	1962	1,642,000	38,423,000	2.3	.56 per lb.	920,000
Milk and Butterfat for Ice Cream (milk basis)*	1963		20,155,000	1.2*	2.84 per 100 lbs.	572,000
	1962		29,540,000	1.8	2.84 " " "	839,000
Milk for Cheesemaking and Concentrating	1963		129,958,000	7.7	2.94 " " "	3,821,000
	1962		102,810,000	6.2	2.99 " " "	3,074,000
Fluid Milk Sales	1963		332,009,000	19.8	4.60 " " "	15,272,000
	1962		323,074,000	19.4	4.60 " " "	14,861,000
Cream Fluid Sales (milk basis)	1963		60,334,000	3.6	2.79 " " "	1,683,000
	1962		60,217,000	3.6	2.79 " " "	1,680,000
Milk Farm Home Consumed	1963		141,250,000	8.4	2.74 " " "	3,870,000
	1962		139,200,000	8.3	2.71 " " "	3,772,000
Fed Farm Animals	1963		59,950,000	3.6	2.74 " " "	1,643,000
	1962		63,560,000	3.8	2.71 " " "	1,722,000
Kept on Farms, Skimmilk from Creamery Butter and Skimmilk and Buttermilk from Dairy Butter	1963	801,779,000			.44 " " "	3,528,000
	1962	816,659,000			.40 " " "	3,267,000
Total	1963		1,677,293,000	100.0		51,889,000
	1962		1,667,880,000	100.0		51,212,000

* Does not include butterfat from creamery butter used in the manufacture of ice cream.

ESTIMATED PRODUCTION AND VALUE OF FACTORY DAIRY PRODUCTS

The following table shows the quantity, price and value of dairy products manufactured or processed in Alberta dairy manufacturing plants during 1963 with corresponding figures for 1962 added for sake of comparison.

	Year	Quantity	Price	Value
Creamery Butter, lbs.	1963	38,467,000†	$ .5412 per lb.	$20,818,000
	1962	38,934,000†	.6258 per lb.	24,365,000
Cheddar Cheese, lbs. (including net increase in processing)	1963	1,769,000	.3828 per lb.	677,000
	1962	1,693,000	.3875 per lb.	656,000
Ice Cream, Gallons*	1963	4,378,000	1.45 per gal.	6,348,000
	1962	4,042,000	1.45 per gal.	5,861,000
Fluid Milk Sales, lbs. (including processing charges)	1963	332,009,000	6.24 per 100 lbs.	20,717,000
	1962	323,074,000	6.21 per 100 lbs.	20,063,000
Cream as Milk, lbs. Fluid Sales (including processing charges)	1963	60,334,000	4.43 per 100 lbs.	2,672,000
	1962	60,217,000	4.39 per 100 lbs.	2,644,000
Skimmilk and Buttermilk Sales for Human Consumption (including processing charges)	1963	23,311,000	3.62 per 100 lbs.	844,000
	1962	21,921,000	3.55 per 100 lbs.	778,000
Skimmilk, Buttermilk, lbs.	1963	57,470,000	.44 per 100 lbs.	253,000
	1962	59,110,000	.40 per 100 lbs.	236,000
Whey, lbs.	1963	15,030,000	.22 per 100 lbs.	33,000
	1962	14,404,000	.20 per 100 lbs.	29,000
Miscellaneous Manufactured products**	1963			8,319,000
	1962			6,232,000
Total	1963			60,681,000
	1962			60,864,000

* Includes hard and soft ice cream.

** Includes concentrated milk products, cottage cheese, whey butter, cheese other than cheddar and yoghurt.

† Includes subsidy payment of 12 cents per pound on butter from January 1 to April 30, and 14.5 cents per pound on butterfat from eligible producers from May 1 to December 31 during 1963, whereas the 12 cents per pound on butter applied from May 1 to December 31 in 1962.

BRANCH EXTENSION ACTIVITIES

Branch representatives attended and addressed a number of meetings on dairy production, processing and manufacturing, and also meetings dealing with the processing and storage of frozen foods. Assistance was given to 4-H dairy calf clubs at achievement days, fairs and special meetings. Senior branch officials devoted considerable time to special committees and boards serving the dairy and frozen food industries.

As in past years monthly newsletters, circulars and bulletins were prepared and distributed. A considerable amount of press, radio and T.V. publicity was prepared and presented by branch personnel. The branch co-operated with the Department of Dairy Science and Canadian Vocational Training in conducting a four week short course for dairy plantmen. The first two weeks of the course dealt with general dairy sanitation, grading and testing of dairy products, while the remaining two weeks were devoted to the processing of market milk and related products. Twenty one students from all parts of the province completed the course and fifteen were awarded certificates for satisfactory standing.

Examinations were held at various times throughout the year for candidates attempting to secure licenses for the grading and testing of milk and cream including tank milk graders.

Weight certificates were again issued to manufacturers of creamery butter who either stored butter for or sold butter to the Agricultural Stabilization Board. A total of 7,635 boxes were check weighed, representing a total of 3,635,126 pounds of creamery butter.

DAIRY PLANT INSPECTION AND INSTRUCTION SERVICE

DAIRY PLANT CHANGES

A total of 119 dairy manufacturing plants were licensed during the year. The majority of these plants combined two or more operations, the most common of which was the manufacture of creamery butter and the processing and distribution of fluid milk and cream. During the year, three creameries, Northern Alberta Dairy Pool Limited, Edgerton; Burns and Company Limited, Calgary; and Independent Creameries Limited at Bowden, closed operations. A cheese factory designed to manufacture foreign types of cheese was put into operation during May at Airdrie. The Central Alberta Dairy Pool erected a new creamery at Bentley and moved into the new location early in the year. Late in the year the construction of extensive additions and alterations were being made by the Northern Alberta Dairy Pool and Purity Dairy to their Edmonton Plants.

INSPECTION AND INSTRUCTION

With the untimely passing of L. M. Silcox, Supervisor of Dairy Plant Inspection, G. A. MacAllister, formerly of the Calgary district, was appointed to succeed Mr. Silcox. W. E. Duncan, who had been in charge of the Vermilion district, was transferred to Calgary, and H. L. Beckett was appointed to the staff with headquarters at Vermilion.

There were a total of 1,477 plant inspections made by the field staff at licensed dairy plants. Check tests were made on 29,133

shipments of milk and cream for butterfat content, while 94,924 shipments of cream were checked for grade. Adjustments to correct errors in plant testing and grading were made on 2.03 per cent of the samples checked.

BULK MILK HANDLING

During the year, the Red Deer and Ponoka fluid milk sheds were completely converted to bulk operations. There were several producers of manufacturing milk in the Camrose, Wetaskiwin and Red Deer areas who also installed bulk tanks. The total number of farm bulk tanks in operation at the year end was 908. All new installations and calibrations or recalibrations of older tanks were checked by Dairy Branch personnel. A total of 140 tank loads of bulk milk were check weighed at delivery points in the principal fluid milk markets.

QUALITY CONTROL AND COMPETITIONS

Interest in quality dairy products has not only been maintained, but increased during the year. An advisory committee composed of industry and government personnel was established early in the year to consider quality standards for milk and dairy products and to advise producers and processors on approved methods of meeting these standards. Four technical subcommittees were organized to deal with specific items such as; radioactive fallout, chemical composition, microbiological quality and adulteration, including antibiotics and pesticide residues. A national quality standard for manufacturing milk was established during July by the Food and Drug Directorate of the Department of National Health and Welfare. To assist producers in meeting these standards, educational work by industry fieldmen and Dairy Branch personnel was increased. To encourage higher quality, a new competition for producers of manufacturing milk was organized on a provincial basis with the winners to be announced at the Dairy Convention.

Exhibits of creamery butter were successful in winning major awards at leading Canadian exhibitions including the Toronto Royal. The Northern Alberta Dairy Pool plant at Edmonton won first prize at the Scottish Dairy Show, Glasgow, for salted butter produced in Commonwealth Countries. The usual competitions based on commercial grading of products throughout the year were again conducted by branch personnel. Scoring panels for products such as ice cream and cottage cheese were organized and conducted at both Calgary and Edmonton on four different occasions. A competition designed to encourage better housekeeping in dairy plants was again conducted by local inspectors, with personnel from head office scoring top plants in each district. Plants scoring 75% or more were awarded merit certificates. Forty plants were successful in securing a certificate indicating excellent work on the part of plant employees.

LICENSES

Licenses issued in 1963 with corresponding figures in brackets for the previous year are listed below:

Form "A" Milk and Cream Testers	267	(279)
Form "B(C)" Cream Graders	214	(219)
Form "B(M)" Milk Graders	165	(162)
Tank Milk Graders	115	(107)
Form "C" Dairy Manufacturing Plants	119	(121)

DAIRY CATTLE IMPROVEMENT SERVICE

DIVISION ACTIVITIES

1. The principal activity of this division during 1963 was the Cow Testing Service. Supervision of cow testing centres, correspondence and record analysis of cows under test were carried out by the supervisor.

2. Assistance was given to artificial insemination units in bull selection, conception rate reports and attendance at annual meetings until the appointment of a full time supervisor of artificial insemination units in April 1963.

3. Extension activities of the supervisor included dairy field days, Grassland Improvement Competition, Dairy Princess Competition, judging of dairy cattle at fairs and 4-H Achievement days and record analysis meetings.

COW TESTING

An all time record of 15,333 cows tested with an all time high average production of 10,711 pounds of milk and 369 pounds of butterfat highlighted the Cow Testing Service for 1963.

The total number of herds under test in 1963 remained unchanged from the previous year at 496, but there was a net increase of 847 cows indicating the trend to larger herds.

During 1963, a total of 64 new herds and 1,531 cows were placed under test, while 1,245 cows in a similar number of herds discontinued.

(a) Mail Order

This was the basic program offered to 377 herd owners throughout the province. Monthly milk samples were lifted by the herd owners from individual cows and forwarded to one of the testing centres for testing by Dairy Branch officials. Milk from each cow was either weighed daily (Plan I) or weighed on one day a month (Plan II) by the herd owners.

The following table shows the number of herds and cows tested under the mail order system during the past three years.

	No. of Herds			No. of Cows		
	1961	1962	1963	1961	1962	1963
Plan I	104	97	91	2,194	2,217	2,300
Plan II	278	295	286	6,715	7,765	7,888
Total	382	392	377	8,709	9,982	10,188

From the table it can be seen that 15 fewer herds were tested under this program during 1963 as compared to 1962, however, there were 206 additional cows on test.

(b) Owner-Sampler Route Plan

This program operated only in the Edmonton area. Under this program, a full time fieldman visits each farm monthly picking up samples lifted by the herd owner. Heifer calf identification and eartagging is carried out at the time of the monthly visit.

The following table shows the number of herds and cows tested under the owner-sampler route plan system during the past three years.

	No. of Herds			No. of Cows		
	1961	1962	1963	1961	1962	1963
Plan I	5	5	3	241	238	96
Plan II	93	99	116	3,890	4,266	5,049
Total	98	104	119	4,131	4,504	5,145

The number of herds and cows tested under this program has increased steadily every year since first inaugurated in June 1954.

A total of 15 more herds and 641 more cows were tested under the owner-sampler route plan during 1963 than 1962. The fieldman made 1,325 farm visits, ear-tagged 1,230 heifer calves and maintained calf record books for 104 herd owners during 1963.

A total of 21 new herds were put under test in 1963 and one herd transferred from the mail order to route plan program.

TESTING CENTRES

Testing centres were in operation at the locations shown in the table below. A full time laboratory technician assisted by the fieldman did the testing at Edmonton. At the other centres the resident dairy inspector did the testing assisted by the part time clerical help. The Camrose testing centre was established during the year and commenced operations on June 1st. A number of herds under test at Ponoka were transferred to the Camrose centre.

The following table shows the number of tests conducted at each centre during the past three years.

Testing Centres	1961	1962	1963
Edmonton	48,263	52,027	54,025
Ponoka	12,575	13,549	11,855
Red Deer	13,935	16,656	17,584
Calgary	9,658	9,862	10,509
Lethbridge	6,380	7,183	8,008
Fairview	2,349	2,515	2,752
*Camrose	—	—	2,458
Total	93,160	101,792	107,191

*Commenced operation June 1, 1963.

A total of 5,399 more tests were conducted in 1963 than in 1962.

The following table indicates the extent to which the two plans of testing were utilized by herd owners and shows the average production under each plan, together with the provincial average for all cows on test. Comparable figures for 1962 are shown in brackets.

SUMMARY

	Plan I*	Plan II**	Total
No. of herds under test	94 (102)	402 (394)	496 (496)
No. of cows under test	2,396 (2,455)	12,937 (12,031)	15,333 (14,486)
Average number of cows per herd	25.5 (24.1)	32.2 (30.5)	30.9 (29.2)
Number of Cow Years (T)	1,759 (1,799)	9,159 (8,631)	10,918 (10,430)
Average number of cow years per herd	18.7 (17.6)	22.8 (21.9)	22.0 (21.0)
Average production of milk (pounds)	10,127 (9,932)	10,823 (10,564)	10,711 (10,455)
Average production of butterfat (pounds)	364.2 (366.7)	370.3 (371.4)	369.3 (370.6)
Average Test (%)	.... (....)	.... (....)	3.45 (3.54)

* Plan I — Daily weighing and monthly tests.

** Plan II — 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 was used in determining the herd average, except where new cows were placed on test, or a cow was sold or died; in these cases only that part of the year in which she produced was used.

The average production of all cows on test showed an increase of 256 pounds of milk and a decrease of 1.3 pounds of fat during the year 1963 as compared to 1962.

REPORTS AND COMPETITIONS

1. During 1963 a new type of graded certificates of production were issued for all cows completing the necessary production and recording requirements. Subsequent records will be added to the original certificates when completed. A certificate record book is provided to the herd owner.

2. Annual reports showing both total and average milk and butterfat production were sent to all herd owners as well as to district agriculturists' offices.

3. Honor Roll listing of all herds of 5 cow years or more producing an average of over 400 pounds of butterfat was compiled. A total of 105 herds qualified in 1963 compared to 112 in 1962.

4. Higher production and herd improvement was encouraged through competitions.

LABORATORY SERVICE

The laboratory again placed considerable emphasis on its roles of assisting the dairy industry in the production of safer and higher quality products, and of aiding the city and provincial regulatory authorities in the maintenance of adequate standards.

During 1963, the laboratory analysed 36,326 samples, involving in some cases six different tests per sample. Although this total is somewhat lower than the number of samples analysed in the previous year, it must be noted that the complexity of certain new tests required considerably more man-hours.

An extensive reorganization of the laboratory and its staff has taken place during 1963. The introduction of new tests, new programs, and special projects was partially responsible for transferring the provincial mastitis control program from the Dairy Branch Laboratory to the Provincial Veterinary Laboratory on July 1, 1963.

An increase in publicity for safer foods and greater demands by the consumer were reflected in the activities of the laboratory. Large emphasis was placed on examination of food products for various illegal toxic and non-toxic adulterants, such as pesticides, antibiotics, preservatives, water in milk, etc. To provide speedier and more accurate results for certain of these analyses, the laboratory acquired some new, highly specialized equipment. Additional floor space of approximately 1,000 square feet was obtained, and some of the existing facilities rearranged. Late in the year, equipment for detecting radioactive Iodine 131 and Cesium 137 was installed at the laboratory. This equipment will be put into operation early in 1964 which will make it possible to more readily assess the danger from fallout contamination should nuclear testing be resumed.

Unfortunately, the efficiency of the laboratory was hampered somewhat by a fairly large turnover in staff. Considerable delay

was experienced in securing satisfactory replacements as there is a definite shortage of qualified personnel.

For the third year, the laboratory was chosen by the Federal and Provincial Departments of Health as an investigation centre for pesticide and antibiotic residues in dairy products. The project was financed by the Federal Department of Health and Welfare, and was conducted in close co-operation with the provincial and federal authorities concerned.

Several technical meetings were attended by laboratory personnel locally, and in other parts of Canada as well as the United States. A number of technical reports were prepared and submitted to federal and provincial authorities.

The following table demonstrates the number and type of samples analysed, as well as corresponding figures from the previous year:

	1963	1962
Milk Control Service	12,972	13,113
Butter Samples for Mould and Yeast	3,953	4,043
Butter Samples for pH Values	1,955	1,984
Milk Samples for Q-Fever	1,987	1,649
Mastitis Control Service	5,798	9,891
Milk Samples for Antibiotics	2,727	4,140
Water Adulteration of Milk	2,954	3,429
Bacterial Creamery Survey Samples	668	91
Cheese Samples	109	71
Ice Cream Samples	745	655
Meat Curing Brines	279	....
Eggs and Egg Products	933	412
Milk Samples for Brucellosis	19	113
Pesticides in Dairy Products, animal tissues and other specimens	323	196
Miscellaneous	904	596
Total	36,326	40,383

FROZEN FOOD LOCKER PLANTS

The administration of the Frozen Food Locker Act including regular inspections of plants was continued as a branch activity. There were 872 inspections made by district inspectors in addition to at least one special visit to each plant by the supervisor. Instruction on the preparation, processing, freezing, and wrapping of food products for storage was a function of inspection staff while assistance in planning alterations to plants and slaughter houses was given by the supervisor.

A new service was offered to the industry through the Dairy Branch Laboratory whereby samples of curing brine were subjected to bacteriological and chemical tests. As a result improvements were made in plant sanitation and the keeping quality of products. A total of 279 samples of brine was analysed during the year.

Locker plants at Athabasca, Burdett, Claresholm, Coaldale, Innisfail, Killam and Peace River discontinued operations during the year, reducing the total to 114 locker plants and 3 animal food storage plants in operation at the year end.

Amendments to the Act and regulations were made during the year. The new Act known as the Frozen Food Act provides for the licensing and inspection of plants engaged in the slaughtering and processing of meats for home freezer owners. Approximately 50 additional plants engaged in this type of operation will be licensed and inspected during 1964.

The Merit Award Competition and the issuing of proficiency certificates to plants attaining a high standard of sanitation and service was continued. The winning plants in each section during 1962 were presented with trophies at the annual meeting of the Alberta Quick Freeze Locker Association which was held in Red Deer early in February 1963. The shield for the highest standing in Section A (over 300 lockers) was won by Taber Frozen Foods, Taber; while Olson and Sons of Sexsmith won the shield for Section B (plants with less than 300 lockers).

The following statistics have been tabulated from monthly storage reports covering the 12 month period ending November 30, 1963. For sake of comparison similar statistics for the previous year are shown.

LOCKER PLANT OPERATIONS

	1963	1962
No. of animal food plants	3	3
No. of plants in operation December 1st	114	121
No. of plants reporting	121	130
No. of lockers installed	26,695	29,770
Average number of lockers installed	234	250
No. of lockers rented December 1st	17,962	20,305
Percentage of lockers rented December 1st	67.3	68.5
Average lbs. of food stored per locker with complete service	287.6	285.4
Average lbs. of food stored per locker with incomplete service	177.3	157.1
Average poundage per locker—all plants	279.8	269.5
Average lbs. per locker on the basis of lockers rented for 12 months	286.3	289.5
Inspections during the year	872	974
Brine samples analysed	279	....

It will be noted that locker rentals showed a further decline during the year. This was due largely to the increased use of home freezers. The volume of processing for lockers was down from the previous year, however, this was more than offset by the increase in volume of processing for home freezers. The total volume processed by licensed plants increased by over one million pounds during the year.

The following tables show the trend in the locker plant industry over a period of years. It will be observed that the number of plants and volume stored has decreased considerably since 1955, but a tremendous increase in the volume processed for home freezers has taken place during this same period.

LOCKER PLANT OPERATIONS

Year	No. of Plants Operating	No. of Lockers Installed	No. of Lockers Rented	Per Cent of Lockers Rented	Average lbs. Per Rented Locker
1945	61	16,770	13,572	80.9	326.0
1950	141	48,647	43,802	90.0	305.2
1955	153	51,488	43,608	84.7	307.9
1960	136	37,646	26,316	69.9	329.6
1961	131	34,125	23,881	69.9	292.9
1962	121	29,770	20,305	68.5	289.5
1963	114	26,695	17,962	67.3	286.3

AMOUNT AND TYPE OF FOOD PRODUCTS STORED IN LOCKERS

Year	Pounds Stored Lockers	Meat %	Fish %	Poultry %	Game Birds %	Big Game %	Cured Meats %	Lard %	Fruits %	Veg. %	Misc. %
1945	3,902,294	79.1	.8	6.4	.7	1.5	7.3	.5	1.9	1.7	.1
1950	12,895,363	75.3	.9	6.3	.6	.9	11.0	1.2	1.5	1.5	.8
1955	13,760,124	79.1	.4	6.8	.5	1.7	7.6	1.0	.6	1.8	.5
1960	8,675,136	77.0	.3	4.7	.2	4.9	9.4	1.1	.5	1.5	.4
1961	7,100,549	76.0	.3	5.1	.3	6.1	8.6	1.1	.5	1.6	.4
1962	5,546,899	73.7	.3	5.9	.2	6.4	9.3	1.3	.6	1.8	.5
1963	4,994,961	74.7	.4	3.9	.3	7.0	9.2	1.5	.6	2.0	.4

Processed for Home Freezers

1953	1,534,919	76.5	1.2	1.3	1	.1	4.0	.3	4.5	5.4	6.6
1955	2,021,656	76.0	1.0	1.6	.1	.6	6.3	.5	5.1	4.7	4.1
1960	9,834,111	78.5	.5	1.1	.1	2.0	9.8	1.3	2.5	2.2	2.0
1961	10,158,455	79.5	.4	1.2	.5	2.5	8.6	1.2	1.5	2.3	2.3
1962	10,463,546	80.0	.5	1.0	.1	2.4	9.2	1.2	1.9	2.3	1.4
1963	12,131,243	80.9	.4	1.5	.1	2.1	8.0	1.1	2.1	1.9	1.9

TOTAL VOLUME PROCESSED FOR LOCKERS AND HOME FREEZERS

	Pounds		Pounds
1953	17,317,103	1961	17,259,004
1955	15,781,780	1962	16,010,445
1960	18,509,247	1963	17,126,204

Milk Control Report

Submitted By The

PUBLIC UTILITIES BOARD

J. B. Moore, Administrator of Milk Control

The areas of Calgary, Camrose, Edmonton, Medicine Hat, Ponoka and Red Deer continued to show increases in fluid milk consumption. Other areas registered declines.

Increases or decreases were as follows:

Calgary	+ 3.3%	Camrose	+5.3%
Crow's Nest Pass	— 3.4%	Edmonton	+3.2%
Lethbridge	— 6.0%	Medicine Hat	+0.7%
Ponoka	+39.4%	Red Deer	+8.6%

Production increased in all areas except in the Crow's Nest Pass area.

The number of licensed distributors increased by 2 to a total of 23 in the controlled areas.

The total number of licensed milk producers dropped to 796 a decline of 32. The Calgary area shows a loss of 13 milk producers; Edmonton, 8.

Milk Control Regulations were amended by Alberta Regulation 503/63.

Eleven Orders were issued during the year as follows: Orders Nos. 26095, 26096, 26097, 26183, 26186, 26187, 26189, 26238, 26350, 26418 and 26424.

The Board continued its active and financial support of both the Dairy Cost Survey and the several Milk Foundations.

Hearings were held in Calgary, Edmonton, Lethbridge, Medicine Hat and Red Deer.

Several meetings were held with representatives of other Provincial Milk Boards during the year and the Board continues as a member of the International Milk Control Agencies.

STATISTICAL DATA RELATING TO MILK CONTROL

The Tables which follow relate to milk and cream supplied and sold for fluid consumption in the treas of the Province controlled by the Public Utilities Board during the year 1963.

TABLE I

*CONSUMPTION OF FLUID MILK MONTHLY, 1963—IN QUARTS

Area	January	February	March	April	May	June	July	August	September	October	November	December
Calgary	2,360,720	2,195,206	2,417,285	2,381,376	2,341,598	2,228,539	2,201,790	2,370,281	2,357,722	2,526,355	2,519,174	2,491,409
Camrose	70,298	69,019	73,460	70,730	70,025	65,872	64,040	68,846	66,926	73,113	73,053	74,226
Crow's Nest Pass	39,513	38,123	42,330	39,393	40,045	38,912	38,312	41,563	36,007	41,254	40,640	40,681
Edmonton	3,002,524	2,842,766	3,129,370	3,061,948	2,965,949	2,836,450	2,651,536	2,915,172	2,866,266	3,135,285	3,120,179	3,171,092
Lethbridge	275,415	262,208	284,213	278,394	277,505	270,613	265,889	276,975	270,011	286,316	280,119	287,036
Medicine Hat	165,426	155,069	169,492	168,092	163,694	164,260	162,068	169,442	163,062	176,982	168,954	172,495
Ponoka	51,196	48,723	53,639	52,148	53,637	52,212	49,955	52,285	50,252	54,464	54,556	56,514
Red Deer	199,024	193,441	214,338	219,335	213,899	203,420	194,934	212,666	211,399	218,797	225,435	223,298

* (Standard, Homo, 2%, Special, Skim)

TABLE II

CONSUMPTION OF 2% PARTLY SKIMMED MILK MONTHLY, 1963—IN QUARTS

Area	January	February	March	April	May	June	July	August	September	October	November	December
Calgary	308,424	295,651	329,148	328,493	332,628	322,187	312,765	332,418	354,246	395,079	404,574	384,633
Camrose	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crow's Nest Pass	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Edmonton	290,739	279,179	312,300	309,058	303,972	294,562	253,627	289,452	311,432	346,687	356,170	368,810
Lethbridge	36,797	35,197	39,378	42,558	52,999	48,976	46,880	49,383	49,123	55,426	58,091	57,246
Medicine Hat	18,438	18,420	19,995	21,062	26,015	26,306	25,625	27,626	26,503	30,128	30,112	29,752
Ponoka	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Red Deer	30,911	33,156	39,474	44,789	41,335	38,783	34,598	38,262	40,135	40,594	49,594	43,441

TABLE III

CONSUMPTION OF SKIM MILK MONTHLY, 1963—IN QUARTS

Area	January	February	March	April	May	June	July	August	September	October	November	December
Calgary	112,343	104,576	117,091	114,119	113,330	108,308	96,759	102,961	113,326	123,432	124,256	120,338
Camrose	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crow's Nest Pass	.....	.....	.....	.....	23	33	.....	.....	54	51	.....	.....
Edmonton	122,040	116,247	130,258	127,297	124,738	118,499	101,406	110,911	120,405	138,138	132,582	127,471
Lethbridge	10,826	10,335	11,531	11,357	11,550	11,313	10,070	10,928	10,610	11,152	11,667	10,504
Medicine Hat	2,162	2,112	2,402	2,424	2,330	2,151	1,992	2,117	2,124	2,693	2,466	2,023
Ponoka	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Red Deer	12,698	12,227	14,472	14,878	16,034	14,089	12,169	13,454	13,232	14,510	14,991	14,241

TABLE IV

CONSUMPTION OF CHOCOLATE DAIRY DRINK MONTHLY, 1963—IN QUARTS

Area	January	February	March	April	May	June	July	August	September	October	November	December
Calgary	76,158	70,274	78,585	77,443	83,190	84,568	90,905	96,059	93,152	98,354	88,601	86,369
Camrose	2,035	2,053	2,577	2,644	2,775	2,711	2,969	3,476	2,769	3,154	2,930	3,215
Crow's Nest Pass	.....	.....	.....	1,605	2,040	2,193	2,266	2,316	1,553	1,319	814	.....
Edmonton	117,004	112,702	122,690	121,314	132,276	139,709	136,679	140,034	132,623	150,297	139,978	129,543
Lethbridge	9,135	8,679	9,246	8,447	9,351	9,140	9,871	10,798	10,409	10,598	9,566	9,343
Medicine Hat	7,029	6,991	8,080	8,290	8,182	8,093	9,284	9,492	8,469	12,186	8,106	7,893
Ponoka	187	141	90	32	249	2,012	2,149	1,729	740	.....	266	190
Red Deer	7,755	8,098	9,673	9,627	9,443	10,244	10,054	11,479	10,884	10,661	9,491	9,342

TABLE V

CONSUMPTION OF BUTTERMILK MONTHLY, 1963—IN QUARTS

Area	January	February	March	April	May	June	July	August	September	October	November	December
Calgary	21,529	22,894	26,443	26,712	30,648	34,270	36,917	36,661	28,432	25,832	23,017	22,760
Camrose	611	680	814	538	796	912	1,023	948	784	755	678	612
Crow's Nest Pass	141	159	296	120	283	261	243	338	233	182	192	103
Edmonton	36,560	40,116	46,292	49,685	55,677	63,468	72,537	65,074	45,975	40,193	37,159	35,872
Lethbridge	3,352	3,561	4,329	4,231	4,996	5,420	6,254	5,841	4,190	3,491	2,984	3,283
Medicine Hat	1,573	1,717	2,111	2,316	2,818	3,512	3,915	3,355	2,298	2,667	1,754	1,629
Ponoka	115	117	122	112	161	201	208	172	164	238	38	76
Red Deer	1,494	1,454	1,738	1,788	1,985	2,374	2,682	2,470	2,490	2,551	1,975	1,786

TABLE VI

CONSUMPTION OF FLUID CREAM MONTHLY, 1963—IN QUARTS

Area	January	February	March	April	May	June	July	August	September	October	November	December
Calgary	153,669	143,508	158,971	157,773	152,949	149,486	154,039	158,811	141,370	161,876	161,005	154,754
Camrose	2,793	3,012	3,216	3,041	3,007	2,826	2,842	3,250	2,814	3,114	3,115	3,210
Crow's Nest Pass	979	269	318	289	365	339	294	310	212	258	242	759
Edmonton	228,277	216,973	222,985	234,607	229,542	221,357	213,048	234,806	210,508	242,873	239,290	249,078
Lethbridge	18,548	17,635	19,468	19,032	18,453	18,321	17,887	18,534	17,568	19,364	19,306	20,369
Medicine Hat	10,746	10,161	11,318	10,942	10,742	10,525	10,549	10,903	9,926	11,264	11,336	11,592
Ponoka	2,547	2,512	2,733	2,707	2,499	2,671	2,592	2,895	2,573	2,832	2,698	2,920
Red Deer	10,288	9,888	10,923	11,154	11,058	10,534	10,580	11,647	11,094	12,969	9,791	11,284

TABLE VII

*FLUID MILK CONSUMPTION, 1959-1963--IN QUARTS

Area	1959	1960	1961	1962	1963
Calgary	23,528,082	24,771,866	24,722,487	26,207,185	28,391,455
Camrose	746,870	781,018	782,628	797,632	839,608
Crow's Nest Pass	451,839	571,087	556,297	493,656	476,773
Edmonton	31,632,619	32,175,479	32,717,544	33,225,546	35,698,537
Lethbridge	3,333,543	3,412,623	3,408,741	3,259,261	3,180,982
Medicine Hat	1,943,425	1,870,094	1,882,136	1,931,535	1,970,063
Ponoka	409,380	441,296	407,361	451,627	629,581
Red Deer	1,870,971	1,922,574	2,052,334	2,186,617	2,529,986
TOTAL	63,916,729	65,946,037	66,529,528	68,553,059	73,716,985

* (Standard, Homo, 2%, Special, Skim)

TABLE VIII

FLUID CREAM CONSUMPTION, 1959-1963—IN QUARTS

Area	1959	1960	1961	1962	1963
Calgary	1,823,919	1,859,491	1,835,371	1,868,209	1,848,211
Camrose	24,860	29,427	31,715	33,805	36,240
Crow's Nest Pass	3,547	4,149	4,589	8,802	4,634
Edmonton	2,507,060	2,577,486	2,615,477	2,713,408	2,743,344
Lethbridge	230,727	234,731	229,285	233,482	224,485
Medicine Hat	115,407	120,574	119,373	129,618	130,004
Ponoka	25,430	30,914	27,285	30,775	32,179
Red Deer	99,090	107,295	115,495	129,453	131,210
TOTAL IN QUARTS	4,830,040	4,964,067	4,978,590	5,147,552	5,150,307
TOTAL IN B.F. EQUIVALENT—LBS.	1,556,480	1,675,372	1,680,274	1,711,561	1,738,228

TABLE IX

FLUID MILK PURCHASES BY DISTRIBUTING PLANTS—1959 to 1963—IN POUNDS

Area	1959	1960	1961	1962	1963
Calgary	94,941,664	102,916,732	107,131,175	106.037,098	109,308,975
Camrose	2,486,465	2,911,309	2,978,372	2.706,404	2,900,792
Crow's Nest Pass	1,154,268	1,217,513	1,373,700	1,429,400	1.296,300
Edmonton	134,265,800	141,427,090	147,697,071	145,051,248	147,820,425
Lethbridge	21,451,338	24,499,823	25,274,500	25,549,300	27,261,500
Medicine Hat	7,139.217	7,862,646	8,110,100	7,944,300	8,034,600
Ponoka	1,383,920	1,437,490	1,359,758	1,675,308	1,797,565
Red Deer	7,047,283	7,688,980	8,310,071	8,533,444	8,831,241
TOTAL POUNDS	269,869,955	289,961,583	302,234,747	298,926,502	307,251,398

TABLE X

NUMBER OF MILK AND CREAM PRODUCERS AND DISTRIBUTORS OPERATING ON DECEMBER 31st, 1963 UNDER THE PUBLIC UTILITIES BOARD LICENSE

Area	MILK		CREAM		TOTAL	
	Producers	Distributors	Producers	Distributors	Producers	Distributors
Bowden	1	1	....	....	1	1
Calgary	264	6	....	....	264	6
Camrose	6	2	....	....	6	2
Crow's Nest Pass	6	1	....	....	6	1
Edmonton	435	5	38	....	473	5
Lethbridge	44	2	19	....	63	2
Medicine Hat	21	2	....	....	21	2
Ponoka	4	1	2	....	6	1
Red Deer	15	3	3	....	18	3
TOTAL	796	23	62	..	858	23

Table XI

PRICES IN EFFECT AS AT DECEMBER 31st, 1963

Area	MILK							
	To Producers per 100 lbs. 3.5% B.F.	To Consumers per Quart	10% Substandard per Pint	18% Table Cream per Pint	32-34% Whipping per Half Pint	Chocolate Milk per Quart	Butter Milk per Quart	Skim Milk per Quart
	$	¢	¢	¢	¢	¢	¢	¢
Bowden	4.56	.19	....	....	.27	....	....	....
Calgary	4.89	.22	.24	.43	.32	.23	.21	.17
Camrose	4.43	.19	.24	....	.30	.21	.21	....
Crow's Nest Pass	5.25	.24	.30	....	.40	.25	.24	.18
Edmonton	4.95	.21	.24	.40	.30	.23	.20	.16
Lethbridge	4.95	.23	.25	....	.34	.24	.22	.18
Medicine Hat	4.95	.23	.25	....	34	.24	.22	.18
Ponoka	4.75	.20	.24	....	.30	.22	.20	....
Red Deer	4.95	.22	.25	....	.32	.24	.22	.17

Milk to consumer per quart price refers to an imperial quart of "Standard" milk delivered to "Retail Consumers".
December figures are estimates.

TABLE XII

CONSUMER AND PRODUCER PRICES IN EFFECT IN SPECIFIED CITIES ACROSS CANADA
(as at November 1st, 1963)

	Consumer Prices Homogenized Milk Quarts	Producer Prices—Cwt.		
		B.F. Basis		Differential
	¢	$	%	¢
Charlottetown	21	4.42	3.6	6
Halifax	24	5.33	3.7	3
Sydney	25	5.90	3.7	3
St. John	23	5.15	3.8	3
Montreal	22½	4.89	3.4	6
Quebec	22	4.89	3.4	6
Toronto	26	5.76	3.4	5
Winnipeg	24	4.90	3.5	5
Regina	23	5.10	3.5	5
Edmonton	22	4.95	3.5	5
Calgary	23	4.89	3.5	5
Vancouver	26	5.62	4.0	6.1

Report of the Poultry Branch

ROBT. H. McMILLAN, B.Sc.A. Poultry Commissioner

G. R. MILNE, B.S.A., Poultry Supervisor

Inspectors:

K. Darlington ..... E. Edmonton
K. H. Rowe, B.S.A. ....W. Edmonton
G. E. Patsula, B.S.A. ..... Fairview
G. O. Johnson, B.S.A. ..... Camrose
J. L. Plumley, B.S.A. ..... Red Deer
Wm. Hutchison ..... Calgary
R. A. Stafford, B.S.A. ... Lethbridge

GENERAL REVIEW

Total volume of production of commercial egg production declined slightly in 1963 from that of 1962 while total volume of chicken broilers and turkeys increased.

Year	Egg Station Receipts 30 Dozen Cases	Chicken Broiler Eviscerated Weight Registered Stations	Turkey-Mature Eviscerated Weight Registered Stations
1962	470,641	13,865,000	12,172,000
1963 (est.)	441,300	18,448,000	12,588,952

There has been a steady decline in total egg receipts since 1959, the year the Federal Government introduced the Deficiency Payment Program replacing the Price Support Program. Total egg production, an estimated 37 million dozen compared to 39 million in 1962 was a little short of meeting domestic requirements even though seasonal surpluses and deficiences occurred. No deficiency payment under the Federal Stabilization Board was made in 1963. Returns to producers increased by 2.1¢ per dozen.

Year	Total Eggs Produced millions of dozens	Weighted Egg Prices to Producers as determined by Registered Egg Station Receipts
	Alberta	Alberta
1959	44.7	25.2
1960	44.0	23.2
1961	41.3	24.4
1962	39.3	25.0
1963	37.0	27.1

Production of chicken broilers continued to increase and to a lesser extent than commercial egg production was plagued by seasonal fluctuations. Returns to broiler growers were a little stronger for most of 1963, however, in December a bothersome surplus accumulated. Production of broilers continued to become a specialized phase in poultry of considerable magnitude thus small independent, sideline operations were eliminated.

Turkey meat handled through registered stations was estimated at 13.8 million pounds compared to 12.5 million pounds in 1962. The Support Price Program and import quotas for turkey meat under the Federal Stabilization Board was discontinued in August. Returns to growers averaged 24¢ to 25¢ per pound, comparable to 1962.

Contracts for production, particularly turkey and broiler and to a lesser extent commercial eggs were very evident in 1963. Expansion facilities of production in all three phases, egg, broiler and turkey continued in the establishing of economic units resulting in a further decline of smaller sideline operations. To our knowledge commercial egg production capacity increased by 105,630 laying birds at an average of 5,030 layers with a high of 20,000 layers. Broiler production increased by 236,000 birds per 8 - 9 week cycle. Undoubtedly there were more units in all phases established.

FLOCK APPROVAL

The pullorum testing and banding of chicken and turkey hatching egg supply flocks continued in 1963. To handle the bulk of this work eight temporary inspectors were employed from September through December. Females tested for egg replacement purposes in 1963 were 8% less than 1962 while females tested for broiler production increased 31%. Turkey females tested decreased by 15%. Tables I and II indicate the number of flocks and birds inspected monthly throughout the year.

TABLE I

FLOCKS AND FEMALES TESTED

ALBERTA

( )Flocks

EGG REPLACEMENT

	1959		1960		1961		1962		1963	
Jan.	6,342		8,857		5,595		14,848		19,790	
Feb.	1,868		378		184		2,517		583	
March	0		0		350		381		274	
Q.T.	(19)	8,210	(28)	9,235	(17)	6,129	(48)	17,746	(41)	20,647
April	0		0		236		521		0	
May	0		0		0		842		0	
June	0		537		0		0		2,511	
Q.T.	(0)		(2)	537	(1)	236	(2)	1,363	(3)	2,511
July	0		314		0		0		0	
Aug.	6,176		7,384		6,190		5,806		3,672	
Sept.	45,628		40,833		36,229		28,904		19,171	
Q.T.	(135)	51,804	(103)	48,531	(80)	42,419	(72)	34,710	(38)	22,843
Oct.	89,695		60,487		62,690		57,918		42,396	
Nov.	65,932		83,360		43,186		44,643		36,448	
Dec.	50,191		38,498		36,144		22,896		40,101	
Q.T.	(513)	205,818	(465)	182,345	(353)	142,020	(284)	125,457	(261)	118,945
Year T.	(667)	265,832	(598)	240,648	(451)	190,804	(406)	179,276	(343)	164,946
Change	(—225)	—41,413	(—69)	—25,184	(—147)	—49,884	(—45)	—11,528	(—63)	—14,330
Ave. Flock Size		398		402		423		441		480

TABLE II

FLOCKS AND FEMALES TESTED
ALBERTA

( ) Flocks — BROILER

	1959		1960		1961		1962		1963	
Jan.	6,545		9,640		5,698		18,170		19,946	
Feb.	4,179		3,116		11,565		18,198		4,743	
March	2,554		2,524		7,235		7,700		10,142	
Q.T.	(26)	13,278	(25)	15,280	(37)	24,498	(73)	44,068	(54)	34,831
April	5,962		1,287		14,735		3,774		5,644	
May	6,591		7,401		8,357		3,674		17,661	
June	3,874		2,796		5,103		6,383		13,340	
Q.T.	(26)	16,427	(18)	11,484	(36)	28,195	(22)	13,831	(38)	36,645
July	11,066		6,236		12,325		1,887		6,569	
Aug.	4,793		6,858		9,674		11,169		10,530	
Sept.	14,006		17,525		20,828		14,895		19,312	
Q.T.	(54)	29,835	(61)	30,619	(73)	42,827	(45)	27,951	(55)	36,411
Oct.	13,394		15,685		17,251		15,460		23,978	
Nov.	10,346		6,195		21,195		11,713		14,268	
Dec.	11,318		13,565		15,709		10,506		18,540	
Q.T.	(75)	35,058	(77)	35,445	(110)	54,155	(84)	37,679	(103)	56,786
Year T.	(181)	94,598	(181)	92,828	(256)	149,675	(224)	123,529	(250)	162,585
Change	(+68)	+44,597	(0)	—1,770	(+75)	+56,847	(—32)	—26,146	(+26)	+39,056
Ave. Flock Size		522		512		584		551		650

All hatching eggs set in licensed hatcheries must be from inspected and pullorum disease free flocks. Table III summarizes the number of flocks and birds inspected and tested for pullorum disease.

TABLE III

SUMMARY OF FLOCK APPROVAL 1962-1963
(First Test on Completed Flocks)

Year	Method of Testing	No. of Flocks	No. of Birds	Av. Size of Flock	% Reaction
1962	Whole Blood	655	335,064	512	.015
1963	Whole Blood	593	360,284	607	.019

Table IV summarizes total turkey flocks and turkeys inspected and banded.

TABLE IV

SUMMARY OF TURKEY APPROVAL 1961-1963

Year	No. of Flocks	No. of Birds	Average Size of Flock
1961	35	44,511	1,272
1962	36	55,354	1,537
1963	32	46,704	1,459

68% of the turkeys were Broad Breasted Bronze, 27% were large Whites, and 5% were small Whites.

The number of flocks inspected was comparable to 1962, however, the number of birds inspected decreased by approximately 8,000. A market for Alberta turkey hatching eggs in the United States developed.

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 Livestock and Livestock Products Act. Every person carrying on a business as a dealer obtained 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 $1,000.00 to $10,000.00 dependent upon the volume of business conducted.

TABLE V

Year	First Receivers	Reg. Egg Grading Stations	Reg. Poultry Processing Stations	Reg. Poultry Eviscerating Stations	Reg. Poultry Grading Stations	Temporary Grading Stations	Poultry Packing Stations
1959	17	142	26	12	8	3	..
1960	17	137	23	13	8	..	..
1961	10	136	23	14	9	..	8
1962	12	125	19	11	8	..	8
1963	10	119	19	11	7	..	9

B. Hatchery—The Poultry Branch administers Regulations Respecting the Production and Sale of Chicks under the Alberta Livestock and Livestock Products Act. All commercial and custom hatcheries with an incubator capacity of 1,000 eggs or more were licensed. Since 1951 commercial hatcheries furnished a surety bond, in favor of the Minister, for protection of hatching egg producers, ranging from $2,000.00 to $5,000.00 dependent upon incubator capacity.

A continued reduction in numbers of commercial hatcheries operating was noted although total egg setting capacity for the Province was not greatly reduced.

TABLE VI

DEVELOPMENT OF HATCHERIES

Year	Breeder Hatcheries	Commercial Hatcheries	Egg Setting Capacity
1959	8	50	4,807,462
1960	6	47	4,684,062
1961	10	43	4,658,339
1962	10	44	4,771,767
1963	7	39	3,811,876

TABLE VII

CHICK DISPOSITION

Year	% Hatchability	Chicks Hatched	Chicks Not Sold	Chicks Exported	Chicks Imported	Chicks Remaining in Province
1959	70.9	11,710,464	613,173	600,475	474,379	10,971,195
1960	69.4	12,358,830	739,453	525,186	470,192	11,564,383
1961	70.0	14,544,564	679,377	621,299	503,550	13,734,058
1962	70.1	13,084,102	881,652	598,122	569,273	12,173,601
1963	70.2	15,070,648	1,091,460	606,641	879,505	14,252,052

TABLE VIII

CHICK PRODUCTION BY TYPE

For Egg Production Type			For Broiler Production Type		
1963	1962	% Change	1963	1962	% Change
6,564,123	5,992,899	+9.5	8,506,525	7,091,203	+20

TABLE IX

POULT PRODUCTION

Year	Eggs Set	Eggs Imported	Poults Hatched	% Hatchability	Poults Imported	Poults Exported	Poults on Alberta Farms
1959	2,593,650	1,222,124	1,470,164	56.6	166,571	13,750	1,622,985
1960	2,184,672	500,100	1,211,030	55.4	29,482	134,211	1,106,301
1961	3,187,674	1,005,489	1,708,081	53.5	46,804	196,860	1,558,025
1962	2,667,391	64,600	1,375,515	51.3	14,040	41,944	1,347,611
1963	2,362,591	207,194	1,291,485	54.6	58,048	86,028	1,241,742

Poult production in Alberta hatcheries in 1963 was 1,291,485 poults, a decrease of 6% over 1962.

Importation of U.S. franchise breeding stock decreased. This past season there were 22 different franchises offered for sale as compared to 23 in 1962, 19 in 1961, and 23 in 1960. It is estimated that this stock produced 4,614,578 egg production chicks and 7,655,873 broiler production chicks and 910,497 poults this year. There are 6 Canadian franchised chicks offered for sale in the Province.

TABLE X

IMPORTATION FROM THE UNITED STATES—1963

	Chicken				Turkey			
	From Egg Production Matings		From Broiler Production Matings		From Meat Production Matings		From Broiler Production Matings	
	Eggs	Chicks	Eggs	Chicks	Eggs	Poults	Eggs	Poults
Jan.	.....	1,457	.....	21,345	.....	.....	.....	.....
Feb.	10,980	6,808	.....	7,865	24,000	.....	.....	.....
Mar.	3,600	18,941	19,349	36,394	9,000	.....	.....	.....
April	5,580	6,011	3,744	19,629	56,800	.....	.....	.....
May	.....	972	86,400	7,269	55,400	900	.....	.....
June	.....	3,129	14,400	20,899	12,480	4,220	.....	.....
July	.....	.....	.....	17,936	.....	7,250	.....	.....
Aug.	.....	.....	21,600	10,258	.....	.....	.....	.....
Sept.	.....	.....	7,200	18,850	.....	.....	.....	.....
Oct.	41,040	.....	.....	9,277	.....	.....	.....	.....
Nov.	.....	.....	.....	14,978	.....	.....	15,273	.....
Dec.	.....	2,334	18,000	15,554	.....	.....	25,956	.....
TOTAL	61,200	39,652	170,693	200,254	157,680	12,370	41,229	.....

THE POULTRY INDUSTRY

Egg marketings at registered egg grading stations are indicated in Table XI. These receipts represent an estimated 46% of the total production, an increase over that of 1962. Canada Safeway Ltd. entered the egg wholesale business and accounted for much of the increase of total production through registered stations whereas in 1962 it was marketed direct by producer to retailer. Weighted egg prices to producers increased 2.1 cents per dozen over 1962.

TABLE XI

	Egg Receipts at Registered Egg Grading Stations (30 dozen cases)	Weighted Egg Price to Producers by Grade per Dozen
1959	563,471	24.7 cents
1960	497,537	23.2 cents
1961	484,906	24.4 cents
1962	473,071	25.0 cents
1963	441,300	27.1 cents

TABLE XII

POULTRY EVISCERATED IN REGISTERED STATIONS
(Pounds)

Year	Chickens Under 4 lbs.	Chickens Over 4 lbs.	Fowl	Ducks
1959	5,628,526	1,134,345	2,059,150	29,810
1960	7,807,623	848,534	2,053,831	33,507
1961	14,121,713	1,372,489	2,334,092	5,348
1962	14,031,000	870,000	2,185,000	5,000
1963	18,448,000	641,000	2,118,000	6,000

Year	Turkeys Under 10 lbs.	Turkeys 10 to 16 lbs.	Turkeys Over 16 lbs.	Total	Geese
1959	.....	.....	.....	8,722,805	313,158
1960	.....	.....	.....	9,167,814	418,787
1961	337,973	7,109,576	7,106,494	14,554,043	556,451
1962	492,000	4,352,000	7,328,000	12,172,000	470,000
1963	750,000	4,446,000	8,248,000	13,444,000	434,000

The laying hen numbers and market turkey numbers on Alberta farms is indicated in Table XIII.

TABLE XIII

FARM POPULATION

Year	Laying Birds	Turkeys
1959 (D.B.S.)	2,925,000	1,056,000
1960	2,825,000	975,000
1961	2,730,000	1,184,000
1962	2,400,000	820,000
1963	2,170,000	765,000

ALBERTA RANDOM SAMPLE TEST

The Alberta Random Sample Test is located at the Oliver poultry farm. This test, established in 1957, continued to serve a valuable function in assessing the progress of Alberta breeders relative to competing breeders in other provinces and the United States. Test results are of great value to the commercial chick buyer in assessing the merits of the various stocks offered in this province.

The Sixth Test, completed in August of this year, was a 500 day test consisting of entries from eleven different egg production strains. All factors of economic importance were evaluated for each strain and compared one against the other.

The following table compares average egg production and average laying house mortality for the six completed tests:

Test	Egg Production per Hen Housed	Laying House Mortality
First	201.2	14.8%
Second	219.7	10.7%
Third	213.8	9.0%
Fourth	229.3	6.6%
Fifth	226.0	5.4%
Sixth	217.4	10.7%

The Sixth Test again demonstrated that Alberta breeders have stock equal or superior to imported competition. An Alberta breeder led the First Test, two Alberta Breeders the Third Test, and one Alberta breeder the Fourth, Fifth and Sixth Tests.

The following table indicates the performance in some of the economic factors tested of entries in the Sixth Test:

TABLE XIV

SIXTH ALBERTA RANDOM SAMPLE TEST

Entrant	Egg Prod. Per Hen Housed	% Grade A Large Eggs	% Laying House Mortality	Lbs. Feed Per Dozen Eggs	Net Income Per Hen Housed
1	221.1	65.7	12.0	5.5	$1.50
2	217.5	57.1	10.0	5.4	1.41
3	202.5	63.3	23.0	5.8	1.07
4	229.6	67.5	5.0	5.3	1.69
5	221.0	67.5	7.0	5.4	1.47
6	245.0	66.2	3.0	5.2	1.92
7	232.9	61.7	4.0	4.9	2.14
8	209.4	63.5	11.0	5.7	1.18
9	196.5	64.3	16.0	6.0	.93
10	176.3	73.4	18.0	6.4	.59
11	239.9	65.0	9.0	5.1	1.80
Average	217.4	65.0	10.7	5.5	1.43

Detailed reports were forwarded to the entrants at three month intervals, and the final report distributed to a large mailing list and made available for publication in poultry journals. Also results of the Test, as well as results of research and practical experience were passed on to producers, hatcherymen, and interested persons by members of the Poultry Branch staff.

POULTRY SHOWS

No entries from Alberta turkey producers were entered in the 1963 Toronto Royal Winter Fair. It was believed decline in interest coincided with the change in market pattern as much of our product the last few years went West rather than East.

The Alberta Poultry Show was held in Calgary in December and attracted greater interest in all sections, live and dressed. An increase in public attendance was noted.

BRANCH ACTIVITIES

The following table indicates the number of reinspections and service calls in the past 4 years. A decrease in reinspections was noted as demands on staff personnel for service calls increased:

Terr.	Reinspections				Service Calls			
	1963	1962	1961	1960	*1963	1962	1961	1960
1A	....	....	....	....	91	....	....	....
1	....	4	14	69	272	98	109	98
2	20	56	106	152	119	64	86	95
3	55	50	70	165	205	40	45	48
4	92	80	47	98	249	25	53	37
5	8	63	96	140	207	75	47	52
6	9	14	29	30	111	56	63	38
Total	184	267	362	654	1,254	358	403	368

* Includes farm calls not recorded on service call reports.

The number of council, producer meetings and poultry shows judged is indicated in the following table:

Territory	Council Meetings	Producer Meetings	Shows Judged
1A	3	..	..
1	8	..	1
2	5	..	4
3	2	..	..
4	7	..	3
5	4	..	..
6	2	1	4
Total	31	1	12

The poultry councils of Lethbridge, Red Deer, Barrhead and Edmonton, were active throughout the year. The Alberta Poultry Federation functioned as a central body for all groups.

The Annual Hatcherymen's Short Course, sponsored jointly by the Veterinary Services and Poultry Branches, was held in Edmonton. Interest continues keen in this Short Course by all facets of the poultry industry.

The Hatchery Sanitation Control Testing Program continued on a voluntary basis. It received 100% co-operation and has proved a valuable adjunct to individual hatchery sanitation programs.

The poultry cost-study, conducted jointly by the Farm Economics and Poultry Branches, continued. Much valuable information on production costs of commercial eggs has evolved.

As demanded by the produce trade, hatcheries and growers the Poultry Branch assembled and published monthly statistics relative to broiler growing costs, commercial egg production costs, turkey production costs, and hatching egg supply.

The Poultry Commissioner attended annual meetings of the Canadian Produce Association (Western Division) and Canadian Hatchery Federation. He also served on committees of various industry organizations throughout the year. He and/or members of the Poultry Branch attended meetings of various segment groups of the industry.

Report of the Fur Farms Branch

R. W. GILLIES, Supervisor

GENERAL

The fur farming industry in Alberta for the season 1962-63 would have to be considered as a satisfactory one. Feed supplies were adequate and the price of pelts was maintained at a reasonable level with a very active clear-out of pelts on the early sales of the season.

The total of 157,084 pelts, all types, was the greatest volume of furs ever produced in this Province in one season. Total value of mink pelts produced was over 2½ million dollars.

HEALTH

Six cases of distemper and one case of Virus Enteritis were diagnosed in the Province. The first Pasteurella outbreak in mink was reported on a Southern Alberta ranch. Quick diagnosis and action by the Veterinary Laboratory brought this infection under control with a minimum of losses. A more complete report will appear in the Veterinary Services Annual Report.

FIELD DAYS AND SHOWS

Two very successful Mink Field Days were held in November. One at Faust for the Lesser Slave Lake area, and the other at Lac La Biche. Mr. Wm. Levine of the Edmonton Fur Auction acted as Judge and was the feature speaker at these events. The 25th Anniversary of Live Mink Shows in Alberta was held in Edmonton on December 12th and 13th, 1963, and was well supported by exhibitors and visitors from throughout the Province. Mr. Maurice Stockner, a well known rancher from Missoula, Montana, and John Ross of the Hudson Bay Co., Edmonton, acted as the judges.

It is indeed encouraging to this writer to assist in the programing and staging of these annual events which seem to be growing in stature each year.

The chinchilla breeders of Alberta sponsored their first National Chinchilla Show held in Alberta in the City of Calgary in February, 1963, and proved most successful. The chinchilla breeders also had their Annual Field Day at the Lacombe Experimental Farm in September, which was well attended by breeders from all points in the Province.

FUR BREEDERS' ASSOCIATION

This branch continued to assist all fur breeder associations when called upon.

The Alberta Mink Breeders' Association sponsored their first modified short course for fur farmers along with their Annual Meeting in April, which proved so popular that they will likely have to repeat this coming season. The supervisor had the pleasure of attending the Annual Meeting of the Canada Mink Breeders'

Association in Regina last September, and must once again commend the officers of this organization for work done on behalf of the mink farmers of all of Canada.

OFFICE PROGRAM

The established office program, extension and field work, continued with all phases of the fur trade.

CURRENT

The fur market of December, 1963, opened firm with standard darks and pastels again showing an increase in price over the past season.

It is anticipated that mink farmers in particular should do very well since prices were good in the stable colors and the sell-out of pelts has been exceedingly good in the early sales. Most ranchers have disposed of their crops of pelts and will be able to organize their budget for the coming year.

Nutria raisers seem to be discouraged and are dropping out of business.

Chinchilla pelts are moving well at reasonable prices and it is expected that a few commercial operators will be operating in Alberta soon.

FUR FARM STATISTICS UP TO AUGUST 31, 1963

NUMBER OF ANIMALS DECLARED ON FUR FARMS IN ALBERTA 1962-63

Kind of Animals	Total No. of Animals	Av. Value per Animal Sept. 1962	Total Valuation
Mink Standards	58,896	$20.00	$1,177,920.00
Mink Mutations	163,046	15.00	2,445,690.00
Chinchilla	3,823	20.00	76,460.00
Fox	37	12.00	444.00
Nutria	366	5.00	1,830.00
Miscellaneous	16	15.00	240.00
	226,184		$3,702,584.00

Livestock Value on a current pelt basis

NUMBER OF ANIMALS PELTED ON FUR FARMS IN ALBERTA 1962-63

Kind of Animals	Total No. of Animals	Av. Value per Animal Fall, 1962	Total Valuation
Mink Standards	46,855	$20 00	$ 937,100.00
Mink Mutations	109,334	15.00	1,640,010.00
Chinchilla	870	20.00	17,400.00
Fox	21	12.00	252.00
Nutria	4	5.00	20.00
	157,084		$2,594,782.00

NUMBER OF LIVE ANIMALS EXPORTED FROM ALBERTA 1962-63

Kind of Animals	Total No. of Animals	Av. Value per Animal	Total Valuation
Mink Standards	297	$75.00	$ 22,275.00
Mink Mutations	358	75.00	26,850.00
Chinchilla	23	100.00	2,300.00
Nutria	2	50.00	100.00
Miscellaneous	4	50.00	200.00
	684		$ 51,725.00

NUMBER OF ANIMALS RETAINED FOR BREEDING STOCK IN ALBERTA 1962-63

Kind of Animals	Total No. of Animals	Av. Value per Animal	Total Valuation
Mink Standards	11,744	$20.00	$ 234,880.00
Mink Mutations	53,354	15.00	800,310.00
Chinchilla	2,930	20.00	58,600.00
Fox	16	12.00	192.00
Nutria	360	5.00	1,800.00
Miscellaneous	12	15.00	180.00
	68,416		$1,095,962.00

FUR FARM LICENSES 1962-63

Mink	263
Mink and Fox	2
Chinchilla	64
Nutria	7
Chinchilla and Nutria	2
Miscellaneous	3
Total	341

Report of the Water Resources Branch

F. L. GRINDLEY, B.A., B.Sc., P.Eng., Director of Water Resources
R. E. BAILEY, B.Sc., P.Eng., Chief Engineer

Division Supervisors
J. L. REID, B.Sc., P.Eng., Hydroelectric Development
J. MOULD, M.Sc., P.Eng., Irrigation
E. T. DEAN, A.I.M.M.E., Projects and Construction
B. L. POTTER, B.Sc., P.Eng., Design
W. SOLODZUK, B.Sc., P.Eng., Administrative Engineering
R. K. DEEPROSE, M.Sc., A.S.C.E., P.Eng., Hydrology
D. E. BOWMAN, Groundwater and Lake Levels
A. G. UNDERHILL, B.Sc., P.Eng., Calgary District
R. L. FRANCIS, B.Sc., P.Eng., Construction S.M.R.D.
R. J. KNIGHT, B.Sc., P.Eng., Lethbridge District and B.R.D. Construction

Hydraulic and Project Engineers
I. H. ANDERSON, B.Sc., P.Eng.
A. R. STROME, B.Sc., P.Eng.
W. R. BISHOP, B.Sc., P.Eng.

INTRODUCTION

The keynote of the activities of the Water Resources Branch during the 1963 season can perhaps best be described as being a year of expansion of services and the strengthening of policies of co-operation and co-ordination with other agencies, particularly other departments of the Government. Water, its administration and the solution of problems associated with it, is universal and is not restricted to any particular type of development or utilization. It is true that in Alberta there is a predominant association of water development with the agricultural industry, but at the same time there are other aspects of water utilization which must not be ignored. The use of water for domestic purposes, industry, hydroelectric power development, and recreation plays an important role in the economy of the province, and although the consumptive use of water for these purposes is minor in comparison with that for irrigation, its assured availability for these purposes is nevertheless a principal consideration.

The large public demand for the development of new areas in Northern Alberta has resulted in intensified activity in the field of drainage and flood control. The concept of watershed management studies is becoming evident as a means of preventing problems from developing in the future by co-ordinating land and watershed developments, resulting in reduced costs, greater efficiency, and less inconvenience and hardship for individual settlers who would otherwise be faced with flood control problems.

The Provincial-wide program for the conservation and development of water resources is being intensified. It is not anticipated that the recent agreement reached between the prairie provinces to embark on an over-all study of the Saskatchewan-Nelson basin

will result in any deviation from the existing provincial program for the development of water resources for the needs of Alberta.

All other aspects of the Department's work has either shown an increase or maintained the high level reached in 1962. The number of water right applications received increased 8% over 1962, which is an increase of 38% over the number received in 1961. The number of interim licenses issued increased by 41% over last year, or 104% over the 1961 figure. The work involved in inspection services and special investigations increased 21%, while the expenditures on projects built under the municipal financial assistance program remained close to the all time high reached in 1962.

In Northern Alberta surveys and studies were conducted on drainage and flooding problems affecting some 75,000 acres, representing a capital value of remedial measures estimated to be some $1,404,000.00.

Climatically, in Southern Alberta, the year was characterized by a dry spring with very little to no reserve moisture in the ground on the non-irrigated areas. Early seeding operations were general in the south and south-east part of the province. There was little or no runoff on the prairie land east of the foothills. Available moisture was insufficient to fill even the depressions in the channels of numerous creeks and water courses. The spring contrasted sharply with that of the previous year when well-spaced rains did much to alleviate reserve moisture deficiencies. The early sown crops and winter wheat and rye did very poorly, germination being spotty and confined mostly to depressional areas. The livestock industry suffered from the lack of rain and stockwater. This, together with the scarcity of new spring grass in ranching areas, resulted in a critical period during which many ranchers were forced to consider the reduction of basic cattle herds, and placed even greater demands on the meager supplies of water still remaining.

The months of June and July brought extremely heavy precipitation in some areas, but the moisture was too late to save many of the early sown crops. These heavy rains are noteworthy, however, because of the rare nature of their occurrence and the damaging effects that resulted.

A series of three June rainstorms in the foothills and mountains southwest of Calgary, climaxed by a two-day downpour in the area west of High River and Claresholm brought floods to that area of the province. During June 6th to 10th and again during June 21st to 23rd, two to two and a half inches of rain fell generally over the whole area. On June 29th and 30th a four inch rainfall covered a broad band of the high country from just south of the Banff highway to Cardston, Waterton and the international boundary. Six to seven inches of precipitation centered over the headwaters of Willow Creek, in a band about eight miles wide extending from a point east of Turner Valley to south of Maycroft. The total June rainfall for this area amounted to 12 to 13 inches, about three times the normal. As a result, the Willow Creek experienced a flood in the order of the hundred year flood, the Highwood about a fifteen year flood and the Sheep about a ten year flood.

These climatic conditions resulted in considerable and varied activity with respect to water administration. Many complaints and problems were received on both flooding conditions and water shortages. Many illegal structures were built on water courses already over appropriated. The Water Resources staff was kept very busy in their efforts to resolve these problems where practical. The cause, I am sure, of some of the conditions will require further extensive investigations during 1964.

The following table shows the distribution of precipitation during 1963.

TABLE I

PRECIPITATION 1963
(in inches)

Stations	Total			Difference from Normal		
	April, May, June	April, May, June, July	Oct. 1962-Sept. 1963	April, May, June	April, May, June, July	October-September
Beaverlodge, Grande Prairie, Fairview, High Prairie	2.1	4.2	16.5	—2.6	—3.0	—1.4
Athabasca, Lac La Biche	4.3	7.9	19.2	—0.8	0.0	+1.8
Campsie, Sion, Edmonton	3.6	6.5	14.8	—2.0	—2.4	—2.7
Wetaskiwin, Lacombe	5.8	10.9	19.6	—0.4	+1.8	+1.7
Camrose, Hughenden, Stettler, Coronation, Pine Lake	7.1	12.2	21.1	+1.5	+4.4	+5.6
Penhold, Olds, Calgary	6.1	10.1	17.3	—0.4	+1.1	*0.1
High River, Claresholm, Ft. Macleod, Cardston	11.1	13.3	18.6	+4.0	+4.2	+0.5
Lethbridge, Raymond	7.6	9.2	14.6	+1.5	+1.5	+1.0
Hanna, Wastina, Brooks, Medicine Hat, Winnifred, Vauxhall	4.9	7.5	13.6	+0.3	+1.2	+0.7

NOTE: The October 1962 - March 1963 precipitation in the Peace River country was much above normal, averaging 9 to 10 inches over the whole area compared to an average value of about 6½ inches.

The most noteworthy condition that occurred in Northern Alberta was to be found in the nature of the spring breakup. This occurred in a manner particularly conducive to ice jams and flooding conditions. Every available staff member was pressed into field service to accommodate the deluge of emergency calls received. Ice jams occurred at numerous locations on the Athabasca River, notably at the town of Athabasca. The town of Whitecourt suffered some inundation from ice blockage on the Macleod River, and a demolition team of the Army was called in through the Emergency Measures Organization to blast open a channel for the flood waters. A crisis arose at Fort Vermilion from ice jams on the Peace River; however, this problem resolved itself before emergency action was necessary. Blasting operations were carried out at High Prairie and Grande Prairie to relieve conditions resulting from ice blockages. Aerial inspection flights were made of flooding conditions on the Paddle River, and in the areas of Peace River town, High Prairie, Dixonville and Manning. These conditions put the many flood controlled projects undertaken by the Department, to a severe test. It may be said that the results left no doubt as to the tremendous value of these projects. In spite of these extreme conditions, early cultivation operations were still possible in those areas having drainage works.

Members of the staff addressed various meetings and conferences during the year, extending in nature from local and municipal organizations to province-wide conferences. Two reports were published, both pertaining to the use of water for irrigation in Alberta which were compiled for submission to the Prairie Provinces Water Board.

INTERPROVINCIAL WATER ADMINISTRATION

Two meetings of the Prairie Provinces Water Board were held during the year. The first was held in Winnipeg, Manitoba, on January 16th and the second in Lethbridge on November 6th and 7th.

At the meeting in January Mr. R. H. Clark, Department of Northern Affairs and National Resources, suggested that prediction of future uses of water had always been a stumbling block to the Nelson Basin Study and it would be better to de-emphasize future uses and place the emphasis on the physical means of regulating flows. Because of the imminence of the use of nuclear energy Alberta would agree to Mr. Clark's suggestion (Minute 25-05). As the Royal Commission on the South Saskatchewan River dam emphasized "there are alternate methods of producing power but there is no substitute for water in irrigation".

By Minute 25-11 the Board agreed to the formation of a committee to prepare a report on "Irrigation Water Use" which would be considered at the next meeting of the Board.

Studies of irrigation return flow indicated that in dry periods the gross diversion of water for some of the districts in the Palliser Triangle was in the order of three acre-feet of water per acre. This compares with the Prairie Provinces Water Board's allocation of two acre-feet of water per acre or less. This presents a serious problem since the main value of irrigation is at the time when natural supplies from rainfall are insufficient to prevent burning of crops. The figure of three acre-feet of water per acre for a gross diversion is confirmed by the Report of the Senate Select Committee in the U.S.A. and other sources.

By Minute 25-12 the Board put itself on record as favoring some division of water as between the provinces provided it is possible to agree on some basis for division. This would entail extended hydrometric work. It was agreed that the division of water based on an inventory of water use would be very difficult.

At the meeting in Lethbridge on November 6th the Board heard a number of papers and submissions from the irrigation districts. Some of these papers referred to the need for adequate water supplies at critical times. There was a general expression of gratitude from the irrigation districts that they had been able to present their views.

On November 7th the report prepared by Mr. A. G. Underhill and his committee on "Irrigation Water Use" was carefully considered. It was agreed that the Committee had done a good job and that the Province of Alberta should now prepare a formal submission requesting new allocations from the Board. The report of the Committee has been published.

MINISTERIAL CONFERENCE ON THE NELSON BASIN STUDY

A Ministerial Conference was held in Regina on December 20th to consider implementation of the Nelson Basin Study. Ministers present: Northern Affairs Minister Hon. Arthur Laing, Premier Lloyd of Saskatchewan, Canada Agriculture Minister Hays, Alberta Lands and Forests Minister Willmore, Alberta Agriculture Minister Strom, Agriculture Minister Nollet of Saskatchewan and Agriculture Minister Hutton of Manitoba.

Attending the one day Prairie Water Resources Conference in Regina on December 20, 1963 were Cabinet Ministers representing the three Prairie Provinces and the Federal Government. They are, left to right, Northern Affairs Minister Laing, Premier Lloyd of Saskatchewan, Agriculture Minister Hays, Lands and Forests Minister Willmore of Alberta, Agriculture Minister Strom of Alberta, Agriculture Minister Nollet of Saskatchewan and Agriculture Minister Hutton of Manitoba.

Because of the inability of the Prairie Provinces Water Board to agree on certain aspects of the Nelson Basin Study, it was suggested by the Province of Alberta that a ministerial conference be held. The meeting was very constructive and it was decided to set up a committee of ministers of the three prairie provinces, who would institute a physical appraisal of the water resources with special reference to means of controlling river flows to mutual advantage. It has always been difficult to secure agreement on future water useage and since no person has the power to see into the future, it was felt that this aspect of the problem should be dropped.

Alberta has already prepared a tentative plan for upstream storage and river diversions based on using some of the flow in tributaries of the North Saskatchewan, Athabasca and Peace Rivers and shifting some of this water to the South Saskatchewan.

The Dominion Ministers, Hon. Arthur Laing and Hon. Harry Hays indicated that they would like to co-operate with the provinces in this matter.

Alberta's views on the subject of a Saskatchewan River Authority and the question of infringing on provincial rights were made known to the meeting by the Hon. Harry Strom, Alberta Minister of Agriculture.

The following is a copy of a letter submitted by Mr. Carl J. Anderson, General Manager of the Eastern Irrigation District, on behalf of the Board of Trustees at the meeting of the Prairie Provinces Water Board held in Lethbridge on November 6, 1963:

"The C.P.R. - Eastern Section and its successor, the Eastern Irrigation District have been operating and keeping records of water diverted from the Bow River and delivered to farmers for crop use since early in 1920. The past fifteen years of increased settlement on irrigable lands, greater industrial and power demands for water, has caused us to scrutinize our methods of controlling and allocating water for best irrigation results.

"In any widespread project, with its various soil types, loss of water in unlined canals is unavoidable. Seepage, deep percolation and evaporation all are accountable for considerable water loss. Sudden rain storms in the irrigating period, where reservoirs are not advantageously situated, necessitate a certain amount of return flow. Water needs of crops in one area are not necessarily the same in another area, in the same season.

"The irrigation farmers of the Eastern Irrigation District do not claim to be infallible in their water applications. We have good operators and fair operators, on all types of land—and the accompanying charts show the acre feet of water used per acre in the various years from 1958 to 1962.

"While we admit the possibility of human error in the odd measurement, nevertheless, the similarity of water demands over our widespread project, indicate that in years of low rainfall, a very high demand is constant for the type of crops we have by necessity found the most advantageous to grow. We note that in the crucial years that 18 inches presently allocated for project consumptive use is not sufficient to satisfy the needs of the growing crops.

"Our operating records for the past five years of high and low rainfall in the growing season, indicate a positive requirement of gross diversion from 2.69 feet to 3.83 feet per acre.

"This fact, coupled with the present inescapable losses in transportation and storage, indicate that a gross diversion of 3.5 feet is necessary for the Eastern Irrigation District.

"Any smaller allocation for gross diversion will restrict our future expansion, for which we have the land and the license."

ADMINISTRATIVE ENGINEERING

WATER RIGHTS

During the year a total of 524 applications for water rights were received and recorded as compared to 483 for the previous year.

A breakdown of these applications as related to purpose and drainage basin is shown in Table II.

TABLE II

Drainage Basin	Dom.	Mun.	Irr.	Ind.	Power	Other	Total
Athabasca River	2	....	....	1	....	3	3
Bow River	27	....	19	....	....	3	49
Forty Mile Lake	1	....	3	....	....	....	4
Great Sandhills Group	2	....	8	....	....	....	10
Lodge Creek	15	....	2	....	....	....	17
Manito Lake	4	....	4	....	....	21	29
Many Island Lake	5	....	3	....	....	....	8
McGregor Lake	3	....	2	....	....	....	5
Milk River	20	....	5	....	....	....	25
North Saskatchewan River	26	1	15	2	....	1	45
Oldman River	63	....	31	....	....	....	94
Pakowski Lake	15	....	15	....	....	....	30
Peace River	1	1	3	1	....	....	6
Red Deer River	66	....	26	1	....	52	145
Sevenpersons Creek	19	....	20	....	....	....	39
South Saskatchewan River	2	....	2	....	....	....	4
Sullivan Lake	3	....	2	....	....	4	9
Wildhorse Lake	2	....	....	....	....	....	2
TOTALS	276	2	160	5	....	81	524

A total of 550 Interim Licenses for all purposes were issued during the year as compared with 390 for the previous year.

IRRIGATION RIGHT-OF-WAY

Right-of-way plans for laterals and drainage canals for the St. Mary and Milk Rivers Development and the Bow River Development, Provincial and Federal Blocks are processed and approved by this office before proceeding to the Land Titles Office for registration. During the year 128 right-of-way plans were registered, 55 for the St. Mary and Milk Rivers Development and 73 for the Bow River Development.

IRRIGATION WATER AGREEMENTS

Fifty-seven water agreements between the manager of the Bow River Development, Federal Block and the farmers were registered and filed in this office in 1963. Seven water agreements between the manager of the Bow River Development, Provincial Block and the farmers, and 19 water agreements between the manager of the St. Mary and Milk Rivers Development and the farmers were approved and filed.

Special water agreements between the Board of Trustees of the Eastern Irrigation District and the farmers are also approved and filed in this office, 34 such agreements were received during the year.

INSPECTION SERVICES AND SPECIAL INVESTIGATIONS

During 1963, 289 complaints were investigated by this division of the Water Resources Office. Approximately 97 miles of survey works was needed to obtain the required information associated with these problems. Complaints originated primarily from municipalities, counties, groups of farmers and individual farmers.

This phase of the work continued to expand with an increase of 21% over 1962. The majority of the complaints were received from an area north and east from Edmonton. The medium and large bodies of water in this vicinity continued at a high level despite a relatively dry summer. This was apparently due to a slow process of casual drainage, following the extreme rainfalls experienced in 1962.

In addition, many small domestic and recreation dam sites were investigated. Surveys, both topographical and subterranean, were undertaken. Spillway designs were prepared on the larger projects.

FINANCIAL ASSISTANCE POLICY

The Financial Assistance Program to counties and municipalities continued to be an active program in the department. Although the program applies to all areas in Alberta, the majority of expenditures have been on projects in Northern Alberta. Some of the projects in this area are two and three year programs to accommodate not only the volume of the work, but also to reduce the financial burden in any particular year.

The amount spent on this program during the year as of September was $51,606.97. Some of this expenditure pertains to projects which it was found necessary to carry over from 1962 because of the shortage of funds in that year.

The following table shows the yearly expenditures on this program since the time of its initiation in 1954.

TABLE III

1954-55	2,449.42	
1955-56	10,566.19	
1956-57	46,833.51	
1957-58	54,616.48	
1958-59	61,131.28	
1959-60	31,130.95	
1960-61	29,353.33	
1961-62	21,554.24	
1962-63	61,056.04	
1963-64	51,606.97	(to Sept. 1963)
	370,298.41	

Judging by the number of requests which we have received for investigation into drainage and flooding problems in Northern Alberta and the results of the cost estimates to construct these requested projects, it appears reasonable to assume that this financial assistance program will remain a major activity of the department for some years to come. At the present there are on the books proposals, which in total capital cost, amount to $1,404,000.00. A great number of these are located in Improvement Districts and would be carried out under a cost sharing agreement with the Department of Municipal Affairs. The fact that the Improvement Districts share of the costs must be obtained from the individual improvement district trust account does present some financial difficulties inasmuch as many of these trust accounts are not able to bear their share of these costs. In some instances, it has been possible to make a financing arrangement with the Department of Municipal Affairs whereby Water Resources pay the total initial capital cost, and Municipal Affairs reimburse their share of the cost to Water Resources over a period of years. Under the present provisions, however, some very deserving projects cannot be undertaken, at least not in the immediate future, unless a method of financing can be developed.

HYDROLOGY

The work of the Hydrology Division can be separated roughly into three categories:

(1) expansion of the "library" of hydrological knowledge, i.e. data collection, proper tabulation of data and development of techniques for the solution of hydrological problems,

(2) utilizing these resources in the solution of problems in our own department dealing with floods, water yield, etc.,

(3) dissemination of hydrological knowledge to the general public, including other government agencies.

The categories, of course, overlap in many cases.

Because the science of hydrology was in its infant stage the world over, the greatest emphasis was placed upon developing this field of knowledge. This department was involved in the initial data collection stage directly in (a) the maintenance of about 100 crest stage gauges on small streams throughout the province, (b) through a program of basic river surveys; and indirectly through liaison with the Meteorological Branch of the Department of Transport in the continued promotion of a more complete meteorological network. An essential second step after the collection of data was its presentation in a readily useable form. (For example, in most cases graphs were far more descriptive than rows of figures.) The systematic production of graphs and summary tables which was begun in 1957 was continued. An innovation this year was the plotting of profiles of major rivers and their tributaries.

Most of the hydrological research and analytical work done was immediately practical in that specific problems were being studied. The most complicated problems, on which work progresses slowly, involves the assessing of flow characteristics in the headwaters of the proposed William Pearce Project. Other brief reports for use within this department have been done on potential reservoir sites in the province.

Provision of hydrometric information to agencies and persons outside of this department has assumed a greater role this year. Major activities have been:

1. Aiding Planning Commissions in the planning of new town sites by assessing flooding possibilities in the towns of Sundre, St. Albert and Fort McMurray.
2. Assessing the effect on the Peace River at Peace River town of the construction of the Hudson Hope dam.
3. A detailed analysis of the interaction of precipitation, evaporation and groundwater flow in the study of fluctuations of water level in Gull Lake.
4. Beginning a study of the high groundwater problem plaguing West Coleman. This has involved extensive well drilling and will involve a series of tests in the new year. (Groundwater studies are part of the Sundre investigations mentioned in 1.)
5. Continuing the Elbow River flood study mentioned in the 1962 Annual Report.

GROUNDWATER

GENERAL

The past year has been another active one in the field of groundwater and marks the first time industrial and municipal wells have been subject to registration. An amendment to The Water Resources Act, passed in 1962, requires that all groundwater supplies, to be used for purposes other than domestic, be recorded.

Two test drilling programs were undertaken, one in the Gull Lake area in connection with investigations concerning declining water level in the lake and the other at West Coleman with regard to an unusually high water table.

INSPECTIONS

Approximately 170 field trips were made for the purpose of investigating complaints, checking on water well drillers, taking lake levels, making lake bed surveys, supervising well drilling programs and inspecting proposed lakeshore developments.

WATER WELL DRILLERS

The number of registered water well drillers in the province showed a slight decrease as did the number of reports submitted, as indicated by the following figures:

Year	Registered Drillers	No. of Reports
1959	185	1,050
1960	189	1,005
1961	201	1,221
1962	211	1,484
1963	193	1,000

LAKE LEVELS AND SURVEYS

Eleven lakes and reservoirs were sounded in connection with a program of lake bed surveys to indicate depth contours. This makes a total of 41 lakes and 10 reservoirs which have been completed. This information is used to calculate storage capacity and is also useful to recreational and industrial groups.

Following is a list of the lakes and reservoirs which have been surveyed.

Antler
Baptiste
Bear
Battle
Buck
Bearspaw Reservoir
Barrier Reservoir
Cardinal
Carson
Clairmont
Cross
Cooking
Cottage
Cold
Charlotte
Chip
Chestermere
Crowsnest
Eagle Lake
Fawcett
Gull
Goodfish
Glenmore Reservoir
Ghost Reservoir
Hartell Reservoir
Isle
Island
Jessie
Kananaskis—
upper, lower
Keho Reservoir
Lac La Nonne
Lac Ste. Anne
Long Island
Lac La Biche
Little Beaverhill
(Ferintosh)
Moose
Muriel
Minnewanka
McGregor
McDonald and
Cochrane Lakes
Pigeon
Red Deer
Snipe
Sturgeon
Sylvan
Skeleton
St. Mary's Reservoir
Wabamun
Wakamao
Whitefish

Most lakes in north central Alberta remained relatively unchanged with only small fluctuations. Gull Lake continued to go down slightly and is now the subject of considerable concern due to its persistent decline.

The following list shows a comparison of medium levels for some of the major lakes during the past five years:

	1959	1960	1961	1962	1963
Gull	91.24	91.29	90.29	89.67	89.33
Sylvan	77.50	78.05	77.58	76.80	76.80
Cooking	96.63	96.58	96.29	96.20	96.68
Buffalo	85.54	85.60	84.57	83.50	83.60
Wabamun	71.10	71.08	70.53	70.72	70.87
Pigeon	100.00	100.00	99.51	99.28	99.26
Lac Ste. Anne	97.26	97.57	97.14	97.35	98.20
Lac La Biche	97.03	100.55	97.82	98.74	97.66
Lesser Slave	90.68	90.17	90.64	....	93.59

Investigations into the reason for receding water levels on Gull Lake continued during the 1963 season. Drilling operations for the purpose of mapping bedrock topography ascertained that there were no buried bedrock channels through which water might escape from the lake, as formerly suspected. Efforts were made to tap groundwater supplies at the north east end of the lake. On the basis of electrolog reports from seismic explorations there was evidence that two water bearing stratus existed, one at the 300 foot depth and a second at the 600 foot depth. Drilling confirmed that these stratus carried water but unfortunately the artesian pressure was insufficient to raise the water any higher than about 100 feet below ground surface.

Hydrologic studies were made in which precipitation, lake levels and evaporation factors were combined and a graphical presentation of these results indicate that the receding water levels of Gull Lake is the result of a natural condition resulting from a series of years of low precipitation and high evaporation.

CONSERVATION AND DEVELOPMENT OF WATER RESOURCES

Lack of personnel resulted in very little being done on the program for the development of the province's water resources until later in the year when arrangements were made for at least one engineer to devote his full time to this aspect of the department's work. Some definite progress is therefore now being made in this regard and a very active program is planned for 1964.

One of the projects receiving considerable attention at the present time is that of the Highwood River. Control and flooding conditions in the vicinity of the town of High River have been, and could well continue to be, a very costly operation. Investigations are being made into the possibility of alternative means of controlling the Highwood River to alleviate this potential flooding problem and at the same time provide means for conservation measures and regulation of stream flows.

DRAINAGE AND FLOOD CONTROL

Work in the field of drainage and flood control during 1963 consisted of conducting numerous investigations and surveys, principally in the Northern Alberta area, and the construction of drainage works on several projects, some of which consisted of the continuation of two and three year projects previously commenced.

The following is a list of the projects on which investigation and study were carried out by the Design and Construction Division, together with an indication of the percentage of the work so far completed.

		Percent Complete		
		Survey	Design	Plans and Estimates
Sturgeon Lake control structure	I.D. 126	100	70	50
Hawk Hills drainage	I.D. 138	100	90	90
Ksituan flood control structure	I.D. 134	100	75	60
Heart River tailwater structure	I.D. 125	100	75	50
Hotchkiss drainage	I.D. 138	100	85	60
Spirit River drainage	M.D. 133	100	90	90
Chalus spillway alternative	M.D. 133	100	90	90
Durda spillway	M.D. 133	100	90	90
Highwood River protection works	M.D. 31	100	100	100
Armena Hay flat	C. #22	100	100	100
Sinkevich complaint	I.D. 132	100	90	80
Coote Lake flood control	I.D. 132	100	90	75
Fox Creek improvements	I.D. 132	100	90	75
Chocolate Creek improvements	M.D. 136	100	90	75
Hythe Drainage	C. #1	100	80	60
Western Irrigation District seepage investigations	W.I.D.	100	100	100
Whitemud River	I.D. 138	50	....	....
Rycroft Drainage	M.D. 133	100	....	....
Berwyn flood control	M.D. 135	100	....	....
North Manning drainage	I.D. 138	100	20	....
Teepee Creek	C. #1	100	....	....
Flyingshot Lake	C. #1	100	....	....
Macleod River near Marlboro	I.D. 95	100	100	100
Muriel Creek-Charlotte Lake	I.D. 87	100	100	100

Of the above listed projects, the Sturgeon Lake control structure and the Heart River tailwater structure studies pertained to multi-purpose projects of which water conservation could be considered a principal consideration.

The Highwood River protection works consisted of repairs to the Highwood River dyke which serves to allieviate flooding in the vicinity of the town of High River. Extremely heavy runoff conditions during the early part of the year caused damage to the dykes in two locations. More complete and detailed studies were undertaken with regard to this flooding problem, with a view of establishing broader and more satisfactory measures of flood control on this river.

The Western Irrigation District seepage investigations involved some special technical assistance given to the Western Irrigation District in relation to a canal seepage problem on one of the irrigation canals.

All the other projects listed pertained to general drainage and flood control requirements in areas where flooding is damaging agricultural land and municipal roads. A report on the majority of these projects will be submitted in order that construction of the necessary remedial measures can be considered for the 1964 season.

The following is a summary of the construction projects undertaken during the past season with an estimated percentage of completion.

		Percent Complete
Manning Drainage	I.D. 138	100
Whitemud River	I.D. 138	15
Red Deer River groyne	C. #17	100
Moonshine Lake control structure	I.D. 134	100
Ross Creek irrigation extension	I.D. 11	100
Highwood River protection	M.D. 31	100
East-West Prairie Rivers	I.D. 125	35
Armena Hay flat drainage	C. #22	100
Muskeg Creek spillway structure	C. #10	80
Lamont Hospital spillway structure	M.D. 82	100
Open Creek Project	C. #3	70
Ferguson Lake project	C. #1	67
Ploentske complaint dam construction	I.D. 95	100
Evansburg peat moss drainage	I.D. 78	100
Whitemud Creek	M.D. 130	100
Hotchkiss drainage project	I.D. 138	50
Macleod River near Marlboro	I.D. 95	100
Muriel Creek-Charlotte Lake	I.D. 87	100

Of the above, a report can be found in the 1962 Annual Report on the following projects.

Manning Drainage Project
Hotchkiss Drainage Project
Whitemud River
Whitemud Creek
Ferguson Lake
East-West Prairie Rivers

The Red Deer River groyne, and the Highwood River protection works projects were in the nature of river protection and control undertakings. The Moonshine Lake control structure was a continuation of work previously done for the Parks Department on the Moonshine Lake Provincial Park.

The Ross Creek Irrigation District extension was work carried out by the department to provide the Ross Creek Irrigation District with a secondary supply of water from Ross Creek. These works afford the District the opportunity to divert waters originating in Gros Ventre Creek, but which the District may not be able to divert through the Gros Ventre diversion canal because of the nature of the spring runoff, or because of the diversion canal being partially obstructed by snow and ice.

The following projects consisted of providing technical and engineering assistance. Three of these projects involved the design of spillway facilities for dams, and the fourth was related to drainage for the development of a local peat moss industry.

Muskeg Creek spillway
Lamont Hospital reservoir spillway
Open Creek Project
Evansburg Peat Moss drainage

The remainder of the projects were general drainage and flood control works which were necessary to afford protection to agricultural land and municipal roads.

WILLIAM PEARCE PROJECT

Progress on the William Pearce Project has been hampered, to some degree, due to the generally heavy workload during the year

for the number of staff presently available. Some work, however, was undertaken and consisted of permeability tests on the High Line canal for a distance of some 62 miles. Yardage and capacity curves were prepared on all major dam proposals in the upstream portion of the project. In order to delineate the possible irrigable areas in the eastern portion of the system, a series of overlays was compiled. The project has been divided into nine areas, each requiring 11 overlays. Twenty-two of these overlays have been completed to date, and indicate the following information:

1. Soil suitability
2. Topography suitability
3. Area serviceable by gravity
4. Natural drainage patterns
5. Preliminary canal routes
6. Irrigation water requirements
7. Domestic water requirements
8. Industrial water requirements
9. Final areas to be served
10. Final water requirements
11. Final canal routes

IRRIGATION

As in the past, the department continued to give assistance to irrigation districts through the attendance at general, and Board meetings of the districts for purposes of supplying information, particularly with respect to procedures under the Irrigation Districts Act. Several complaints and troublesome problems were investigated by the Supervisor of Irrigation Development, 66 of which pertained to issues brought before the Land Classification Appeal Committee.

Investigations continued into the pollution of rivers with relation to irrigation waste waters, and this matter was brought before the Irrigation Projects Association for discussion.

In response to requests, investigations were made and advice offered as to the possibility of forming new small irrigation developments associated with existing or proposed works on Etzikom Coulee, in the area of Tyrrell Lake and in the area of Pinepound Coulee.

Legal surveys were conducted to clarify status of titles to lands required by the Crown in the Belly River and Driggs Lake area. Meetings were also held with the Federal Minister of Agriculture for the purpose of clarifying Federal-Provincial arrangements related to the construction of the Waterton River dam and diversion canal.

Generally, 1963 was another year in which heavy demands were made on irrigation systems. In the newer projects, the St. Mary and Milk Rivers Development and the Bow River Development, the number of acres being irrigated continues to increase.

Table III shows the main irrigation districts in the province and the acres that received water during the year 1962.

TABLE III

Name of District	Area Irrigable by Gravity under Existing Works	Receiving Water in 1962 (including Pumping)	Source of Supply
St. Mary and Milk River Dev't.	183,611 ac.	155,500 ac.	St. Mary River
Magrath Irrigation District	8,000 "	7,000 "	All through the works of the S.M.R.D.
Raymond Irrigation District	20,411 "	18,500 "	
Taber Irrigation District	21,500 "	36,029 "	
Western Irrigation District	150,000 "	30,000 "	Bow River
Eastern Irrigation District	200,000 "	190,866 "	Bow River
Bow River Dev't. (Federal)	94,000 "	69,759 "	Bow River
Bow River Dev't. (Provincial)	25,000 "	13,500 "	Bow River
Mountain View Irrigation District	3,719 "	2,760 "	Belly River
Leavitt Irrigation District	4,511 "	4,187 "	Belly River
Aetna Irrigation District	6,672 "	2,178 "	Belly River
United Irrigation District	33,972 "	28,465 "	Belly River
Lethbridge Northern Irrig. District	91,466 "	73,317 "	Oldman River
Macleod Irrigation District	(not operating)	"	Oldman River
Ross Creek Irrigation District	2,069 "	200 "	Gros Ventre Creek
Total		632,261 Acres	

MOUNTAIN VIEW - AETNA MAIN CANAL

The Water Resources Office continued its operation and maintenance of the main canal supplying water to the Mountain View-Aetna and Leavitt Irrigation Districts. The works include the diversion from the Belly River, two pondage areas and about 24 miles of main canal.

The Driggs Lake reservoir has a large storage capacity of 7,000 acre feet. This storage is below the diversion from the Belly River, but commands all of the acreage served by the three districts. It has proved very valuable in the past two seasons during the late summer low flow periods. When the flow in the Belly River is at a low stage, only the number one priority licensed diversion can obtain water, consequently the Mountain View-Aetna canal must operate from storage. Unprecedented demands in May and early June of 1963 occurred while the river flows were still high and so it was not necessary to draw on storage. Heavy June rains came when the need to reduce diversions from the river appeared eminent, which made it possible to save the stored water for another two months. In August and September it was necessary to use water from storage but by this time the demand for water had decreased and supplies were adequate. Had not rains occurred in June, and had the drought continued through June and July, the available storage could not have carried the demand load since it will only provide a supply for about a three week period during peak requirements.

Works along the main canal consisted of 40 crossings, 35 turnouts, 9 wasteways, 7 under drains, 4 syphons and a number of check and drop structures. During the past season it was necessary to rebuild three timber pile bridges, 7 turnouts and clean 3 miles of canal. Six Texas gates were installed to improve access for operation. Eight hundred cubic yards of gravel and rock were placed to control wave erosion where pondage was encroaching on a road allowance.

ST. MARY AND MILK RIVERS DEVELOPMENT

Another successful construction year was experienced on the S.M. R.D. during the 1963 season. The favorable weather condi-

tions permitted earth work activity to commence at the very early date of March 15th and these activities were carried on well into the late fall of the year.

On the 22nd of June a record rainfall occurred in the project area amounting to upwards of seven inches in the Lethbridge district during a seven to eight day period. The quantity of rainfall was less in the eastern area and in the vicinity of Medicine Hat about three inches of rain fell during the same period.

Dry land crops again were poor due to the early hot dry conditions in the spring. The June rainfall contributed, to some degree, to the growth of these crops, however, the average for the district was only about five to six bushels per acre of wheat. Because of these conditions, more farmers are turning their attention to irrigation as the answer to these inadequate moisture conditions.

CANAL LINING

Approximately 16 miles of polyethylene lining was installed in canals with bedwidths varying from two to eight feet. This is a record amount of lining laid, being about five miles more than in the previous record year of 1962.

Because of the hot dry spring and abnormal wind condition, much of this lining was placed under very difficult circumstances. There was also an earlier demand for irrigation water than usual, so much of the lining activity had to be suspended by the middle of May. The June rains, however, reduced the demand for irrigation water and permitted the continuation of this work at that time.

The unusually dry and favorable weather conditions in the fall of the year enabled construction crews to undertake a greater lining program than usual for that time of the season.

CANAL DEEPENING

Canal deepening and relocation work involved fifteen separate portions of laterals throughout the project from Taber to Medicine Hat and consisted of deepening a total of 15,000 feet of canal to an average increased depth of 4½ feet. During this work, a large number of original timber structures were replaced by precast concrete structures with grouted rip-rap chute sections.

During the season, all of the precast concrete structures which had been fabricated during the previous winter were installed throughout the districts. In fact, some of this work had to be postponed until 1964 to allow the casting of additional structures during the current winter season.

CANAL EXTENSIONS

The work carried out on lateral and canal extensions during the year was about average as compared with other years. Between Taber and Medicine Hat seven additional precast concrete and steel culvert gated turnout structures were installed on the main canal, and these installations have increased the irrigable acreage of the project by approximately 800 acres. Most of the deliveries require additional pump lift installations, supplied by the farmers, to make the water available to the land to be irrigated.

In addition to the turnout structures installed on the main canal, ten other lateral extensions and turnout structures from smaller laterals, together with the necessary controls, were constructed. These deliveries added between 500 and 600 irrigable acres to the project.

TILE DRAINS

Good progress was made on the tile drain installation work as evidenced by the fact that some 15,500 lineal feet of tile drain, ranging in size from 4″ to 10″ in diameter, was placed at an average depth of 8 to 9 feet.

Better soil conditions than encountered during previous tile drain installations enhanced the successful operation of these new works. On one particular project the average groundwater discharge from the drain has amounted to 80 gallons per minute, which is a rather exceptional flow when considering the fact that the drain is only about 2,150 feet long.

In order to ensure effective drainage in some of the more adverse soil conditions, a practice of installing a thin gravel blanket along the upstream or uphill side of the trench at the time the drain is placed, has been developed, and has been found to provide easier access for the water being intercepted to flow down into the tile drains.

OPEN DRAINS

The total amount of open drain construction was less during the 1963 season than in previous years because of there being less instances where it was necessary to provide outlets for interceptor drains under construction. In total, the program consisted of the construction of 18 miles of new drainage ditches and the completion of 3 miles of drainage work undertaken in 1962. A portion of this work was comprised of the deepening of a drain built at the time of construction of the original works, and this particular operation necessitated alteration of the culverts under the Number 3 highway and the C.P.R. railway tracks east of Purple Springs.

Of the total work undertaken, about 1½ to 2 miles of drainage deepening work was done under extremely difficult circumstances because of the presence of bedrock, requiring a large amount of dynamiting. However, it is considered that this blasting could well be beneficial in that it could open the voids and fissures in the bedrock, thereby alleviating any water pressures which may build up in the rock formations.

SURVEYS AND OTHER WORK

Associated with the above listed construction program, and with the design and investigation of drainage works, approximately 337 miles of survey was undertaken. Three survey crews were employed to do this work as well as some investigational surveys conducted in conjunction with road drainage for the County of Forty Mile.

An extensive enlarging, rip-rap and grouting project was undertaken on Forty Mile Coulee spillway in order to provide better facilities at this location for emergency purposes. The work was

completed late in the fall and it is anticipated that in future the project will use these facilities each year during spring ditch priming operations and during the fall when the system is being drained.

Revision in the design of some of the precast concrete drop structures was done in accordance with new ideas arising from experience and the desire to reduce the amount of rip-rap required for these structures. It was also considered desirable to reduce the size of the individual precast sections so that they would be more easily handled during installation.

A considerable amount of work was undertaken in the plotting, designing and preparation of cost estimates for the proposed trunk and surface drainage works in the Raymond Irrigation District. This work also included the design and cost estimate of the proposed Sterling Lake outlet drain.

Plotting, design and preparation of cost estimates were completed on approximately 35 miles of proposed surface drainage in the West Medicine Hat area. Field surveys for this work were undertaken in the fall of 1962. Some investigation work, survey and design was also done on several small laterals and drainage problems in the Raymond-Lethbridge-Coaldale area.

Engineering and survey assistance was provided to the Raymond Irrigation District on a reservoir and canal reconstruction program which is being undertaken south of Sterling. These works are for the purpose of replacing an old and irrepairable timber flume which spans the coulee known as "Cross Coulee". The work undertaken by the Water Resources engineers included the design of the dam and conduit details together with the preliminary and construction surveys associated with the dam site.

Preliminary and construction surveys were also done to provide for the construction of spillway facilities for the Raymond Irrigation District and the Raymond town water supply reservoir located immediately southeast of the town of Raymond. These organizations also purchased three of the precast concrete control structures manufactured at the Water Resources headquarters in Grassy Lake for installation in the area.

Some investigational work, surveys and design was done on several small laterals and drainage problems in the Raymond and Lethbridge-Coaldale areas during the 1963 season.

Drainage design and detailed field surveys for proposed surface and outlet drainage on the Monarch-Commerce units of the Lethbridge Northern Irrigation District was commenced this year. Preliminary investigations included the collection of plans, data, and the paper location work for drainage of the lands involved. About 70 miles of precise levelling was completed in the field to establish bench marks on a one mile grid, and traverse and profile surveys have been conducted on 40 miles of drainage lines throughout the project. Plotting, design and compilation of detailed estimates of these works is presently underway.

A considerable amount of work has been done with respect to the settlement of right-of-way problems and the conducting of right-of-way surveys on canals and drainage ditches throughout the

S.M.R.D. project. This work has required the continuous employment of three right-of-way fieldmen who have divided their efforts between the S.M.R.D. and the B.R.D. projects.

BOW RIVER DEVELOPMENT

Construction work on the Bow River Development consisted mainly of numerous smaller projects. One trunk drain was extended for a distance of 2 miles to provide a more adequate outlet and the prevention of land damage. The first tile drain to be placed in the Bow River Development was laid during the 1963 season and extended over a length of 7,600 feet. Additions were made to the distribution works for purposes of improving operation efficiency or to provide service to additional irrigable acres. Nine and a quarter miles of new ditches were constructed for this purpose. Other associated works consisted of the installation of 1,200 lineal feet of culvert, the construction of two concrete turnouts on the main canal, the construction of four precast concrete checks, five timber check drops, and twenty-one timber and rip-rap drops. Nine additional farm turnouts were installed. Some protection was required for pondage dykes and structures, and for this purpose 950 cubic yards of rip-rap was hauled and placed. Twenty miles of drain canal banks were graded in preparation for grassing operations during 1964.

In addition to the above, work continued on the survey and planning of future construction that might be required. Requests for water services to some of the parcels located on the fringe of the district have been investigated and are being evaluated. Problems relative to canal seepage and alterations needed to enable adequate service still demands attention. Some 45 miles of transit line was surveyed and profiled in connection with the general work during the season. Modification and reinstallation of 50 Texas gates was also undertaken.

The problem of providing an outlet for Lost Lake still receives considerable attention. The rising water has forced the abandonment of one farm, and it also became necessary to build an access fill 700 feet into the lake to accommodate a gas well head. This wellhead was about five feet under water and was, therefore, inaccessible for further development work not completed at the time of drilling in 1960.

As a result of continued investigation and surveys on the Lost Lake problem, it now seems possible that an effective solution can be proposed that will be much less costly than previously estimated. This solution suggests a pump lift with sufficient capacity to hold the lake at an average level one foot below its present elevation.

In 1963 a check was constructed at the pondage outlet on the Enchant drain which will enable full use of this pondage area and reduce the inflow to Lost Lake. It is anticipated that construction on the Lost Lake outlet works will commence in 1964.

DISTRICT OFFICES

CALGARY

It may be said that in the Calgary area 1963 was a year of extremes. The year began very dry, followed by an exceptionally wet period in June and July, returning again to dry conditions with the oncoming of fall.

This resulted in an extreme variety of demands on the Calgary Water Resources District Office. In the early part of the year, many complaints were received regarding the lack of water. In June and July there was a deluge of complaints about flooding, and as the year drew to a close, there were again numerous complaints of the shortage of water.

Heavy June rains occurred in the mountainous area to the west and south of Calgary, and were most severe in the area west and north of Claresholm, resulting in severe flooding on June 29th and July 1st. The high waters on Willow Creek and the Sheep River were particularly bad, causing considerable damage and severe erosion along the river channels. Pekisko Creek and Stimson Creek, as well as the Highwood and Elbow Rivers, were also high but did not cause damage to the same extent as was experienced on the Willow and Sheep Rivers.

As a result of the floods, the Highwood River dyke west of the town of High River was badly damaged at two points and required major repairs. In spite of this damage, however, the dykes provided the protection needed and prevented the Highwood River from altering its course and flowing into the Little Bow River, as well as protecting the town of High River from damage due to flooding. The need for measures to prevent the Highwood River from changing its course and flowing into the Oldman system is readily apparent when one considers the demand for the water from this river for irrigation in the Bow River system and the damages which would result if the Highwood River were allowed to change its course. Studies are continuing into this problem and stop-gap measures are being taken to alleviate the situation until a solution of more permanence can be determined.

Nearly all of the flood damage complaints that were investigated were found to be the result of encroachment of the river onto the flood plain area. This type of damage has been prevalent in the past and will continue to be so as long as there are rivers. It is virtually impossible to control this situation within the realm of reasonable economics, since such would involve the costly improvement of river channels and the construction of bank protection works along virtually every foot of our river systems.

The desirable method of protection along our rivers was by regulation of stream flows by upstream storage reservoirs. An extensive program of investigation was made by the department in this respect, however, it was necessary to restrict development on river flood plains in order to allow the rivers their natural freedom.

Town water supplies continued to present problems as evidenced by the water shortage experienced in the town of Granum during the winter when the flow in Willow Creek virtually ceased and the level of the water dropped below the town intake. For-

tunately, the shortage lasted for only a few days since Willow Creek again started to flow due to above normal temperatures. If a real emergency had occurred, the shortage could have been prevented by the pumping of water still available from the creek into the town intake.

Vulcan completed a new water system, taking water from the Bow River. Two large dugouts were constructed to provide sufficient reserves for the winter season. The water supply situation at Hanna continued to receive attention, however, no water shortage crisis occurred during the year. The P.F.R.A. are investigating a dam site in the Donalda area which could be used to improve the water supply for this town.

The City of Medicine Hat experienced some water problems. These were due to floating weeds in the river which continually plugged the water supply intake. Higher flows in June and July removed this problem, however, with the hot dry fall this situation could reoccur next spring. The City has the matter under investigation.

Preliminary investigations were conducted into the possibility of upstream storage sites on the Oldman River north on Pincher Creek, Jumpingpound Creek near the forestry boundary, and the Crowfoot Creek in the Western Irrigation District. Other sites were also investigated but further consideration is necessary to determine if these projects are worthy of extensive field surveys.

The hydrometric network in the province was expanded during the year by seven stations. This brings the total number of hydrometric stations operated by the Federal Water Resources Branch of the Department of Northern Affairs and National Resources in the province to 186. Of these, 113 are Alberta stations for which the Water Resources Branch makes a financial contribution. Five of the new stations were required to measure the return flows from irrigation districts so that the actual amount of water that is being removed from the streams for consumptive use by the projects can be established.

Further work was carried out on the installation of crest stage gauges on some of the smaller Alberta streams. There are now 75 such gauges installed by the Calgary office to measure peak flows in the area from Red Deer south to the U.S. border.

During the season surveys were continued on the Pakowki Lake drainage basin, over 500 projects having now been investigated. The plans and reports resulting from these surveys have been completed and submitted to the Edmonton office. In order to facilitate the surveys in the Manyberries area during 1964, aerial photographs were taken early during the 1963 year.

The forestry research group continued its work on the eastern slopes of the Rocky Mountains. The Water Resources office contributed to this project by undertaking the mapping in the Marmot Creek basin as well as establishing four control bench marks. Two meetings of the committee on forestry research were held during the year to discuss the program for Marmot Creek and other research areas.

As a member of the Calgary Regional Planning Commission, the Calgary District Engineer undertook numerous inspections into proposed subdivisions on flood plain land. The policy of restricting development on such lands was upheld, and the flooding of the major streams south of Calgary was helpful in substantiating the desirability of such a program. Further steps were taken in the delineating of the flood plains along the Bow, Ghost, Elbow and Sheep Rivers by the taking of aerial photographs of these rivers at a scale of 400 feet to the inch. These will provide the data from which maps can be prepared of the flood plains.

In matters pertaining to the administration of small projects, some difficulties were experienced in obtaining agreements signed by local farmers providing for the operation of community projects constructed by the P.F.R.A. No difficulty in this regard resulted when the local municipal government assumed the responsibility for these projects. Other problems frequently arose concerning disputes or complaints between water users on a common stream. Efforts were made to reconcile these, however, if circumstances were particularly troublesome, it was often recommended that the complainant seek redress in Civil court.

Continuation of the general dry climatic conditions resulted in receipt of numerous requests for information regarding the irrigation of relatively large acreages along the major rivers in the drier areas of the province. The majority of these requests are found to be mostly of a speculative nature and do not normally develop into a serious attempt to construct irrigation facilities. The irrigation districts express some concern about supplies from the Bow River at the start of the season. Two complaints were received concerning anticipated shortages which did not occur. With the increase in rainfall during the months of May and June, the supplies were more than adequate for the remainder of the season.

The Special Areas experienced one of the better years in the recent past with respect to the availability of water supplies. However, certain areas, particularly to the south of Hanna, were very dry and water shortages continued to be a problem. It was in such drier areas that the P.F.R.A. small water projects division and Ducks Unlimited continued a very active program complying with the requests for surveys and information regarding their policy of assistance to farmers on the construction of water facilities. Virtually all requests for dams and dugouts received by the Calgary office were referred to the proper local P.F.R.A. authority for their consideration.

The Carolside dam was completed by the P.F.R.A. during the year, and as soon as the matter of the necessary right-of-way for the reservoir has been clarified, the project will be taken over by the Water Resources Department. This was the only project completed which had been considered during the 1963-64 season for provincial acceptance under the co-operative agreement.

Co-operation with other government agencies continued in various phases. In particular, a survey was made of the erosion damage on Willow Creek for the Department of Lands and Forests. This problem was found to be one normally expected in consideration of the flood which occurred, and it was recommended that the

cost of preventing damage would be excessive and that nature should be allowed to take its course.

Various municipalities in the Calgary area requested help on numerous problems and in all cases, inspections were made and recommendations given to assist these organizations. In addition, the Department of Fisheries, Municipal Affairs, Highways and Health, as well as the Oil and Gas Conservation Board, all referred problems to the Calgary office for some form of advice and assistance.

During the year the Calgary District Engineer undertook a comprehensive study on the use of water for the major irrigation projects, and compiled a report entitled "Irrigation Water Use" for submission to the Prairie Provinces Water Board. This study was succeeded by the compilation of a further report for submission to the Prairie Provinces Water Board supporting Alberta's request for reconsideration of water allocations to the Alberta irrigation projects. A paper was also drafted on "Water, Alberta's Inventory, Uses, Allocations and Potential Reserves" for presentation at the annual meeting of the Department of Agriculture. The University of Alberta Geography Department requested and received a lecture on water resources which was given by the Calgary District Engineer.

LETHBRIDGE

During the year the Lethbridge District Engineer made 37 inspections pertaining to problems throughout the Lethbridge area. In addition, 29 inspections were made relative to the operation and maintenance of the Mountain View-Aetna main canal. Eighty-five days out of the year were spent in the Enchant area supervising construction work on the Bow River Development, West Block.

Complaints requiring inspections, in the majority, arose from illegal diversions or channel blockages, or were relative to inadequate provisions, high groundwater, stream contamination and erosion. In most cases, technical assistance on adequate remedial measures was provided.

Snowfall was again in rather short supply during the winter of 1962-63, consequently, private irrigation schemes dependent on snow-melt runoff were faced with the problem of short supply. Irrigation districts fared much better in this respect since they are served, for the most part, from mountainous watersheds which yield runoff from spring and summer precipitation as well as the winter snows. Storage is also a stabilizing factor in these districts.

It was gratifying to observe that a few recent developments in the district involving small investments have enhanced the recreational value of our water resources. The District Engineer was called upon, on several occasions, to inspect and give consultation on recreational proposals of this nature. One project in particular, involved the construction of a causeway at the east end of Crowsnest Lake to isolate the beach from the cove currents near the outlet from the lake. This work was designed and supervised by the Lethbridge District Engineer.

Inspections were also made of proposed Fisheries' developments at two sites in the Crowsnest Pass. A design was compiled for the construction in 1964 of erosion control measures at Writing-on-Stone Provincial Park. Driggs Lake reservoir was lowered to an extent that would facilitate the poisoning of the coarse fish inhabiting these waters, and provide for restocking with a more desirable breed of fish in the spring of the coming year.

Report of the Colonization Branch

C. J. McANDREWS, P.Ag., B.Sc., M.Ag., Colonization Manager
D. G. HARRINGTON, P.Ag., B.Sc., Supervisor of Land Development
L. D. M. SADLER, P.Ag., B.Sc., Supervisor of Soils and Drainage
G. L. STEED, P.Eng., B.Sc., M.Sc., Irrigation Engineer
N. S. THOMSON, P.Ag., B.Sc., District Irrigationist
V. B. TAYLOR, P.Ag., B.Sc., District Irrigationist
A. E. PUNGOR, P.Ag., B.Sc., District Irrigationist
M. F. WILDE, P.Ag., B.Sc., District Irrigationist
S. NOREIKA, District Irrigationist
R. H. SCHULER, P.Ag., B.Sc., Soils Investigator
L. J. McCRACKEN, B.Sc., Drainage Investigator
H. A. KERR, B.E., M.Sc., Drainage Investigator
S. LEE, P.Ag., B.Sc., Economist
B. BEASLEY, Office Manager

INTRODUCTION

Drought conditions prevailed to the end of June in 1963. Precipitation was heavy during late June and early July. Soil moisture was again low by the end of the growing season, and the early winter precipitation was near normal.

The farm use of irrigation water was in strong demand during the early part of the growing season. Irrigating was again common and widespread from about the middle of July to the end of the season. Fall irrigation was a common practice in some districts, but the increase of this practice was not as great as expected or as needed to rebuild soil moisture reserves.

Temperatures were near normal during most of the growing season, which, with the management of moisture, favoured good growing conditions for both grain crops and forage. Canning peas suffered somewhat from heavy rains which occurred near the harvest time for this crop. The production of fresh vegetables, canning crops and sugar beets was above average for yield and quality.

The Colonization Branch provided services in all irrigation districts, and to numerous other areas in the Province where soils and water practices were being investigated or developed. Soils and Drainage investigations were extended on a full time basis to the Lethbridge Northern, Raymond, and Magrath Irrigation Districts by the employment of Mr. H. A. Kerr to carry out the required studies. Land Development Services were intensified in the Eastern Irrigation District by the employment of Mr. M. F. Wilde as District Irrigationist, and also in the Bow River Development by the employment of Mr. A. E. Pungor as District Irrigationist for both the Canada and Alberta sections of the Project. Irrigation Engineering Services were widespread on an extension basis, but confined to the S.M.R.D. and B.R.D. Projects for concentrated investigational studies. The administration of land settlement and water rights maintained its previous status with little change. Contributions to irrigation policy in general, to participation on Boards,

Committees and at Conferences and Seminars was more active than in previous years.

The Colonization Manager was appointed to represent Southern Alberta on the Ground Water Advisory Committee of the Research Council of Alberta. The appointment made in May, 1963, was for a two year period.

LAND SETTLEMENT OF THE ST. MARY AND MILK RIVERS DEVELOPMENT AND THE BOW RIVER DEVELOPMENT

Transfers of Titles on paid up Agreements continued to increase as thirteen settlers received Titles to their land during the year. The total number of transfers to December 31, 1963, was forty-six for the program which completed its thirteenth year. Sixteen transfers were pending at the end of the year. Four applicants were allotted land as new settlers, while six additional parcels were added to the holdings of established settlers. A block of land consisting of twelve quarter sections located south-east of Grassy Lake was transferred to the Department of Lands and Forests for development into irrigated Community Pastures by the Land Utilization Board.

COLONIZATION MANAGER ADVISORY COMMITTEES

The Committees met twice to study land settlement conditions as related to the Colonization policies, and to advise on the disposition of lands that had become available for allotment. The Committee toured the Hays, Taber, Grassy Lake and Bow Island Districts in September to observe the farm conditions and meet with the settlers. The fifteen Veteran settlers at Hays had completed the ten year requirement of their Agreements, and arrangements were initiated for the transfer of Titles to them.

LAND TENURE

Tables I and II show the status of land tenure during 1963.

TABLE I

	S.M.R.D.		B.R.D.	
	Veterans	Non-Veterans	Veterans	Non-Veterans
Total Number of Settlers at the end of 1962	77	97	23	67
Settlers Established During 1963	0	4	0	1
Cancellations, Withdrawals and/or Quitclaims	1	3	0	2
Total Number of Settlers as at December 31, 1963	76	98	23	66
Total Number of Land Purchase Agreements	87	127	23	69
Agreements Paid Up and Title Issued	17	29	2	5
Agreements Paid Up and Title Pending	8	8	0	4
Active Agreements at the end of 1963	62	88	21	67
Additional parcels of land alloted to established settlers	2	4	0	2
Tentative Allotments in 1963	0	0	0	0
Tentative Additional Allotments (Partial Units) in 1963)	1	15	1 (2 parcels)	5
Parcels of Land Remaining Unsettled	49 (*22 C.P.)		41 (*31 C.P.)	
Number of Parcels Leased During 1963	61		49	
Cancellation of Contracts (1951-1963)	8		3	
Withdrawals of Contracts During 1963	0		0	
Quitclaims (1951-1963)	24		5	

(*C.P. refers to lands reserved for Community Pasture development)

TABLE II

No. of Settlers in Arrears	S.M.R.D. Land	S.M.R.D. Water Right	B.R.D. Land	B.R.D. Water Right
1 year	25	38	16	13
2 years	22	23	14	8
3 years	14	14	13	5
4 years	16	10	9	....
5 years	17	2	2	....
6 years	6	2	1	....
7 years	6	....	....	....
8 years	2	....	....	....
Total Amount of Arrears	$182,259.54	$21,024.40	$61,238.24	$4,763.56

ECONOMICS

Farm income and labour earnings for eighty-two settlers were studied to assist them with their farm management. Tables III and IV summarize the pertinent information.

TABLE III

FARM INCOME AND EXPENSES

	S.M.R.D. Medicine Hat Seven Persons	S.M.R.D. Bow Island Grassy	S.M.R.D. Taber	B.R.D. Enchant Travers Lomond	Total or Average
Farms Reported	37	17	12	16	82
Operating Revenue	$5,481	$6,311	$9,745	$5,473	$6,276
Operating Payments	2,321	3,683	5,741	2,354	3,110
Add Depreciation	572	826	956	700	706
Total Operating Expenses	2,893	4,509	6,697	3,054	3,816
Net Farm Income	2,588	1,802	3,048	2,419	2,460
Less 5% of Investment	1,427	1,555	1,735	1,358	1,470
Labour Income	1,161	247	1,313	1,061	990

TABLE IV

CAPITALIZATION

	S.M.R.D. Medicine Hat Seven Persons	S.M.R.D. Bow Island Grassy	S.M.R.D. Taber	B.R.D. Enchant Travers Lomond	Total or Average	%
Farms Reported	37	17	12	14	80	....
Total Investment	$28,540	$31,102	$34,696	$27,156	$29,409	100
Land	11,151	12,367	17,871	12,827	12,571	42.7
Building	6,933	7,273	4,988	4,771	6,249	21.2
Equipment	6,118	8,226	8,521	6,389	6,897	23.5
Livestock	4,338	3,236	3,316	3,169	3,692	12.6

Twenty settlers received complete Farm Business Analysis under a co-operative program with the Farm Economics Branch. The complete report of the analysis was published from which Table V was extracted.

TABLE V

Farm Investment:	$38,552 (owned)	$4,424 (rented)
Real Estate	23,760	
Equipment	7,367	
Livestock	4,844	
Feed and Supplies	2,581	
Animal Units	29.5	
Gross Operating Revenue	10,739	
Total Expenses	5,288	
Net Farm Income	5,451	
Labour Earnings	3,524	
Per Cent Returned on Operator's Capital	6.5%	

Economic studies were continued on a limited basis for the eventual purpose of providing data on the value of reclamation. All work of an economic nature was co-ordinated with and reviewed by the Farm Economics Branch, whose direction and supervision was most cordial and very much appreciated.

WATER RIGHTS

Table VI shows the status of water right agreements while Table VII shows the arrears of water right payments. Water right rate enforcement proceedings resulted in seven parcels of land being transferred to the Colonization Manager through adjudication by the Court. The Irrigation Council excluded twenty-three parcels from the rates enforcement list as the farm operators had suffered hardship, but appeared able to eventually pay all irrigation rates in respect of the parcels. All other accounts that were more than one year in arrears were paid if deeded land, or were Crown lands under Agreements for Sale.

TABLE VI

WATER RIGHT AGREEMENTS

	S.M.R.D.	B.R.D.
Total Agreements	1,927	440
Number Classified Non-Irrigable	161	53
Paid Up Agreements	468	26
Agreements Deferred by Ministers' Orders	33	1
Other Inactive Agreements	62	123
Total of Active Agreements	1,203	237

TABLE VII

ARREARS OF WATER RIGHT PAYMENTS

S.M.R.D.

	No. of Farmers in Arrears	Year	Amount
1 year	210	1963	$56,637.90
2 years	160	1962	26,805.96
3 years	11	1961	1,608.44
4 years	7	1960	1,030.92
5 years	2	1959	258.29
6 years	1	1958	125.55
7 years	1	1957	93.00
Amount or Arrears Owing			$86,560.06

B.R.D.

	No. of Farmers in Arrears	Year	Amount
1 year	19	1963	$ 7,952.43
2 years	24	1962	5,191.18
3 years	1	1961	309.15
4 years	1	1960	1.40
Amount of Arrears Owing			$13,454.16

REVENUE

Table VIII shows the collections from land sales and water right agreements. The Land Sale Agreements concern only Colonization settlers whereas the water right agreements cover all of the irrigable lands in the two projects.

TABLE VIII

COLLECTIONS ON LAND SALE AGREEMENTS AND WATER AGREEMENTS

S.M.R.D.

	1960	1961	1962	1963
Land Sales	$ 41,000.00	$ 41,000.00	$ 62,000.00	$ 42,000.00
Water Right	131,000.00	124,000.00	119,000.00	127,000.00
	$172,000.00	$165,000.00	$181,000.00	$169,000.00

B.R.D.

	1960	1961	1962	1963
Land Sales	$ 11,000.00	$ 12,000.00	$ 27,000.00	$ 16,000.00
Water Right	7,000.00	8,000.00	11,000.00	9,000.00
	$ 18,000.00	$ 20,000.00	$ 38,000.00	$ 25,000.00

IRRIGATION PLANNING BOARD

The Colonization Manager, as a Member, attended three meetings of the Board, one investigational tour, and presented feasibility data on soils and topography for two proposed irrigation schemes. Investigation for similar data on three other proposals was initiated.

DRAINAGE COMMITTEE

The Colonization Manager, as Chairman, called seven meetings during 1963. Investigational reports, engineering designs, cost estimates and consequent operation and maintenance were the main considerations given to recommendations which resulted in the construction of 27.5 miles of open drains, 4.4 miles of tile drains, 16 miles of canal lining, and 2.8 miles of reconstructed canals.

Forty-five damage claims were processed for the 1963 crop year. Five claims were placed before the Public Utilities Board for settlement of the 1962 crop year. Payment of the claims was made from the Appropriations of the Water Resources Branch.

LAND CLASSIFICATION

The physical features of land were studied on a continuing basis to cover all proposed areas of the S.M.R.D. and B.R.D. over a number of years. Detailed investigations to determine the feasibility of irrigating land proposed for irrigation by pump or land development, and serviced with water from presently existing works was provided mainly to the S.M.R.D., but also to projects and farmers throughout the Province. More than 600 quarter sections of land were classified.

LAND LEVELLING TRUST ACCOUNT

Revenue from the earthmoving and farming equipment was $75,223.17, the operating expenses were $54,000.00, leaving a surplus from the year's operation of $21,223.17, to cover overhaul, depreciation, and retirement of the capital grant. The depreciated value of the equipment at the beginning of the season was $103,814.79, and surplus funds on hand were $38,324.38, which showed growth from the capital grant of $78,079.43. The Trust Account has been in operation since 1951.

AGRICULTURAL REHABILITATION AND DEVELOPMENT ACT

An A.R.D.A. Agreement "Irrigated Farm Development, Investigations, and Designs" was approved late in 1963. The Agreement covered the period June 1, 1962, to March 31, 1965, with Federal contributions up to $261,000.00. This was one-third of the proposed shareable costs. The proposal indicated full scale services of the Branch in Irrigated Districts, and some expansion of soil and water conservation services to other areas.

EXTENSION

Irrigation Schools were organized and presented at Hillspring and Picture Butte. Lectures were presented at numerous short courses, and other farm meetings. Timely topics were discussed and presented in the press, by radio and television.

Field demonstrations and tours of exemplary development was believed to be the most effective extension program. These occurred in all Irrigation Districts through programming by District Agriculturists. The co-ordination of activities by the Extension Branch with the Colonization Branch was effective, cordial and appreciated.

Speeches and papers were prepared and presented to several service clubs, professional groups and municipal organizations. In-service training among Colonization staff was programmed on the basis of seminars and field workshops, and was presented at two levels (professional and semi-technical).

EDUCATIONAL LEAVE

L. D. M. Sadler was on educational leave at three-quarters salary until September to complete the requirements for a Master of Science degree from Utah State University. The title of his thesis was "A Field Study of Miscible Displacement in Saturated Soils".

D. G. Harrington was granted leave of absence with three-quarters salary for the periods January 1 to March 15, 1963 and September 15, 1963, to May 1, 1964, at Colorado State and British Columbia Universities respectively. Graduate studies were undertaken in pursuit of a Master's degree.

LAND DEVELOPMENT DIVISION

POLICY

Engineering and agronomic field work on the farm was provided to the farmer under his choice of two alternative agreements:

1. At a charge of $3.00 per acre serviced, or
2. Free, if the farmer provided the non-technical labour and a portion of the surveying materials.

The second alternative was chosen in most cases, with this policy experiencing a successful purpose of providing more services to more farms without increasing the Appropriations.

A.R.D.A. assistance to this program was approved late in the year to facilitate soil and water development on farms both irrigated and other than irrigated.

TOPOGRAPHY APPRAISALS

Topography appraisals were the initial service under the 417 agreements signed by farmers seeking to improve the development of their farm irrigation systems. Advice on planning and estimates of costs assisted farmers to decide their course of action. Topography appraisals were also provided for land classification and irrigable acreage mapping.

ENGINEERING SURVEYS

21,924 acres were mapped, mainly for land levelling design and the development of farm irrigation distribution systems. Conventional grid methods of surveying were employed.

LAYOUT PLANNING

Field layout, water distribution and control, and surface drainage were specified in plans for approximately 700 farms as requested by the landowners or operators.

DESIGN OF IRRIGATION DISTRIBUTION SYSTEMS

Irrigation distribution system designs were important contributions to the construction of farm works. The service was provided to both newly irrigated schemes and to existing systems that required rehabilitation.

LAND LEVELLING

Patrons increased by about 25 per cent while the land area levelled increased by about 30 per cent. The increased activity in land levelling was attributed to:

(a) Development as a substitution for labor,

(b) More understanding of soil and water conservation, and

(c) More earthmoving equipment and activity by earthmovers.

FARM DRAINAGE

Surface drainage of farm lands was included with the land levelling design and development. A few individual drainage systems were investigated and designed for both irrigated and dryland farms.

WATER CONTROL STRUCTURES

The number of water distribution and erosion control structures installed was not significant. Permanent structures were not accepted generally as they interfere with the maintenance of ditches.

Water measurement structures, especially Parshall flumes were advised for use to measure the volume of water applied by irrigation.

IRRIGATION PRACTICES

The use of modern irrigation methods improved in Southern Alberta. Border dyke and corrugation irrigation methods replaced many older and inefficient methods such as border ditches and contour ditches. There were approximately 400 office visit requests for information on newer methods and facilities for irrigation practices. Approximately 150 field trips were made to assist and advise farmers regarding their practices.

LAND USE AFTER DEVELOPMENT

The majority of the farmers who developed land were visited and advised on land use. There were about 300 farm visits and 300 soil and water management reports issued to the farmers.

TABLE IX

STATISTICAL SUMMARY OF THE DISTRICT IRRIGATIONISTS

I.	Land Levelling	
	1. Total acreage of Engineering Surveys	21,924
	2. Number of completed designs	508
	3. Number of parcels levelled	429
	(a) To detailed or semi-detailed standards—358	
	(b) To minimum development standards—71	
	4. Total acreage land levelled	13,162
	5. Average cost per acre improved	$50.00
	6. Total accumulative number of jobs since 1950 by Government Machines and Private Operators' Machines (not including miscellaneous)	1,898
	Total accumulative area of acres improved since 1950	77,760
	(a) Government equipment—26,215	
	(b) Private equipment—51,545	
	7. Land Levelling Trust Account equipment	
	(a) Number of parcels levelled	39
	(b) Acreage land levelled	1,045
	(c) Average cost per acre	$57.00
	(d) Number of miscellaneous jobs which include dugouts, farmsteads, trimming, grading, etc., wherein, an area is not improved for farming purposes	13
	(e) Total revenue from all jobs (approx.)	$75,223.00
	(f) Operating expenses (approx. not including depreciation)	$54,000.00
	8. Private Equipment	
	(a) Acreage land levelled	12,117
	(b) Average cost per acre	$50.00
	9. Total number of land levelling reports prepared (L-1)	65
	10. Total number of land levelling reports issued to farmers or other administrative agencies (L-1)	430
II.	Farm Irrigation Systems	
	1. Number of water control structures (spills, checks, diversion boxes, and drop structures installed)	261
	2. Number of water control structure plans drafted	9
	3. Number of water control structure plans issued to farmers or other agencies	90
III.	Topogaphy Analysis for Land Classification	
	1. Number of quarter sections investigated	767
	2. Total estimated acreage classified	81,440
	3. Number of topography reports prepared (S-2)	24
IV.	Irrigation Acreage Classification	
	1. Number of engineering surveys	21
	2. Number of tracings completed (maps of quarter sections)	5
	3. Total irrigable acreage as per tracings	249
	4. Number of tracings corrected because of land levelling (quarter sections)	197
	5. Number of tracings corrected because of R/W's (quarter sections)	193
	6. Number of tracings corrected due to increase or reduction in irrigable acreage (quarter sections)	15
	7. Total number of land classification reports prepared (S-3)	162
	8. Total number of land classification prints and miscellaneous maps issued to farmers and administrative agencies	1,597
V.	Inspections	
	Detail inspections by the professional staff, for consultation on Colonization farm irrigation systems, pump irrigation systems, surface drainage, farm planning, survey procedures, drafting and equipment.	
	1. Number of field inspections	1,637
	2. Number of office inspections	705
VI.	Miscellaneous Engineering Surveys	468
VII.	Reports	
	1. Number of all major reports performed	31
VIII.	Meetings, Field Days, Demonstrations, Short Courses	62
IX.	Miscellaneous	
	(a) Administrational	
	1. Number of office interviews	2,216
	2. Number of newspaper, radio releases written	8
	3. Television Programs	1
	4. Number of bulletins and newsletters issued	500
	(b) Technical	
	1. Number of display posters, charts drafted	38
	2. Total number of drainage investigation plans and profiles drafted	97
	3. Total irrigation evaluation graphs, charts and profiles drafted	23
	4. Total number of general location plans drafted	25
	5. Total number of miscellaneous plans and sketches drafted (furniture plans, sketches for soil reports, lettering signs, etc.)	609

IRRIGATION ENGINEERING DIVISION

DESIGN CRITERIA "IRRIGATION GUIDE"

The evaluation of irrigation methods was concentrated in the Lethbridge district to provide design criteria for an irrigation guide. Data compiled was complete for the guide for this district. Water holding capacities of soils were obtained using newly acquired laboratory equipment which speeded up the compiling of guide information.

IRRIGATION GAUGE

Evaporation and precipitation data was gathered for each week of the growing season and correlated to crop water use to indicate to water users the time and quantity of water to apply at each irrigation. Canadian Sugar Factories Ltd. sponsored five new reporting stations and information signs which gave impetus to interest in this service. A subscription service to the gauge information was initiated to supplement the existing distribution of information through newspapers, radio and television.

WATER CONTROL STRUCTURES

Irrigation measurement structures were tested and calibrated to provide information on the farm use of such structures.

SPRINKLER IRRIGATION

Sprinkler irrigation systems were evaluated to determine their efficiencies. Recommendations were made to correct poor designs or management practices. Evaluation and design forms were prepared and used to consider all factors relating to farm sprinkler systems. Counselling prospective purchasers assisted them to select systems to suit their farm lands.

TABLE X

STATISTICAL SUMMARY

I.	Irrigation Guide	
	(1) Number of border irrigation system evaluations	26
	(2) Number of furrow irrigation system evaluations	46
	(3) Number of soil water infiltration tests	188
	(4) Bulk density studies: Samples	278
	Tests	50
	(5) Number of sprinkler system evaluation tests	3
II.	Irrigation Gauge	
	(1) Number of district recording stations	13
	(2) Number of weekly records compiled	208
	(3) Soil moisture tests: Sites	420
	Samples	1,680
	(4) Water holding capacity: Sites	52
	Samples	208
	Analyses	125
	(5) Mechanical Analysis: Sites	73
	Samples	146
III.	Water Control Structures: Tests	5
IV.	Inspections: Field	38
	Office	23
V.	Reports: Major Reports	7
VI.	Extension: Meetings, demonstrations, field days	32
	Television programs	10
	Written releases	23
	Office interviews	28
	Circulars distributed	1,120

SOILS AND DRAINAGE DIVISION

The demand for investigations and related services continued to increase in 1963. Inquiries from areas outside of the irrigation districts regarding salt damaged lands, surface drainage and ground water use were more frequent than in previous years. Liaison and co-operation with the Canada Agriculture Research Station and Alberta Research Council was beneficial and greatly appreciated.

Preliminary investigations were undertaken in the Magrath, Raymond, and Lethbridge Northern Irrigation Districts. Planning for complete and thorough coverage of these projects was initiated. Revision and modification of investigational procedures and design criteria was based on increased experience and technical training.

GROUND WATER INVESTIGATIONS

Canal seepage investigations in irrigated projects received the majority allocation of time. Second in order of drainage problems requiring attention was localized ground water build-up with resulting salted and waterlogged land.

Preliminary work on equipment and procedures was done to supplement investigational techniques by the use of more piezometers and hydraulic conductivity tests below the water table. Water table records and drainage effluent analysis were important data for drainage design and location recommendations.

SURFACE DRAINAGE INVESTIGATIONS

Surface drainage investigations continued as a phase of overall ground water investigations in both irrigated and dryland regions. Detailed studies, including surveys, were carried out in several cases to recommend remedial measures.

SOIL INVESTIGATIONS FOR LAND CLASSIFICATION

Soils were examined to determine their feasibility of use for irrigation purposes on a number of proposed irrigation tracts, and on individual parcels of land where development of the land was suggested to take advantage of water from existing canals. These were detailed investigations requiring several traverses of each parcel of land with numerous loggings and samplings of soils. Data obtained from the analysis of samples was used in conjunction with soil survey information and field inspections to rate soil irrigability.

WATER SUPPLY AND STORAGE STUDIES

Services were continued to test farm storage reservoir sites for suitability of surficial material. Such tests involve drilling to locate areas of relatively heavy textured earth material. These reservoirs hold adequate water supplies, and provide an alternative to expensive well drilling programs.

Advice and technical assistance were also given on several occasions to individuals and irrigation districts on water storage dam sites. This work involves deep drilling to check foundation material and locate borrow areas of fill material.

An increase in use of professional services was noted in dryland areas involving ground water use for domestic supply.

LAND RECLAMATION

Studies of the effect of drainage construction and watershed practices on salt accumulation and movement continued in 1963. Advice on special cultural practices was given to farmers.

A study on irrigation of solonetzic soils was continued in co-operation with the Lethbridge Research Station.

SOILS AND WATER LABORATORY

Salinity and sodium analyses of soil and water samples complemented the soils and drainage investigational work. Additional part-time staff was employed to handle increased requests for analysis of soils and water. Of particular importance was the increase in service to dryland farmers on analysis of water for irrigation and domestic uses.

DESIGN RECOMMENDATIONS

As a result of the investigational programme carried out by this division, various recommendations were made on remedial measures. The following are considered important enough to receive special mention:

Canal lining and/or relocation were recommended on canals passing through coarse textured earth. Lining material recommended was exclusively polyethylene plastic covered by 1.0 to 1.5 feet of earth backfill. Investigations indicated that bentonite curtains to prevent seepage were not successful. Plastic lining was installed in most of the canals previously treated with bentonite.

Interceptor drainage of either tile or open channel construction was recommended to intercept seepage water from canals in cases where plastic lining was too costly. Construction specifications included location, depth, grade, size of tile, and side slope of open ditch.

Outlet drainage was advised in locations and to depths that provided ground water relief as well as surface drainage.

TABLE XI

STATISTICAL SUMMARY

A. PROFESSIONAL

	Completed	Incomplete
I. Soils Investigations for Land Classification		
1. Major Investigations		4
Parcels		509
2. Minor Investigations		
Parcels (160 acres)	137	11
Irrigated Acreage	4,320	300
II. Drainage Investigations		
1. Major Investigations	37	57
Parcels	88	136
2. Minor Investigations	65	2
III. Miscellaneous Investigations		
1. Farm Storage Reservoirs	81	
2. Dams	2	
3. Land Development	6	
4. Ground Water Development	1	
IV. Inspections		
1. Field (man days)	318	
2. Farm visits	62	
3. Office and laboratory	250	
V. Reports		
1. Soils, Drainage and Engineering	320	
2. Laboratory analysis (minor reports)	60	
3. Miscellaneous	7	
VI. Extension Work		
1. Number of Programmes giving talks on demonstrations	9	
Attendance	509	

VII.	Professional Participation by Giving Papers	
	1. Seminars	7
	2. Conferences	1
VIII.	Meetings Attended	28
B.	TECHNICAL	
I.	Field	
	1. Soil borings—Sterling Drill	2,075
	2. Soil borings—Giddings Drill	1,659
	3. Soil borings—manually	32
	4. Field analysis for hydraulic conductivity	256
	5. Ground water installations	
	(i) Existing	1,196
	(ii) New	195
	(iii) Readings	18,361
	6. Engineering surveys—man days	288
	7. Soil and water samples taken in the field	11,298
II.	Laboratory	
	1. Soil and water samples analyzed	8,579
	2. Number of mechanical analyses	7
III.	Office	
	Basin—wide ground water table reports	9
IV.	Miscellaneous Work—man days	92
	(Including painting, water table well covers, cutting water table and piezometer pipe, and maintenance and repairs of field equipment.)	

LETHBRIDGE NORTHERN COLONIZATION MANAGER

P. M. SAUDER, L.N.I.D. Colonization Manager

The land settlement portion of the Colonization Manager's business was completed in the year 1961.

Since 1954 financial assistance, given by way of loans to water users, has been limited to loans for sugar beet labour and hauling.

The total amount loaned in 1963 was $208,046.83, as compared with $226,754.16 in 1962 and $229,095.33 in 1961. The Secretary-Treasurer of the Lethbridge Northern Irrigation District looked after the office work in connection with the loans and the District bore the total expense of this service. The money used to make the loans was borrowed from the Treasury Branch in Lethbridge.

A total of 9,692 acres of beets or 91.7 per cent of the total crop was mechanically harvested on the Lethbridge Northern Irrigation District. Only 635 acres or 6.0 per cent of the total crop was mechanically thinned.

The following schedule gives statistics for sugar beet crops on the Lethbridge Northern Irrigation District for the years 1957 to 1963 inclusive:

Year	No. of Growers	Acres Harvested	Tons Harvested	Tons per Acre	Sugar Content	Total Price per Ton
1957	481	12,788	157,798	12.34	14.9%	13.23
1958	487	13,132	195,606	14.89	16.0%	15.32
1959	479	12,029	146,067	12.14	15.8%	15.51
1960	462	12,918	155,976	12.07	16.3%	14.84
1961	458	12,298	147,666	12.01	15.3%	13.73†
1962	408	11,386	134,674	11.83	17.2%	21.26
1963	383	10,566	146,423	13.86	15.7%	*

NOTE: † Includes the subsidy.

* Initial payment was $13.00. Total price will not be known until all of the sugar is sold.

Sugar beets was, of course, the main specialized irrigation crop on the 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, gladioli, sunflowers and flax are also grown but we have no definite reports on these crops.

Feeding and marketing of livestock and poultry have also for some time been important and profitable branches of farming on the Lethbridge Northern Irrigation District.

Report of the Extension Branch

HEADQUARTERS

S. S. GRAHAM, B.Sc., P.Ag., Director
L. W. RASMUSSON, B.S.A., M.Ed., P.Ag., Supervisor of District Agriculturists
C. A. CHESHIRE, B.E., P.Ag., Supervisor of District Agriculturists
MRS. V. G. MACDONALD, B.Sc., Supervisor of Home Economics Division
MISS PATRICIA MASCALUK, B.Sc., Home Management Specialist
MRS. NANCY ZAVEDIUK, B.Sc., Extension Clothing Specialist
MISS DIANNE HAMMER, B.I.D., Home Designing Specialist
J. L. REID, B.Sc., B.S.A., M.Sc., P.Ag., Senior Extension Engineer
D. E. DARBY, B.E., Assistant Extension Engineer
C. L. USHER, B.Sc., P.Ag., Supervisor, 4-H Division
V. T. JANSSEN, B.Sc., Associate Supervisor of 4-H Division
S. FRASER, B.Sc., Assistant Supervisor of 4-H Division
MRS. LOUISE MAGUIRE, B.Sc., Associate Supervisor of 4-H Division
MISS GLENNA ROBINS, B.Sc., Assistant Supervisor, 4-H Division

DISTRICT OFFICES

Calgary — J. W. Ulrich, B.E., P.Eng., District Extension Engineer

Office	Agriculturist	Home Economist
Athabasca	G. L. Godel, B.S.A., M.Sc., P.Ag.	
Associate	R. C. Gordon, B.Sc.	
Barrhead	C. C. Robinson, B.Sc., P.Ag.	
Berwyn	G. R. McNaughton, B.Sc., P.Ag.	Mrs. N. Brunet, B.Sc.
Assistant	G. C. Boulet, B.Sc., P.Ag.	
Bonnyville	L. Gareau, B.S.A., M.Sc., P.Ag.	
Brooks	I. Lapp, B.Sc., P.Ag.	Mrs. N. J. Gray, B.Sc.
Calgary	A. W. Beattie, B.Sc., P.Ag.	Mrs. I. Leavitt, B.Sc.
Camrose	L. D. Williams, B.Sc., P.Ag.	Mrs. K. Klug, B.H.Ec.
Assistant	R. E. Grattidge, B.Sc.	
Cardston	D. L. Steed, B.Sc., P.Ag.	
Claresholm	J. D. Jantzie, B.Sc., P.Ag.	Miss M. McLachlan, B.H.Ec.
Coronation	W. Dietz, B.Sc., P.Ag.	
Drumheller	S. W. Pettem, B.S.A., P.Ag.	
Edmonton North	J. M. Fontaine, B.Sc., P.Ag.	Mrs. D. Westendorf, B.Sc.
Associate	A. F. Belyea, B.Sc., P.Ag.	
Edmonton South	P. Jamieson, B.Sc., P.Ag.	Mrs. M. Atkinson, B.Sc.
Grande Prairie	M. H. Jaque, B.Sc., M.Ed.	Mrs. P. Sheehan, B.Sc.
Associate	N. G. Miller, B.Sc., P.Ag.	
Hanna	D. R. Macpherson, B.Sc., P.Ag.	Mrs. Mona Cox, B.Sc.
High Prairie	E. Dobko, B.Sc., P.Ag.	
High River	C. E. Yauch, B.Sc., P.Ag.	
Lac la Biche	F. Strashok, B.Sc.	
Lacombe	W. McNary, B.Sc., P.Ag.	Miss A. Schelstraete, B.Ed., B.H.Ec.
Assistant	A. J. Wiebe, B.S.A.	
Lamont	G. W. Shewchuk, B.Sc., P.Ag.	
Leduc	G. R. Gylander, B.Sc., P.Ag.	
Lethbridge	R. M. Trimmer, B.Sc., P.Ag.	Miss E. Bartman, B.Sc.
Assistant	E. L. Treffry, B.Sc., P.Ag.	

Mayerthorpe	D. I. Peters, B.Sc., P.Ag.
Medicine Hat	J. L. Anderson, B.Sc., P.Ag.
Associate	M. A. Cameron, B.Sc., P.Ag.
Olds	H. J. Fulcher, B.Sc. — Miss P. Westman, B.H.Ec.
Associate	L. Welsh, B.Sc., P.Ag.
Ponoka	J. L. Kerns, B.Sc., P. Ag.
Red Deer	R. D. Price, B.Sc. — Miss E. Davies, B.Sc.
Associate	G. B. Parlby, B.Sc.
Rocky Mountain House	G. A. Ross, B.Sc., P.Ag.
Ryley	S. C. Powers, B.Sc.
Sedgewick	A. E. Edwards, B.Sc., P.Ag.
Smoky Lake	W. C. Yule, B.Sc.
Spirit River	F. W. Graves, B.Sc., M.Sc., P.Ag.
Stettler	E. W. Walker, B.Sc., P.Ag.
	Mrs. H. Moore, B.H.Ec.
Stony Plain	E. C. Lowe, B.Sc.
Assistant	M. Kuryvial, B.Sc., M.Sc., P.Ag.
St. Paul	J. B. Milne, B.Sc., P.Ag. — Miss E. Zawadiuk, B.Sc.
Strathmore	K. H. Walker, B.Sc., M.Sc, P.Ag.
Taber	A. R. Jones, B.Sc., P.Ag.
Associate	J. G. Calpas, B.Sc., P.Ag.
Two Hills	Wm. Dent, B.Sc. — Miss M. Owens, B.Sc.
Vegreville	N. A. Chomik, B.Sc., P.Ag. — Mrs. E. Durie, B.Sc.
Vermilion	H. M. Douglas, B.Sc., P.Ag.
Assistant	D. E. Berdine, B.Sc.
Vulcan	C. J. Roth, B.Sc., P.Ag.
Wainwright	J. S. Duncan, B.Sc., P.Ag. — To be appointed
Westlock	W. A. Ross, B.Sc., P.Ag.
	Mrs. B. M. McCutcheon, B.Ed.
Wetaskiwin	W. C. Proctor, B.Sc., M.Sc., P.Ag.
	Miss S. Myers, B.H.Ec.
At large	Miss M. L. Phillips, B.H.Ec.

PROMOTIONS AND TRANSFERS

R. C. Gordon	Assistant District Agriculturist, Athabasca, to Associate District Agriculturist, Athabasca
H. B. Jeffery	District Agriculturist, Mayerthorpe, to Livestock Branch, Edmonton
Miss P. Mascaluk	District Home Economist, at large, to Home Management Specialist
N. G. Miller	Assistant District Agriculturist, Grande Prairie, to Associate District Agriculturist, Grande Prairie
Miss S. Myers	District Home Economist, Grande Prairie, to District Home Economist, Wetaskiwin
Miss L. Olson	District Home Economist, Wainwright, to Instructor, Vermilion Agricultural & Vocational College
G. B. Parlby	Assistant District Agriculturist, Red Deer, to Associate District Agriculturist, Red Deer
D. I. Peters	Assistant District Agriculturist, Vermilion, to Associate District Agriculturist, Vermilion
D. I. Peters	Associate District Agriculturist, Vermilion, to District Agriculturist, Mayerthorpe
Miss G. Robins	District Home Economist, Wainwright, to Assistant Supervisor, 4-H Clubs
Miss A. Schelstraete	District Home Economist, Calgary, to District Home Economist, Lacombe
J. W. Ulrich	Assistant Extension Engineer, to District Extension Engineer, Calgary
L. Welsh	Assistant District Agriculturist, Olds, to Associate District Agriculturist, Olds
M. F. Wilde	Associate District Agriculturist, Brooks, to Colonization Branch, Brooks

APPOINTMENTS

Mrs. E. Durie	District Home Economist, Vegreville
D. E. Berdine	Assistant District Agriculturist, Vermilion
D. E. Darby	Assistant Extension Engineer
Miss L. Olson	District Home Economist, Wainwright
Miss M. L. Phillips	District Home Economist, at large
Mrs. P. Sheehan	District Home Economist, Grande Prairie

RESIGNATIONS

Mrs. D. Olecko	District Home Economist, Wetaskiwin
Miss L. Olson	District Home Economist, Wainwright
K. Sveinson	Associate District Agriculturist, Calgary

SUMMER ASSISTANTS

W. M. Burton, S.S.A.	Agricultural Engineer, Agricultural & Vocational College, Olds
R. G. McFadyen, B.Ed.	Agricultural Engineer, Agricultural & Vocational College, Olds
R. S. Forrest, B.E.	Agricultural Engineer, Agricultural & Vocational College, Fairview
J. A. R. Palin, B.S.A., P.Ag.	Agricultural Engineer, Agricultural & Vocational College, Vermilion
M. Gratz	4-H Regional Assistant, Vermilion
Miss R. Butterwick	4-H Assistant, Edmonton
Miss A. Fraser	District Home Economist, at large
Miss J. Holmlund	4-H Assistant, Edmonton
J. Pankratz	4-H Assistant, Edmonton

WINTER ASSISTANTS

R. V. Archibald	Instructor, Rural Welding Clinic
L. M. Wendelboe	Instructor, Rural Welding Clinic
J. Yorgason	4-H Regional Assistant, Calgary

UNDERGRADUATE SUMMER STAFF

R. Groundwater	4-H Regional Assistant, Calgary
Miss Janet Hilton	Assistant District Home Economist, Edmonton
D. Hueppelsheuser	4-H Assistant, Edmonton
A. Mattson	4-H Regional Assistant, Lethbridge
B. Shaw	4-H Assistant, Edmonton

PROFESSIONAL IMPROVEMENT LEAVE

A. E. Edwards	District Agriculturist, Sedgewick
M. H. Jaque	District Agriculturist, Grande Prairie
Mrs. N. Gray	District Home Economist, Brooks
H. B. Jeffery	District Agriculturist, Mayerthorpe
A. R. Jones	District Agriculturist, Taber
Miss P. Mascaluk	Home Management Specialist, Edmonton

GENERAL

The trend toward fewer and larger commercial farms continued but the remaining farmers produced more per worker, more regular and uniform quantities and higher quality products than ever before in Agriculture's history. This increased efficiency was made possible, to a large degree, by reliable and up-to-date agricultural information available and interpreted for use of farm families. Equally important was the necessary professional and skilled guidance required in utilizing the many and varied tools of efficient production including land, labour, capital, machinery and management. It was more important than ever to have professional guidance to help achieve an adequate and satisfactory family living.

Extension workers in this Branch were better trained, more skilled and certainly more experienced in getting useful agricultural information to farm families and in guiding them in more efficient and profitable farm operation. Extension workers applied their knowledge and skills in guiding the management and financing of the family and household.

DISTRICT AGRICULTURIST DIVISION

The major programs conducted were in the area of field crop production, livestock improvement, 4-H Clubs and agricultural economics. A special effort was made to utilize the medium of T.V. in extension, particularly in connection with the C.B.C. program "This Business of Farming". Program material for the Farm and Home section was based on work being conducted by the extension field staff.

Continued progress was made in the organization of local advisory councils. These have materially aided in the development of extension programs and in more efficient use of limited resource personnel.

Five members of the extension field staff took post graduate courses at universities outside of the province. One of these completed the requirements for a master's degree. The need for additional training in the area of communications was again noted.

FIELD CROPS

A summary of the numerous activities under this section included:

1. Crop Improvement

Farmers participating in special projects	694
Meetings, demonstrations, field days, short courses, tours, etc.	681
Attendance	9,188
Municipal seed cleaning plants assisted	54
Plants inspected	57
Seed drill survey samples submitted	452
Persons otherwise assisted	13,738

2. Soil Conservation

Special projects	257
Farms participating	622
Demonstrations	441
Meetings	84
Attendance	3,242
Soil samples forwarded for analysis	5,204
Persons otherwise assisted	3,972

3. Weed Control

Weed specimens identified	1,531
Weed specimens submitted for identification	431
Demonstrations	344
Meetings	255
Attendance	4,061
Persons otherwise assisted	4,270

4. Crop Pests and Diseases

Meetings	69
Specimens forwarded for identification	599
Persons otherwise assisted	3,931

5. Animal Pest Control

Farmers influenced to control warbles, lice, etc.	4,627
Meetings	56
Attendance	1,795
Specimens forwarded for identification	34
Persons otherwise assisted	2,052

6. Agricultural Service Boards

Meetings attended	397
Feature projects, tours, field days, etc.	116
Persons otherwise assisted	2,059

7. Horticulture

Meetings	100
Attendance	4,881
Farmstead plans assisted	689
Shelterbelt plans assisted	2,428
Demonstration and farm orchards assisted	285
Persons otherwise assisted	7,131

8. Beekeeping

Meetings	3
Attendance	59
Persons otherwise assisted	196

LIVESTOCK

Assistance and information was given on: livestock placements, herd and flock selections, artificial insemination, registration of animals, branding, dehorning, feed analysis, livestock marketing, bangs control, control of other diseases, nutrition, quality improvement and performance testing. Numerous enquiries regarding livestock diseases were referred to veterinarians and laboratory services.

A summary of activities included:

1. Livestock Improvement

Meetings, demonstrations, short courses, tours, etc.	273
Attendance	14,635
Herds or flocks culled or selected	449
Feed samples forwarded for analysis	816
Farmers assisted with pedigree registration	1,222
Farmers assisted with R.O.P.	299
Farmers using Departmental dehorners	1,399
Livestock placements:	
Horses	25
Cattle	2,788
Sheep	2,845
Swine	1,633
Poultry	600
Farmers assisted with other projects	2,251

2. Livestock Marketing

Purebred public sales assisted	43
Commercial public livestock sales assisted	31
Persons otherwise assisted	3,474

3. Veterinary and Livestock Disease Control

New brucellosis areas actively promoted	3
Farmers participating in bangs vaccination	58,754
Specimens submitted or recommended for diagnosis	940
Enquiries regarding diseases (nutritional, parasitic, bacterial or chemical)	3,902
Farms assisted with improved nutrition	1,154
Farms assisted with improved husbandry management	1,887
Meetings, short courses, etc.	68
Attendance	2,418
Persons otherwise assisted	2,600

POULTRY

District Agriculturists attended 16 poultry meetings where there was an attendance of 659. Poultry problems were discussed with 598 persons.

DAIRYING

Dairymen were encouraged to improve quality, use cow testing services and production records, together with improved breeding, feeding, care and management.

Activities included:

Special dairy projects for improved handling of dairy cattle and dairy products	25
Farmers participating	306
Meetings, demonstrations, tours, etc.	52
Attendance	2,576
Farmers assisted with cow testing	128
Dairy herds culled or selected	69
Contacts with dairy manufacturing or frozen food lockers	139
Persons otherwise assisted	1,326

4-H CLUBS AND JUNIOR ACTIVITIES

District Agriculturists played an important role in organizing and supervising agricultural 4-H clubs. They also spoke on agricultural topics, careers and educational opportunities at various community functions and to interested individuals. A summary of these activities included:

4-H functions attended by District Agriculturists	1,764
4-H Club Farm and Home visits	3,881
Talks and demonstrations by D.A.'s at 4-H gatherings	1,284
Other Junior Activities assisted	91
Persons otherwise assisted	7,201

AGRICULTURAL ECONOMICS

There was continued high interest in the agricultural economics programs. Topics considered included: farm records, accounting, farm business analysis, economic principles, budgeting, marketing, farm credit, farm leases, rental agreements, income tax and estate planning. Various aspects of these topics were discussed on 2,358 farm visits and 4,335 office interviews. 1,391 farm families met in 139 organized discussion groups. 533 group meetings were held with a combined attendance of 7,403. A total of 3,103 farm families participated in some phase of this work. In addition, 162 general meetings and short courses were held on various phases of this subject with a total attendance of 5,923.

AGRICULTURAL ENGINEERING

Agricultural engineering was discussed on 2,171 farm calls and 6,836 office interviews. 46 demonstrations and field days were organized with an attendance of 2,218. In addition, 107 schools, short courses and meetings were held with a combined attendance of 4,887. Topics covered included: farm buildings, water and sewage installations, farm mechanization, drainage, irrigation, soil and water conservation.

IRRIGATION

District Agriculturists in the Irrigated Areas of Alberta gave leadership and guidance in improving irrigation practices, in specialized crop production and in marketing. They cooperated with the Colonization Branch in organizing and conducting schools, short courses and field days on these subjects.

PUBLICITY

Newspaper releases	1,778
Newspapers using releases	89
Newsletters written	370
Newsletter circulation	34,345
Radio talks and interviews	351
T.V. appearances	74

OTHER AGRICULTURAL ACTIVITIES

These included work primarily with district groups. Increased interest was shown in the establishment of local advisory councils. These have been developed with various organizational, commodity and district representation. 21 agricultural advisory councils held 82 meetings with a total attendance of 1,287. A.R.D.A. was discussed at 59 meetings with an attendance of 1,701. 141 other meetings were organized with an attendance of 7,636. D.A.'s assisted 229 district organizations with 362 other meetings where attendance totalled 15,142.

SUMMARY OF DISTRICT AGRICULTURISTS' ACTIVITIES

	1962	1963
Number of meetings	4,690	4,892
Total attendance	193,182	230,074
Number of farm visits	19,934	19,164
Office visits	62,415	64,347
Phone calls	56,017	55,607
Letters written	46,828	47,176
Bulletins and circulars distributed	151,023	151,023

HOME ECONOMICS EXTENSION DIVISION

HOME MANAGEMENT

	No.		Attendance
Lectures and Demonstrations	449		8,617
Home Visits	508		
Home Management Groups	25	(598 members)	
Home Management Group Meetings	111		2,553
Farm & Home Program Group Meetings	58	(424 families)	
Home Visits (farm and home program)	76		
Persons Otherwise Assisted	2,414		

Farm families reported a need for help with home and money management, record keeping, consumer problems and decision making. These needs were dealt with through Home Management Courses, Farm and Home Programs, other meetings and demonstrations geared to the special needs and interests of individual farm families. The demand for the Home Management lecture-study-discussion course and for lectures on specific Home Management topics more than doubled with a backlog of requests still to be met.

Nine Home Economists have worked jointly with their District Agriculturists in local Farm and Home Programs. This and the Home Management series have led to requests for more follow up demonstrations and to an increased demand for individual assistance.

Family economics as well as management through decision-making and organization was developed and correlated in all phases of Home Economics. Topics in greatest demand dealt with Consumer Information and Money Management aspects of food, furnishings, equipment, clothing, general family spending and the use of credit. Other topics covered were "Wills and Estate Planning", "Kitchen Organization", "Managing for Time and Energy", "101 Ways to Save Money".

An Extension Specialist in Home Management was appointed for the first time to meet the growing importance and need for education in family finance, consumer information and legislation related to consumer goods, market practices and family business matters. The Home Management Specialist attended the University of Wisconsin taking a three week summer course in "Personal and "Family Finance" and a four week course in "Family Financial Security Education".

FOOD AND NUTRITION

	No.	Attendance
Demonstrations	46	8,448
Lectures and study group meetings	218	
School Lunch Programs (organized and assisted)	2	
Home visits	231	
Persons otherwise assisted	2,937	

Homemakers wanting to buy economically and still meet nutritional needs faced an ever increasing need for an organized approach in making food choices. Supermarkets offered food items

fresh, canned, frozen or dehydrated—partially prepared or completely prepared, in a variety of sizes of cartons, cans and packages under a variety of brand names. Also, offered for convenience and distraction were a wide assortment of non-food items. What the homemaker chose last year, will decide the size, type and packaging of food items to be carried tomorrow. This emphasizes the importance of an informed consumer to assure "economy type" foods do not disappear.

To meet the growing awareness of a need for information regarding marketing and merchandising procedures and related legislation, the following topics were dealt with:

What's on Your Grocery Shelf?
The Best Buy?
Reduce Your Food Costs
Freezing and other Food Preservation Methods
Sanitation in Food Preparation and Service
Quantity Cookery
Food Poisoning, Additives and Sprays
Budget Meals
Buy By Grade
Feeding Your Family
Emergency Feeding
Food for the Aging

Advice regarding food purchase, menus and special diets was given Homes for Senior Citizens, small hospitals and nursing homes. Specific assistance to Welfare recipients regarding food and money management was given 76 persons or families involving 13 meetings, 35 home visits and 52 office interviews.

CLOTHING AND HOME SEWING

	No.	Attendance
Sewing Clinics (3 days or more)	108	5,027
Sewing Clinics (1 day only)	29	206
Demonstrations and lectures	280	6,307
Individuals assisted	2,034	
Home visits re: clothing	347	

Rural homemakers showed a keen interest this year in learning to sew for economic reasons and because they have become more discriminant in their choice of fabric, fit and workmanship. Complete garments were constructed at 108 Sewing Clinics involving 145 homemakers of which 46% were beginners. 42% had some previous sewing experience and 12% constructed more advanced garments. Homemakers who wanted to improve their techniques and learn more advanced methods were accommodated at the One Day Sewing Clinics which increased to 29 from 13 in 1962.

Homemakers, realizing the importance of being informed consumers, were anxious to learn more about the new fabrics on the market, their advantages, limitations and proper care. Lectures and demonstrations were given by District Home Economists on these aspects of clothing buymanship as well as clothing and wardrobe selection for all members of the family.

The Clothing Specialist attended a one week course on "Socio-Psychological Factors Affecting Consumption" which included new techniques in teaching textiles and methods of evaluating fabrics. The District Home Economists were made familiar with these techniques enabling them to teach textiles more effectively.

HANDICRAFTS

	No.	Attendance
Lectures and demonstrations	95	2,431
Individuals assisted	597	

Handicrafts were not given prominence in the District Home Economist's program. However, assistance was given to homemakers who showed an interest in learning new crafts and improving techniques.

District Home Economists judged at handicraft displays and commented on the quality, as well as assisted in the planning of comprehensive handicraft lists when requested.

HOME DESIGN

Lectures and Demonstrations:	No.	Attendance
(a) Housing	61	3,172
(b) Decorating	97	
(c) Home Design, Home Building and Remodelling Schools	8	
Homes Planned		
(a) Complete	71	
(b) Partial	196	
(c) Building and Finishing Materials	293	
Homes Remodelled		
(a) Complete	20	
(b) Partial	169	
(c) Kitchens, Bathrooms and Utility	169	
(d) Major Improvements	22	
Individuals Assisted in Interior Decorating (Color and Furnishings)	1,435	
Total Home Visits (Decorating, Home Planning and Remodelling)	910	

Nationally, rural building starts in the first six months of 1963 were 2.6% higher than 1962. Likewise this department has felt an increase in the number of requests for assistance in home building, remodelling and interior decorating this year.

Progress in building new homes was hindered by lack of up-to-date blueprints adapted especially for rural living. The 20 farm house blueprints presently used since 1950 and the many available for urban homes had little value for today's farm families.

Individual requests for assistance showed an increase of 276 over last year. Many of these requests arose from the Home Building and Remodelling Schools. Only 50% of the demands for the schools were fulfilled because of the limited staff and time.

New topics, "The Right Touch in Decorating" and "The Evolution of Design" were new projects added. "Discover Design" was developed for 4-H Club Weeks and Youth Camps, and was extended to short courses.

4-H GIRLS' CLUBS

District Home Economists organized and supervised all phases of 4-H Club work in their districts. In addition to attending regular club meetings, they played an active part in conducting achievement days, rallies, camps, judging and public speaking competitions. Some of the District Home Economists have assisted in the organization and supervision of District 4-H Councils. Details regarding these activities are in the 4-H Division report.

Number of 4-H Homemaking Clubs	162
Number of Lectures and Demonstrations	641
4-H Functions Attended	701
Total Attendance	30,984
Home Visits re: 4-H and other Junior Work	590

OTHER ACTIVITIES

District Home Economists co-operated with other departments and organizations namely: Department of Public Welfare, Indian Affairs, Municipal Affairs, Rural Health Units, Chambers of Commerce, Fair Boards, Y.W.C.A., P.F.R.A., Home and School Associations, U. of A., F.W.U.A., F.U. & C.D.A., Agricultural Societies, Vegetable Growers and various Service Clubs, by giving demonstrations and lectures and arranging programs at 136 meetings, attended by 4,302 persons.

To assist the Department of Public Welfare the Scales of Allowances for food and clothing according to age and sex were brought up-to-date. Two Home Economists assisted at two training courses for new Welfare staff.

Considerable assistance has been given Department of Welfare E.M.O. through Emergency Feeding Courses. Two training exercises for local Emergency Feeding chiefs were carried out and 22 lectures at Provincial training courses given. The Supervisor and three Home Economists attended a training course at Arnprior and all District Home Economists have received the one week Provincial Orientation Course in Civil Defence.

Six District Home Economists worked jointly with the District Agriculturists in establishing eight Extension Advisory Councils (164 members) and Home Economics Advisory Committees, holding 26 Council Meetings. District Home Economists co-operated with District Agriculturists or worked separately in organizing and addressing 35 Short Courses and 10 tours and field days.

Topics dealt with were:

"The Individual in Society"
"Are You Prepared for Widowhood?"
"Understanding Children and Teen-agers"
"The Working Mother"
"The Homemakers Role"
"The Middle Ages"
"Living in Harmony"

At 50 meetings attended by 2,534 persons, topics discussed were:

"Program Planning for Group Meetings"
"Catering for Large Groups"
"Grooming and Personal Improvement"
"Etiquette and Special Occasions"
"Tips for the Hostess"
"So You're Giving a Speech"

District Home Economists assisted in an advisory capacity at 38 Fairs and Conventions and set up 26 Exhibits.

Services of this Branch were outlined at 214 meetings, attended by 6,362. Agriculture and Vocational College Courses were outlined at 41 meetings. Specific information was given 782 persons.

INFORMATION AND PUBLICITY

Weekly newspaper articles are prepared by each District Home Economist. The weekly C.B.C. Radio Program was dropped in favour of a weekly radio address on "Call of the Land" pro-

gram. The number of radio addresses and T.V. appearances increased by 56 this year.

Newspaper articles written	958
Number of newspapers using articles	90
Radio releases	132
T.V. releases	27
Radio talks and interviews	129
T.V. Talks, demonstrations and interviews	17
Newsletters written	224
Total average circulation	18,108
Publications distributed	72,102

SUMMARY OF ACTIVITIES

	1962	1963
Demonstrations, lectures, field days and short courses	2,487	2,477
Fairs and conventions	210	227
Total attendance	104,286	105,320
Letters requesting information	20,889	15,772
Home Visits	2,453	2,467
4-H Girls' Clubs	162	162
Office Interviews	5,870	6,126
Phone calls for information	11,552	13,440

4-H DIVISION

The past year has been a particularly active one in 4-H as it marked the 50th anniversary of the establishment of the movement in Canada. The first club was organized by E. Ward Jones at Roland, Manitoba, during the spring of 1913. The projects offered that year were corn, potatoes and poultry. Here in Alberta W. J. Elliot started the first club in the spring of 1917. This club was located at Olds and the project offered was swine.

Special 50th anniversary year activities were arranged and conducted at national, provincial and local level. These activities took a considerable amount of time of the 4-H staff and were in addition to the regular program. Publicity was also a big feature of the year and included numerous radio and television appearances of staff along with articles for newspapers, magazines and other periodicals.

A further extension of regional assistance was undertaken during the latter part of the year with the locating of a staff member at Calgary for the fall and winter months. This person was assigned the responsibility of working with District Agriculturists and District Home Economists in 4-H in south-central Alberta. This provided for continuity in regional help in that area. Regional summer staff were again located at Vermilion, Calgary and Lethbridge.

The continually decreasing rural population is making it more and more difficult in some areas to find a sufficient number of young people interested in any one type of project to form a club. In view of this further investigational work on multiple project clubs was undertaken during the year. Several pilot multiple project clubs were organized in selected districts in the fall.

In addition to the provincial administration of 4-H and national responsibilities in the program the supervisor spent a considerable amount of time on work as president of the Sixth Western Canada Farm Safety Conference. He was also assigned duties in connection with the meeting of Ministers and Deputy Ministers of Agriculture in Edmonton. These responsibilities placed an additional work load in 4-H on other members of the staff.

ASSISTANCE WITH THE PROGRAM

(1) Other Departmental Branches:

A great deal of help in the judging of achievement days and in other phases of the program was given by members of the livestock, field crops, dairy, poultry and Agricultural and Vocational Colleges Branches. In addition the Agricultural and Vocational Colleges were host to club weeks, provincial eliminations and other 4-H events. An accounting of much of this assistance will be found in the reports of these branches. In all cases the help given was very much appreciated.

(2) Canada Department of Agriculture:

Financially the Canada Department contributed $13,394.11 to the 4-H program in Alberta during the 1962-63 fiscal year. Staff of the Federal Department also assisted in judging 4-H events, in the scoring of carcasses, in ribbon branding 4-H beef and in the obtaining of carcass grading information. In addition the Canada Department had on loan to 4-H clubs during the year 2 dairy bulls, 8 boars and 9 rams. This very substantial contribution assisted greatly the 4-H program.

(3) Organizations:

There was an increased amount of support from organizations to 4-H at a provincial level. Those organizations making an added contribution included: The Canadian Imperial Bank of Commerce, The Edmonton Journal, Western Stock Growers Assoc., The Royal Bank of Canada, Calgary Power Ltd., Imperial Oil Ltd., Canadian Utilities and Northland Utilities Ltd. Total assistance from organizations provincially amounted to approximately $23,500.00. This was exclusive of premiums paid on 4-H livestock. In addition the field staff of the Alberta Wheat Pool and the United Grain Growers' Ltd. actively assisted with numerous 4-H functions throughout the year.

Increased support was also noted at the local level from service clubs, Boards of Trade, Agricultural Societies, banks, livestock associations, and others. This help was generally given in the form of awards or assistance with the local program. The total value of local support while difficult to determine, would be very high.

4-H CLUB DISTRIBUTION IN ALBERTA 1962-63

Agricultural Projects	1962		1963	
	No. of Clubs	Members	No. of Clubs	Members
Beef	180	3,356	197	3,586
Dairy	63	1,069	60	981
Swine	8	104	8	104
Sheep	4	57	4	51
Poultry	1	17	1	16
Field Crops	49	688	45	698
Sugar Beets	1	24	1	22
Corn	1	16	1	18
TOTAL	307	5,331	317	5,476

Increase (Agricultural Clubs)—145 members; 10 clubs

HOMEMAKING PROJECTS

Clothing	97	1,377	97	1,296
Garden	50	678	48	605
Food	14	188	17	236
Home Decoration	1	19		
TOTAL	162	2,262	162	2,137

Decrease (Homemaking Clubs)—125 members
Total (All projects)—479 clubs; 7,613 members
Increase (All projects) 10 clubs; 20 members

ORGANIZED CLUB ACTIVITIES

4-H was a "back to the home" program as was illustrated by the fact that 80-90% of all 4-H work was carried out individually by members at home. In addition, club members in 1963 took part in organized group activities as follows:

Regular Club Meetings	4,645
Rallies	97
Tours	384
Achievement Days	364
Leadership Courses	58
Special Meetings	555
Total organized 4-H activities	6,103
Total attendance (4-H members and other persons)	157,707

LEADERSHIP TRAINING AND RECOGNITION

This was again a very important phase of the work of the Division with an expansion of leadership training taking place. A total of 18 one day regional courses were held which were attended by 609 leaders and assistants. In addition two one-day project workshops were organized for clothing and foods leaders. For the first time also three junior leaders training courses were held. These were in conjunction with one day courses at Mayerthorpe, Edmonton and Vermilion. All were well attended and appeared to fill a need.

In the spring a provincial leadership course for summer projects was held at the Olds Agricultural and Vocational College. In the fall the Agricultural Colleges were no longer available for 4-H leadership courses because of the change in curriculum. As an alternative, provincial courses were held in November in Edmonton and Banff. These proved to be extremely popular and attracted 205 leaders. The course in Edmonton in particular made possible the use of many resource personnel normally not available at Olds and Vermilion. Another new feature was the sponsorship of a number of meals by commercial organizations.

Five year leadership award certificates were presented to 69 persons, ten year certificates to 15 persons and fifteen year certificates to two.

4-H CLUB WEEKS

Three club week programs were held at the Olds and Vermilion Colleges of Agriculture. Total attendance at these weeks was 460 delegates representing an equal number of clubs. Substantial assistance with club weeks was received from the Alberta Wheat Pool, the United Grain Growers and Line Elevators Farm Service.

PROVINCIAL 4-H ELIMINATIONS

This involved a three day program at Olds Agricultural and Vocational College. Total attendance was 163 senior 4-H members representing most districts in the province. Selections were made for all major awards including an anticipated second Interprovincial Exchange. The results were as follows:

National 4-H Conference, Toronto, Ottawa—November 15th to 21st, 1963

Bernie Powlesland, Del Bonita, 4-H Beef Club, Del Bonita
Gary Schwindt, Spruce Grove 4-H Beef Club, Spruce Grove
Ron Yorgason, Claresholm 4-H Beef Club, Claresholm
David Hueppelsheuser, Blackfalds 4-H Beef Club, Blackfalds
Raymond Gilkyson, LaGlace 4-H Beef Club, LaGlace
Fred Cane, Okotoks 4-H Beef Club, Okotoks
Danny Hall, Pembridge 4-H Dairy Club, Sangudo

Gordon Sorenson, Gwynne 4-H Field Crops Club, Wetaskiwin
Doug Johnson, Endiang 4-H Field Crops Club, Endiang
Michael Reitsma, Bentley 4-H Dairy Club, Blackfalds
Linda Hudd, Springvalley 4-H Clothing Club, Lacombe
Ann Richards, Horn Hill 4-H Clothing Club, Red Deer
Doris Holmlund, Loneridge 4-H Garden-Horticulture Club, Wetaskiwin
Carole Ross, Olds 4-H Food Club, Olds

Montana State 4-H Congress, Bozeman—August 19th to 23rd, 1963
Thomas Towers, Red Deer 4-H Beef Club, Red Deer
Barlow Deering, Mayerthorpe 4-H Dairy Club, Mayerthorpe
Lynette Lund, Hugh-Ama 4-H Clothing Club, Hughenden
Marilyn Kraft, Mecca Glen 4-H Garden-Horticulture Club, Ponoka

U.S. National 4-H Conference, Washington—April, 1964
Lloyd Hamilton, Red Deer 4-H Swine Club, Penhold

Inter-Provincial 4-H Exchange, July, 1964
Ken McLaughlin, Spruce Grove 4-H Field Crops Club, Spruce Grove
Betty Walker, Endiang 4-H Beef Club, Endiang
Richard Groom, East Ponoka 4-H Beef Club, Ponoka
Melvin Butler, Youngstown 4-H Beef Club, Youngstown
Neil Silver, Huxley 4-H Beef Club, Huxley
Jack Dennett, Viking 4-H Dairy Club, Viking
Beverley Sherman, Duchess 4-H Clothing Club, Duchess
Bernice Johannson, Markerville 4-H Clothing Club, Markerville
Lois Blaeser, Heisler 4-H Garden-Horticulture Club, Strome

EXCHANGE PROGRAMS

(1) Alberta - Montana 4-H Exchange:

1963 was the 17th year of this event which continued to be a highlight. Delegates from Montana who were guests of the province at Vermilion Club Week included: Mr. and Mrs. Dale Bergland; Art Hecker, Sumatra; Robert Henschel, Vaughn; Kathleen Dotter, Forsyth; and Janet Ochsner, Broadus Stage.

The Alberta delegates listed previously were accompanied to the State Congress by Mrs. Louise Maguire, 4-H Division and Mr. Ira Lapp, District Agriculturist at Brooks.

(2) Canada - U.S.A. Exchange:

Canada again sent a delegation of ten 4-H members and two departmental representatives to the U.S. National 4-H Conference in Washington, D.C. In return eight U.S.A. delegates were guests at the National 4-H Conference, Toronto and Ottawa.

NATIONAL 4-H CONFERENCE

This event, sponsored by the Canadian Council on 4-H Clubs, was formerly known as National 4-H Club Week. The Conference, held in Toronto and Ottawa at the time of the Royal Winter Fair involved the 14 Alberta delegates listed previously and Mr. S. Fraser, 4-H Division and Mrs. Donna Westendorf, District Home Economist, Edmonton as departmental representatives. Delegates travelled by air for the first time.

VISITING AND OUTGOING 4-H DELEGATIONS

(1) Visitors:

In addition to those mentioned elsewhere 4-H in Alberta was host to the following during the year. Two delegates from Saskatchewan at Olds Club Week, 10 delegates from British Columbia at Vermilion Club Week, 7 delegates from British Columbia at Fairview Camp and 27 delegates from British Columbia living on host farms in the Taber, Lethbridge area.

(2) Montana State 4-H Conservation Camp:

Two delegates from Alberta were selected for the first time to attend this event which was held at Livingstone, Montana. These delegates were Betty Walker, Endiang and Gordon Sorenson, Wetaskiwin. Expenses were paid by Calgary Power Ltd.

SIXTH WESTERN CANADA FARM SAFETY CONFERENCE

4-H leaders from throughout Alberta were invited to attend this event. Part of the program involved 4-H safety activities. Copies of the printed proceedings were mailed to all clubs courtesy of Canadian Utilities Ltd. and Northland Utilities Ltd.

SPECIAL 50th ANNIVERSARY YEAR 4-H ACTIVITIES

(1) Presentation of Beaver Pelt to Dean Rusk:

Alberta's delegate to the U.S. National 4-H Conference in Washington, D.C., Miss Ruth Woods, was given the memorable opportunity of presenting Canada's goodwill memento of a suitably mounted and inscribed beaver pelt to U.S. Secretary of State Dean Rusk.

(2) 4-H Cairn—Roland, Manitoba:

A cairn was built at Roland, Manitoba marking the site of the first club in Canada. This was unveiled at the time of the annual meeting of the Canadian Council on 4-H Clubs, May 12th.

(3) Inter-Provincial 4-H Exchange:

This exchange, undertaken as a 50th anniversary activity has now been approved for a second year. The exchange, first suggested by the Alberta Department of Agriculture became a project of the Canadian Council on 4-H Clubs financed by the Royal Bank of Canada. The program involved nine selected 4-H delegates from each province being hosted for a two week period in July by farm families in each of the other nine provinces. The incoming delegates to Alberta were guests on arrival at a luncheon attended by the Ministers and Deputy Ministers of Agriculture from across Canada.

(4) Freedom From Hunger:

4-H Clubs in all provinces were asked to contribute during 1963 toward the Canadian Freedom From Hunger Campaign. Alberta clubs donated $734.00. Total funds received were used to bring a student from a developing country to study at the Cody International Institute, St. Francis Xavier University, Nova Scotia. The student selected was Moses Pholoba, Bechuanaland, Africa.

In addition to the above, the 4-H clubs of Canada received fitting tributes through the year from Governor General and Madame Vanier, the Prime Minister and many others. The Canadian Citizenship Council honored the movement by singling it out for recognition for outstanding services and contributions to citizenship.

(5) Local Anniversary Year Activities:

Clubs throughout the province paid tribute to the yearly workers in 4-H in their communities. Public recognition was often given at special banquets and other such gatherings.

GENERAL 4-H ACTIVITIES

(1) Camps, Rallies, Tours:

Fair camps were conducted at Vermilion, Vegreville, Camrose and Edmonton. The size of the Edmonton Camp was doubled in 1963. In Calgary a rural youth week was sponsored by the Calgary Exhibition and Stampede Association. Camps also were held at

Elkwater, Buffalo Lake, Waterton, and Fairview. At Buffalo Lake three camps were run where there has been only one previously while the Waterton and Fairview Camps were entirely new. The theme for camps was "Citizenship". Total attendance this year was 833.

Banquets and rallies were held in most districts during the year. Many of these were year end activities taking the form of color nights. Very strong public support for these and other 4-H activities continued throughout the province.

(2) Thematic Displays—Floats:

The building of thematic displays and floats continued to be a popular 4-H activity with entries being noted at most summer fairs and many achievement days. Anniversary year themes proved to be the most popular. Provincial winners in thematic displays in Edmonton were: Josephburg Field Crops and Swine clubs, at Calgary the Medicine Hat Dairy Club. The Josephburg display went on to place second in the Inter Provincial at Regina.

The Edmonton Journal made a substantial financial contribution to 4-H floats entered in the Edmonton Exhibition Parade. The result was a total of 19 entries. Strong entries were also in evidence at "B" and "C" Class Fairs.

(3) Public Speaking:

Much work is now being done in 4-H in teaching members to express themselves. Speaking competitions were held throughout the province at club, district, regional and provincial levels. Provincial winners were: Northern Alberta—Miss Aileen Greschner, North Star; Southern Alberta—Douglas Bigelow, Cluny. Both received an award trip to the Provincial 4-H Leadership Camp in Saskatchewan.

(4) 4-H Demonstrations:

4-H demonstration work was emphasized during the year and increased sharply in the agricultural projects. Demonstrations were given by all delegates to provincial eliminations and 4-H demonstration booths were set up at the Calgary and Edmonton Exhibitions with 4-H members giving prepared demonstrations publicly throughout the week.

DISTRICT 4-H COUNCILS

There are now a total of 17 district councils active in the province. These councils are providing assistance in organizing and conducting inter club activities and distributing awards. During 1963 one council took the first steps toward assisting with leadership training. One regional council involving three district councils is also in operation.

4-H CLUB NEWS

Three issues of the bulletin were published by the Division during the year. Total distribution to 4-H members and supporters of the program was 9,000 copies per issue.

PRESS, RADIO AND TELEVISION

Unprecedented support of all three media was received in 1963. In addition to the daily press many regional and national publications featured 4-H and its anniversary year activities. CFRN-T.V. Edmonton working in conjunction with the 4-H Division produced a 15 minute weekly 4-H T.V. series. Much of the material covered was of an instructional nature beamed at 4-H members and parents. Radio station CFCW Camrose held a winter 4-H program competition which was concluded with a 4-H week in Camrose with selected delegates as guests of the station. C.B.C. continued its weekly 4-H club broadcast and also featured 4-H on television. 4-H division staff were guests on 52 radio and 26 television programs throughout the year.

PUBLICATIONS

The following publications were produced during the year by the Division:

Communications
A.B.C.'s of Fund Raising
Recreational Activities
Third Year Clothing Project Book
4-H Clubs of Alberta
Together We Sing

COLLEGE 4-H

The College 4-H club at Olds re-organized in the fall and was joined by a similar club at Vermilion. Through participation the College 4-H students are given credit for enrolment in 4-H. The clubs are playing a role in preparing students for 4-H leadership work when they return home.

POST 4-H

The 4-H Alumni Club on the University Campus continued strong with a membership of 43. These persons are former 4-H members attending the University.

The fourth annual reunion of former provincial 4-H delegates was planned and carried out by the delegates themselves at the Banff School of Fine Arts.

PROVINCIAL RECORD AND PROJECT BOOK COMPETITION

The following were named winners:

Dairy	Alan Hall, Sangudo
Food—First Year	Shirley Birkbeck, Greencourt
Second Year and Up	Connie Mulder, Red Deer Lake
Clothing—First Year	Terry Lee Klautt, Duchess
Second Year and Up	Janie Kirbyson, Mayerthorpe
Garden—Horticulture	Dorothy Badry, Heisler
Second Year and Up	Jean Trenerry, Ponoka
Field Crops	George Morison, Innisfail

FARM FORUM PROGRAM

The National Farm Radio Forum working in co-operation with the Canadian Council on 4-H Clubs and the provinces produced a program specially designed for rural young people. The subject was "Careers". In Alberta 923 4-H Club members in 49 groups met on forum night, discussed the subject and submitted written reports.

SCHOLARSHIPS

(1) Wheat Board Surplus Trust Fund Scholarships:

A total of 21 of these scholarships each to the value of $100.00 were awarded at club weeks. A change in regulations made the scholarships tenable only during the current year but in agricultural and home economics degree courses at the University as well as Colleges of Agriculture. Names of recipients are contained in the Report of the Board of Trustees found elsewhere in this annual report.

(2) Other Scholarships:

The following scholarships, the awarding of which was based in part on record of 4-H were awarded during the year:

(a) Canadian National Exhibition Scholarship: Value $600.00 to Miss Lynette Lund, Hughenden, Alberta.

(b) Henry Wise Wood Memorial Scholarships: Value of $135.00 each and tenable at Colleges of Agriculture. Richard Bellerive, Mallaig; Alan Floyd Cole, New Norway; Margaret Pangle, Lacombe· Dwight Woody, Coronation; Juergen Friederich Muehrer, Woking; David Orville Richardson, Worsley.

(c) Alberta Wheat Pool Scholarships: Each to the value of $200.00 and given to students in first, second and third year home economics at the University of Alberta. Third Year—Linda Stepenoff, Paradise Valley; Second Year—Marion Blades, Ohaton; and First Year—Beverley Edwards, Mayerthorpe.

(d) Edmonton Rotarian Scholarships: Value of $100.00 each and tenable at Schools of Agriculture or an Agricultural or Home Economics degree course—Diana Aronson, Stony Plain; and Darrel Klein, Millet.

AGRICULTURAL PROJECTS

Beef Clubs:

The beef projects continued the steady growth of recent years to reach a record in both enrolment and number of clubs during the year with a membership of 3,586 in 197 clubs. The single animal feeding project remains the most popular while the two senior options, the multiple feeding and the breeding projects both show further expansion.

The record book was completely redrafted and distributed to members. Provision was made for leaders to inspect the record book at monthly intervals, thus relieving the department personnel of all except the final grading.

For the first time the Western Stock Growers' Association invited representatives of beef clubs to attend and participate in their annual convention. The two members were Ronald Yorgason, Claresholm and Bernard Powlesland, Del Bonita.

A few clubs departed from the usual procedure of holding an Achievement Day and Sale regionally to the practice of selling the market animals by tender, rail grade basis, or to selling through regular channels at stockyards.

Dairy Clubs:

For the first time in many years the number of dairy clubs decreased. There were 60 clubs in operation this year compared with 63 last year.

A total of 22 delegates representing all clubs from Red Deer south were guests of the Alberta Dairymen's Association at their convention in Calgary. Also attending the convention was Alan Hall of Sangudo, the winner of the Provincial Dairy Record Book Competition.

The Provincial 4-H Dairy Show, held in conjunction with the Red Deer Exhibition, attracted 33 entries in the calf class and 29 in the yearling class. Winners were as follows:

Champion	Martin Stannard, East Edmonton
Reserve Champion	Casey Korver, Rocky Mountain House
Calf Class	Martin Stannard, East Edmonton
Yearling Class	Casey Korver, Rocky Mountain House
Showmanship	Jim Scott, Red Deer

The show for the first time this year was held the last day rather than at the start of the Fair.

The Alberta Dairymen's Association and the Red Deer Exhibition again assisted materially with the show.

Swine, Sheep and Poultry Clubs:

There were no major changes in these projects during the year. In spite of small numbers, they made a creditable showing.

Field Crops Clubs:

The number of field crops clubs continued to decline slightly in 1963 in spite of the fact that these projects received substantial support from the three sponsoring organizations: The Alberta Wheat Pool; United Grain Growers Limited and The Line Elevators Farm Service.

Winners of the Provincial Plot Competition were:

Junior Project	Norman Schwindt, Spruce Grove
Intermediate Project	William Gibson, Carbon
Senior Project	Ted Darling, Horn Hill

The twentieth Provincial Junior Seed Fair was held in conjunction with the Calgary Chamber of Commerce Seed Fair and Short Course. The Fair attracted 175 entries in 15 classes.

Several new classes were offered including legumes, and grasses. A provincial competition in 4-H Field Crops Record Books introduced for the first time also added interest.

At the Royal Winter Fair an Alberta 4-H member, Lawrence Gibson of Carbon took the Reserve World Wheat Championship. In addition Alberta 4-H members took 12 of the first twenty placings in the 4-H wheat class, first in two oat classes and seven of the first eleven placings in the 4-H barley class.

Sweet Corn and Sugar Beet Clubs:

These clubs remain small in number and are confined to the southern part of the province. Where they are established they prove popular and appear to fill a need.

Clothing Clubs:

The clothing project continued to be the most popular choice for girls' clubs. A small revision in the sewing projects for first year girls was made to give the project greater teenage appeal. The "Wardrobe for Young Adults" project, conducted on an experimental basis in the previous year, was adopted as an official fourth year project. Based on wardrobe co-ordination, the project is a culmination of the training received in the first three projects.

Food Clubs:

Membership in food clubs showed a slight increase. Although the projects have not been changed, emphasis is shifting more towards food management and buymanship along with basic cookery skills, nutrition and menu planning.

Garden-Horticulture Clubs:

In the second year of this project being offered to boys as well as girls, an increase of fifty boys over the previous seventy-four was recorded. It is hoped that this project will continue to attract boys and girls to training in garden, horticulture, landscaping, food preservation and storage.

Home Decoration:

One home decoration club has been organized after a period with no clubs carrying this project. The former project has been modified to emphasize the general principles of design. These are taught through the arrangement of a study center and the construction of certain of its parts, the creation of a design for a luncheon cloth or place mats, picture arrangement, and table arrangements. The importance of the home, and homemaking techniques are also stressed.

NEW PROJECTS

Home Design for Better Living:

Senior members of two clothing clubs in the province are undertaking this project on an experimental basis. It has been designed to teach members to apply the sewing techniques and art principles learned in the first years of a clothing project to practical problems in home decoration.

Multiple Project Clubs:

The trend in recent years has been to make more projects available to members within the framework of one club. To date groupings have been of projects somewhat similar in nature. However, during the fall of 1963 clubs were formed in three areas on a trial basis involving such combinations as beef and dairy, beef and clothing.

AGRICULTURAL ENGINEERING

The Agricultural Engineering services were expanded in June by establishing a District Engineer office at Calgary. The overall activities increased over the previous year and despite the increase in staff all requests for agricultural engineering services could not be met.

The number of farm calls was slightly lower, however, there was a 50% increase in the number of surveys. This change indicated interest in reclaiming flooded land and controlling water erosion. Farm building and farmstead mechanization accounted for 80% of the farm calls, which illustrates the continuing trend to improving efficiency. Considerable interest was shown in new methods of handling and disposing of manure.

There were changes and additions to the various types of schools to endeavor to improve the quality and effectiveness. Some of the Rural Welding Clinics were consolidated to provide one piece of welding equipment for each student and utilize two instructors. The consolidated course appears to be much superior, although it reduces the number of courses that can be held with the present equipment. The General Building School remained popular, however, specialized two day Hog Building Schools were included in the schedule for the first time and they were very successful. Six Tractor Maintenance Schools were incorporated in the winter program this year and were well received.

Although there has been a decline in the interest for Sewerage and Plumbing Schools and Field Days, there has been a steady demand for information on wells and water systems. The Extension Engineers have cooperated with the various agencies to promote the proper use and control of groundwater, and as a result the Senior Extension Engineer was appointed to the Groundwater Advisory Committee of the Research Council of Alberta.

The following tables summarize the Agricultural Engineering Activities carried out by the Extension Engineers and Instructors for 1963:

SCHOOLS

	No.	Attendance
Farm Building (General)	12	358
Swine Building	6	214
Home Building and Remodelling	6	190
Sewerage and Plumbing	10	281
Electrification	1	33
Machinery	1	57
Tractor Maintenance	6	126
Rural Welding Clinic	31	773

DEMONSTRATIONS AND FIELD DAYS

Water and Sewerage	3	100
Forage	6	375
Machinery	9	309
Building Tours	10	302
Dairy	2	121

GENERAL

Short Courses	5	314
Meetings	47	
Farm Notes	11	
Radio and T.V. Programs	10	
Plan Production	4	
Bulletins and Pamphlets	4	
Farm Calls	563	
Surveys	126	

OTHER EXTENSION PROGRAMS AND ACTIVITIES

FARM LABOUR

GENERAL

More farm workers are leaving farms for urban centers. This has resulted in a chronic shortage of skilled workers in specialized production fields. Farmers have been forced to greater mechanization of crop and livestock production. Some seasonal requirements could not be supplied. Unskilled workers were often in surplus.

Placement of farm workers directly through District Agriculturist offices:

General farm workers	699
Harvesters placed	504
Married couples	124
Farm domestics	18

Again District Agriculturists worked closely with the National Employment offices in farm labour requirements and placements. No organized inter-provincial movement of harvest workers was required in 1963.

FEDERAL-PROVINCIAL FARM LABOUR COMMITTEE

Policies related to the recruitment, transportation placement and medical service occupied the major attention of the Federal-Provincial Farm Labour Committee. Too many "free lance" Indian workers found their way to the sugar beet growing areas and interfered seriously with the organized recruitment and registration of workers. Many of these workers became welfare problems.

The representatives of the Growers and of the Sugar Company reported that the Indians had accomplished a generally satisfactory job in the beet fields.

It was noted that increased use was made of Indian labour in vegetable production and the canning industry. Indian workers were used again as general farm workers.

Over half of the Indian workers registered were from Saskatchewan. This was partially due to the increased opportunity for employment in other industries in Alberta.

Total number of Indians employed in sugar beet work (estimated)	2,800
Number of Indian beet workers registered	2,387
Growers using Indian beet labour	524
Amount Indians earned for sugar beet labour	$660,000
Amount Indians earned for general farm labour (estimated)	200,000

AGRICULTURAL SOCIETIES

Agricultural Societies again gave their major attention to Summer Fairs. These were generally successful with a few exceptions due mainly to weather. Some societies balanced their programs by sponsoring activities throughout the year including Livestock shows and sales, Horticultural shows, Short Courses or Schools, Farm and Home Improvement programs and sponsorship of 4-H activities.

FAIRS HELD IN 1963:

"B" Class—

Camrose
Lethbridge
Lloydminster
Red Deer
Vermilion
Vegreville

"C" Class—

Athabasca
Battle River
Benalto
Darwell
Donnelly-Falher-Girouxville
Grande Prairie
Lougheed (Goose Creek)
Medicine Hat
Olds
Pincher Creek
Priddis-Millarville
Vauxhall
Westlock
Wetaskiwin
Wildwood
Willingdon

Note: Wetaskiwin Fair changed from "C" Class to "B" Class for 1964.

Not classified—

Mayerthorpe
Peace River

Societies active, but not holding fairs—

Alix
Argyle
Barrhead
Cardston
Central Alberta
Drumheller
Edmonton & District
Fairview
Grand Centre
High Prairie
High River
Lamont
Lousana
Nanton
Okotoks
Plamondon
Rimbey
Rocky Mountain House
Spirit River
Stettler
St. Paul
Taber
Victoria Trail

Other activities:

Livestock Shows and Sales	39
4-H Club Activities Sponsored	73
Short Courses or Schools	32
Horticultural Shows (Bench Shows)	36
Seed Fairs	11
Machinery Field Days	3
Farm and Home Improvement Programs	4
Others not included above	60

MASTER FARM FAMILY PROGRAM

Four families received the supreme Agricultural Award for Alberta in 1963. This brings the total number of families to fifty-seven receiving the award for the fifteen years since it was initiated.

Families receiving the awards were:

The George Dudley Family, Magrath
The Mel Quance Family, Gadsby
The Ewald Kadatz Family, South Edmonton
The Donant Dumont Family, Bonnyville

NAMES OF HOMES ACT

Number of homes registered in 1963	41
Total registrations for the province	502

PUBLICATIONS AND VISUAL AIDS

Publications:

The policy of selective distribution of Agricultural publications through this branch has been continued. Available publications could be easily obtained by writing or calling any of our District offices or the head office in Edmonton. A trend toward more specialized publications on one subject seems to have more adequately met the needs of agricultural producers and the industry.

The Alberta Farm Guide was revised and printed in 1963 following the policy adopted of reprinting every three years.

An increasing number of farm buildings, furnishings and equipment plans was distributed in 1963.

Publications from all sources distributed by the Extension Branch at Edmonton:

Agricultural general	217,268
Homemaking	72,102
Individual building plans	17,717

Visual Aids:

Equipment classed as visual aids was an available tool used in most Extension meetings, schools and Field Days. This equipment is made available to all personnel of the Department.

The following is a record of equipment available:

Movie Projectors	10
Slide Projectors	49
Cameras	50
Public address systems	6
Film strip projectors	2
No. of meetings at which films were shown	294
No. of films shown by Extension staff	376
Films owned by Branch	62
Films on loan	92
Total audience viewing films	12,193

Other equipment available includes overhead projector, reflectoscope, tape recorder. Projection screens and slide projectors were available in all offices.

ALBERTA IRRIGATION PLANNING BOARD

This Board, set up by the Minister of Agriculture, held its first meeting in January of 1961. It was given the responsibility of hearing applications from Irrigation Districts or other interested groups for additional lands to be brought under irrigation. After hearing representations and studying pertinent information, the Board made appropriate recommendations to the Minister of Agriculture. Proposed projects under study in 1963 were:

High Line Extensions to the S.M.R.D.
Extensions to the Leavitt Irrigation District
Pine Pound Development
Tyrrell Lake Development (New Dayton)
Seven Persons Development
Etzikom Coulee Development

BOARD MEMBERS:

Chairman—S. S. Graham, Director of Extension.
Secretary—Roger Keay, Economist, Farm Economics Branch.

Members—

Earl Bowser—Senior Pedologist, Canada Department of Agriculture.
T. W. Manning—Head, Agricultural Economics Dept., University of Alberta.
C. J. McAndrews—Colonization Manager, S.M.R.D. Branch, Dept. of Agriculture, Lethbridge.
John Mould—Supervising Engineer, Water Resources Branch, Dept. of Agriculture, Lethbridge.
Sam Blair—Farmer, Picture Butte.

Report of the Veterinary Services Branch

E. E. BALLANTYNE, V.S., D.V.M., F.R.S.H., Director
J. G. O'DONOGHUE, V.S., D.V.M., Assistant Director, Field Division
H. N. VANCE, V.S., D.V.M., Assistant Director, Laboratory Division
*G. S. WILTON, V.S., D.V.M., Veterinary Pathologist
*H. C. CARLSON, V.S., D.V.M., M.Sc., Veterinary Pathologist
*F. E. GRAESSER, B.S.A., V.S., D.V.M., Veterinary Histopathologist
*G. R. WHENHAM, V.S., D.V.M., Veterinary Microbiologist
*J. HOWELL, V.S., D.V.M., Veterinary Pathologist
G. A. CHALMERS, V.S., D.V.M., Veterinary Pathologist
J. P. BEST, V.S., D.V.M., Supervisor, Veterinary Inspection
W. P. BRISBANE, V.S., D.V.M., Supervisor, Brucellosis Control
G. E. HENNINGSEN, B.Sc., Laboratory Scientist
C. DAVIDSON, B.Sc., Laboratory Scientist
J. WOOD, B.Sc., Laboratory Technician
*in charge of a laboratory section

A. GENERAL

The Department's role in veterinary science is to provide the highly technical laboratory service necessary for modern livestock production and to further disease prevention by programs, lectures, meetings, etc. The aim is to aid in the reduction of the $30,000,000 to $40,000,000 annual loss in the province due to diseases caused by bacteria, fungi, viruses, parasites, faulty nutrition, and chemicals; many of which have direct public health significance. Thus, due to an increasing awareness among livestock owners and others that disease prevention and control pays dividends in dollars and cents, there has been a corresponding increase in demands for veterinary service. This has been two-fold: resulting in more use of practitioners and more demands on this Branch for technical service through the laboratory and the specialized staff. In addition to the economic aspects involved, there is an increasing awareness that agricultural production, directly and indirectly, is ultimately human food which must be safe and wholesome for consumption. The latter factor has been accentuated by the question of pesticides, but it must not be forgotten that bacteria, viruses, some other agricultural and veterinary chemicals, etc., are equally or even more important in the safety factors involved. Thus laboratories are the hard core of the modern technical agricultural industry which supply the data necessary for the formulating and operation of programs, policies, and services. They supply the accurate facts and must conduct research on problems that arise to provide the complex services to agriculture. Therefore, the core of the activities of this Branch is the Veterinary Laboratory which supplies the technical service for all field programs whether it be mastitis control, the Certified Swine Healthy Herd Program, brucellosis control, pullorum control, etc. In addition to the diagnostic service, research has been and will continue to be necessary to solve many problems. The Virus Unit, opened in 1963, has been a great help in both of these fields.

Closely related to the above was the appointment by the Deputy Minister during the year, of the Food Residue Committee, the chairman being the Dairy Commissioner, plus the Field Crops Commissioner and the Director of this Branch. The Director was appointed to the Advisory Committee of the Alberta Dairymen's Association which has the objective of supplying the best quality milk in Canada. Other Committee memberships of related interest are on the Pest Control Advisory Committee and the Predator Sub-Committee.

Western equine encephalomyelitis in August and early September caused some concern with approximately 50-60 clinical cases being reported in the Lloydminster, Wainwright, and Hanna areas. Blood tests and virus isolation confirmed the disease. Anthrax was again isolated from buffalo that died in the Northwest Territories. There were no cases in Alberta. Turkey losses from enteritis were fairly heavy. P.P.L.O. testing of one turkey flock was undertaken on a trial basis to permit export of hatching eggs and to give experience in this aspect of safeguarding markets for Alberta products. Also, with the objective of contributing to the knowledge of diseases that cause normal mortality and economic losses in laying birds and with the long term object of safeguarding markets a survey was begun in 5 poultry flocks composed of several thousand birds. A study was commenced too in a broiler establishment to develop better methods of disease control. This could be of considerable economic importance. Losses from poisonous weeds were a problem in some areas.

Again there were no cases of rabies which makes a negative record since 1956. As the rabbit build-up has come and gone (ended in 1962) Alberta can be assured that its wide-scale rabies control program of 1952 to 1956 was effective and of inestimable value.

Data on antibiotic reactions in cattle was collected and a report published in the scientific literature which created considerable interest throughout North America, Great Britain and other countries.

Late in August, a committee composed of Deans of the four Western Faculties of Agriculture, with Dr. J. Henderson, Dean of the Faculty of Veterinary Medicine, University of Washington as Chairman, decided that the University of Saskatchewan at Saskatoon would be the location for the Western Veterinary College.

The Department's Brucellosis Restricted Area program expanded to include all areas, except in the Fort Vermilion District. Approximately 2,900,000 cattle were under supervision, 466,257 calves were vaccinated. The value of this program, in addition to protecting human health, has meant millions of dollars to Alberta cattlemen, and has been a major factor in the 1,000,000 increase in the cattle population since the late 1940's. The Federal Brucellosis Control Area program of testing and removing reactors (with compensation) made good progress again. The very low rate of infection found in Alberta further confirms the value of the Alberta Department of Agriculture's program since 1949.

Veterinary inspection of livestock at Class D, E and F stockyards increased by 6% to 791,251 compared to 747,150 in 1962. This is true preventative veterinary medicine in removing diseased or suspected diseased animals from marketing channels. 10,877 such animals were rejected in 1963 which, if they had been permitted to be sold back to farms, could have caused very heavy financial losses. The value of all livestock inspected was between $60,000,000 and $70,000,000.

The veterinary laboratory was extremely busy with 17,881 specimens being examined. 17,291 serological tests were made, 3,864 tissues examined histologically, 8,846 specimens examined bacteriologically, and 1,192 specimens processed for poisons, etc. A further drop in blood tests occurred and will continue as the Federal Brucellosis Control Area program expands. Limited tests for the Federal Department of Agriculture were done for export, bull sales and movement out of Edmonton stockyards. In July, the mastitis testing was transferred from the Dairy Laboratory to the Veterinary Laboratory due to increased residue testing at the former. Also, as mastitis is a cattle disease, it was logical to consolidate livestock disease work in one center. Effective control of this rather prevalent dairy cattle disease is a long term objective in the interests of economic production of high quality dairy products.

Approximately 8 acres of land was obtained at the old P.O.W. camp at Lethbridge for a Regional Veterinary Laboratory at Lethbridge. Detailed plans were drafted by D.P.W. architects and it is expected that construction will commence early in 1964.

After being in operation for over one year, the Livestock Medicine Regulations can be assessed as a success with the main credit points being the greatly improved facilities and handling methods, with the value going to the livestock owners. The regulations were well accepted by all concerned. The records would indicate that most licensees carry such medicines as service items as the volume was not large in the majority of outlets. Two licences were suspended, one of which was cancelled later due to infractions. The valued advice of the Advisory Committee is hereby acknowledged. The Committee was made up of representatives from the Alberta Federation of Agriculture, the Alberta Pharmacy Association, the Alberta Veterinary Medical Association and the Alberta College of Physicians and Surgeons. Considerable interest in this program was shown by others in Canada and in the United States as these were the first such regulations in existence.

Another program of true preventative veterinary medicine was the Certified Swine Healthy Herd program which further expanded during the year. Technical problems still existed but the Virus Unit helped to solve some of these. Vital statistics, agricultural emergency measures and consulting services to others in the veterinary, agricultural, wildlife and public health fields continued to expand as veterinary medicine plays an integral and important role in an increasing number of fields and disciplines being of economic and public health importance.

Appreciation is expressed to the Extension, Livestock, Poultry, Field Crops, Dairy and Fur Farms Branches, practising veterin-

arians, municipal councils, feed manufacturers, biologists, R.C.M.P., University of Alberta, and many others for assistance in furthering the work involved in disease diagnosis, prevention and control.

Details of the various activities of the Field and Laboratory Divisions are outlined below with additional technical data to be included in the addenda of the Branch report.

B. FIELD SERVICES

This included the administration of official legislative programs, such as Brucellosis Control and Veterinary Inspection Services, livestock health programs, the investigation of specific disease problems, field study projects and extension.

SUMMARY OF ACTIVITIES

Field Investigations

Cattle	64
Swine	32
Sheep	2
Horses	7
Poultry	59
Fur Animals	16
Wildlife	4
TOTAL	184

Meetings

Brucellosis	13
Domestic Animals	23
Poultry	20
Professional	15
Others	122
TOTAL	193

Inspections

Livestock Markets	193
Stockyards	336
Livestock Medicines	390
Slaughterhouses	15
Swine R.O.P. Bonus	11
Swine Health Herd	62
TOTAL	1,007

Lectures

University	60
Vocational Colleges	18
Others	28
TOTAL	106

Individual Farm Visits 254

VETERINARY PERSONNEL

(a) **Students:** The number of Albertans attending the veterinary colleges is as follows for the 1963-64 year:

	1st	2nd	3rd	4th	5th	Total
Ontario Veterinary College	3	11	13	10	9	46
Washington	..	2	....	....	1	3
Quebec	..	1	....	....	..	1
	3	14	13	10	10	50

Two who obtained 65% or higher in the pre-veterinary general science course at the University of Alberta were accepted into the 2nd year at O.V.C. One other entered 1st year O.V.C. Forty-two enrolled in this course in Alberta in September 1963: 6 at the Junior College, Lethbridge, 9 at U.A.C., and 27 at U. of A.

A grant of $300.00 a year is paid by the Department to those successfully completing each year of the College examinations. The object is to get more veterinarians for Alberta by helping to defray travelling expenses to the Veterinary Colleges.

(b) **Practicing Veterinarians**

There were 151 licensed veterinarians in 85 practices. This was a net increase of 7 veterinarians and 4 practices from 1962. The larger multiple practice clinics extended the range of their services, but areas remain that are not adequately serviced.

BRUCELLOSIS CONTROL

All of Alberta was under the Provincial Brucellosis Restricted Area Plan. Furthermore, all municipalities were under the Federal Brucellosis Control Program.

Seventeen municipalities were declared Brucellosis Certified during the year, making a total of 37 Certified Areas. The testing of cattle progressed in 23 other municipalities. The incidence of Brucellosis reactors was .4 per cent of 1,250,000 cattle on premises tested by the Federal Health of Animals Branch. It is anticipated that all cattle in Alberta will be tested by the end of 1965.

(a) Calfhood Vaccination

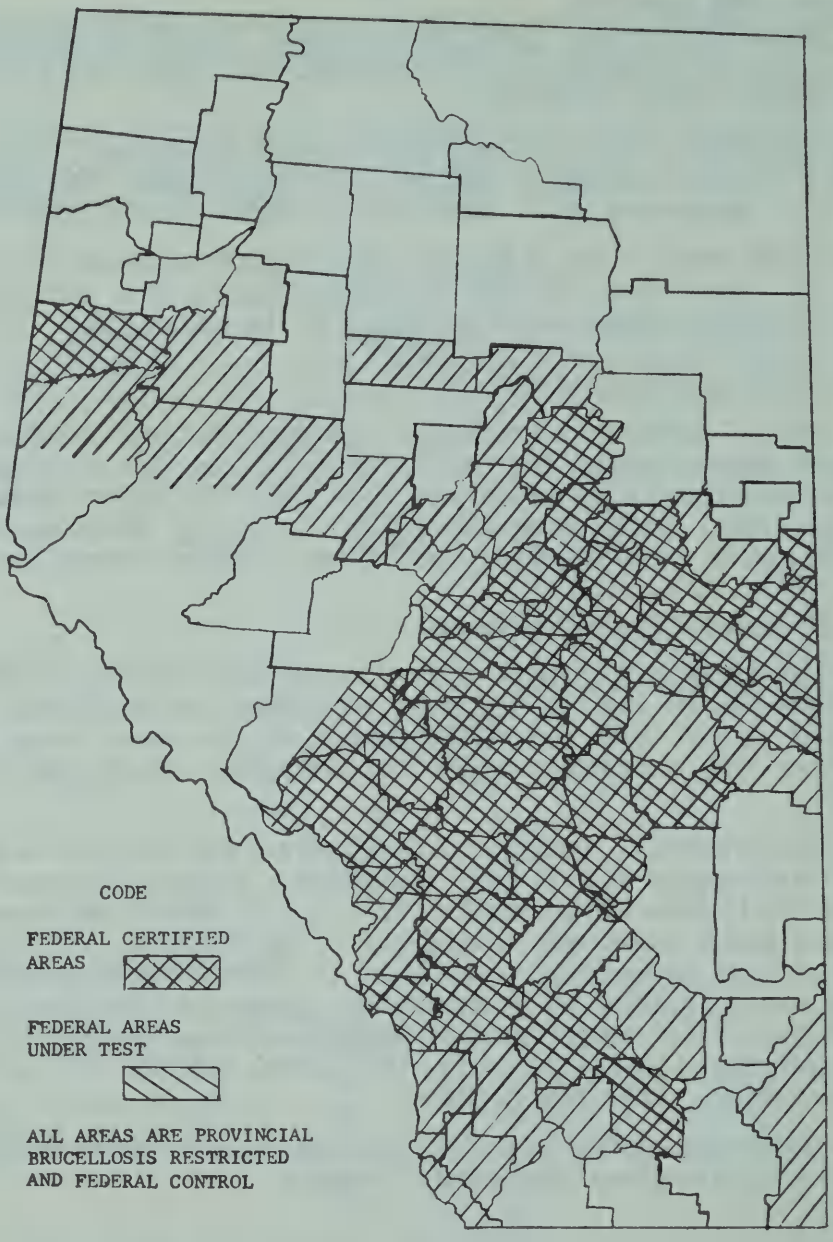
446,257 calves were vaccinated with Brucella abortus Strain 19 vaccine. Approximately four million heifer calves have been vaccinated since the program commenced in 1945. The export of cattle to the United States dropped considerably during the year. As a result, not as many duplicate vaccination certificates were issued.

(b) Brucellosis Restricted Areas

The Municipal District of Acadia No. 34, and Improvement Districts No. 10 and No. 102 were established as Brucellosis Restricted Areas. With the establishment of the above areas the Province was completely under the Brucellosis Restricted Area Plan.

The Brucellosis Restricted Area Program was administered by 147 veterinarians and 63 Field Supervisors, appointed Inspectors under the Livestock Diseases Act. The organization of the Program in each municipality was carried out by the Agricultural Service Boards, and Brucellosis Committees in Improvement Districts. Approval was granted to extend the Brucellosis grants to five years after the commencement of blood testing in Federal Control Areas. It is anticipated that at the end of this period, calfhood vaccination will revert to a voluntary program.

The accompanying map illustrates the progress of the Federal-Provincial Brucellosis Eradication Program.



VETERINARY INSPECTION SERVICE

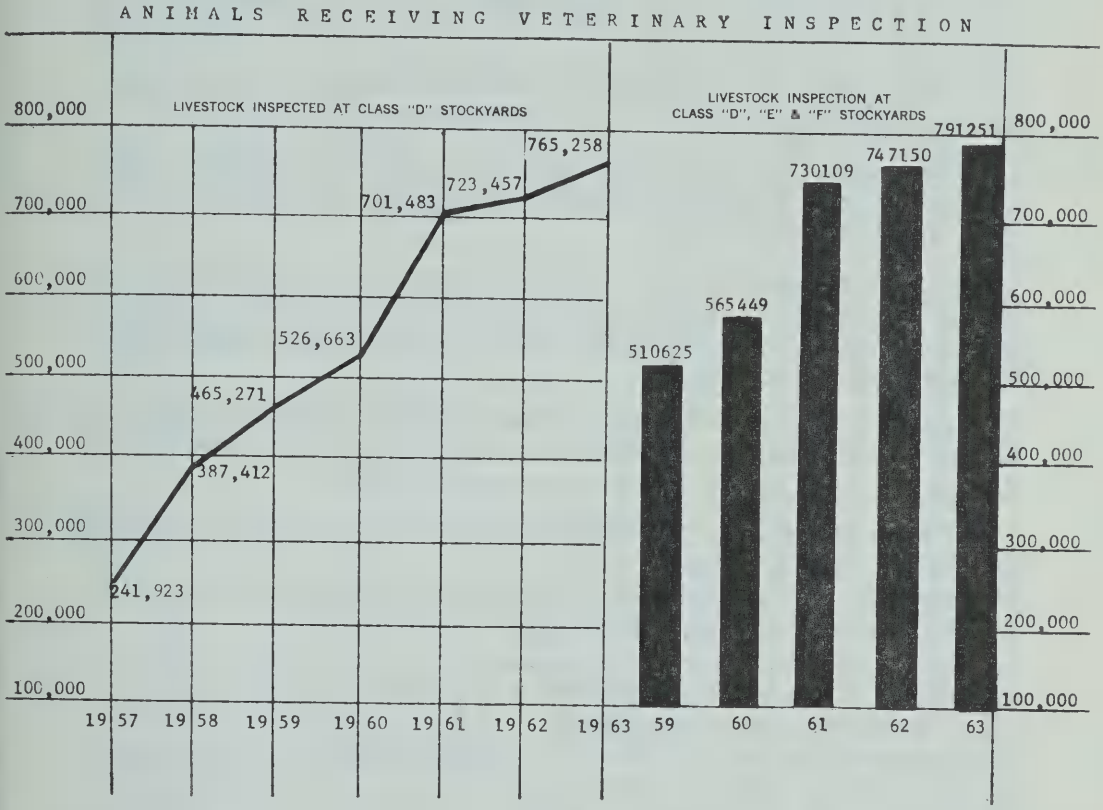
During 1963, sixty Livestock Markets received Veterinary Inspection. For various reasons, eight of these did not operate throughout the year. Two new markets were opened, one at Rycroft, and one at Boyle. A total of 3,011 sales were held. At these, 791,251 animals were inspected, 10,877 rejected as diseased, or suspected of being diseased, and 1,762 were marked for slaughter because they could not qualify for general sale under the Brucellosis regulations.

3,896 Man Days were required for Livestock Health Inspection, and 144 days for sanitary inspection of market premises.

Mastitis, Cancer-eye and Pneumonia were the diseases most frequently encountered in cattle, and Mange, Rhinitis and Pneumonia were the three most common reasons for rejecting swine.

Pneumonia in Sheep and Strangles in Horses were responsible for most of the rejections in these two species.

41 Class "C" and 258 Class "G" Stockyards were inspected during the year.



SUMMARY OF RESULTS OF VETERINARY INSPECTION

Type of Stockyard	"D"	"E"	"F"	Totals
No. of Stockyards	53	3	4	60
No. of Sales	2,969	33	9	3,011

Type of Stockyard		Inspected	% of 1962	Rejected Diseased	% Rejected	Rejected Sec. 18
"D"	Cattle	420,858	+ 5.24	3,501	0.83	1,762
	Swine	306,400	+10.90	6,957	2.27	.....
	Sheep	28,479	—22.38	220	0.77	.....
	Horses	9,521	—13.11	21	0.22	.....
	TOTALS	765,258	+ 5.78	10,699	1.40	1,762
"E"	Cattle	18,518	+17.75	142	0.77	.....
"F"	Cattle	7,475	— 6.18	36	0.48	.....
GRAND TOTALS		791,251	+ 5.90	10,877	1.37	1,762

Note: Cattle rejected under Section 18 were marked for slaughter only because the owners declined to have them blood tested for Brucellosis.

EDUCATIONAL COURSES

Individuals do a better job of disease prevention when well informed. The third annual Feed Industry Conference, that has gained national recognition, was held in cooperation with the Industry and the University Department of Extension. The thirteenth 3-day Hatcherymen's Course was held in cooperation with the Poultry Branch. Assistance was also given to Extension, Fur Farm Branch and others.

THE LIVESTOCK MEDICINE REGULATIONS

Three hundred and twenty-three outlets were licensed during 1963, an increase of thirty-one from 1962. Three hundred and ninety inspections were made of licensed premises and new premises applying for a license. Fifty per cent of licenses inspected were found to be complying with all regulations. Of those not complying, most were of a minor nature which were corrected on the spot. Two licenses were suspended by the Minister for a short period of time until they met the requirements, and one license was revoked.

The Advisory Committee met twice during the year. They considered new applications for licenses and reviewed the Livestock Medicine Regulations.

One amendment made to the Regulations on recommendation by the Advisory Committee added milk fever treatment solutions to the approved Drug Schedule. Several other minor amendments clarified certain sections.

Reports required from licensees indicate that biologics, antibiotics, scour treatments and swine anemia preparations comprised the greater part of retail sales of scheduled items.

Under Poultry Vaccine Regulations, licenses to sell Infectious Bronchitis and Newcastle Disease Vaccines were issued to 30 Pharmacists, 22 Hatcheries, and 34 Veterinarians. A total of 119,500 doses of these products were reported sold.

LICENSING OF SLAUGHTERHOUSES AND HUMANE SLAUGHTER

These regulations became effective January 1962, and followed the standards for humane stunning methods approved and adopted by the Federal Government and the R.S.P.C.A. Shooting with a regular rifle was not approved, but a type of safe stunning cartridge is being used on a trial basis in certain plants under Federal meat inspection. Again, no action was taken against the use of a rifle pending official ruling from the Society and Federal Authorities. Ninety-six slaughterhouses were licensed, the same number as in 1962. A few establishments closed, but were compensated for by new ones.

AGRICULTURAL EMERGENCY MEASURES

Saving human lives has first priority in Emergency Measures activities in case of a national emergency. The provision of safe, wholesome food is the second priority; and in fact, it is an integral part of the first. This food would have to come from farm production very early in an emergency. According to calculations, Alberta and the rest of Western Canada could have vast food resources that would be uncontaminated by radio-active fallout. But some would be contaminated directly, and indirectly, through the soil, forage, and animals raised in a fallout area. Normal marketing and processing could be seriously affected.

The Alberta Department of Agriculture Emergency Measures Plan was designed to take care of the problems mentioned above, as well as assisting in case of biological and chemical warfare. The plan was the first one designed for agriculture in Canada and served as a model for other provinces.

During the year the Federal Department of Agriculture became more active concerning survival planning for agriculture, and as both Federal and Provincial Departments would be working with the same objectives of supplying safe wholesome food, a coordinated plan was developed for Alberta. The emphasis for the Alberta Department would be on production and the Federal on inspection.

At Regional Agricultural Service Board Conferences throughout the province, the local Agricultural Emergency Measures Committees' potential duties were outlined and questions answered. Alberta is the only area in Canada where the Agricultural Emergency Measures organization has been set up in municipalities, counties and I.D.'s, and briefed as to duties.

Lectures on the Alberta Plan and potential effects of modern warfare on Agriculture, the role of the veterinarian and decontamination were given by the Director to various groups, including agrologist and veterinary courses at the Canadian Civil Defence College, Arnprior; orientation, radiological and nurses courses at the Alberta Civil Defence School; short courses, etc.

All key professional staff in the Department have received formal training at the Alberta or Canadian Civil Defence Colleges.

CERTIFIED HEALTHY HERD PROGRAM—SWINE

This continued to be a major undertaking with twenty-five purebred swine breeders participating in this breeder-government cooperative program. Herd health was based on 62 unannounced herd inspections and the examination of 1,025 specimens from market hogs and 126 casualties.

The number of certified herds was increased to 6, and herds granted supervised status to 7. Significant contributions to the knowledge of swine diseases have been made.

DISEASE REPORTING STATISTICS

To complement information gathered from laboratory submissions and from livestock owners, a system of morbidity and mortality reporting was maintained. Selected veterinary practices cooperated, representing approximately 12% of veterinary service calls made in the year. Not included were the losses in livestock where veterinarians were not consulted.

Monthly returns were processed covering calls to 10,094 premises, representing 34,849 sick animals.

There was an increased incidence of Equine Encephalomyelitis, and reflected the unusually high incidence of the disease in the Prairie Provinces. A survey reported 63 cases, occurring largely in the eastern part of the province.

ANTIBIOTIC REACTIONS

A survey of veterinarians was undertaken to assess reported reactions following the administration of antibiotics. Three different types of reaction were reported. Details are provided in the following table:

ANTIBIOTIC REACTIONS IN CATTLE*

	Anaphylaxis		Urticaria	Local Reactions
Antibiotic	Animals Reacting	Deaths	Animals Reacting	Animals Reacting
Penicillin	720	8	18	....
Penicillin-Streptomycin	324	5	21	....
Neomycin	3	2	....	....
Oxytetracycline	27	5	....	12
Chloramphenicol	....	..	....	56

* Results of questionnaires to 80 practitioners—46 replied—22 reported reactions.

TUBERCULOSIS OF POULTRY AND SWINE

The notification of hog shippers to abattoirs under Federal Meat Inspection whose swine revealed extensive lesions of Avian Tuberculosis was continued. A total of 1,245 reports of such animals were processed. Owners were sent an outline of control and eradication recommendations.

FEDERAL BOVINE T.B. CONTROL AREAS

All districts in the province were certified areas for the control of Bovine Tuberculosis — Federal veterinarians tuberculin tested 137,272 cattle in seven districts in their program of systematic retesting.

C. LABORATORY SERVICES

The primary responsibility of the laboratory was to provide a diagnostic service to the livestock industry. The services provided were ancillary to private practice and include techniques and equipment not available in private clinics. To have maximum value in disease control, the reports of examinations must be accurate in detail and dispatched quickly upon completion. Continual improvements in techniques, staffing and equipment were made toward this end. To keep abreast of new disease situations and new diagnostic methods, a program of films, seminars, and conferences was carried on for the professional staff. A modest library of 20 periodicals in veterinary medicine and allied fields also aided us in meeting this responsibility.

Other responsibilities undertaken by the laboratory division included some extension work in the form of meetings, radio tapes, field days, and contributions to Ag. Notes. The laboratory division also attempted to have its staff members spend a limited amount of time on field work in the form of consultation with veterinary practitioners and other disease investigations. This is important with reference to our maintaining contact with changes in the industry at the producer level, and as a further service to livestock owners and veterinary practitioners.

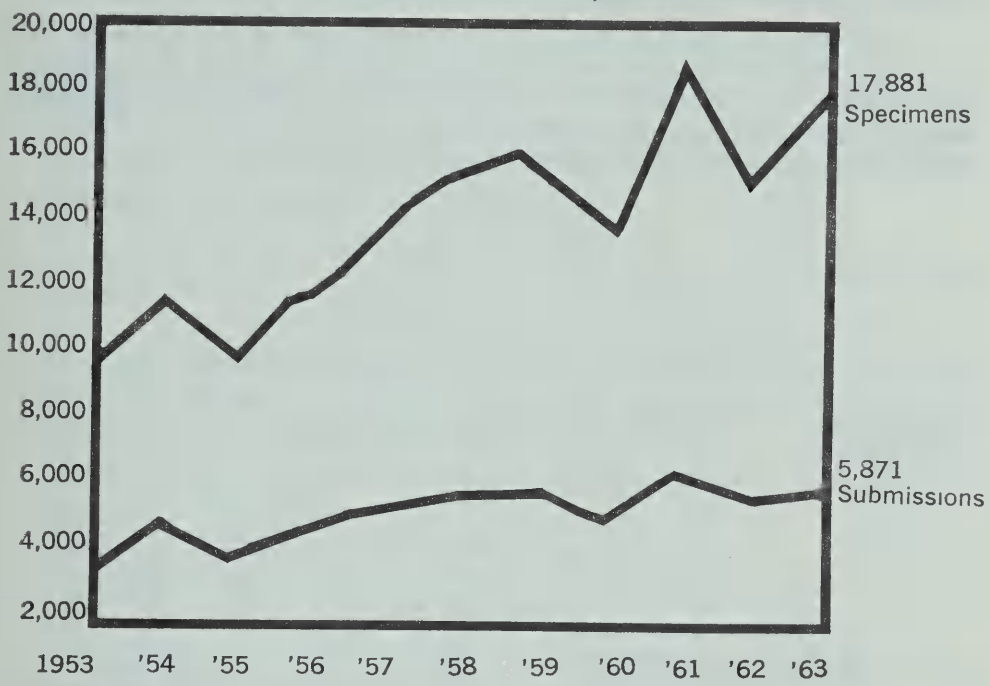
This laboratory took over all mastitis milk sample testing from the Dairy Laboratory on July 1, 1963. The commercial laying flock mortality survey, which commenced in the fall, was another addition to the responsibilities of this division.

Examination of specimens at the laboratory was aided by work in specialized areas at a number of other institutions. We gratefully acknowledge the assistance of the Provincial Analyst; Crop Clinic; Alberta Public Health Laboratory; Faculties of Zoology and Agriculture; University of Alberta; the Animal Disease Research Institute; Ontario Veterinary College, and Ontario Agricultural College.

SPECIMENS

The following graph indicates the general increase in numbers of submissions and specimens examined from 1953 to 1963. A total of 17,881 specimens representing 5,871 submissions were examined in 1963.

TOTAL NUMBERS OF SPECIMENS AND SUBMISSIONS
ANIMAL AND POULTRY
(EXCLUDING BLOOD)



SPECIES TABLE

Domestic Specimens

Cat	156	Chicken	4,065
Cattle	2,449	Duck	32
Chinchilla	74	Goose	16
Dog	622	Parrot	4
Goat	5	Pigeon	17
Horse	148	Pigeon, Racing	9
Mink	133	Swan	9
Nutria	2	Swan, Australian Black	1
Sheep	205	Swan, Black-Necked	1
Swine	2,873	Swan, Mute	1
Budgerigar	46	Turkey	1,614
Canary	29		

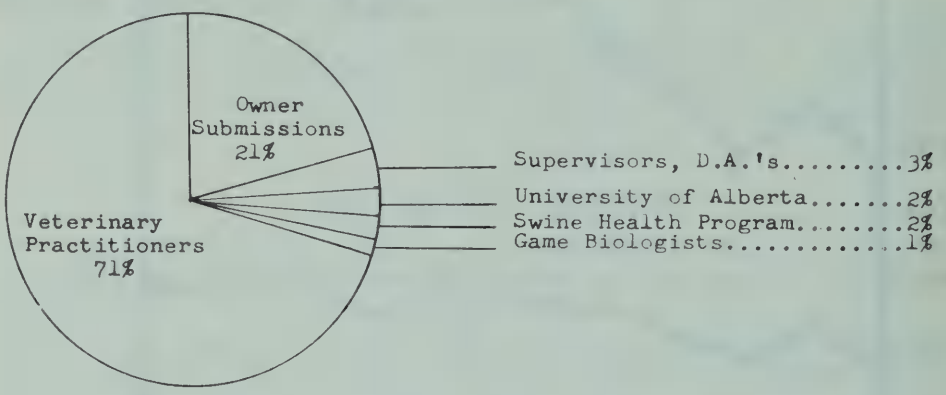
Wildlife Specimens

Anteater	1	Squirrel	3
Antelope	7	Timber Wolf	1
Bear	1	Turtle	1
Beaver	7	Yak	1
Bighorn Sheep	6	Zebra	1
Caribou	6	Commodore Birds	2
Civet Cat	1	Crane, Sarus	2
Cougar	1	Duck	17
Coyote	21	Falcon, Peregrine	1
Deer	24	Finch	1
Elk	2	Finch, S. African	2
Fish	4	Finch, Zebra	1
Fox	1	Goose, Emperor	2
Gerbal	1	Grouse, Ruffed	1
Gnu	1	Grouse, Sharptail	1
Kangaroo	1	Gull, Ring-bill	1
Leopard	1	Heron	2
Llama	1	Peafowl	3
Monkey	10	Penguin	1
Moose	22	Pheasant, Ringneck	32
Mouse	7	Pheasant, Amherst	1
Muskrat	1	Robin	1
Pallas Cat	1	Sparrow, Java	1
Reindeer	18	Swan, Whistling	1
Rocky Mountain Goat	2		

Laboratory Animals			
Guinea Pig	38	Rabbit	43
Hamster	2	Rat	15
Others			
Blood	241	Meat	67
Eggs	26	Miscellaneous	308
Fecal	341	Milk	2,413
Feed	165	Tampons	513
Fetus	289	Urine	47
Fluff	432	Water	163

ANIMAL DISEASE SECTION

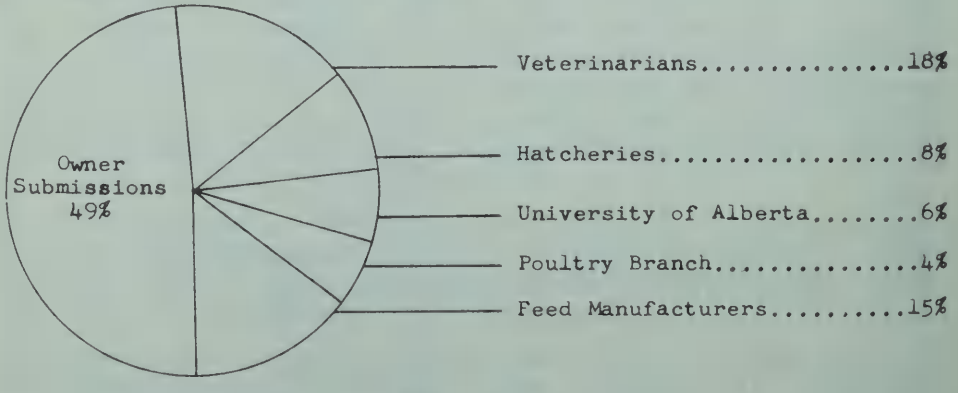
The Animal Disease Section examined 8,133 specimens from a total of 3,362 consignments or premises (excluding the Brucellosis blood samples). The circle graph reveals that practicing Veterinarians made 71% of the submissions while the remaining 29% were made by other professional groups and owners.



POULTRY DISEASE SECTION

The Poultry Disease Section is responsible for the diagnosis of diseases in birds. 1,730 submissions were received; 6,185 specimens from 35 avian species were examined.

The chart illustrates the distribution of the submittors of the specimens.



PROMINENT DISEASES

Laboratory diagnoses showed few major changes in the diseases of economic importance from those reported for 1962. Anthrax, which was diagnosed for the first time in many years in

1962, did not reappear in domestic animals during the current year. However, there were additional losses in bison at Wood Buffalo Park.

The laboratory handled a total of 24 blood sera and 8 brains from cases of suspected equine encephalomyelitis. Of these, western equine encephalomyelitis virus was recovered from one brain; one case gave definite positive serological evidence of the disease, and many were highly suspicious.

Transmissable enteritis and air sacculitis of turkey poults and chronic respiratory disease of chickens were the major poultry problems. Capillariasis, a worm infestation, showed a marked increase in chickens.

An unusual outbreak of Pasteurella infection in mink was observed.

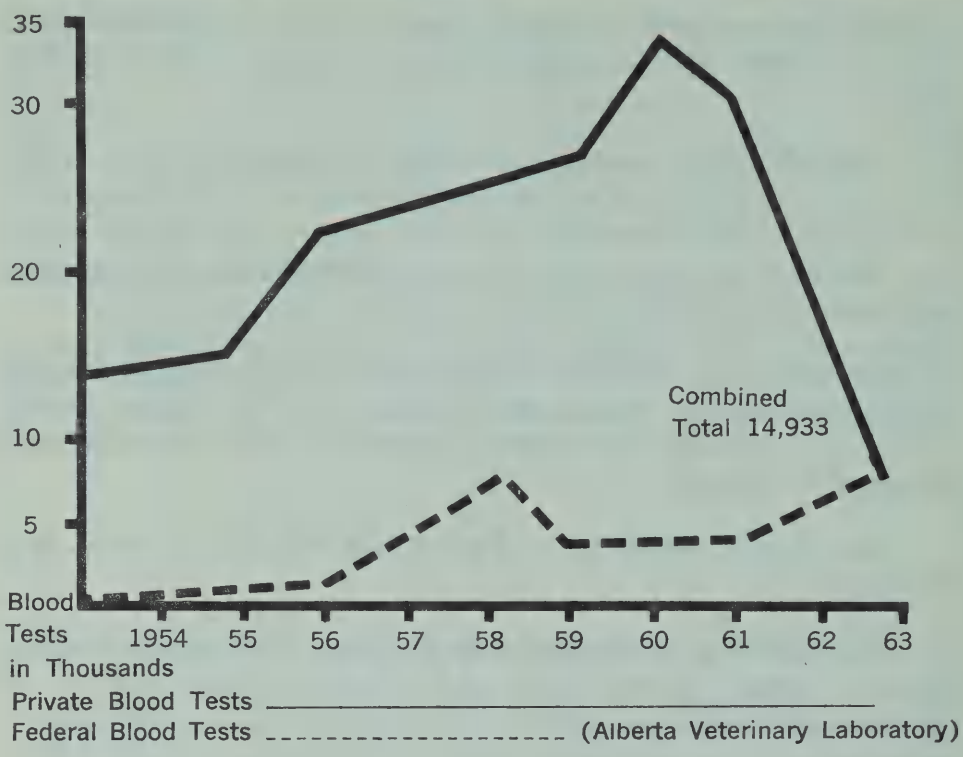
The following table illustrates the most troublesome diseases in each animal species. The figures represent the number of premises on which the conditions were diagnosed, not the number of individual animals affected (1962 figures given in brackets).

Swine		
Anemia	17	(27)
Atrophic Rhinitis	13	(11)
Enteritis	42	(21)
E. Coli Infections	37	(6)
Gastroenteritis	48	(54)
Glasser's Disease	31	(24)
Mulberry Heart Disease	38	(13)
Necrotic enteritis	30	(28)
Oedema Disease	54	(59)
Pneumonia	104	(84)
Salmonellosis	19	(20)
Swine Erysipelas	24	(34)
Sheep		
Enterotoxemia	4	(4)
Lungworms	2	(7)
Pneumonia	22	(24)
Stomachworms & tapeworms	6	(12)
Canine		
Distemper	13	(9)
Inf. Canine Hepatitis	12	(10)
Nephritis	5	(14)
Pneumonia	5	(6)
Cattle		
Blackleg	53	(47)
Enterotoxemia	11	(18)
Johne's Disease	7	(4)
Lead Poisoning	15	(4)
Lungworms	7	(10)
Malignant oedema	43	(18)
Mastitis	86	(116)
Mixed Clostridium	22	(63)
Mucosal Disease	11	(12)
Necrobacillosis	15	(4)
Pneumonia	113	(82)
Pulmonary emphysema	9	(16)
Salmonellosis	4	(15)
Scours	49	(28)
Vitamin A Deficiency	35	(28)
Poultry		
Transmissible enteritis	70	(97)
Air Sac Infection	118	(145)
Chronic Resp. Disease	86	(100)
Capillaria worms	35	(18)
Mink		
Aleutian Disease	8	(4)
Distemper	7	(2)
Virus enteritis	1	(1)

SEROLOGY

The accompanying graph illustrates the number of Brucella serology tests conducted at the Laboratory during the past 10 years. The increased testing by the Health of Animals Branch in Federal Control Areas decreased the number of samples tested by the Laboratory.

The percentage of positive reactors to the Brucella test was .93 per cent. Brucella tests at Auction Markets amounted to 5,569.

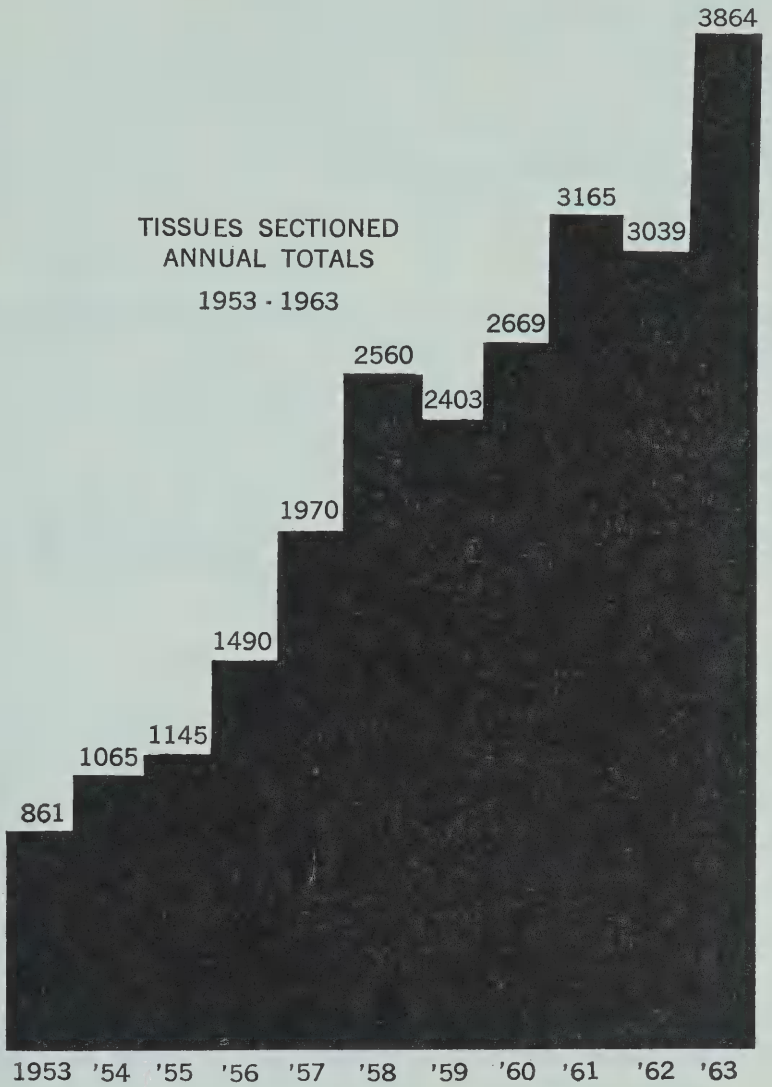


The following chart outlines the other serological tests conducted including blood sera sent to the Alberta Public Health Laboratory for Leptospirosis testing.

	Bovine	Porcine	Equine	Poultry
Vibriosis (Mucus)	513	....	....	....
Leptospirosis	111	41	3	....
PPLO	....	....	....	1,624
Pullorum	....	....	....	57
Newcastle	....	....	....	5
Botulism	....	....	....	4
Total	624	41	3	1,690
GRAND TOTAL				2,358

HISTOPATHOLOGY SECTION

The number of tissues processed for histopathological examination amounted to 3,864, which represents an increase of 825 (27.1%), when compared with the previous year's work. From these, approximately 4,000 sections were prepared and studied microscopically. The accompanying chart depicts diagramatically the rate of increase over the past 10 years.



The number of neoplastic conditions diagnosed, exclusive of the leukosis complex in poultry, amounted to 271. Of these, 174 (64%) proved to be malignant.

MICROBIOLOGY SECTION

(a) Bacteriology

Most of the animal and poultry accessions were routinely examined for pathogenic bacteria. The bacteriology section received 3,353 specimens from the animal pathologists and 5,196 from the poultry pathologists. These examinations included bacteriological, serological, microscopic, chemical, animal inoculation and other procedures. The following table illustrates the work performed:

Bacterial Examinations	6,372	Urinalysis	30
Fecal Examinations	369	Mastitis Tests	240
Blood Counts	94	Cuboni Pregnancy Tests	1,686
Skin Scrapings	34		
TOTAL SPECIMENS RECEIVED	8,846		

Other specimens examined included:

Milk Samples	2,165	Intestinal Contents	154
Fluff Samples	432	Miscellaneous	238
Media used: (Whole Laboratory) Plates			34,500
Liquid			192,000 cc.
Vaccine and Bacterin Production			23,525 cc.
Experimental Animals Inoculated (Whole Laboratory)			1,883
Guinea Pigs	302	Chickens	830
Mice	720	Cattle	5
Turkeys	25	Beaver	1

The chart below shows the work done on reproductive diseases with findings from fetus examinations and vibrio tampon tests.

Feti	Total	Vibrio	Brucella	Strep	Coryne	Others	Negative
Bovine	254	11	5	6	4	2	226
Porcine	15	....	....	....	....	....	15
Ovine	10	1	....	....	....	....	9
Equine	10	....	....	....	....	....	10

A total of 513 Vibrio tampons were examined with positive reactions in samples from 31 farms. Together with fetus examinations, 42 farms were shown to have vibriosis or a strong suspicion of it.

(b) Mastitis Testing

On July 1st mastitis testing for the province was taken over by this laboratory and was discontinued at the Dairy Laboratory. Most of the equipment, supplies and files were transferred so as to cause no interruption in the work. Certain changes in techniques were adopted in an effort to simplify and streamline the program and some of these changes are listed below:

(1) A new reporting form was designed and printed in book form complete with carbons. These were forwarded to all practitioners in the province with the intention that they be partially completed by the practitioner, forwarded to the laboratory with the milk samples, and then returned to the veterinarian with the laboratory findings added.

(2) The contract form was rewritten and brought up to date.

(3) The California Mastitis Test was adopted. This is designed to be used in the field as a screening test. We hope that only C.M.T. positive milk samples will be submitted for further laboratory examination.

Since July 1st, 2,165 milk samples were examined for mastitis using a variety of tests. Tests used consist of the California Mastitis Test; bacteriological culturing to determine the type of bacteria present; microscopic examination of smears to determine white cell counts; and a variety of bio-chemical tests on the bacteria isolated from the specimen. The commonest organism isolated was staphylococcus and was found in approximately 20% of all samples examined.

(c) Salmonella

Infections with this group of organism are referred to as "paratyphoid infections", and involve many species including man. The following table illustrates the number of such isolations made from the various species.

SALMONELLA ISOLATIONS—1963

(1962 figures in brackets)

Turkey		22	(66)
Pig		19	(28)
Chicken		16	(8)
Cattle		6	(25)
Mink		4	(2)
Goose		2	(1)
Pheasant		2	(2)
Guinea Pig		2	(0)
Beaver, Cat, Budgie, Rocky Mountain Goat	1 each	4	
Others		15	
TOTAL		77	(147)

(d) Virology

A new virology laboratory was in use throughout all of last year and the one technician involved processed a total of 557 samples. The techniques used included animal inoculation, egg inoculation, filtration, centrifugation and special staining together with certain bacteriological procedures necessarily associated with virology. The chart below shows a breakdown of the examinations made and the number of diagnoses or isolations made during the year:

AGENT OR DISEASE

	Number Examined	Number of Isolations
Infectious Laryngotracheitis	44	....
Avian Encephalomyelitis	25	....
Transmissible Enteritis	46	20
Infectious Bronchitis	87	8
Newcastle Disease	12	....
Mycoplasma Infections	325	92
Psittacosis	8	1
Ornithosis	16	....
Miscellaneous	21	....
Experimental	25	....

SPECIAL INVESTIGATIONS

Disease problems occasionally arise which cannot be adequately investigated by routine procedures. Within the limit of facilities and time available, the following special investigations were conducted:

Fluff testing in hatcheries.
Commercial laying flock mortality survey.
Transmissible enteritis in turkeys and chickens.
Mycoplasma in air sacculitis in poults.
Moniliasis in chicks and poults.
Clinical syndrome of organo-phosphorous toxicity in cattle.
Nitrate toxicity in cattle and sheep.
Bovine enterotoxemia.
Bovine mastitis.
Bovine pulmonary emphysema.
Efficiency of strain 19 Brucella vaccine.
Post Brucella vaccinal lameness in beef calves.
Virus pneumonia of swine.
Infectious serositis of swine.
Survey of swine for brucellosis.
Aleutian disease of mink.
Epizootic hemorrhagic disease of white-tail deer.
Tularemia in beaver.
Pasteurellosis in mink.
Air pollution investigations.

PARASITOLOGY

Internal and external parasitism continues to cause large economic losses to the livestock producer. Parasitism was diagnosed in 138 animals and 206 birds during routine post-mortem examinations. In addition, 312 fecal specimens were examined for the presence of parasitic ova.

Among the more common forms of parasitism found were (a) large roundworms and mange in swine, (b) gastro-intestinal worms, lungworms and ked infestation in sheep, (c) lungworms, intestinal worms and lice in cattle, (d) capillaria worms, roundworms and coccidia in domestic poultry.

TOXICOLOGY

A total of 1,192 laboratory specimens were referred to the Provincial Analyst for toxicological examination. Of these, 895 were animal and poultry specimens from cases of suspected poisoning. The remainder consisted of water and feed samples which were suspected of producing harmful effects in livestock.

The following table illustrates the work done and results obtained from these examinations.

TOXICOLOGICAL EXAMINATIONS

Poison	Bovine	Porcine	Canine	Feline	Ovine	Avian	Others	Total Poison	Grand Total
Arsenic	3	....	1	....	....	....	....	4	....
Cyanide	3	....	....	....	....	....	....	3	....
Dicoumarin	2	....	....	....	....	....	....	2	....
Lead	13	....	....	....	....	....	....	13	....
Larkspur	2	....	....	....	....	....	....	2	....
Mercury	2	2	....	....	....	2	....	6	....
Nitrate	1	....	....	....	1	....	....	2	....
Organo Phosphate	1	....	....	....	....	....	....	1	....
Phenol	....	1	....	....	....	....	....	1	....
Petroleum	2	....	....	....	....	....	....	2	....
Salt	2	2	....	....	....	....	....	4	....
Solanin	....	1	....	....	....	....	....	1	....
Strychnine	....	....	53	....	....	1	2	56	....
1080	....	....	5	....	....	....	....	5	....
Water Hemlock	8	....	....	....	....	....	....	8	....
								110	110
Negative for poisoning									785
Feed Negative 128 Contaminated 9									137
Water Satisfactory 119 *Unsatisfactory 41									160
GRAND TOTAL									1,192

*Soda 18, Glauber salts 11, Nitrates 7, Iron 3, Algae 1, Salt 1.

CORRESPONDENCE AND COMMUNICATIONS

Full use of the services of the Veterinary Branch requires correspondence with veterinarians, livestock owners or their agents concerning diagnoses and recommendations, as well as presentations at various meetings. Such communications included: (1962 figures given in brackets).

Letters	27,582	(26,689)
Telegrams	187	(283)
News Releases	27	(20)
Film Showings	12	(3)
Radio and T.V. Interviews	23	(13)
Transparencies and Slides	150	(50)
Photographic Prints	100	(150)
Scientific Papers	10	(6)

1. Ballantyne, E. E.—"The Control of Food Supplies Exposed to Fallout"—Can. J. Pub. H. 54:262 (1963).
2. Best, J. P.—"Yellow Tags, Green Paint and Forms in Triplicate"—C.V.J. 4 (8):1963.
3. Best, J. P.—"Alberta Auction Mart Inspection 1956-62"—C.J.C.M. 27 (11):1963.
4. Bigland, C. H., Howell, J., and DaMassa, A. J.—"Zoalene Toxicity in Broiler Chickens"—Avian Dis. 7 (4):1963.
5. Brisbane, W. P—"Antibiotic Reactions in Cattle"—C.V.J. 4(9):1963.
6. Carlson, H. C., and Clandinin, D. R.—"Carbon Monoxide Poisoning in Chicks"—Poultry Sci. 42 (1):1963.
7. *Carlson, H. C.—"Gas Chromatographic Analysis of Blood for Carbon Monoxide"—Res. in V. Sci.
8. *Carlson, H. C.—"Colorimetric Method for Carboxyhemoglobin Determinations in Chick Blood"—Avian Dis.
9. Graesser, F. E. and Carlson, H. C.—"Asperillosis in a Turkey"—C.V.J. 4 (4):1963.
10. Novakowsky, N. S., Cousineau, J. G., Kolenosky, G. B., Wilton, G. S., and Choquette, L. P. E.—"Anthrax Epizootic in N.W. Territories"—Proc. 28th N. Am. Wildlife & Natural Res. Conf., 1963.

*Accepted for publication.

Presentations - Meetings

1. Ballantyne, E. E.—"Safe Food Production—The Residue Problem"—Alberta Department Ag. Conf.
2. Ballantyne, E. E.—"Residues in Eggs and Poultry Meats"—13th Annual Hatcherymen's Short Course.
3. Ballantyne, E. E.—"How Drugs Work in Livestock Diseases"—3rd Annual Feed Industry Conference.
4. **Ballantyne, E. E. —"Potential Effects of Modern Warfare in Canadian Agriculture".
5. **Ballantyne, E. E.—"The Alberta Plan for Emergency Measures in Agriculture".
6. **Ballantyne, E. E.—"The Role of the Veterinarian in Civil Defence".
7. Carlson, H. C.—"Alberta Poultry Dis. Report"—13th Annual Hatcherymen's Short Course.
8. Chalmers, G. A., and Mitchell, G. J.—"Epizootic Hemorrhagic Disease of White-tailed Deer"—Mid-Winter Conf.—Alberta V.M.A.
9. Chalmers, G. A. — "Clinical Symptoms of Mineral Deficiencies in Poultry"—3rd Annual Feed Industry Conference.
10. Howell, J. — "Laboratory Aspects of Anthrax" — Mid-Winter Conf. —Alberta V.M.A.
11. O'Donoghue, J. G.—"Clinical Symptoms of Mineral Deficiencies in Animals"—3rd Annual Feed Industry Conference.
12. O'Donoghue, J. G.—"Dairy Herd Health"—Alberta Dairymen's Association.
13. Vance, H. N.—"Bovine Enterotoxemia" — Mid-Winter Conf. — Alberta V.M.A.
14. Vance, H. N.—"Bovine Enterotoxemia"—Can. V.M.A. Conv.
15. Vance, H. N.—"The Residue Problem"—Alberta Department of Ag. Conf.
16. Vance, H. N.—"Clinical Symptoms of Mineral Deficiencies in Animals" —3rd Annual Feed Ind. Conference.
17. Whenham, G. R.—"Fluff Sampling in Alberta 1963"—13th Annual Hatcherymen's Short Course.
18. Whenham, G. R.—"Brucellosis Survey in Alberta"—Int. N.W. Conf. Dis. in Nature Comm. to Man.

**Presented at the Canadian Civil Defence College, Arnprior, Ontario.

In addition, several thousand bulletins on veterinary subjects were distributed.

Report of the Agricultural and Vocational Colleges Branch

J. E. HAWKER, B.Sc., B.A., P.Ag., Director
J. E. BIRDSALL, M.Sc., P.Ag., Principal, Olds College
W. S. BARANYK, B.Sc., B.Ed., P.Ag., Principal, Vermilion College
V. W. OSBALDESTON, B.E., B.Ed., Principal, Fairview College

For the 1962-63 term students were graduated from the Olds College on June 14th, 1963, from Vermilion July 5th, and from Fairview June 21st. On these dates Diplomas of Graduation or Commercial Certificates were presented as follows:

	Olds	Vermilion	Fairview	Total
Agriculture	15	64	11	90
Automotives	N/O*	N/O	6	6
Home Economics	N/O	8	N/O	8
Food Service Management	N/O	N/O	2	2
Clothing and Design	8	N/O	N/O	8
Commercial	13 (4)**	13	4	30(4)
Home Economics—Commercial	N/O	7	N/O	7
	36 (4)	92	23	151(4)

*Not offered
**Certificates only were issued to four of thirteen graduates.

The total of 151 graduates was eight below the total of 159 graduated in 1962. While attendance was higher, the number graduating was lower due to the introduction of the sessional system in the fall of 1963.

The annual Staff Conference was held April 17th, 18th and 19th at the Olds College. Most of the period was devoted to a study of the proposed sessional system and the redistribution of subject content. Workshops were concerned with rearranging subject material. Part of the third day was spent discussing general college problems including those connected with extra-curricular activities, residence living, weekends and student failures. Mr. W. H. T. Mead and Mr. A. J. Charnetski met with Animal Science Instructors to discuss details of a comprehensive livestock program for the colleges.

There were fifteen teaching staff changes in 1963. Of these three were granted leave for professional improvement, two were added to handle new courses and because of increased enrolment, eight left to accept other employment, one transferred temporarily to another college and one position was divided making it necessary to add one staff member. After successfully completing a year's training at the University of Alberta under Leave for Professional Improvement, Mr. R. M. Gratz returned to Vermilion and Mr. J. P. Tait to the Fairview College.

Mr. L. G. G. Seath of the Vermilion staff, Mr. W. J. Collin of Olds and Mr. J. H. Warne of Fairview were granted leave of absence for professional improvement in the fall of 1963.

The general course in Home Economics which was retained at Vermilion only was offered on a sessional basis commencing September 30th, 1963. No Commercial or Food Service Management was offered at Fairview. The Commercial - Home Economics com-

bination course at Vermilion was deleted since it was felt that neither area of study could be given adequate treatment in a nine month term.

The year 1963 was the fiftieth anniversary of the Alberta Schools of Agriculture and Home Economics. Very suitable and well attended functions marked the occasion at both Vermilion and Olds. Coincidental with the beginning of a new half century of service and the embarking on a very much broadened program, the name "Alberta Schools of Agriculture and Home Economics" was changed to "Alberta Agricultural and Vocational Colleges" effective May 1st, 1963. On the same date the title of "Superintendent" was changed to "Director".

BOARD OF AGRICULTURAL EDUCATION

An emergent meeting replacing the regular meeting of the Board was held in Room 312 in the Legislative Building commencing at 10:00 a.m., Monday, January 28th, 1963. The purpose of the meeting was to make final review in the morning session, of the Submission Regarding Schools of Agriculture in preparation for the presentation to a Committee of Cabinet during the afternoon session.

As Acting Chairman for the morning session, Mr. R. M. Putnam introduced the Honourable H. E. Strom, Minister of Agriculture, to the Board members. In his remarks, Mr. Strom stated that he had heard discussions regarding the Schools ranging from the operation of one to all three. He felt that the problem must be clearly defined in order to be resolved and he expressed the hope that, through the presentation of the submission to the cabinet committee, this might be accomplished. In his opinion, the uncertainty regarding the future of the Schools has had a serious adverse effect and that policy decisions in this area are long overdue. He concluded his remarks by saying that the Honourable L. C. Halmrast had hoped for a full cabinet meeting with the Board. Since this was impossible at this time, he had accepted the suggestion of a Cabinet Committee including Honourable E. W. Hinman, Honourable A. O. Aalborg, Honourable F. C. Colborne, Honourable L. C. Halmrast and himself. Mr. Halmrast was unavoidably absent.

Recommendation No. 4 was deleted from the submission on motion by Mr. E. G. Wahlstrom and Mrs. S. E. Atkinson. The deletion was made having due regard to the time element with respect to recovering shareable costs from the Federal Government and the fact that a number of specialized vocational schools were being constructed.

Dr. Swift continued in the Chair when discussion was resumed after lunch. At 2:00 p.m. the Cabinet Committee joined the meeting of the Board.

On behalf of the Board, the Secretary presented the submission as amended to the Cabinet Committee. Discussion of each recommendation was detailed and protracted. The Committee was unable to give any final answer to the questions raised but agreed that decision on the various points should be rendered at the earliest possible date. The matter was to be carried to the Executive Council for final adjudication.

Subsequently, all five of the recommendations submitted were approved by the government. The recommendations as approved were:

Recommendation No. 1

That the function of Alberta Schools of Agriculture and Home Economics be now recognized as providing:

(a) Vocational agricultural courses designed to give broad training for those who intend to farm.

(b) Broadly based specialized vocational agricultural courses for those interested in specialized types of farming.

(c) Vocational courses designed to train students for occupations ancillary to the agricultural industry for School of Agriculture diploma graduates or adult students as may be qualified to enter.

(d) General course in home economics (probably at one school only) designed to train students as homemakers.

(e) Specialized courses in the home economics field to fit graduates for specific employment.

(f) Special courses, primarily for young women, to fit graduates for employment in areas outside the home economics field.

(g) Such other courses as the Board of Agricultural Education may prescribe.

Recommendation No. 2

That required high school subjects be included in the program of studies at vocational agricultural schools at the Grade XI and XII level.

Recommendation No. 3

All factors considered, the committee recommends that schools of agriculture in Alberta continue to be operated on a regional basis provided that attendance is sufficient to justify the expenditure involved. Fluctuation in attendance will occur and it would appear realistic to establish minimal attendance of vocational students for each school at 95 for Olds, 85 for Vermilion and 60 for the Fairview school. Substantially, this recommendation was made by the Board of Agricultural Education in regular session April 12th, 1961.

Recommendation No. 4

The committee recommends that effective if possible in 1963, the name "Alberta Schools of Agriculture and Home Economics" be changed to "Alberta Agricultural and Vocational Colleges".

Recommendation No. 5

The committee recommends that a suitable person be commissioned to prepare a historic record of the Alberta Schools of Agriculture and Home Economics. If an outside agency such as a foundation, cannot be found, it is recommended that the Alberta Government undertake to finance such a project.

Following the program of courses approved by the Board for 1962-63, the Principals and the Director developed the following schedule for the 1963-64 term:

Olds College

Agriculture—Fall Session—September 30th to December 20th, 1963.
Winter Session—January 6th to March 27th, 1964.
Spring Session—April 6th to June 26th, 1964.

Horticulture—Fall Session—As for Agriculture
Winter Session—As for Agriculture

Clothing & Design—Fall Session—As for Agriculture but not terminal
Winter Session—As for Agriculture but not terminal
Spring Session—As for Agriculture but not terminal

Commercial—As for Clothing and Design

Academics (High School)
Fall Session—not offered
Winter Session—not offered
Spring Session—not offered

Vermilion College

Agriculture—Fall Session—September 30th to December 20th, 1963
Winter Session—January 6th to March 27th, 1964

Home Economics—Fall Session—As for Agriculture (terminal)
Winter Session—As for Agriculture (terminal)
Spring Session—April 6th to June 26th, 1964

Commercial—As for Home Economics except Fall and Winter Sessions not terminal

Commercial-Home Economics—Not offered

Academics (High School)—Not offered 1963-64 term

Fairview College

Agriculture—Fall Session—September 30th to December 20th, 1963
Winter Session—January 6th to March 27th, 1964

Automotives—Fall Session—As for Agriculture but not terminal
Winter Session—As for Agriculture but not terminal
Spring Session—April 6th to June 26th, 1964

Food Service Management—Not offered

Commercial—Not Offered

Welding—First Course—November 12th to December 20th, 1963
Second Course—January 6th to February 14, 1964

Academics (High School)—The present arrangement with the Fairview School Division whereby about 30 students live at the college and attend classes at the Fairview High School will be continued on a progressively limited basis until the 1965-66 term and terminated June 30th, 1966.

It has been planned to offer some required high school subjects at the college in addition to the above. Due to lack of accredited teachers this was not possible in the 1963-64 term.

At the conclusion of the morning session of the Board, Mr. C. L. Doan suggested that the matter of the possibility of offering courses in Business Administration at the colleges be placed on the agenda for the next board meeting.

Under the terms of the Students' Assistance Act, financial aid to students for the 1962-63 college year for all Colleges of Agriculture was as follows:

Total Loans	25	(34)*	$6,450.00	($7,020.00)*
Portion of Total Loans Remitted	14	(16)*	$1,786.25	($1,843.75)*
Prizes	16	(16)*	$ 800.00	($ 800.00)*

*1961-62

THE 1963-64 TERM

Because of the impossibility of recruiting suitable staff following authorization in July, 1963, to teach high school required academic subjects at the Grade XI and Grade XII level, none of these subjects will be offered earlier than the spring session 1964 and probably only then at Vermilion.

Enrolment at each College for the Fall and Winter Sessions 1963-64 was as follows:

	Olds		Vermilion		Fairview		Total	
	Fall	Winter	Fall	Winter	Fall	Winter	Fall	Winter
Agriculture	148	159	112	118	32	35	292	312
Horticulture	12	12	N/O	N/O	N/O**	N/O	12	12
Automotives	N/O	N/O	N/O	N/O	14	10	14	10
Welding	N/O	N/O	N/O	N/O	6	11	6	11
Home Economics	N/O	N/O	12	8	N/O	N/O	12	8
Commercial	18	17	22	27	N/O	N/O	40	44
Clothing	10	10	N/O	N/O	N/O	N/O	10	10
Total Vocational	188	198(142)†	146	153(162)	52	56(62)	386	407(366)
Academic*	N/O	N/O	N/O	N/O	32	31	32	31
Total Enrolment	188	198	146	153	84	87	418	438

*Academic—Fairview only by special arrangement with Fairview High School
**N/O—Not Offered
†1962-63 Enrolment

ASSISTANCE GRANTED TO STUDENTS AT EACH COLLEGE UNDER TERMS OF THE STUDENTS ASSISTANCE ACT FOR THE 1962-63 COLLEGE YEAR

	Olds	Vermilion	Fairview	Total
Loans	$1,400.00 (5)*	$2,665.00 (11)	$2,385.00 (9)	$6,450.00 (25)
Loan Remissions	400.00 (3)	486.25 (4)	900.00 (7)	1,786.25 (14)
Prizes ($50 each)	300.00 (6)	300.00 (6)	200.00 (4)	800.00 (16)
	$2,100.00	$3,451.25	$3,485.00	$9,036.25
Actual number of students assisted	11	16	10	37

*Number

MAINTENANCE AND CONSTRUCTION

Maintenance items of major importance at the Olds College included providing built-in study desks and improved lighting in the women's residence, installation of new range, canopy and deep fat fryer in the kitchen, completion of installation of two new boilers in heating plant, and moving and remodelling the original mechanics building to serve as a maintenance machine shop.

Construction of the new Metals Shop had not started at year's end. Materials were on hand for the construction of two new pole frame cattle shelters. Two fifty-foot Greenhouses were built at the north end of the Plant Science building.

At the Vermilion College major maintenance included the relocation of a six-stall garage, relocation and renovation of the maintenance shop and the reorganization and renovation of the former Q.M. stores building to provide additional classroom and office space. No major construction was undertaken although plans for construction of a new Animal Science Building were complete at year's end.

Major maintenance items at the Fairview College included further changing of galvanized to copper water piping, reconstruction of concrete steps at south entrance to girls' residence, re-

placing stay-bolts in east main boiler and extensive repairs to all walk-in refrigerator units. Renovation provided a new farm manager's office in the north-east corner of the livestock pavilion and a new exhaust fan and grease filters were installed in the kitchen. No major construction was started but plans for a new Gymnasium-Auditorium and a Farm Machinery Laboratory were complete at year's end.

PROGRAMS BEYOND THE COLLEGE TERM

Beyond the schedule of regular courses at the colleges very full use was made of the facilities at all three locations. However, continued lack of auditorium facilities at Fairview reduced this program from its potential.

At all three colleges regular summer programs included one week 4-H courses at Fairview and Olds, with 4-H Eliminations held at the latter, and two one-week 4-H courses at Vermilion. At Vermilion, Farm Women's Week has been eliminated for the foreseeable future. Other groups accommodated at one of the three colleges included: Golden Jubilee Celebrations at Olds and Vermilion, 4-H Leaders' Conferences, College Staff Conference, Women's Institute Constituency meetings, Farm Women's Week, W. I. Girls' Clubs, School for Horticultural Judges, Provincial Drama Seminar, 4-H Club Meetings, Alberta Grazing Association, Farm Management Workshops, Credit Union Meetings, Farm Credit Corporation, 4-H Public Speaking Competition, Horticultural Meetings, Agricultural Service Boards, Agricultural Council, Fire Officers' Training Courses, Course for Municipal Officers and Assessors, F.U.A. Board Meetings, Public School Teachers' Convention, Potato Growers' Association, Regional Dairymen's Associations, Recreational and Cultural Development Board, F.U. and C.D.A. Teen Camp, District Co-op Organizations and others.

APPRECIATION

During 1963, as for many years past, the Agricultural Colleges have enjoyed very considerable support from a large number of commercial companies, farm and other organizations and from individuals. To all of these agencies and individuals the Department expresses its sincere appreciation.

Officials of the Federal Government and the University of Alberta have been most helpful. Their assistance is gratefully acknowledged.

Particularly in 1963, the Golden Jubilee Anniversary Year of the Schools of Agriculture, the monumental efforts of individual and joint alumni associations of the colleges is very much appreciated.

The fine co-operation and tremendous effort of principals and staffs during 1963 has been very much appreciated.

OLDS AGRICULTURAL AND VOCATIONAL COLLEGE

The year 1963, marked the beginning of the second half century in the life of the school and was recognized as the Golden Jubilee Year. Jubilee activities included the production of a historical review. This was a 112 page book portraying in words

and pictures the highlights of the first fifty years. All activities of the year emphasized the Jubilee theme. The highlights were a staff reunion on August 1st, followed by a large Jubilee celebration on August 2nd at which time Dr. J. Gordon Taggart was the speaker. Production of the book and the celebrations were carried out under Alumni sponsorship.

New courses started in 1962 were continued and in addition a new Vocational Horticultural course was started on September 30th. The first classes in Commercial and in Clothing and Design graduated in June along with a small class of students in Agriculture, who took their first year under the old program. In December, eighteen of the first group of students enroling under the sessional system completed the course and will graduate in June, 1964, with others finishing in the winter and spring sessions.

The program of improvements in buildings and grounds was continued and reasonable progress was made.

On May 1st the School officially became the Olds Agricultural and Vocational College. The new name was well received despite some nostalgic feelings for the old.

SPECIAL LECTURES

During the winter session special lectures were given by Dr. C. F. Bentley, Dean, Faculty of Agriculture, University of Alberta; Mr. J. W. Edmunds, Apiary Supervisor, Alberta Department of Agriculture; Mr. W. H. T. Mead, Livestock Commissioner, Alberta Department of Agriculture; Mr. D. H. McCallum, Dairy Commissioner, Alberta Department of Agriculture, and a panel of three Research Officers from the Lacombe Experimental Farm headed by Mr. J. Stothart, Superintendent.

4-H EVENTS

In addition to Club Week and Provincial Eliminations which are referred to in another section of the report, the College continued to have many connections with the 4-H program; over fifty per cent of the students were, or had been, 4-H members and a number were junior leaders; local 4-H public speaking competitions were held with a total attendance of about sixty-five. Two students represented the College as junior judges at the Provincial Junior Seed Fair in Calgary where a high percentage of the exhibitors are 4-H members; several district 4-H functions were held at the College including a livestock field day, a dairy awards night and a regional 4-H Leaders' Conference.

The Campus 4-H Club had a successful year in 1962-63, and reorganized in the fall of 1963 with a large and enthusiastic membership.

During the year five different 4-H groups totalling one hundred and twenty individuals, toured the College while it was in session.

GRADUATION

At graduation on June 14th, 1963, the Principal of the Southern Alberta Institute of Technology, and a former O.S.A. staff member, Mr. F. C. Jorgenson, delivered the address to the graduating

class. Mr. J. E. Hawker, Director, Agricultural and Vocational Colleges, represented the Department of Agriculture, Douglas Racher of Parkland, a student in Agriculture, was valedictorian. Prizes for proficiency in various fields were awarded to eight students. Diplomas and certificates were awarded as follows:

Agriculture	15
Commercial	13 (4)*
Clothing and Design	8

*Commercial students who excelled in all subjects received diplomas; four received certificates only.

EXTENSION ACTIVITIES AND ADULT COURSES

During the year members of the staff participated in extension activities in the general area between Calgary and Ponoka. Members of the Farm Mechanics Department were most active. In addition, three 8-week sewing courses were offered with classes being held three hours per night, two nights per week. Total enrolment was seventy-two women.

The facilities of the college were used by local extension workers for a number of farmers' meetings during the year, and for meetings of the county advisory committee.

Agricultural groups, such as the Artificial Breeding Association, the F.U.A. and the Western Hog Growers' Association also used the facilities.

LITTLE ROYAL AND ACHIEVEMENT DAY

The 31st Annual Little Royal and Achievement Day was held on Saturday, March 30th, with about 2,500 people in attendance. Main features of the event were the show of training and showing livestock by students majoring in Animal Science; a preview of the Dress Review on the Friday evening and two showings of the Dress Review on the Saturday.

Judge of the Little Royal was Mr. D. R. McPherson, District Agriculturist, Hanna, a graduate of O.S.A. in 1937. Master showman of the event was Lynn Hansen of Sangudo. A special Jubilee class was shown by Harold Block, Dalroy; Wayne Strang, Claresholm; Bert Rogers, Acme and George Leeson, Didsbury, all members of the class of 1934, the year the Little Royal was started.

JUBILEE EVENTS

Events of the year recognizing the Golden Jubilee included:

1. A student program in February to which a number of government, local and Alumni officials were invited. It was appropriately called V.I.P. Night.
2. An area reunion dinner and dance on April 5th with about two hundred people in attendance.
3. A staff reunion on August 1st, with about one hundred and thirty-five people present.
4. The Golden Jubilee Alumni Reunion and celebrations on August 2nd with about one thousand people present.

   On this occasion a cairn and plaque were unveiled commemorating the occasion. It was erected by the Department of Agriculture and unveiled by Hon. H. E. Strom, Minister.

Another plaque was placed in the Plant Science Building by the Alumni Association commemorating the contribution of the late Arthur T. Kemp, Horticulturist and Botanist from 1922 to 1947. Mr. P. D. Hargrave spoke and Dr. Gavin Kemp, son of Mr. A. T. Kemp, unveiled the plaque.

5. A fall Alumni Reunion dance on November 29th with about two hundred and fifty people present completed the activities of the Jubilee year.

OTHER EVENTS

Month	Event	Attendance
April	4-H Leaders' Conference	40
April	Staff Conference	50
April	W.I. Handicraft and Tea	100
May	W.I. Constituency Meeting	95
July	Farm Women's Week	150
July	W.I. Girls' Club Week	140
July	4-H Club Week	165
July	4-H Eliminations (Prov.)	175
August	School for Horticultural Judges	65
August	Drama Seminar	75
August	United Church Young Peoples' Union National Conference	210

In addition to events listed a number of miscellaneous events took place. Altogether about 6,500 people used the facilities of the college during the year.

INSTRUCTIONAL STAFF

Most of the staff were fully occupied at the college throughout the year.

At the end of the winter session Miss Evelyn Fringer, R.N., resigned to return to hospital nursing; Mr. O. E. Oxtoby, Instructor in Animal Science, resigned to return to full-time farming; Mr. D. M. Hueppelsheuser, Recreation Supervisor and Assistant Dean of Men transferred to the Extension Branch on 4-H work, and Mr. L. L. Lang, Plant Science Instructor, returned to full-time farming.

Mr. H. J. Armstrong transferred to the Field Crops Branch for the summer where he did field work. Mr. R. G. McFadyen transferred to the Extension Branch for the summer but continued to have his headquarters at the College.

GROUNDS AND PLOTS

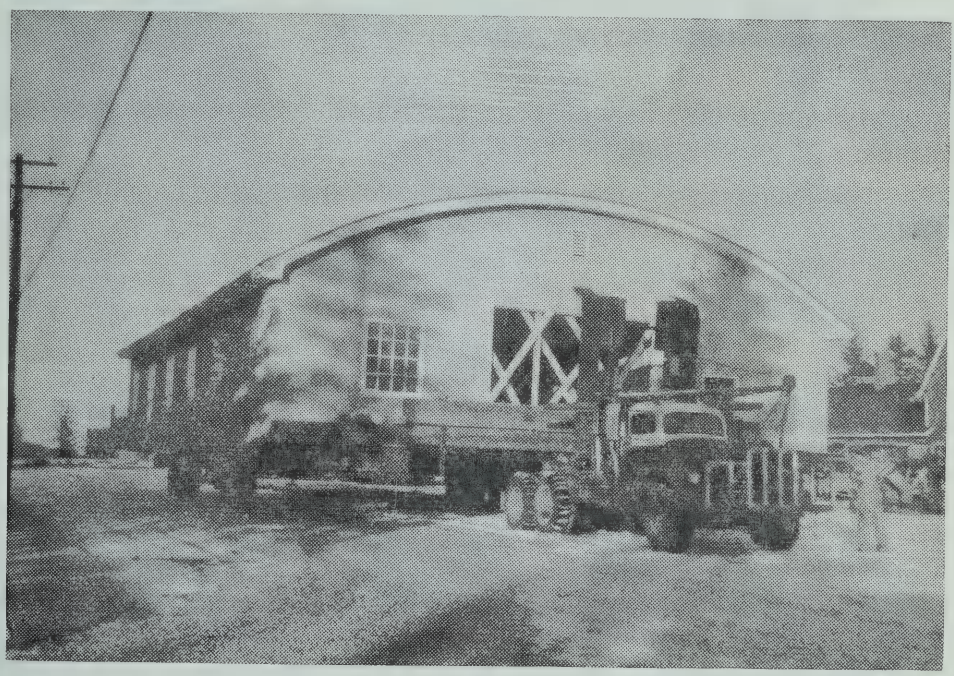
Favourable weather and special planning for the Jubilee year resulted in a very fine showing of lawns and flowers over an unusually long period. The program of improvement in roads and installation of sidewalks and curbs was carried forward resulting in a vastly improved appearance of the campus.

In the plot area tests of forage crops as well as cultural tests were carried for the Lacombe Experimental Farm. A potato disease test was carried for the Department of Plant Science, University of Alberta. The plot area was also used for the production of vegetables for dormitory use and of classroom material of grasses, legumes, cereals and vegetables. The plot of Breeders' Seed of Olds Creeping Red Fescue produced 130 pounds and a new plot was seeded.

MAINTENANCE AND CONSTRUCTION PROGRAM

A normal program of repairs and redecorating was carried out. Built-in study desks were installed in all rooms in the women's residence and plans were completed to install improved lighting. In order to accommodate more men students, the third floor of the women's residence was equipped with built-in study desks and other furnishings and was cut off from the rest of the women's residence. A new range, canopy and deep fat fryer were installed in the kitchen.

The new boiler installed in the heating plant in 1962 was completed and another was purchased and installed.



An old Mechanics Building for a New Use

The garage, which was originally built as a Mechanic's Building, was moved onto a new foundation east of the Maintenance Shop to serve as a machine shop.

At the end of the year plans were under way for the erection of a new Metals Shop and materials were on hand for the erection of two more pole frame cattle shelters. Two old cattle sheds were moved for use as sheep sheds as part of the reorganization of the farm layout.

Two fifty-foot greenhouses were erected at the north end of the Plant Science Building and at the close of the year, lighting, heating and benches were installed or plans were well advanced for doing so.

THE COLLEGE FARM

Spring seeding was done under dry conditions. There was very little precipitation until early in July, when rains came intermittently. The first cutting of hay was below average, but with improved moisture conditions, a better than average cereal and second cut hay crop was harvested.

Except for a wet period in September, harvesting was done under almost ideal conditions.

Summary of crops grown:

Crop	Acreage	Yield
Wheat	20	1,200 bus.
Oats	46	4,200 bus.
Barley	80	4,840 bus.
Hay	200	220 tons
Silage	34	150 tons
Straw	146	100 tons
Pasture	150	....

LIVESTOCK

The cattle and sheep were able to graze late into the fall on stubble and aftermath hay, which took them into the winter in good finish.

An Angus bull was used on the Shorthorn cows this year as a means of getting some crossbred calves for class work.

The following is an inventory of livestock as of December 31, 1963:

Holsteins	33
Shorthorns	81
Yorkshire swine	195
Suffolk sheep	98
Light Sussex poultry	324

Farm sales for 1963 were as follows:

Livestock	$19,073.55
Dairy products	5,449.03
Poultry and Eggs	1,484.50
Vegetables	674.36
	$26,681.44

EQUIPMENT REPLACEMENTS

A new John Deere tractor and loader were purchased to replace the old John Deere unit.

The construction of field fences and corrals was continued, along with additional swine pens.

THE 1963 FALL SESSION

Registration at the beginning of the Fall Session was as follows:

Agriculture		109
First Session	52	
Second Session	10	
Third Session	47	
Horticulture		12
Clothing and Design		10
Commercial		19
		150

Two students withdrew during the session for personal reasons.

Student spirit and morale was good, discipline problems at a minimum and curricular performance good. The changed program has necessitated a reduction in extra-curricular activities but those carried on were very successful.

Eighteen students, who entered in the fall of 1962 with good high school records completed the work for a diploma at the end of the fall session. These were the first to complete the new program.

The instructional and administrative staff was as follows:

J. E. Birdsall, M.Sc., P.Ag.—Principal, Community Oroganization
H. J. Armstrong—Metals
Miss T. Graham—Dietitian, Dean of Women
Mrs. L. A. Thomas, C.N.—School Nurse, Home Nursing, Assistant Dean of Women
R. P. Warrington, F.R.G.S.—Dean of Men, Public Speaking
A. C. Borgstrom—Ass't Dean of Men, Supervisor of Recreation
Miss G. Daley, B.Ed.—Clothing and Design
Mrs. B. Gough—Commercial
W. M. Burton, B.S.A., P.Ag.—Farm Mechanics
G. B. Harrison, B.Sc., P.Ag.—Farm Structures
R. G. McFadyen, B.E.—Farm Mechanics
S. B. Wilton, B.Sc., P.Ag.—Animal Science
H. W. Sutherland, B.Sc.,—Farm Management
E. N. Thompson, B.A.—Academic Subjects (Vocational)
G. A. Ogston—Farm Manager, Animal Science
W. S. Morrison, B.Sc.—Plant Science
W. J. Collin, B.Sc.—Plant Science—on educational leave
B. J. Godwin, B.Sc., B.Ed., P.Ag.—Horticulture
J. Denington, N.P.D.H.—Horticulture
J. R. Nielson, B.Sc.—Animal Science, Plant Science
J. I. D. Mathieson—Registrar
L. A. Allen—Maintenance Supervisor
Mrs. C. Erina—Librarian
J. M. Shaver—Accountant
Mrs. G. McKinnell—Secretary
Mrs. Dorine E. Sutherland—Stenographer

REGISTRATION FOR WINTER SESSION

At the end of the year applications were on hand from 160 students to take the course in Agriculture. These, added to the students continuing in other courses will result in the largest registration in many years.

The distribution will be approximately as follows:

Agriculture	
First Session	50
Second Session	56
Third Session	25
Fourth Session	31
Horticulture	12
Clothing and Design	10
Commercial	18
	202

VERMILION AGRICULTURAL AND VOCATIONAL COLLEGE

GENERAL

The year 1963 was eventful in the history of the Vermilion Agricultural and Vocational College. Marked changes were effected in the physical and curricular environment and transition was the keynote in all phases of activity in the life of the college.

The spring term saw the last class of the traditional two year and two-in-one courses in agriculture. Commercial students continued until the 28th of June to complete a nine month program. The sessional system was introduced in the fall and classes started one month earlier. Courses in Home Economics and Commercial

were offered in three consecutive sessions. Only two sessions, Fall and Winter, were offered in Agriculture and should the demand warrant it, qualified staff will offer selected Grade XII subjects in the Spring Session. Students in Agriculture with a strong Grade XI or better can complete Diploma requirements in three sessions whereas those with less Public School training would require at least four.

Long range plans were drawn up to facilitate an orderly physical redevelopment of the campus to meet immediate and projected future needs. Adjustments in roads and location of buildings were made to begin the implementation of these plans.

The number of new students registered in the Fall Session was limited to 72, the size of classes, scheduling of classes and number of classrooms available were the limiting factors. The number of applications for the Course in Agriculture exceeded the limit set.

A number of staff changes and adjustments were made during the course of the year. Mr. L. G. Seath is presently pursuing studies at the University of Alberta under the terms of "Leave for Professional Improvement" Regulations. Mr. B. J. Godwin was transferred to the Olds College to head the Diploma Course in Horticulture offered there.

SPECIAL LECTURERS AND GUEST SPEAKERS

Guest speakers and subject matter specialists were invited to speak to members of the Graduating Classes. In many cases they familiarized students with the work of government, industry and employment.

Mr. W. H. T. Mead, Livestock Commissioner, Alberta Department of Agriculture; Mr. T. Herbert, Postmaster, Vermilion; Mr. G. Rowes, Farm Credit Corporation, Edmonton; Dr. C. F. Bentley, Dean, Faculty of Agriculture; Messrs. Dowdell and Hammond, Canadian National Railways, on communications; Dr. W. T. Andrew, Head, Division of Horticulture, University of Alberta; Mr. H. W. Webber, Supervisor of Co-operatives, Edmonton.

Dr. J. G. O'Donoghue, D.V.M., Extension Veterinarian, gave a series of lectures and demonstrations on Animal Sanitation.

GRADUATION—July 5th, 1963

The 1963 Commencement Exercises were part of the Official Ceremonies commemorating the Fiftieth Anniversary of the college. Appropriate musical selections for various parts of the program were provided by the Princess Patricia Canadian Light Infantry Band under the direction of Captain H. A. Jeffrey.

Over twelve hundred guests, parents and alumni were present for the afternoon ceremonies held in the Mechanics Building.

Guests of honor were members of the 1913-1915 class and staff. Dr. K. W. Prior pronounced the invocation, Dr. J. G. Taggart delivered the address to the graduates. Members of the official party were as follows:

The Honourable F. C. Colborne, Minister of Public Works, on behalf of the Government of Alberta; The Honourable H. E. Strom,

Minister of Agriculture; R. M. Putnam, Deputy Minister of Agriculture; J. E. Hawker, Director, Agricultural and Vocational Colleges; Professor J. L. Shanks, original staff member; R. Langdale, President V.A.V.C. Alumni Association; L. Blades, Alumni Historian and Miss Fern Hotton, original staff member; and the members of current staff.

Diplomas of Graduation were presented as follows:

Agriculture		64
Two-Year Course	29	
Two-in-One Course	35	
Home Economics		8
Commercial		13
Combined (Home Economics-Commercial)		7
Total		92

Winners of Major Scholarships and Awards:

Hazel Hurt Trophy for General Proficiency in Commercial—Carol Brown, Vermilion.

T. Eaton Prize for General Proficiency—Two Year Course in Agriculture—Lloyd Smith, Provost

Canadian Utilities Prize for General Proficiency in the Two-in-One Course in Agriculture—Paul Fedec, Boyle

Staff Medals were awarded to: Dorothy Wedman of Leduc and Paul Fedec of Boyle. Twenty other prizes were awarded to graduating students for various achievements.

Scholarships to non-graduands were awarded as follows:

Winnipeg Grain Exchange for General Proficiency to Adolph Saskiw, Beauvallon; Line Elevators Farm Service—Plant Science, to Garry Munsterman, Rochester; Craigs' Limited, Vermilion—Animal Science to Lorne Bodnar, Nestow; Imperial Oil Ltd.—Farm Mechanics, to Allen Cannard, Vimy; Smith—Roles Limited, Saskatoon—Farm Machinery, to Ken Anderson, Freedom; British American Oil Company—Farm Management, to Ray Harrison, Edmonton; Alberta Turkey Association—Keith Johnson, Lloydminster.

SPECIAL EVENTS

All events in 1963 were organized to emphasize the Golden Anniversary of the college. The first major event of the year was the "Little Royal and Achievement Day". About fourteen hundred parents and friends attended this event held on March 30th, 1963. A full day's program was organized beginning with the Livestock Show and followed by achievement displays.

A departure from former practice was the holding of a Fashion Parade in the evening followed by Students' Colour Night. Guest Judges for the Livestock Show were Mr. W. H. T. Mead, Livestock Commissioner, and Mr. M. Douglas, District Agriculturist, Vermilion.

GOLDEN JUBILEE CELEBRATIONS

The College, together with its Alumni Association, planned and held a three day event on the campus. The celebrations were officially opened on July 5th by the Honourable F. C. Colborne with the presentation of all original staff members present including Dr. J G. Taggart, Professor J. L. Shanks and Miss Fern Hotton. Professor Shanks in turn introduced all members of the original

classes present This was followed by the Graduation Exercises reported on earlier. While the Graduation Banquet was in session, hundreds of Alumni and guests were catered to in the mechanics building. The evening saw some 1,500 people at the Rose Ball.

The campus was again the scene of a large Reunion on July 6th. About 1,100 Alumni and friends gathered for an Old Time Picnic, Barbecue and Dance. The V.A.V.C. Alumni Association executive and members planned and organized all the events of the day and were very active in all phases of the three day celebrations.

On Sunday July 7th the official celebrations closed with a non-denominational church service in the Mechanics Building. Dr. K. W. Prior, an alumnus, was the guest Minister assisted by the Ministerial Association of Vermilion.

On Friday, October 25th, in the afternoon Mr. Ed. B. Swindlehurst unveiled a plaque presented by the Alberta Department of Agriculture commemorating the Fiftieth Anniversary of the College and paying tribute to its pioneers. In the evening Alumni students and staff joined in the Fall Reunion.

Parents' Weekend—On Saturday, November 23rd, another opportunity was provided for parents to visit their sons and daughters attending the college.

It was very well attended and provided an opportunity for the parents to meet the staff and become more familiar with the institution. Students provided a very fine program in the evening for their entertainment.

Christmas Closing—On December 14th, donor representatives were present at the Annual Christmas Banquet at which time they had the opportunity to award Bursaries and Scholarships officially to successful and deserving students. Two thousand two hundred and fifty dollars in awards were presented at that time.

NON-COLLEGE EVENTS IN 1963

These included a large number and variety of meetings, short courses and other events. Facilities are provided for activities of a particularly agricultural and educational nature.

10	4-H Club Meetings Alberta Grazing Association Meeting
3	Farm Management Workshops
2	Credit Union Meetings Farm Credit Corporation Public Meeting 4-H Public Speaking Competition
3	Horticultural Meetings 4-H Leaders' Course Agricultural Service Board Meeting Agricultural Council Meeting United Church Laymen's Conference
3	Firemen's Officers' Training Courses
6	Municipal Officers and Assessors Courses 4-H Regional Public Speaking Competition
2	F.U.A. Board Meetings
2	4-H Club Weeks
1	Boys' and Girls' Fair Camp Week Vermilion-Vegreville-Wainwright School Teachers' Convention

V.S.A. ON T.V. AND RADIO

Mr. K. M. Stone with the assistance of Mr. J. Pankratz, Mr. D. Bell and Mr. J. A. R. Palin continued with the five minute Radio program "Halls of V.A.V.C." Monday to Friday each week. This show had a total of 22 hours broadcast time to the end of 1963. Major activities were also given coverage by the C.K.S.A. Radio and T.V. and the local press.

Regularly scheduled television broadcasts were produced at the college totalling 5 hours and 16 minutes. This time was used to keep the viewers informed of activities and new developments at the college.

EMPLOYMENT OF STAFF THROUGH THE SUMMER

A number of the staff continued their employment through the summer with other Branches of the Department. Mr. B. J. Godwin—Meteorological Services, Farm Weather Broadcast, Edmonton; Mr. L. G. G. Seath, Land Utilization; Mrs. L. C. Johnson, Women's Extension; Mr. J. A. R. Palin, Extension Engineer; Mr. R. M. Gratz—Regional 4-H Supervisor; Mr. J. Pankratz—4-H, Edmonton.

MAINTENANCE, COLLEGE GROUNDS AND PLOTS

An extensive program of redeveloping the campus area was commenced early in the year. Major adjustments included the relocation of a six stall garage, the relocation and renovation of the maintenance shop and the reorganization of space in the former Q.M. stores building to provide additional classroom and office space.

Repairing and redecorating of existing buildings was intensified and extended into the winter. Some adjustments were made on campus roads as well, to define areas for future use.

A rockery and arboretum were developed as a commemorative feature on the campus. The plaque provided by the Alberta Department of Agriculture highlighted the area. The garden will serve decorative and demonstration purposes. Mr. W. Leitenberger was responsible for most of the planning and development.

The grounds, gardens, nursery and plots attracted many visitors and were a source of valuable classroom material.

THE SCHOOL FARM 1963

1963 was an exceptionally good year for crop production in the Vermilion area. Conditions were better than normal for grain, hay, pasture and vegetable production.

CROPPING PROGRAM 1963

Crop	Acres	Yield
Wheat	11.5	494 bus.
Oats	73.75	5,290 bus.
Barley	31	1,664 bus.
Hay	80	165 tons
Silage	39.25	130 tons
Breaking	40	
Fallow	40	
Pasture	114.5	

Vegetables	Yield—lbs.
Potatoes	50,000
Carrots	6,000
Turnips	4,000
Parsnips	1,000
Beets	1,000

LIVESTOCK INVENTORY—DECEMBER 31, 1963

Dairy Cattle	45
Feeder Steers	25
Horses	2
Sheep	99
Swine	108
Poultry	438

Principal replacements and improvements to the College Farm are as follows:

1—Stock Squeeze
1—Hog Scale
1—Calf Stable Squeeze
1—Oliver 62 T Baler
2—12' x 14' Granaries

A water line to the poultry house was installed. Fencing, renewal and replacement of a portion of line fence and hog and sheep yards was carried out.

FARM SALES JANUARY 1, 1963 TO DECEMBER 31, 1963

Vegetables	$ 817.97
Milk	3,771.29
Cream	2,381.49
Eggs	2,109.91
Poultry	370.19
Livestock for Slaughter	7,906.76
Livestock for Breeding Purposes	1,098.25
Wool, Hides, Misc.	126.27
Total Farm Sales	$18,582.13

FALL SESSION 1963

With registration on September 30th, 1963, the new program of studies was in effect. Changes in teaching techniques and administration were necessary to facilitate the transition.

ENROLMENT AS OF OCTOBER 4th, 1963

Agriculture		112
1st Session	71	
3rd Session	41	
Home Economics		12
Commercial		22
Total Students		146

The college continues to receive very fine support from farm organizations, commercial firms and the Town of Vermilion in many forms of which scholarships, bursaries, demonstration materials are but a few.

Student activities were gradually organized to meet the new situation and the Students' Union was effective in promoting a sound program of extra-curricular activities.

TEACHING AND ADMINISTRATIVE STAFF 1963-64

Baranyk, W. S., B.Sc., B.Ed., P.Ag., Principal
Bell, D. W., Metals
Cann, J., Assistant Dean
Clouston, O. W., Accountant
Boggs, G. A., Structures
Gratz, R. M., B.Sc. Ag., P.Ag., Animal Science
Daugela, G., B.S.A., B.E., Mechanics
Haworth, J. (Miss), R.N., Dean—Nurse
Harcus, J. F., B.Sc., B.Ed., P.Ag., Animal Science
Hamm, J., B.S.A., Dean—Farm Management
Holtby, H., B.Sc., Animal Science
Johnson, L. (Mrs.), Clothing and Handicrafts
Olson, W. B., Maintenance Supervisor
Palin, J. A. R., B.S.A., Motors
Patching, D. C., B.Sc., Plant Science
Taylor, K. W., B.A., Vocational Academics
Olsen, Lois (Miss), B.H.E., Foods
McLean, Wm.. Dietitian

Mrs. E. Parlee was on staff as Dietitian until December 20th when Mr. McLean's services became available to us. Similarly, Mrs. G. A. Boggs instructed in Foods until Miss L. Olsen came on staff December 1st, 1963.

FAIRVIEW AGRICULTURAL AND VOCATIONAL COLLEGE

GENERAL

In the 1962-63 term the Fairview College adopted the three-month session system of offering the various courses. Agriculture, Automotives, and six-week Welding courses were offered for boys. Food Service Management, Dressmaking and Commercial were offered for girls. The special arrangement with the Fairview High School whereby students wishing to take high school subjects resided at the college and received instruction in the Fairview High School, was continued through the 1962-63 term.

The opening of the Agricultural and Automotive classes was delayed from September 24th to October 15th because of poor harvesting conditions.

Plans were completed for the gymnasium and additional mechanics building. Construction will begin early in the new year. The construction of a new poultry house was delayed until 1964 although the plans were completed.

Several small buildings including a gas and oil storage building, two livestock sun shelters, storage building for iron, a hay storage shelter and a feed storage building were constructed by the maintenance staff under the direction of Mr. John Nichols. Material has been purchased for the construction of a dairy calf and maternity barn which will be built in the spring.

Despite the efforts of the contractor the roof of the mechanics building completed in 1962 continues to leak.

SPECIAL LECTURERS AND VISITORS

The following were some of the guest lecturers and visitors at the college:

Mr. Iddins—F.U.A. Director, Brownvale
Mr. Dobs—Forage Researcher, Dominion Experimental Farm, Beaverlodge
Mr. C. Cheshire—Supervisor of District Agriculturists, Department of Agriculture, Edmonton
Mr. W. H. T. Mead—Livestock Commissioner, Edmonton
Mr. J. E. McCannel—Executive-Secretary, A.I.C., Ottawa
Dr. A. Guitard—Superintendent, Dominion Experimental Farm, Beaverlodge
Dr. T. B. Cleland—Veterinarian, Health of Animals Branch, Peace River
Mr. G. Baldwin—M.P., Peace River
Mr. Walliser—Manager, Friedenstal Co-op Store, Friedenstal
Mr. Bill Conner—P.R.O. Co-op Federation E16 Ltd., Fairview
Mr. D. Menzies—Architect, D.P.W., Edmonton
Mr. J. Hunt—Chief Engineer, D.P.W. Edmonton
Hon. Mr. Leveque—Minister of Agriculture, New Brunswick
Mr. Galbraith—Deputy Minister of Agriculture, New Brunswick

All the local District Agriculturists and District Home Economists and many others were visitors at the college during the year.

GRADUATION

Graduation ceremonies were held on June 21, 1963, at the Legion Hall in Fairview. Keith Allen of Fairview, an Automotive student was Valedictorian. Rev. Canon R. S. H. Greene, Anglican Parish Priest gave the Invocation. The address to the students was given by Mr. Dennis Dibski, Superintendent of Fairview School Division. Mr. W. P. Loggie, Fairview, Mr. Vic Nasedkin, Fairview, Mr. S. L. Erickson, Grande Prairie, Mr. Marshall Rollings, Fairview and Mr. G. R. McNaughton represented donors at the ceremonies.

Twenty-three students received their diplomas as follows:

Agriculture	11
Automotives	6
Food Service Management	2
Commercial	4
Total	23

SCHOLARSHIP WINNERS

W. P. Loggie, Scholarship presented by Mr. W. P. Loggie to Maurice Hiltz, Goodfare.

Northwest Line Elevator Farm Service Scholarship presented by Mr. S. L. Erickson to Sydney Rushfeldt, Pouce Coupe, B.C.

Imperial Oil Ltd. Scholarship presented by Mr. Vic Nasedkin to Roger Vick, Beaverlodge.

The Val Newton Memorial Scholarship—Paul Pivert, Dimsdale.

Robert Gardiner Memorial Scholarship—Maurice Hiltz, Goodfare.

British American Scholarship presented by Mr. Marshall Rollings to Roger Halwa, Grande Prairie.

Queen Elizabeth Prizes of $50.00 each were awarded as follows:

Maurice Hiltz, Goodfare
Yvonne LaFlamme, Falher
Janet MacDonald, High Prairie
Angeline Gaydosh, Peace River

EXTENSION ACTIVITIES

The college has provided facilities for groups taking extension courses on various phases of municipal administration under the direction of Mr. D. A. Bancroft of the University Extension Branch.

Mr. G. McNaughton and Mr. G. Boulet, District Agriculturists from Berwyn, held several meetings at the college with their farm management group from the Fairview district and other meetings of interest to farmers in the area.

The Co-operatives of the Peace River area used the facilities of the college for several meetings including a Public Speaking contest.

The Potato Growers and the Peace River Grazing Associations held meetings at the college.

A sewing short course under the direction of Miss F. Meakin was offered two afternoons a week January through March for two groups of ladies from the Fairview area.

Considerable extension work, in addition to regular teaching duties, was carried on by the staff of the college.

PUBLICITY

The staff worker diligently during the year publicizing the college. A weekly press release mailed to all local papers and radio stations was written by Mr. J. P. Tait. A twice monthly T.V. program aired over Dawson Creek's CJDC—T.V. was organized by Mr. L. T. Jones. Staff and students of the college participated in these programs which continued from September to June. In the fall, staff assisted by Mr. Roger Fry of the B.C. Department of Agriculture, presented one program every fourth week.

Staff members participated in all the career events held at the various high schools throughout the area.

A visitation program to all high schools in the area was organized by Mr. J. H. Warne with all the staff assisting through May and June.

Mr. R. S. Forrest and Mr. V. W. Osbaldeston made tape recordings which were aired over radio station CFGP explaining the various courses being offered.

Letters, circulars and calendars were mailed to the high schools, District Agriculturists, District Home Economists and interested parties in the area.

Announcement of courses booklets for each course were made up in April and May and mailed to all interested parties.

A large display board was constructed and taken to all the fairs in the area by Mr. J. H. Warne during August.

SPECIAL EVENTS

On February 15th a very successful Parents' Day was held with about 100 guests in attendance. Many of them stayed to enjoy the plays provided by the students in the evening.

A softball tournament sponsored by the Students' Union was a successful student event.

The Alumni Association held their Annual Reunion on August 17th. About 75 alumni enjoyed a luncheon and dance at the college.

The members of the Peace River Branch of the Agricultural Institute of Canada and their families enjoyed a luncheon at the college on August 30th.

On November 8th the college held open house. There were about 75 guests in attendance, including Mr. A. O. Fimrite, M.L.A., Spirit River, Mr. R. S. Lee, M.L.A., Dunvegan, and Mr. E. F. Montgomery, M.L.A., Peace River. The last two hours of the program from 4:00 p.m. to 6:00 p.m. were broadcast over CKYL radio station. The broadcast was under the direction of Mr. R. S. Forrest.

SCHEDULE OF OTHER FUNCTIONS

Month	Event	Attendance
January	Grazing Association Meeting	35
January	Potato Growers' Meeting	30
March	Battle River 4-H Club	16
April	Co-op New Director's Meeting	25
May	Alberta Dairymen's Association Peace River District Plant Section Conference	28
May	Meeting of Recreation and Cultural Development Group	8
July	4-H Club Week	88
July	F.U. and C.D.A. Teen Camp	76
July	Peace River District Co-op Federation E16 Ltd. Director's Meeting	16

INSTRUCTIONAL STAFF

Several staff changes occurred in 1963. Mr. W. J. Perkins left at the end of April. Miss B. Guedesse resigned June 30th to accept a position at the Fairview Hospital. Miss E. M. L. Fredeen left early in July to take other employment, Mrs. P. J. Sheehan transferred to Extension as District Home Economist at Grande Prairie in mid-July. Miss F. Meakin resigned September 30th to accept employment with the Manning School district. Mr. C. N. Freeman resigned December 31st to accept a position with the Federal Government in Manitoba.

The following new members were appointed to the staff: Mr. K. A. Waldron, Science and Mathematics Instructor and Dean of Men; Mrs. C. MacKay, Dean of Women; Mr. H. E. McLachlan, Animal Husbandry Instructor replacing Mr. J. H. Warne who was granted educational leave to attend University of Alberta in the Faculty of Education; Mrs. E. Wilson was employed part-time as School Nurse.

Mr. J. T. Lancaster transferred to the Field Crops Branch during the summer and Mr. R. S. Forrest was with the Extension Branch. Mr. J. P. Tait spent part of the summer with Apiculture Branch.

Mr. H. Petersen was appointed Automotive Instructor transferring from the position of maintenance electrician.

OTHER STAFF

Mr. A. B. Jorgenson resigned as farm manager and was replaced by Mr. J. A. McIntosh from Ponoka. Mr. Earl White of the farm staff resigned in November. Mr. T. M. Snelgrove was employed as maintenance electrician replacing Mr. H. Petersen.

GROUNDS AND PLOTS

The forage, grasses, and grain plots were reseeded this year. Work was started around the mechanics building but the landscaping was not completed. Because of very acute drought conditions many of the plantings and the grass had to be watered, otherwise they may not have survived.

A kitchen garden was seeded on the south side of the classrooms. This was reseeded to grass early in the fall.

Generally a great deal of progress was made in the maintenance of the landscaping around the college.

MAINTENANCE PROGRAM

All areas of building maintenance received attention but major attention was paid to plumbing and painting. The change-over from galvanized piping to copper piping was continued. The kitchen, student residences, staff houses and some of the classrooms were repainted. The steps at south end of the girls' residence were replaced. New concrete pads were poured at back of the kitchen, and mechanics building doors. Some sidewalks were replaced and several new concrete culverts were made. Some parts of the heating system were repaired including replacement of stay-bolts in the east main boiler. The walk-in refrigerators re-

ceived considerable attention this year and required extensive repairs.

A new office for the farm manager was built in the north-east corner of the livestock pavilion. A new exhaust fan and grease filters were installed in the kitchen.

Classroom furniture was repaired and revarnished. The electrical system was maintained in good order.

COLLEGE FARM

1963 was a very poor crop year in the Peace River area. The college farm did not receive any worthwhile rains after the snow disappeared until early in August. Due to the drought the carrying capacity of the pastures was reduced considerably. It was, therefore, necessary to pasture what normally would have been hay crop. One hundred and fifty tons of hay and seventy tons of straw had to be purchased.

The oat crop was cut for green feed and the barley crop was cut for ensilage. After the August rains there was considerable second growth.

FARM CROPS—1963

Crop	Average	Yield
Oat Green Feed	30	25 tons
Barley Ensilage	32	75 tons

The remainder of the farm acreage was pastured.

FARM LIVESTOCK—1963

Note: This is November 30th inventory

	Number
Beef Cattle	40
Dairy Cattle	12
Sheep	86
Swine	66
Poultry (White Leghorns)	237

The beef cattle and sheep cross-breeding program in co-operation with the other colleges and the Livestock Branch continued. The college has embarked on a cross-breeding program with swine using a Landrace and Lacombe boar on Yorkshire sows. Four Aberdeen Angus bulls were sent to Bassano for test under the A.B.C.P.A.

FARM SALES—1963

Livestock	$10,030.79
Dairy Products	4,158.88
Poultry Products	883.73
Wool	224.06
Vegetables	927.48
Total	$16,224.94

The farm purchased a new heavy duty cultivator and several other smaller pieces of equipment. Self waterers were installed for the outside stock in the swine pasture and beef and sheep paddocks.

THE 1963-64 TERM ATTENDANCE

	Fall	Winter
Agriculture	32	35
Academics	32	31
Automotives	14	10
Welding	6	11
Total	84	87

APPRECIATION

The financial and other forms of assistance given by various organizations and individuals throughout the year was much appreciated by the staff and students of the college. Appreciation goes especially to the Alberta Wheat Pool, W. P. Loggie, United Grain Growers, Mr. and Mrs. McBryan, Royal Canadian Legion, Line Elevator Farm Service, Winnipeg Grain Exchange, Queen Elizabeth Scholarship Fund, Surplus Wheat Board Monies Trust Fund, Imperial Oil Ltd., British American Oil Company Ltd., and U.F.A. Co-op Ltd. for their financial support in the form of scholarships and bursaries. The college expresses appreciation to Mr. B. J. M. Roe, Principal, Fairview High School and the Fairview School Board for making available their gymnasium so as to enable the college to carry on a sports program, and for the fine co-operation in many other areas.

The continued support of the town of Fairview is appreciated.

INSTRUCTIONAL AND ADMINISTRATIVE STAFF

Osbaldeston, V. W., B.E., B.Ed., P.Eng.—Principal, Community Organization
Lancaster, J. T., B.Sc., P.Ag.—Plant Science
Jones, L. T., B.S.A.—Animal Husbandry
Tait, J. P., B.Sc., B.Ed.—Farm Management
Warne, J. H., B.Sc., P.Ag.—Animal Husbandry (on Educational Leave)
McLachlan, H. E., B.Sc., Animal Husbandry
Freeman, C. N., B.S.A., P.Ag.—Plant Science
Forrest, R. S., B.E.—Agricultural Mechanics
Keller, A. E., B.E.—Agricultural Mechanics
Waldron, K. A.—Dean of Men—Science and Mathematics
Fleming, D. A.—Assistant Dean and Recreational Director
Petersen, H. E. G.—Automotives
Miller, A. E.—Metalwork
MacKay, C. (Mrs.)—Dean of Women
Wilson, J. W.—Accountant
Klein, D. (Miss)—Secretary
Hoel, D. (Miss)—Assistant Secretary
Bartlett, W. (Mrs.)—Librarian
Wilson, E. (Mrs.)—School Nurse (part-time)
Nichols, J. H.—Supervisor of Maintenance and Construction
McIntosh, J. A.—Farm Manager

Report of the Radio and Information Branch

E. B. SWINDLEHURST, B.Sc., Supervisor
WARREN WISMER, B.S.A., Senior Commentator
JOHN ANDREW, B.Sc., Commentator
MISS DIANA RODNEY, B.A., Information Officer

Topical information for farm and home was continued during the year through daily radio broadcasts, and weekly releases to press and extension people.

The information was obtained from workers in many fields of agriculture, and the excellent co-operation and good feeling experienced throughout has been both gratifying and appreciated.

RADIO PRODUCTION

During 1963, "Call of the Land", a Monday to Friday farm radio broadcast was aired 262 times on each of ten Alberta Radio stations. The following was a roster of stations carrying the broadcast at the year end.

CKUA Edmonton	12:20 P.M.	CKSA Lloydminster	12:50 P.M.
CFRN Edmonton	12:45 P.M.	CJDV Drumheller	12:50 P.M.
CFGP Grande Prairie	12:05 P.M.	CKXL Calgary	12:50 P.M.
CFCW Camrose	12:05 P.M.	CJOC Lethbridge	1:05 P.M.
CKRD Red Deer	12:45 P.M.	CHAT Medicine Hat	1:05 P.M.

"Call of the Land" was changed to CKXL Calgary late in the year when a suitable time could no longer be obtained from CFCN.

Radio was used primarily to inform farmers about current activities and extension programs available to them through the department, to provide information useful in the day to day management of their farms and to provide general information on agricultural production in Alberta. Emphasis was given to timeliness so that items would coincide with farmers' needs for them. At the same time, commentators tried to have interviews and other items coincide with the current activities of the extension program.

EVALUATION

Listeners comments and inquiries and Bureau of Broadcast Measurement survey results were the main guides used to assess the popularity of "Call of the Land". BBM surveys during the year indicated that about 100-thousand homes listened to the broadcast at least once or more per week. Items on horticulture, wills, estate plans, the liability of farmers, and a special series on livestock production brought a more notable response. There was good listener response from both rural and city women to the home economics programs provided.

Cost of the service has risen but was still less than one cent per home reached per day.

PROGRAMMING

Material used for the broadcasts covered all phases of farming in Alberta. Broadcasts averaged just under five items each. The following table shows the methods of presentation and their use:

Items used	Number of Programs
(a) Personality interview	273
(b) On-the-spot report and interviews	69
(c) Miscellaneous items and accouncements	852
(d) Editorial (by commentators or guests)	1
(e) Musical (special days—Christmas)	1
Total	1,196

The personality interview was important in enabling specialists and others to tell their story. Several radio stations indicated the use of interviews was desirable.

Sources of personality appearances for the year were as indicated in the following table:

Alberta Department of Agriculture	190
Other Alberta Government Departments	6
Canada Department of Agriculture	41
University of Alberta	10
Farm People (including 4-H)	35
Others	22
Total	304

The personal interview made much greater use of our own departmental specialists than in previous years, without sacrificing other authoritative sources.

A total of 1,196 items were used on 262 programs. The following table shows the nature of the material used and the number of items dealt with during the year.

1. General Agriculture (including world and national items)	181
2. Livestock	229
3. Field Crops and soils	185
4. Farm Safety	15
5. Farm Management and Farm Economics	30
6. 4-H	20
7. Poultry	11
8. Dairying	35
9. Veterinary Science	17
10. Horticulture	24
11. Agricultural Engineering	13
12. Agricultural Pest Control	35
13. Schools of Agriculture	24
14. Beekeeping	3
15. Fur Farming	5
16. Home Economics Extension	52
17. Miscellaneous (Announcements, etc.)	317
Total	1,196

Livestock and field crops again received the most attention. Miscellaneous announcements were greatly increased in 1963 to announce dates and places for short courses involving departmental personnel. The Home Economics extension staff were incorporated into our programming and appeared regularly on Friday. The farm homemaker had not previously been given much attention. Excellent co-operation was received from all branches in co-ordinating radio items with their work.

The regular supply of information from all branches formed the basis for our programming. This was supplemented by material gathered by the commentators from experimental farms, field days, and from farm meetings of provincial or national interest. Several

special series of programs were produced, all of which brought good audience response. These included a special product outlook series at the beginning of the year, a continuation of the special series on livestock diseases started in 1962, and a special series on beef cattle production and management.

For the sixth successive year, a series of programs containing results and interviews direct from the Royal Winter Fair, was relayed to the out of Edmonton Stations each morning via the Alberta Government Telephones network. Radio Station CKUA was the originating station for the eight network broadcasts. It was the ninth successive year reports were made to Alberta from the Royal Winter Fair. The assignment was handled by John Andrew, who worked closely with other Alberta government officials, as well as with press, radio and television personnel. In addition, daily night press reports of Alberta winnings at the Royal were supplied to an increased number of daily news outlets compared to 1962.

"Call of the Land" was produced, recorded and distributed from the studios of the Radio Branch. As of December 31 this branch had produced 3,546 daily farm broadcasts.

TELEVISION

Branch personnel devoted more time to television in 1963. This was due to preparation of a week long television short course "This Business of Farming", produced co-operatively by the three prairie departments of agriculture and the CBC, for presentation January 1964. The first four days of this series were carried on the prairie network of the CBC. The fifth program was produced strictly for Alberta viewers. With the aid of other departmental personnel, Warren Wismer was given the responsibility for the script. This provincial program emphasized farm and home management as a means of providing a profitable and satisfactory farm living and showed how several farm families in the Olds district had learned to value the guidance and leadership of departmental and other extension personnel.

Branch personnel also took part in a CBC TV program on the "Farm and Home" program in the Athabasca district.

This branch also co-operated with the Film and Photographic Branch, Provincial Secretary's Department, to provide to each television station in Alberta, film coverage of the government seminar on agriculture held in Red Deer. Through the same co-operation, each Alberta television station was again issued 1,200 feet (36 minutes) of film coverage of the Royal Winter Fair. Alberta is the only province in Canada that provided this service. It is regarded by Alberta television stations as a part of their regular programming each year at that time.

AGRICULTURAL WEATHER FORECASTS

During the year this branch became involved with the Agricultural weather forecast instituted in 1961 by the Alberta Department of Agriculture and the Meteorological Branch, Department of Transport. In 1963 the service was expanded to six days a week. It started about mid-May, two weeks earlier than usual, and was terminated at the end of August.

These forecasts consisted of a "Farm Weather Synopsis" which gave the agricultural implications of current and expected weather; and "Regional Forecasts" for the Peace, Parkland and Prairie Regions, covering a two to three day period. The forecasts were issued by B. J. Godwin, our staff, and the Dominion Government Meteorological Offices in Edmonton, and released to all daily Alberta news media at 10:00 a.m. through the wire services of Canadian Press. Forecasts were issued every day but Sunday.

General approval by the daily media and farmers indicated a request for its continuation.

SCIENCE AND THE LAND

Periodic visits to agricultural research centres in Alberta resulted in release during the year of 60 reports of research progress or completion.

Calls were made at intervals at the Research Station, Lethbridge; the Faculty of Agriculture, University of Alberta; the Forest Biology Laboratory in Calgary; the Substation at Vegreville; and the Experimental Farms at Beaverlodge and Lacombe. Discussion with the scientists involved and reports of work accomplished formed the basis of Science and the Land releases.

Editing of the revised edition of the Alberta Farm Guide was undertaken by the Radio and Information Branch in 1963, together with various writing and editing throughout the year.

FARM NOTES

Farm Notes, prepared by the Information Officer, continued to be well received. Their frequent appearance in a wide variety of publications and on the air indicated their favourable acceptance by radio and press.

During the year, 52 issues of Farm Notes were released, containing 273 items of farm and home interest.

Report of the Land and Forest Conservation and Utilization Committee

and

ARDA

G. R. STERLING, B.Sc., Chairman
H. W. THIESSEN, B.Sc., Supervisor of Irrigated Pastures

The personnel of the Land and Forest Conservation and Utilization Committee changed during 1963. Mr. A. R. Isbister replaced Mr. A. W. Morrison, and Mr. R. G. Steele replaced Mr. E. S. Huestis. Meetings of this committee were held in conjunction with the ARDA Advisory Committee, because the personnel of both committees is almost the same.

Rannock:

Two hundred acres were brushed and piled early in 1963, and the same seeded to a suitable grass mixture which gave a very good catch.

Wanham:

Some changes in fences were made, and several fireguards in the north west fields were brushed for burning purposes.

Wetaskiwin:

Cattle were grazed on the west side of this pasture on a permit basis. Corrals were almost completed and in the course of the year only a small amount of fencing remained to be finished.

Ponoka:

Late in the year we made preparations to clear the fence lines of Township 44-6.

Thorhild and Smoky Lake:

Attempts were made to purchase land in these areas. However, no one agreed to sell and an investigation into the price offered was completed. At the close of the year, no land was actually purchased.

St. Paul, Stony Plain, Lac Ste. Anne, Kleskun Lake, Goodfare, Ranfurly, and Three Areas submitted by the North Peace Community Pasture Association:

Funds did not permit work on these projects during 1963.

Seven Persons:

This project was approved for ARDA assistance under the Federal-Provincial pasture project agreement.

Two artificial insemination pens were constructed to facilitate breeding. In the late fall 320 acres of abandoned cultivation were cultivated and reseeded to a mixture of Russian Wild Rye, Crested Wheat and Rambler Alfalfa.

During the 1963 grazing season 4,500 A.U.M. were utilized on the 506 acres of irrigated land.

Approximately 1,186 acre feet of water was used to irrigate the 506 acres 5 to 6 times. The average application of water during the season was 28 inches per acre.

Bow Island:

This project was approved for ARDA assistance under the Federal-Provincial pasture project agreement.

Approximately 421.4 acres of levelling were completed on this project during 1963 as follows:

S.E. 7-12-10-4	29.9 acres	9,095 cu. yds.
S.E. 8-12-10-4	7.3 acres	3,243 cu. yds.
N.H. 8-12-10-4	186.3 acres	77,205 cu. yds.
S.W. 8-12-10-4		
S.W. 9-12-10-4	102.4 acres	46,508 cu. yds.
N.E. 20-12-10-4	95.5 acres	21,651 cu. yds.
N.W. 21-12-10-4		
	421.4 acres	157,702 cu. yds.

A good portion of the necessary irrigation structures were completed and 230 acres of the newly levelled land was irrigated prior to the end of the irrigation season.

Approximately 349.2 acres of land levelled during 1962 and 1963 was seeded to the Lethbridge Irrigated pasture mix. A fair to excellent stand was realized. In the fall 80 acres were seeded to a mixture of Russian Wild Rye, Crested Wheat and Rambler Alfalfa.

Seven stock watering dugouts were constructed throughout the reserve. In addition one irrigation reservoir dam was constructed and riprapped. The storage capacity of the irrigation reservoir is approximately 120 acre feet.

Five and one-half miles of perimeter fencing and seven and one-half miles of cross fencing were completed. A set of sorting corrals were also completed.

During September and October some of the grass sown in May was lightly grazed. The yearling steers which grazed it gained 1.92 pounds per day, and the grass yielded approximately 140 pounds of beef per acre even though a heavy carry over was allowed to remain. No fertilizer was applied to the grass.

Purple Springs:

An ARDA submission under the Federal-Provincial pasture project agreement was submitted.

The construction consisted of drainage construction to protect levelled lands against flooding.

Grassy Lake:

This project was approved for ARDA assistance under the Federal-Provincial pasture project agreement.

Approximately 1,760 acres of land were topographically gridded for irrigation designs in preparation for levelling during 1964.

Twin River:

An ARDA submission under the Federal-Provincial pasture project agreement was submitted. It covered dryland pasture development and irrigated pasture development.

Pinhorn:

An ARDA submission under the Federal-Provincial pasture project agreement was submitted. It covered dryland pasture development and irrigated pasture development.

Grazing Associations:

Grazing associations received assistance in the form of interest-free loans to implement improvements indicated below:

Many Island Grazing Association—$228.00 for wire and staples

Vauxhall Stock Grazing Association—$2,846.40 for wire and staples

Demonstration Plots:

Plots on the farms of Messrs. Green, Wade and Fox Brothers were continued during 1963. Yield tests were taken and recorded on each plot.

Soil and Feed Testing Laboratory:

Mr. G. R. Sterling continued as a member of the Supervisory Committee for this laboratory. Two meetings were held throughout the year. The following table shows the samples handled during the last six years:

1958	2,378	1961	3,794
1959	2,219	1962	5,634
1960	3,681	1963	8,484

Below is a table showing the different samples analyzed and the breakdown of the feed samples. Note that 1,084 feed samples were submitted, but that a total of 1,548 samples were analyzed. This is because more than one analyses was done on some samples:

Quarter	Feed	Farm Soil	Garden Soil	Greenhouse Soil	Total for Quarter
January 1 - March 31	525	1,216	72	147	1,960
April 1 - June 30	65	452	254	122	893
July 1 - September 30	99	355	162	272	888
October 1 - December 31	395	4,072	93	183	4,743
	1,084	6,095*	581	724	8,464

*850 soil samples were tested for the Soil Science Department, University of Alberta, under the soil testing correlation program.

BREAKDOWN OF FEED SAMPLES

Quarter	Grains	Hays	Silages	Special Analyses*	Total for Quarter
January 1 - March 31	113	319	93	246	771
April 1 - June 30	39	19	7	8	73
July 1 - September 30	35	54	10	34	133
October 1 - December 31	137	156	88	190	571
	324	548	198	478	1,548

* Nitrate, Prussic Acid, Carotene

ARDA

The General Agreement under ARDA was signed late in 1962. The five project agreements covering the four sections of the Act (2 covering the Alternate Land Use Section) were signed in March 1963 and are listed below:

Soil and Water Conservation Agreement
Alternative Uses of Land Agreement
Pasture Project Agreement
Research Projects Agreement
Rural Development Areas Research Agreement

ARDA Advisory Committee Personnel:

The personnel of this committee remains the same as listed in the 1962 report with the exception that Mr. A. R. Isbister replaced Mr. A. W. Morrison, and Mr. R. G. Steele replaced Mr. E. S. Huestis, and Mr. S. F. Shields, Federal ARDA representative in Alberta, was added.

Alberta Co-ordinating Committee Personnel:

The committee was organized early in 1963 to review all projects prior to their submission to the Alberta Cabinet, and to ARDA officials at Ottawa. Members of this Committee were Mr. R. M. Putnam, Deputy Minister of Agriculture, Chairman; Mr. A. W. Morrison, Deputy Minister of Municipal Affairs; Mr. H. G. Jensen, Deputy Minister of Lands and Forests; and Mr. J. E. Oberholtzer, Deputy Minister of Industry and Development; Dr. V. A. Wood, Director of Lands, Department of Lands and Forests; and Mr. G. R. Sterling, Department of Agriculture, Secretary.

The Advisory Committee met eight times and the ARDA Co-ordinating Committee met four times throughout the year.

ARDA Soil and Water Conservation Agreement:

This agreement allowed for soil and water conservation, drainage, and irrigation projects. Federal share was one-third to one-half depending on whether the project has National interest and/or benefits. The following projects were approved under this section

Alberta Soil and Crop Management
East-West Prairie Rivers
Irrigated Farm Development Studies, Investigation and Design

Alternative Uses of Land Agreement:

This agreement allowed for one-third to one-half Federal assistance to take lands out of agriculture and to put them to some other use. No projects were approved under this agreement.

Pasture Projects Agreement:

Under this agreement marginal land was taken out of agriculture and put into community grazing reserves with Federal

assistance up to two-thirds for acquisition of land and 50% for development. The following projects were approved under this agreement:

Grassy Lake Grazing Reserve
Rannock Grazing Reserve
Seven Persons Irrigated Grazing Reserve
Smoky Lake Grazing Reserve
Thorhild Grazing Reserve
Wanham Grazing Reserve
Wetaskiwin Grazing Reserve

Research Projects Agreement:

The Federal assistance for research projects was 50% generally, but in some cases Canada paid the full cost. The following projects were approved under this agreement:

Appraisal Value Land Levelling in the Irrigation Districts of Southern Alberta
Soil Capability for Agriculture
A Study of a Developed Irrigation District
Economic Study of Irrigation
Engineering Studies of Irrigation Districts

Rural Development Areas Research Agreement:

This agreement allows for rural development studies, and projects resulting from the studies may be negotiated with the Federal Government on a 50% basis. The following projects were approved:

Pilot Study—Edson

Report of the Board of Trustees

THE SURPLUS WHEAT BOARD MONIES TRUST ACCOUNT

HONOURABLE H. E. STROM, Chairman
R. M. PUTNAM, B.Sc., M.Sc., Deputy Minister of Agriculture
RICHARD BALLHORN, Farmer, Wetaskiwin, Alberta
ARTHUR PIERSON, Vice-President and Treasurer of the Independent Grain Company, Calgary, Alberta
H. W. GAEBEL, Secretary, Department of Agriculture

A statement showing the receipts and expenditures is attached together with a statement of Assets and Liabilities.

During the year the net receipts were $6,601.29 as compared with $3,702.97 for the previous year.

Payments during the year under review amounted to $1,630.00 and were made up as follows:

Scholarships and Bursaries	$1,600.00
Meeting Expenses	30.00
	$1,630.00

Meetings

A meeting of the members of the Board was held on July 3rd, 1963 at which time a new schedule providing for thirty-six scholarships and bursaries for the coming year was approved to be awarded as follows:

1. 21 Scholarships at $100.00 each to winners of 4-H Club Weeks, held at Olds, Vermilion and Fairview Agricultural and Vocational Colleges, tenable at Agriculturtl and Vocational Colleges or the University of Alberta in the Faculty of Agriculture or Home Economics.

2. 10 Bursaries at $100.00 each to assist any young person in attending the Agricultural and Vocational Colleges at Olds, Vermilion, Fairview or the University of Alberta in the Faculty of Agriculture or Home Economics. Priority to be given to applications from young people who are not 4-H Club members.

3. 3 Scholarships at $150.00 each awarded to graduates of Agricultural and Vocational Colleges at Olds, Vermilion or Fairview to attend the University in any Faculty.

4. 2 Scholarships at $150.00 awarded at Farm Young People's Week, tenable at the University in any Faculty.

General

The Board has continued the policy of conserving the principal in the Trust Fund making all payments from income received on investments.

Investments

Investments at the end of the twelve month period is as shown on the attached balance sheet.

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND

BALANCE SHEET AS AT DECEMBER 31, 1963

ASSETS

Current			
Bank Balance		$ 4,971.29	
Accrued Interest Receivable		727.90	
			$ 5,699.19
Investments	Par Value	Book Value	
Gov't. of Canada 3¾% Jan. 15/78	$ 2,500.00	$ 2,513.60	
Prov. of B.C. 3% Dec. 15/69	45,000.00	44,861.58	
Prov. of Sask. 5½% Feb. 15/82	5,000.00	4,965.59	
Prov. of N.B. 3½% Apr. 1/67	45,000.00	44,953.74	
Ont. Hydro Elect. 4¼% Nov. 1/67	4,000.00	3,992.84	
Prov. of Newfl'd. 3¾% June 1/76	4,000.00	3,927.44	
City of Calgary 3½% July 1/68	4,000.00	3,997.28	
	$109,500.00	$109,212.07	
Total Investments—Book Value			$109,212.07
Total Assets			$114,911.26

LIABILITIES

Trust Fund December 31st, 1962	$112,652.87
Add: Surplus for 1963	2,258.39
Total Liabilities	$114,911.26

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND

STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED DECEMBER 31, 1963

Bank Balance January 1, 1963		$ 2,769.09
Interest on $ 2,500 Canada	$ 93.74	
Interest on $45,000 Province of British Columbia	1,350.00	
Interest on $ 5,000 Province of Saskatchewan	275.00	
Interest on $45,000 Province of New Brunswick	1,575.00	
Interest on $ 4,000 Ontario Hydro Electric	170.00	
Interest on $ 4,000 Province of Newfoundland	150.00	
Interest on $ 4,000 City of Calgary	140.00	
Interest on Bank Balances	78.46	$ 3,832.20
		$ 6,601.29
Deduct Payments—		
Scholarships—Fairview School	$ 300.00	
Olds School	200.00	
Vermilion School	900.00	
University of Alberta	200.00	
Meeting Expense—R. Ballhorn	10.00	
A. Pierson	20.00	1,630.00
Bank Balance December 31st, 1963		$ 4,971.29

TREASURY BRANCH

WHEAT BOARD MONIES TRUST FUND

ACCRUED INTEREST RECEIVABLE AS AT DECEMBER 31, 1963

Government of Canada Debentures $ 2,500.00	3¾ %	January 15, 1978			5½ Months	$ 42.96
Province of British Columbia Debentures $45,000.00	3%	December 15, 1969			½ Month	56.25
Province of Saskatchewan Debentures $ 5,000.00	5½ %	February 15, 1982			4½ Months	103.13
Province of New Brunswick Debentures $45,000.00	3½ %	April 1, 1967			3 Months	393.75
Ontario Hydro Electric Debentures $ 4,000.00	4¼ %	November 1, 1967			2 Months	28.33
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 1963		$ 4,296.00	@	2%	$7.06	
December 1963		4,221.00	@	2%	7.17	14.23
						$721.15

Add: Accumulation of Discount		
Accrued on Prov. of British Columbia	$ .96	
Accrued on Prov. of Saskatchewan	.78	
Accrued on Prov. of New Brunswick	3.31	
Accrued on Ontario Hydro Electric	1.19	
Accrued on Prov. of Newfoundland	.80	
Accrued on City of Calgary	.26	
Less: Amortization of Premium Accrued on Government of Canada	$ .55	6.75
Net Earnings Accrued to December 31st, 1963		$ 727.90

Report on Farm Credit

ALBERTA FARM PURCHASE BOARD

K. G. TAYLOR, B.Sc., Chairman
H. ALLAM, Member
J. M. CURRIE, Member

Due to other heavy administrative responsibilities in the Department, Mr. G. R. Sterling relinquished Chairmanship of the Board on October 31, 1963. Mr. K. G. Taylor was appointed Chairman on November 1, 1963.

The Farm Purchase Credit Act, 1963, created the Alberta Farm Purchase Board to replace the local Boards. The local organization became known as a Farm Purchase Advisory Committee and performs the same functions as heretofore with respect to processing applications. After approval, loans are administered by the Central Board.

Farm Purchase Credit Act

During the fiscal year April 1, 1962 to March 31, 1963, the Alberta Farm Purchase Board approved 422 applications, committing a total of $2,476,653.53 in Government loans.

There were 71 Advisory Committees operating at the end of 1963. The following is a list of the Counties, Municipal Districts and Improvement Districts which have formed Committees up to and including December 31, 1963, along with a listing of applications which have been handled by the Alberta Farm Purchase Board since its inception in 1957. The figure in brackets shows the number of applications submitted to the Board for the year 1963 only.

District	Applications Submitted to Board		Approved	Rejected	Withdrawals	Hold for more Information	Value of Farm Lands	Loans
Athabasca	49	(8)	31	11	7	....	$ 292,849.00	$ 142,350.00
Barrhead	51	(23)	35	11	2	3	523,500.00	328,400.00
Beaver	155	(20)	124	26	4	1	1,493,052.00	632,520.00
Bonnyville	78	(20)	64	10	3	1	657,000.00	323,100.00
Camrose	166	(25)	137	23	6	....	1,839,765.00	869,510.00
Cardston (E.)	8	(1)	5	3	....	....	38,000.00	18,300.00
Cardston (W.)	54	(4)	45	8	1	....	612,065.00	264,602.95
Eagle	77	(9)	59	15	1	2	416,700.00	195,550.00
Flagstaff	80	(20)	67	9	4	....	722,450.00	351,925.00
Foothills	38	(6)	29	7	1	1	505,108.00	224,400.00
Forty Mile	49	(4)	40	6	1	2	512,988.27	233,736.63
Grande Prairie	60	(2)	44	14	2	....	458,300.00	212,800.00
Kneehill	....	(....)	....	....	....	....	.....	.....
Lacombe	8	(1)	7	1	....	....	78,050.00	37,775.00
Lac Ste. Anne	28	(....)	15	10	2	1	136,200.00	64,074.50
Lamont	143	(16)	112	22	8	1	1,091,800.00	500,150.00
Leduc	111	(20)	99	7	3	2	1,059,375.00	516,037.50
Lethbridge	73	(17)	44	25	1	3	783,420.00	354,745.00
Minburn	104	(20)	73	23	6	2	726,410.00	360,835.00
Mountain View	57	(11)	32	20	2	3	480,200.00	225,000.00
Newell	11	(....)	7	4	....	....	81,400.00	35,860.00
Paintearth	105	(17)	97	2	4	2	779,995.00	421,179.00
Peace River	3	(....)	2	1	....	....	29,000.00	14,500.00
Pincher Creek	9	(5)	4	5	....	....	90,942.00	40,000.00

District	Applications Submitted to Board		Approved	Rejected	Withdrawals	Hold for more Information	Value of Farm Lands	Loans
Ponoka	62	(7)	51	3	5	3	713,500.00	338,700.00
Rimbey	46	(2)	26	15	4	1	251,400.00	122,620.00
Rocky View	75	(11)	64	10	1	....	999,425.95	451,741.95
Smoky Lake	....	(....)	....	....	....	....	.....	.....
Smoky River	42	(12)	31	10	1	....	301,880.00	123,690.00
Spirit River	....	(....)	....	....	....	....	.....	.....
Starland	49	(6)	43	6	....	....	511,020.00	246,845.00
Stettler	24	(3)	16	6	1	1	197,800.00	98,900.00
Stony Plain	16	(3)	12	3	....	1	129,500.00	60,550.00
St. Paul	43	(16)	30	11	1	1	268,950.00	127,925.00
Strathcona	13	(2)	11	1	....	1	141,250.00	63,825.00
Sturgeon River	46	(5)	28	11	4	3	403,970.00	184,175.00
Thorhild	71	(13)	50	15	2	4	407,360.00	193,300.00
Vermilion River	63	(5)	57	5	1	....	608,550.00	299,475.00
Vulcan	88	(9)	73	9	3	3	1,034,325.00	459,922.50
Wainwright	36	(5)	25	6	3	2	296,700.00	143,100.00
Warner	28	(3)	19	6	3	....	311,365.00	137,252.50
Westlock	178	(25)	137	37	1	3	1,398,290.00	664,250.00
Wetaskiwin	51	(12)	35	13	2	1	477,800.00	215,850.00
Wheatland	21	(4)	18	2	....	1	271,250.00	124,200.00
Willow Creek	73	(7)	50	20	3	....	808,166.00	369,534.50
Special Area #2	84	(8)	73	8	3	....	714,710.00	351,073.00
Special Area #3	48	(12)	42	6	....	....	488,780.00	228,740.00
I. D. # 11	45	(7)	24	18	3	....	433,600.00	191,980.00
I. D. # 22	3	(....)	1	2	....	....	16,000.00	8,000.00
I. D. # 42	....	(....)	....	....	....	....	.....	.....
I. D. # 58	5	(1)	2	3	....	....	29,000.00	14,500.00
I. D. # 65	61	(15)	37	22	1	1	387,900.00	184,900.00
I. D. # 77	1	(....)	1	....	....	....	2,000.00	1,000.00
I. D. # 78	12	(1)	7	5	....	....	25,250.00	11,575.00
I. D. # 95	6	(1)	2	4	....	....	17,000.00	8,500.00
I. D. #101	12	(....)	7	5	....	....	41,500.00	19,100.00
I. D. #102	54	(9)	26	25	2	1	140,200.00	66,230.00
I. D. #107	4	(....)	3	1	....	....	15,700.00	7,590.00
I. D. #108	3	(1)	2	....	1	....	15,500.00	7,750.00
I. D. #109	3	(....)	3	....	....	....	25,500.00	12,750.00
I. D. #111	....	(....)	....	....	....	....	.....	.....
I. D. #124	6	(2)	4	2	....	....	27,350.00	13,675.00
I. D. #125	16	(....)	10	6	....	....	79,500.00	34,550.00
I. D. #126	8	(....)	5	2	....	1	28,500.00	14,250.00
I. D. #131	4	(....)	2	2	....	....	13,000.00	6,500.00
I. D. #132	16	(1)	8	5	1	2	53,500.00	26,750.00
I. D. #134	12	(....)	9	2	1	....	51,500.00	23,750.00
I. D. #138	17	(2)	7	10	....	....	63,215.00	28,236.00
I. D. #139	3	(1)	1	1	1	....	5,500.00	2,750.00
I. D. #146	3	(1)	1	2	....	....	6,000.00	3,000.00
I. D. #147	1	(....)	1	....	....	....	4,900.00	2,450.00
TOTALS 71	2,969	(461)	2,226	583	106	54	$25,626,676.22	$12,062,806.03

Of the 2,226 applications approved, 357 applications have been approved in 1963, with $2,098,321.50 committed in loans for the twelve month period.

Purchase Boards have been formed in all areas of the Province with the exception of the Municipal Districts of: Taber, Provost, Acadia Valley, Fairview and the County of Red Deer.

The Alberta Farm Purchase Board held 26 meetings during the year, and have met a total of 151 times since the Act was passed in 1957.

Farm Home Improvement Act

The Farm Home Improvement Act was passed in 1959. During 1963 a total of 34 loans were made with a total value of $58,200.00.

A total of 244 loans valued at $388,594.00 have been made under this Act since inception.

Report of Farm Economics Branch

G. R. PURNELL, B.Sc., M.Sc., Ph.D., P.Ag., Director

Production Studies Section
B. J. McBAIN, B.Sc., P.Ag., Supervisor
K. D. PORTER, B.Comm., P.Ag., Assistant Supervisor

Farm Management Extension Section
T. A. PETERSEN, B.Sc., M.Sc., P.Ag., Supervisor
L. BAUER, B.Sc., P.Ag., Assistant Supervisor

Statistics Section
R. E. ENGLISH, B.S.A., M.S.A., Agricultural Statistician
W. E. KUHTZ, B.Sc., Assistant Agricultural Statistician

Marketing Section
C. H. FERRIES, B.Sc., M.Sc., P.Ag., Supervisor
G. R. KEAY, B.Sc., P.Ag., Assistant Supervisor

A. GENERAL

The major functions of this Branch were continued in 1963 without any change in the nature of policy or programs. Expansion was made in the services providing farmers and ranchers with information and principles of sound business practices through the 44 District Agriculturists offices in the Agricultural Extension Service. The consultation service to Government agencies and officials was also continued and expanded. The Director of Farm Economics served on the Provincial Advisory Committee on the Agricultural Rehabilitation and Development Act, and on a special committee advisory to the Minister of Agriculture on the subject of Crop Insurance. The Director also worked with other Department officials and members of the Fresh Vegetable Industry on problems facing that group. The Branch continued to collaborate with other Branches in the Department and with other Departments of the Government. In addition to the regular cooperative efforts the Branch worked with the Provincial Planning Director on the economic implications of subdivision of Agricultural units. Consultation was also rendered to the Waldron Grazing Association regarding the purchase of a large ranching unit in the Claresholm area. Assistance and participation was given to preparation and presentation of a T.V. Short Course over CJLH-T.V. Lethbridge on Farm Management principles and considerable effort was spent by staff in preparation of the T.V. Short Course "This Business of Farming" produced by CBC and sponsored by the 3 Prairie Provinces for presentation in 1964.

During 1963 Mr. W. E. Kuhtz was employed as Assistant Agricultural Statistician and Mr. G. R. Keay was promoted to Assistant Supervisor of the Marketing Section. Mr. L. Bauer was granted three months educational leave to pursue work towards a masters degree at Montana State College and Mr. T. A. Petersen resigned as Supervisor of the Farm Management Extension Section. Dr. Purnell, Director of the Branch was granted three months leave without pay to serve in Bechuanaland, Africa, as Agricultural

Marketing Consultant with the Food and Agriculture Organization of the United Nations. Mr. Petersen was Acting Director for the period July 23rd to October 27th.

The Branch was co-host with the University of Alberta and the Federal Economics Division to the National Annual Workshop of the Canadian Agricultural Economics Society in Edmonton.

During the year 1963 offices of the Branch personnel were moved twice. First from various locations in the Legislative Building to consolidated space on the ground floor of that building and second to room 208 in the 100th Avenue Building on 100th Avenue and 104th Street in Edmonton.

The activities of Alberta District Agriculturists in the field of Agricultural Economics which were directly or indirectly influenced by work of the Farm Economics Branch are outlined in the table below.

AGRICULTURAL ECONOMICS—Work of Alberta District Agriculturists

Agricultural Economics Topics	Individual Contact		Small Groups			Mass	
	Farm visits	Office visits	No. of groups	No. of meetings	Attendance	Meetings	Attendance
1. Farm Records and Accounting	601	818	78	216	2,261	18	484
2. Farm Business Analysis	473	638	64	114	1,571	13	309
3. Budgeting	241	265	41	55	835	7	154
4. Marketing and Price Outlook	200	725	14	15	299	39	1,357
5. Farm Lease and Rental Arrangement	148	456	8	8	150	8	208
6. Farm Credit	140	750	18	16	278	21	1,074
7. Income Tax and Estate Planning	106	248	30	26	546	18	1,001
8. Economic principles	100	162	25	34	510	12	466
9. Other	333	480	18	41	871	4	309

A brief resumé of the work of the four operating sections of the Branch is presented in the following paragraphs.

B. FARM PRODUCTION COST AND RETURNS STUDIED

In 1963 this section found continued heavy demands made upon it for consultations, data, and interpretation on studies previously completed or currently under way.

MILK STUDIES USED IN MILK PRICE SETTING IN 1963

The year of 1963 put considerable emphasis on the milk studies carried out by this Branch. It was a year of Public Milk Hearings wherein the Board of Public Utility Commissioners held five sittings to assess the costs and returns to both producers and processors of fluid milk in five of the nine milk areas where milk control has been requested. In reviewing the producer costs the data for the Milk Cost Studies was called for back to 1956 which was the time of the last milk price adjustment.

Some priority was given the milk studies in the field work of closing the farm account in the summer and in the subsequent analysis carried out in the office. This made the most recent set of figures for a study year available for the Milk Hearing held in November and December. The trend shown over this period from 1956 to 1963 was a general rise in most costs especially, labor and equipment and repairs. For a while some of these increases were absorbed by increased production per cow and by increase in scale of operation. During the past two years, however, the increase in production had commenced to level out. Another factor to consider was a decrease in the moisture supply and this has caused a shortage of pasture and roughage in some areas.

During the intervening years since 1956 the introduction of bulk tank has made marked changes in the pattern of doing production and distribution. The continuous year to year report of the dairy studies was useful to show the impact of this innovation. Much larger investments were required for the new equipment and for expansion where that was necessary.

Producers who could not see their way to convert to bulk tank had to drop out of the business. The highest number of drop outs for any one year occurred in the past year in the Calgary area where over forty producers gave up their quotas for shipping fluid milk.

BRIEF OUTLINE OF MILK STUDY RESULTS

The following schedule gives the end results of some of the cost data for the areas studied. Besides preparing such summaries and other details of the annual reports on these studies, the supervisor also acted as a consultant to the Board and provided evidence as a Crown Witness on the findings in the studies on milk production costs and related information.

Table 1

COST OF PRODUCING 100 LBS. MILK—1962-63

	Calgary and Red Deer*	Edmonton	Lethbridge	Medicine Hat
	$	$	$	$
Feed including purchased, home grown and pasture	2.30	2.06	2.41	2.48
Labour—dairy share total farm labour	0.88	1.01	0.88	1.40
All Other Items—hauling fees, interest, repairs, dairy supplies, electricity, depreciation	1.49	1.30	1.16	1.26
Total Gross Cost	4.67	4.37	4.45	5.14
Deduct Credit from Herd Increase	0.65	0.84	0.66	0.89
Total Net Costs	4.02	3.53	3.79	4.25
Average price received per cwt. all milk sold	4.41	4.38	4.22	4.49
Average returns management and profit	0.39	0.85	0.43	0.24
Net amount left for profit and management after charging custom rate for dairy labor	$1,593	$3,132	$2,937	$523

* Results for Calgary and Red Deer are shown here combined as the two milk sheds now overlap.

CROP STUDIES

There were two general objectives in these undertakings. One was to establish tables of present day Costs and Returns in specific lines of Agricultural production. The other was to determine and

set out universal patterns of expense in the production of certain crops, so that an awareness of the actual costs of time, labor, land investment, machine investment, and depreciation would occur among the crop raising farmers. The ultimate aim is the use of the preceding data in arriving at orderly production and marketing of Agricultural products.

COST OF PRODUCTION—OILSEEDS AND WHEAT

Cost of Production Reports on Rapeseed, Sunflower seed and wheat were sent out in the spring of 1963. The reports dealt with the crop year of 1962. Distribution was made to the participating farm operators, to interested parties in Agricultural business and research, and to key personnel in the Provincial and Federal Departments of Agriculture.

These reports, which developed out of the farming and business experiences of several large groups of Alberta farmers, contained a complete analysis of the production and disposal of the crops, with all inputs evaluated and the net income determined. A personal enterprise analysis was included for those growers on the study. Averages of the general group were made available in the reports to the public.

The crop year of 1963 was the final year of the three-year Oilseed Study. Records of this crop year were secured directly from the growers, and are in the process of being tabulated with an early expected release in 1964. While there was no change in the areas studied there was some change in the study group as growers exercised their decisions of growing or not growing the oilseed.

Thirty-six farms in 1963 provided the samples in the Peace River area, forty in the Red Deer - Olds area, and eighteen in Southern Alberta. Following is a table briefly outlining some results of this work.

Table 2

COSTS AND RETURNS PER ACRE

	Peace River		Red Deer	
	Rapeseed	Wheat	Rapeseed	Wheat
No. of Farms Studied	32	24	39	30
Average Yield Lbs. Per Acre	820.0	1,294.0	898.5	1,980.4
Receipts:				
Value of Crop	$30.54	30.84	34.00	48.00
Expenses:				
Seed	0.84	2.49	0.72	2.36
Seed Treatment	0.29	0.26	....	0.15
Fertilizer	0.90	0.97	1.32	1.59
Weed and Insect Spray	....	0.09	0.19	0.26
Crop Insurance	0.07	0.15	0.06	0.12
Total Materials and Services	2.10	3.96	2.29	4.48
Land Tax	0.87	0.97	1.80	1.90
Interest on Land to Crop	2.44	2.50	5.28	6.15
Interest on Buildings to Crop	0.08	0.17	0.04	0.26
Depreciation on Buildings to Crop	0.15	0.35	0.09	0.51
Total Overhead Less Equipment Overhead	3.54	3.99	7.21	8.82
Labour	1.46	1.47	1.82	1.99
Tractor Use	2.10	2.13	2.10	2.29
Machine Use	4.64	3.48	5.23	5.21
Total Labour and Equipment Cost	8.20	7.08	9.15	9.49
Total Crop Costs	13.84	15.03	18.65	22.79
Net Returns	16.70	15.81	15.35	25.21

THE FRESH VEGETABLE STUDY

Reports for the 1962 crop year were published and distributed to participating farmers, the Vegetable trade and to certain Agricultural personnel in the Government. The reports were an assessment of the financial outcome to the individual and the group of growers. The basis of analysis was the total input of land, labor and capital use in the production of the crops. In 1963 the accounts for the crop-year were secured. All the Vegetable crops were grown under irrigation. The varieties studied were Fresh Corn, Carrots, Turnips, and Onions. There were twenty-two enterprises. The forthcoming report, which is the second of three Fresh Vegetable Reports, will be released in early 1964. Table 3 presents some results from this survey.

Table 3

COST AND RETURNS PER ACRE—1962

RECEIPTS:	Fresh Corn 8 Farms Group Av. (726 doz.)	Carrots 5 Farms Group Av. (39,225 lbs.)	Turnips 3 Farms Group Av. (37,321 lbs.)	Onions 4 Farms Group Av. (11,887 lbs.)
	$	$	$	$
Sale of Crop	206.91	636.43	457.53	380.44
Other Crop Income	4.76	5.94	34.51	.....
Gross Returns	211.67	642.37	492.04	380.44
EXPENSES:				
All Supplies and Services	39.86	76.71	92.04	73.86
Total Overhead Less Equipment	11.37	10.77	9.53	7.66
Total Field Labour and Equipment Cost	77.80	214.25	195.20	198.56
Storage and Marketing	.....	125.11	122.94	58.44
Total Crop Cost	129.03	426.84	419.71	338.52
Net Returns	$82.64	$215.53	$72.33	$41.92

CONSULTANT SERVICES RENDERED

An important phase of operations continued to be the provision of consulting advice and information to occupational, professional and educational fields.

The supervisor of cost studies continued to act as a special Agricultural Advisor to the Milk Control Board. This year saw heavy demand by individual dairymen and from executive groups for dairy farm costs and outlook.

Farm organizations such as the Federation of Agriculture, the Alberta Milk and Cream Producers Association, Canning Crop Growers Association, Oil Seed Growers Association and the Farmers Union of Alberta used the services of the Production Study Section. Government departments such as the Federal Economics Division, the Department of Transport, the Farm Credit Corporation, the Federal Immigration Department and the Alberta Department of Highways, and the Alberta Department of Lands and Forests requested and received cost study data and in several instances received further interpretation and details. Studies in certain aspects of Field Crops, Livestock and Poultry fostered closer coordination with these branches in the Department. Mutual understanding between the University of Alberta Agricultural Economics Department was furthered in interviews and in exchange of economic data for lectures and laboratory use.

MISCELLANEOUS

This section supervised Branch personnel in a brief survey of the potential benefits of a drainage project proposed by the Water Resources Branch as a project under the ARDA program. Thirty-one farmers were interviewed and a brief report was prepared and submitted to Provincial and Federal ARDA officials. Personnel developed a questionnaire and designed a survey on the Economics of Land Levelling. This project was designed to determine the costs and benefits related to various alternative methods of irrigation. One member of the section also served as Secretary of the Provincial Advisory Board on Irrigation Developments.

Office Consultation of one hour or more	25
Letters of Technical advice	22
Phone calls for advice	65
Board or Executive meetings	20

STUDIES CONDUCTED IN 1963

Name of Study	Area	No. of Farms or Enterprises Studied	No. of Bulletins Released	No. of Special Accounting Schedules Prepared
Fluid Milk	Edmonton	29		
	Calgary	30		
			500	130
	Lethbridge	40		
	Medicine Hat	20		
Rapeseed	Peace River	32		
	Red Deer - Didsbury	39		
Sunflowers	Southern Alberta	18	1,000	140
Wheat	Peace River	24		
	Red Deer - Didsbury	30		
	Southern Alberta	29		
Vegetables:				
Sweet Corn	Southern Alberta	8		
Carrots		5		
			500	35
Turnips		3		
Onions		4		
		311	2,000	305

The collection of information at the farm for the various studies occupied a considerable part of the time of full-time staff as well as that of two University students as additional summer staff. There were approximately 600 farm visits made during the year. Three hundred and eleven farm accounts were completed and basic data secured for reports to be released early in 1964 on farm enterprises in 8 areas of the Province plus assisting with some 30 records at High Prairie in appraising the benefits of a drainage project.

C. FARM MANAGEMENT EXTENSION SECTION

As in previous years the work of this section was directed to farmers on a group basis through the District Agriculturists offices. Following is a summary of the major areas of activity of this section for the year.

About 40 Agricultural Short-Courses, meetings and conferences involved direct participation of the personnel in this section. Estimated attendance was well over 3,000 farmers and ranchers. The section supervisor also participated in the annual Farm Forum in Winnipeg.

This section assisted in preparation of a new Interprovincial Farm Account Book sponsored by the Departments of Agriculture

for use in the 3 Prairie Provinces. The work on economic implications of various scientific and technical bulletins was continued and the interpretations were distributed to district offices for inclusion in the Farm Business Data Manual which was a reference guide to District Agriculturists dealing with Agricultural Economics questions.

The major project underway in this section was the Farm Business Association program. In 1963 there were 5 new groups established. Hence a total of 225 farmers voluntarily participated in this uniform comprehensive record keeping and analysis program designed to determine the weak and strong points in the operation of the farm unit as a business proposition. A total of 5 final joint reports were published on results of the Farm Business Analysis of these groups located in the Irrigated Area of Southern Alberta, Central Alberta, Athabasca, and Dry Land in South Western Alberta. Results were tabulated by type of farm in each area and the summary data were used by many farmers outside of the Associations as a means of comparison with their own farm operation.

D. STATISTICS

The statistics division continued to serve as liaison between the Alberta Department of Agriculture and the Dominion Bureau of Statistics; conduct the Alberta crop reporting service; maintain statistical references and prepare material on Agriculture as may be required; and, in cooperation with the Marketing Section, be responsible for the outlook publication "Alberta Farm Economics". This publication was distributed quarterly, free of charge to a total of over 21,000 farmers and other interested individuals and groups.

A Federal-Provincial Conference on Agricultural Statistics was held in Ottawa on February 19th and 20th, 1963. The supervisor of the section attended. The principal purposes of the 1963 conference were to review estimating procedures of crop and livestock statistics during the intercensal period 1956-61 and to discuss joint Dominion-Provincial arrangements and requirements for Agricultural Statistics.

Twelve bi-weekly crop reports were issued during the growing season. In addition 13 summaries of crop conditions were prepared for publication by the Dominion Bureau of Statistics. The "Autumn Survey", a comprehensive review of production and marketing for the first 9 months of the year was issued in November.

Except in the Peace River country and some local areas, crop yields in all regions were above those for 1962. Drought seriously affected some districts in the southeast, notably south of Bow Island, and in the Peace River. The highest yields on record were harvested in east-central areas.

A serious grasshopper infestation occurred but control measures were effective. Say's grain bug were more numerous than usual but not widespread. Although hail storms were numerous, damage was below average. Light scattered frosts were reported beginning during the third week in September; a general killing frost occurred on October 19th.

The Alberta Wheat Pool estimated that the quality of cereals produced graded higher than in 1962.

ESTIMATE OF QUALITY OF WHEAT, OATS AND BARLEY IN PERCENTAGES, 1962 and 1963

Wheat

	No. 1°	No. 2°	No. 3°	No. 4°	5, 6, & Feed	Garnet	Durum	Winter	Other
1962	3	13	16	21	40	2	3	1	1
1963	1	32	48	10	1	2	2	2	2

OATS

	2 C.W.	X3 C.W.	3 C.W.	X1 Fd.	1 Fd.	2 Fd.	Other
1962	....	....	2	28	62	8	....
1963	....	....	4	28	62	4	2

Barley

	1-3 C.W. 6-Row	1-3 C.W. 2-Row	Feed Grades
1962	9	5	86
1963	14	7	79

Canadian Wheat Board initial payments on grains handled were unchanged from 1962-63. Estimated initial prices to farmers basis Edmonton or Calgary for basic grades were as follows: wheat, 2°, $1.28; wheat, feed, $0.89; oats, 2C.W., $0.47; oats, 1 feed, $0.42; barley, 2 C.W. 6-row, $0.80; barley, 1 feed, $0.69.

According to June 1 estimates the number of cattle and calves on farms increased 2.5 per cent in 1963. Sheep and hog numbers decreased 4.7 and 2.9 per cent respectively. Pastures were slow in the spring but after the end of June grazing was generally good. Cattle went into winter in good condition. With the exception of some parts of the Peace River area fodder supplies were adequate.

Livestock marketings for the year compared with 1962 were as follows: cattle, down slightly; calves, 30 per cent; sheep and lambs, 14 per cent; and hogs, 22 per cent.

Average monthly cattle prices were about 6 per cent down from 1962. Lamb prices were up about 10 per cent; returns from hogs were up slightly.

The number of domestic fowl on farms decreased from 8,370,000 in 1962 to 8,200,000 in 1963. Turkey numbers dropped from 820,000 to 765,000. Egg production dropped about 7 per cent. The sale of poultry meat at registered stations in the Province increased by more than 20 per cent.

Dairy cow numbers decreased about 1 per cent but income from the sale of dairy products increased slightly. A decrease in the production of butterfat for factory and dairy butter production was more than compensated for by increases in milk and cream produced for the fluid trade and for concentration.

The number of beekeepers in the Province continued to decrease. In 1949, there were 4,800 beekeepers compared with 1,100 in 1963. However, the number of colonies operated increased from 55,000 to 71,600. The honey crop, at 160 pounds per colony, was above average in 1963.

Mink production has slowly improved in quantity and quality. Fur farmers have obtained reasonably good returns for a number of years. The market situation was encouraging.

Preliminary figures indicate the farm income from farming operations will drop some 4 per cent in 1963. Since production costs are continuing to edge upward net farm income will show a greater dollar and percentage reduction than total income.

E. MARKETING SECTION

Interest in the marketing of our agricultural products became more evident during 1963. People were concerned not only with the marketing of Alberta grown commodities, but also with the extent to which products produced in other areas might compete with local output. There was some feeling that net cash farm income could be increased through the better use of sound marketing practices.

Following is a summary of the major areas of work undertaken by the marketing section.

AGRICULTURAL MARKETING COURSE

A short course in marketing was presented for farmers in the Stettler, Lacombe, Innisfail, Olds, and Calgary areas. This was an 18 hour course extending over a period of six weeks. The major subject areas were as follows: the marketing problem, analyzing marketing problems, pricing of commodities, marketing of livestock, market power, and the effect of government policies upon marketing decisions. Attendance averaged 21 persons at each center. These people evaluated the course as being generally useful to them in understanding the intricacies and problems involved in the movement of their products from the farm gate to the consumer.

POULTRY STUDY

Work continued on the case-study of commercial egg producing farms that began in the fall of 1961 in cooperation with the Poultry Branch. The objective of this study was to investigate costs of production and methods of marketing for selected flocks. A preliminary economic analysis was made of 13 farms that had provided data for the first complete year. A statement was mailed to each of the cooperators permitting them to compare their own operations with others on study for such factors as: gross farm income per hour of work and per dozen eggs sold, time spent in performing various functions, feed used per dozen eggs and per layer, per cent rate of lay, eggs laid per bird, mortality among layers, and average price received per dozen eggs.

During the year a trip was made to each of the cooperators to check their records and to aid the poultry inspectors with some of the troublesome aspects of accounting.

PUBLICATIONS

This section cooperated with the Statistics section in preparing material for the "Alberta Farm Economist", a quarterly publication of production, marketing, and outlook information for Alberta. Details on this publication are found under the report of Statistics section.

MISCELLANEOUS ACTIVITIES

(a) Food Procurement Spotlight Study:

The supervisor of the marketing section assisted the Department of Industry and Development in conducting a survey among a sample of wholesalers, processors, and retailers, concerning the imports and movement of food products into Alberta from foreign sources and from other Provinces. This was part of a nation-wide study by the Canada Department of Trade and Commerce as to why Canada was importing such a large volume of food products that were already produced, or could be produced in Canada. The study centered on the following foods; meat and meat products, fresh and processed fruit and vegetables, dairy products, poultry, seafood, confectionery and bakery products.

(b) Marketing of Fresh Vegetables:

Chairmanship was provided, a committee of the proposed Alberta Vegetable Council in establishing a system for reporting and publicizing the prices paid by wholesalers in Southern Alberta to farmers for fresh vegetables such as potatoes, carrots, turnips, onions, and cabbage.

An inquiry was made into some of the problems facing the growers in Southern Alberta in the marketing of fresh vegetables. In cooperation with the Field Crops Branch, some of the difficulties experienced by growers and processors of canning crops was investigated.

(c) Some of the economic aspects of production and marketing of poultry and poultry products were discussed in addresses to Poultry Council Meetings in seven districts.

(d) Assistance was given the Farm Cost Studies section with interviewing thirty-two farmers in the High Prairie district in connection with a proposed ARDA project.

(e) Other Activities

The supervisor of the marketing section was a delegate to the Dominion-Provincial Agricultural Outlook Conference held in Ottawa in November. The supervisor also gave two lectures to a class in Agricultural Economics at the University, discussed marketing at a meeting of cattlemen, and outlined some of the concepts of marketing to a meeting of the Principals of the Colleges of Agriculture. In addition, he attended meetings that dealt with broad problems of extension work, livestock marketing, and vegetable Marketing. He is a member of the Canadian Association of Agricultural Economists and was delegated to present a brief of the Research Committee, concerning developments of the Agricultural Economics Research Council of Canada, at the annual meeting.

Information and advice was provided numerous visitors to the office, i.e. farmers, representatives of banks, and other government officers. Several meetings were held with personnel of the Federal Economics Division to discuss matters of mutual concern and interest.