

PROVINCE OF BRITISH COLUMBIA

Department of Agriculture

FIFTY-NINTH

ANNUAL REPORT

1964



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1965

ANNUAL REPORT

1904

COVER

The annual promise of things to come—an  
apple orchard in full bloom at Penticton.  
(B.C. Government photo.)

BRITISH COLUMBIA DEPARTMENT OF AGRICULTURE

To Major-General the Honourable GEORGE RANDOLPH PEARKES,  
V.C., P.C., C.B., D.S.O., M.C.,  
Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit for your consideration the Annual Report of the Department of Agriculture for the year 1964.

FRANK RICHTER,  
Minister of Agriculture.

Department of Agriculture,  
Victoria, B.C.

In recognition of the Honorable George Washington  
Washington, D.C. 20540  
Department of the Interior, Bureau of Land Management

Dear Mr. Secretary:

I have the honor to acknowledge the receipt of your letter of the  
Department of the Interior for the year 1988.

THANK YOU

Very truly yours,

Department of the Interior,  
Bureau of Land Management

Respectfully,

Very truly yours,  
[Signature]

Report of the Department of Agriculture

BRITISH COLUMBIA DEPARTMENT OF AGRICULTURE

MINISTER

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DEPUTY MINISTER

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*Provincial Entomologist*

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*Provincial Horticulturist*

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*Provincial Plant Pathologist*

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*Commissioner and Chief Veterinary Inspector*

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*Superintendent*

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*Senior Soil Surveyor*

MARKETS AND STATISTICS

M. M. GILCHRIST, B.S.A.  
*Commissioner*

DAIRY

K. G. SAVAGE, B.S.A., M.Sc.  
*Commissioner*

## HIGHLIGHTS OF 1964

- Regulations introduced making veterinary inspection mandatory for all live stock sold through 20 public live-stock sales yards in the Province.
- New, improved farm-management programme formulated, using detailed accounting forms adaptable to computer processing.
- Ram Purchase Premium Policy introduced, providing for the payment of a 20-per-cent bonus, up to a maximum of \$20, to every purchaser of an approved ram at an approved sale. The bonus is payable on not more than two purchases per buyer.
- Evaluation study of the commercial potential of breeds and strains of meat-type chicken in the Province, aimed at reducing the dependence of British Columbia producers upon imported breeding stocks.
- Regulations established for controlled-atmosphere storage of apples to provide improved fruit quality over extended marketing periods.
- Pesticide Residue Laboratory established at Vancouver to carry out testing programme on foodstuffs to ensure freedom from toxic spray or dust residues.
- Codling moth control regulations expanded to permit greater control of this pest in orchard areas.
- ARDA programme expanded by a total of 24 projects involving estimated capital cost of \$4,000,000. Projects included 4 research, 14 soil and water, and 6 as part of the Canada land inventory.
- New Dairy Laboratory established at Vancouver to conduct sample testing of all milk produced in the Province.

# Report of the Department of Agriculture

## REVIEW

Unseasonably cool, cloudy weather with above normal rainfall during the entire growing season was a dominant feature affecting agriculture in British Columbia in 1964. Difficulties stemming from these conditions were encountered in virtually every sector, and led to considerable losses, particularly in grains, fruits, and vegetables. In spite of this, over-all output was maintained at close to average levels. Generally steady prices prevailed for most major items, but declines in eggs and live stock were effective in reducing the farm prices index by 6 points.

Cash income from the sale of farm products remained relatively unchanged from 1963 according to preliminary estimates. In live stock, the Province's cattle population increased by an estimated 22,000 head over 1963. This gain was achieved solely in beef cattle, offsetting minor declines in dairy-stock numbers. Milk production continued to rise, however, up about 2½ per cent over the preceding year.

Beef production increased, with shipments of live cattle to Alberta reaching a high of 49,875 head during the year. Exports to the United States were down sharply at only 6,406, less than one-half the 1963 figure.

Sheep and swine production remained small, the population of the former dropping further to a total of 93,000 head, while swine remained below 40,000 head. Hog prices weakened during the year, but lambs were up fractionally over 1963 averages. In spite of both seeding and harvesting difficulties, grain production exceeded 11,000,000 bushels this year, a gain of almost 4,000,000 bushels over the 1963 crop. Prices were steady throughout the year. Hay production, although of indifferent quality in many areas, was up substantially at an estimated 1,000,000 tons. Production of poultry meat rose slightly this year, while eggs increased by 5 per cent. Meat prices were relatively stable, but egg prices at the farm reached a post-war low as the weighted average price paid to producers fell to only 27.7 cents per dozen.

Production of tree fruits was down, gains in cherries, apricots, and peaches being more than offset by a substantial decline in apples from the near-record crop of 1963. Prices remained steady for the most part.

Weather conditions effectively reduced the small-fruits crops, but prices increased moderately to bring equal or higher over-all returns.

Vegetable crops, particularly of the heat-loving kinds, were hard hit this year, but unusually firm demand and prices tended to offset production losses. Particularly firm-priced this year were late potatoes, which by December were more than double those of one year earlier.

Unfavourable weather also resulted in a decline in honey output to less than 1,700,000 pounds, one of the lowest yields on record. Fur production and prices showed only slight changes, while the wool clip for the year declined fractionally to 359,000 pounds.

## ADMINISTRATION

During 1964 the Department adopted several new techniques and accelerated others in a continuing programme aimed at improving its general efficiency. For

the first time a self-improvement plan was established, under which staff personnel have enlarged opportunity to take advantage of refresher courses, particularly at the academic level. As conditions permit, interested personnel will also be able to pursue postgraduate studies in degree courses. In all, 35 staff members have indicated serious interest in the latter field.

During the year 53 staff members attended approved short courses on a full range of agricultural and related subjects, most of which were of less than one week's duration.

Further improvements were introduced in communications, including expanded radio and television programming and a controlled distribution system for publications.

Periodic staff meetings of senior officials, commenced in 1963, were continued throughout the year with beneficial results, particularly in keeping personnel better acquainted with Departmental activities.

As of December 31, 1964, the total Departmental staff numbered 269 in all categories.



Checking carcasses—part of the Provincial meat inspection service.

#### LIVE STOCK

Servicing the requirements of the Province's live-stock industries, the beef and dairy segments in particular, taxed both staff and facilities to the fullest extent during the year. The meat inspection staff, for example, carried out inspections covering a total of nearly 42,000 animal carcasses in the eight killing establishments qualifying for such inspection service. An additional 9,918 carcasses from farm-kill sources were also inspected. This represented an increase of 10 per cent over the inspection totals of the preceding year.

Under provisions of the newly enacted *Live-stock Public Sales Act* veterinary inspectors of the Department made 550 supervisory visits to the 20 licensed public

sales yards in the Province, where a total of 106,543 head were inspected. Of this total, 95,284 were cattle.

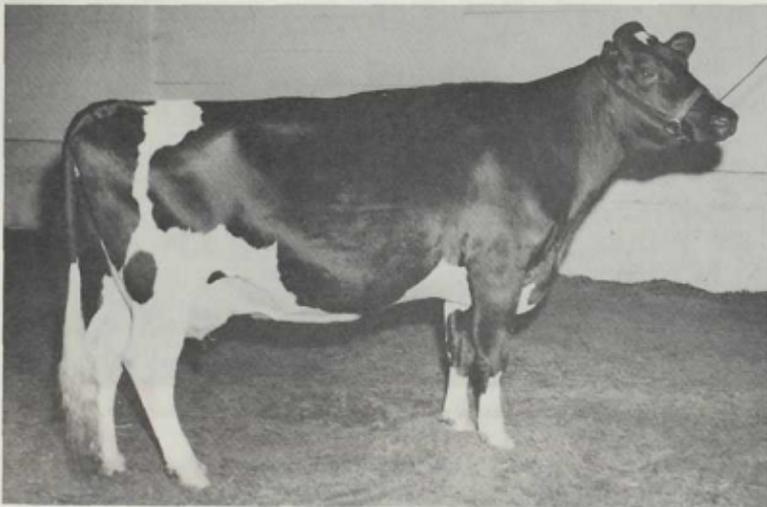
Other inspections included the checking of 14,180 head of sheep for foot-rot prior to their being permitted to graze on Crown lands.

Dairy-farm inspections saw a total of 2,341 producing units approved for the shipping of fluid milk in 1964. In the eight years that the present form of dairy-farm inspection has been in force, the number of approved premises has declined by 32 per cent. Despite this downward trend, there has been no decrease in milk production, indicating a steady increase in production per farm unit and per animal. Latest D.H.I.A. records provide further supporting evidence, showing an average production of all breeds of 10,971 pounds of milk and 437 pounds of fat, based upon 16,671 completed records. Five years ago the same all-breeds records showed an average production of 10,330 and 425 pounds respectively.

The use of artificial insemination also increased again in 1964, as a total of 74,978 first services were recorded. A.I.-sired dairy cows now on Record of Performance and D.H.I.A. testing are outproducing naturally sired animals by 4 points in milk and 5 in butterfat on Breed Class Average scales.

Licences were issued to 425 fur-farms during the year, covering 135,000 mink, 11,221 chinchilla, and 248 other animals, including marten and nutria.

The Animal Pathology Laboratory handled 6,812 animal specimens in addition to 17,526 serology specimens.



Colony Farm's Colony Vrouka Kit Cyvro, grand champion at 1964 Pacific National Exhibition, nominated All-Canadian Aged Cow, 1964.

In the field, veterinary practitioners inoculated 66,817 calves with *Brucella* vaccine in the 12-month period ended June 30th, as the programme aimed at the eradication of brucellosis in the Province drew closer to expected completion in 1965. Payments to practitioners since the programme was first launched in 1956 now total more than \$500,000.

Under the various assistance policies designed to stimulate interest in quality stock, a total of \$4,420 was expended in 1964 for purebred sires by stockmen, and \$5,081.61 repaid in respect of purchases made in previous years on which financial assistance was provided. Assistance was also given in the transporting of purebred stock to those areas not immediately adjacent to good sources. Included was the policy on the moving of sheep, which, since its inception in 1961, involved a total Departmental expenditure of \$2,228.

Assistance to exhibitors showing at the Pacific International Exhibition in Portland, Ore., and the Royal Winter Fair at Toronto amounted in all to \$4,642.

Rounding out the activities of the Department in this industry were production and management demonstrations for stockmen, three sheep-breeders' field-days, and a short course for swine-breeders. The R.O.P. programme for purebred beef cattle was reorganized this year, with an encouraging total of 508 calves enrolled. Also continued was the dairy-cattle placement policy, which, in the 15 years since its inception, has made possible the placing of 836 dairy cows from D.H.I.A. herds in the Province. The policy of assistance in the purchase of purebred rams at approved sales resulted in premiums being paid on 20 head in this first year of operation.



Preparing milk samples for plating at the Dairy Laboratory, Vancouver.

### DAIRYING

The Dairy Branch in 1964 embarked upon an expanded laboratory programme as a result of the transfer from the Health Branch of milk analysis and grading work. This was made possible with the opening this year of the new laboratory facilities in Vancouver, staffed by four technicians.

In the period April through December a total of 23,605 milk samples were graded. Of this number, 79 per cent produced bacterial counts of less than 30,000 colonies per millilitre by standard plate count, reflecting the remarkably high quality of fluid milk produced in British Columbia. The standard of 75,000 colonies is the highest of any Province of Canada.

By the year's end there were 56 licensed dairy plants operating, of which 48 were pasteurizing milk, 16 making ice-cream, 12 making butter, 9 cottage cheese, and 4 other cheeses. One plant was making evaporated milk and one powdered milk. Several of these were engaged in multi-product operations.

Inspectors carried out 684 dairy-plant and 1,484 dairy-farm inspections and visits during the year.

The Branch again conducted a combined correspondence and residence short course in dairying at the University of British Columbia, with 15 students. A one-day ice-cream clinic was also held at the University, with good attendance of dairy-plant operators from all parts of the Province.

A Dairy Producers' Protection Fund was established in April to provide assurance to milk-producers of compensation for moneys owing them from dairies unable to pay for milk received. By the end of the year, collections derived from fees assessed against all dairy plants totalled \$10,716.72, with no disbursements. Also collected was the sum of \$3,401.80 in fees for laboratory analyses.



Individual pens of laying birds on test at the Random Sample Poultry Testing Station, Abbotsford.

### POULTRY

This year some 236,000 chickens and 8,317 turkeys were blood-tested and approved for the production of hatching-eggs by inspectors of the Poultry Branch. These represented a decrease of 11,700 chickens and an increase of nearly 5,000 turkeys from 1963 totals.

In addition to the work of testing the inherent productive capacity of the various breeds and strains of poultry offered for sale in the Province, the British Columbia Random Sample Poultry Testing Station at Abbotsford this year carried out intensive studies to determine

- (a) the effect of ventilation and temperature on the growth rate of broiler chickens;

- (b) the effect of bird density (in housing) on the production of commercial eggs;
- (c) the production potential of newly developed Canadian strains of commercial laying birds;
- (d) economic factors associated with high-density housing in the production of broiler chickens;
- (e) the economic feasibility of producing broiler chickens of lighter weights than are commonly produced today; and
- (f) the isolation techniques required to limit or prevent altogether the incidence of leucosis in the brooding of baby chicks.

This last project was undertaken in co-operation with the Canada Department of Agriculture.

The cost of these studies was partially recovered through revenues returned from the sale of the resulting products, amounting to about \$30,000.

In co-operation with the Canada Department of Agriculture and the Connaught Medical Research Laboratories, the Branch successfully carried out a field trial using over 250,000 laying-birds on 31 separate premises, to evaluate the effectiveness of methods and materials currently available to commercial producers for the control of respiratory diseases in poultry.

In an attempt to reduce British Columbia producers' dependence upon imports of broiler-chicken breeding stock, the Branch this year initiated a study project to evaluate the commercial potential of those breeds and strains of meat-type birds now available in the Province. This was done with the co-operation of the University of British Columbia's Department of Poultry Science.

As a part of a continuing study of cost factors involved in the production of commercial eggs, a special study of the problem of cracked and damaged eggs was also instituted. This is of particular interest to British Columbia producers, since losses from these factors are higher in this Province than elsewhere in Canada.

#### APIARY

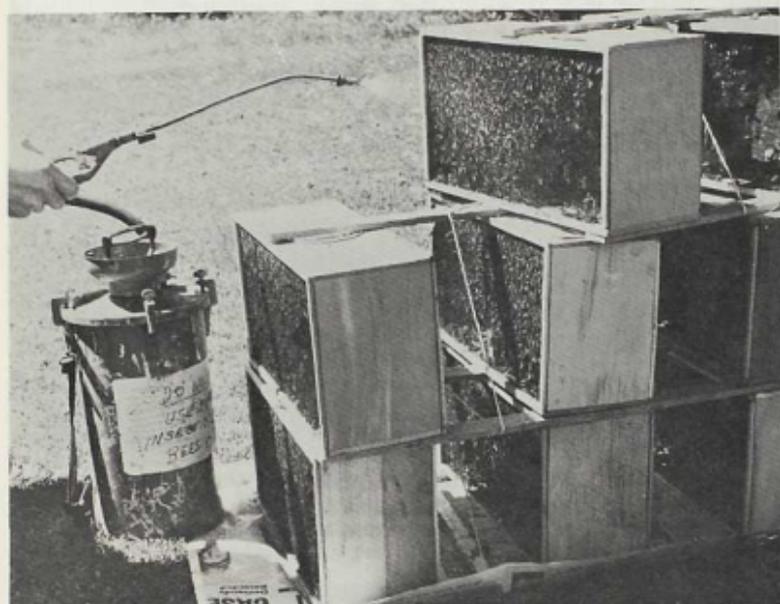
Inspectors of the Apiary Branch carried out inspections of 8,000 bee colonies in 1964, locating and condemning 114 infected with American foul brood disease. This was an increase of 25 over the number found in the preceding year.

Increased priority was given this year on controlled pollination experiments on tree fruits, blueberries, cranberries, alfalfa, and white Dutch and alsike clovers.

Over 500 colonies of honeybees were used in the experiment with blueberries, with encouraging results in spite of inclement weather. Seed yields of close to 700 pounds per acre were realized in a pollination project on 900 acres of white Dutch clover at Creston.

Work was continued on the use of both wild and honey bees in alfalfa-seed production. Larvæ of the alkali bee were planted in an artificial bee bed adjacent to a 40-acre field as part of the experiment to determine reproduction rates and winter survival capability under Southern Interior conditions.

In addition to conducting a "pollination workshop" for fruit-growers and beekeepers, the Branch also organized a training course for honey judges and short courses on beekeeping during the year. In co-operation with the Extension Department of the University of British Columbia a highly successful Beemasters' Course was held for advanced instruction in beekeeping.



Packaged Okanagan honeybees being readied for shipment to the Peace River District.

### FIELD CROPS

As in the past few years, the Field Crops Branch continued its programme of setting out demonstration trial plots on cereals, forage crops, potatoes, weedicides, soil fertility, and fertilizers in various sections of the Province.

Also continued was the soils extension programme commenced in 1962. The addition of 10 new soils clubs among farmers in the Lower Mainland and on Vancouver Island, with a membership of 269, brought total registrations to date of 600 in 21 clubs. Emphasis has been placed upon soil studies and forage-crop production.

New extraction procedures in the soil and forage analysis service were introduced this year following the renovation and re-equipping of the Branch's Victoria laboratory. A scale of fees was introduced for this improved service, which saw a total of 4,500 soil samples analysed by the end of the year.

Weed inspectors were employed this year in the Pemberton Valley and the Peace River District, where unseasonable weather hampered herbicide application

### HORTICULTURE

A tree census in orchards of the Southern Interior of the Province was commenced this year, from which preliminary findings indicated increasing planting rates of McIntosh, Spartan, Golden Delicious, Newtown, and Tydeman apples, while plantings of Red Delicious appeared to be declining. In peaches, plantings of

Red Haven showed increases, but other varieties were down from previous tree counts. Plantings of all varieties of pears, apricots, and cherries were found to be proceeding at reduced rates, while prunes appeared to be unchanged.

Also started was a programme of leaf analysis in the Okanagan Valley to determine nitrogen levels in orchard soils. Such information is useful in establishing fertilizer recommendations. An experimental trial employing live female codling moths in traps was carried out at Oliver with effective results, with males being caught over a considerably longer period than has been possible with the use of molasses bait.

Further tests were conducted on the problems of apple scab and coryneum blight, with promising results.

In the field of small fruits, trials on the effects of winter storage of strawberry plants indicated that it may be feasible to eliminate winter losses in this way. Further investigations will be undertaken in this regard. Variety trials to determine the suitability of various small fruits to particular areas were continued as in the past.

With the growing commercial importance of grapes in the Okanagan, the Horticultural Branch devoted considerable effort to variety trials on a number of the newer hybrids. Also checked were such items as fertilizer requirements, herbicides applications, pruning methods, and irrigation techniques.

Work with vegetables was highlighted this year by an extensive trial programme involving over 200 varieties and strains planted at Cloverdale. Conducted in co-operation with the Canada Department of Agriculture, the University of British Columbia, and the growers' co-operative, this project was aimed at finding what other varieties, if any, might be used in place of those currently grown in that area.



Field of tulips near Victoria.



Television panel of experts, "Sunrise Chautauqua" programme for orchardists.

For the second year, demonstration plots of field tomatoes were set out at Vernon to illustrate the benefits of proper soil husbandry and spraying practices for that crop.

Colour coding and certification of tree-fruit nursery stocks was extended in 1964 with the addition of five certified nurseries to the programme. At the same time, further demonstration work was undertaken in chemical weed control in ornamental nursery stocks. Fall weed control proved most effective.

An improved technique in the deep-steaming of greenhouse soils was introduced successfully, pointing the way to substantial savings in labour costs for operators of houses where ground beds are used.

In the field of extension the Branch continued to make use of radio and television facilities in the Okanagan to reach the widest possible audiences among the fruit-growers. Particularly effective was the continuing annual "Sunrise Chautauqua" broadcast for five consecutive mornings in late January.

#### SOIL SURVEY

A sharp increase in demand for soil-survey work in 1964 forced a reduction in the amount of work that could be undertaken on any individual project. This resulted for the most part from the requirements of soil-capability programmes for agricultural land classification under terms of the *Agricultural Rehabilitation and Development Act (ARDA)*. These took place in the Okanagan, Similkameen, and Kettle River Valleys and in the Prince George area. In the last-named area a pilot study was instituted this year leading to the development of a soil-classification procedure for forest soils, in co-operation with both Federal and Provincial departments of Forestry, the Canada Department of Agriculture, and the Department of Soil Science of the University of British Columbia. In addition, a soil reconnaissance was made of part of the area lying above the shoreline of the proposed Arrow Lakes reservoir.

The work of extension soil surveyors in the Okanagan involved problems surrounding farm soil, irrigation, and drainage. In the Fraser Valley such work was confined to land drainage only.

To enable a better understanding of the performance of chemical amendments when applied to soils having different characteristics, a start has been made on the examination of the chemical status of soils, including the systematic identification of clay minerals.

A bulletin describing the soil survey of the Kettle River valley was completed during the year, as were interim survey reports and maps of Matsqui Municipality and the valley of the Eagle River. Also produced were soil-capability maps of those areas recently surveyed in the Fraser Valley.



Farm management workshop, Vernon.

### EXTENSION

A prominent feature of the Department's extension activities in 1964 was the reorganization and expansion of the farm-management programme. A completely new set of farm account books was devised for distribution among participants in the programme, each of whom was charged a nominal fee. By the end of the year a total of 338 farmers had been signed up in all areas of the Province, from Vancouver Island to the Peace River District. Of these, 159 were dairy-farmers, 113 were engaged in beef-cattle production, and 35 were grain-growers. The remainder were in mixed-farming operations.

Workshop sessions were held in each area as the programme was launched, with the assistance of District Agriculturists. District Agriculturists were also active as usual in the organization and conducting of a variety of field-days in their respective districts. These continue to be well attended, indicating the value attached to such events by farmers at large.

The 4-H Club Division reported an increase in the number of clubs in the Province in 1964 to a total of 242 with a membership of 3,039. It is of interest to note that the average age among the members is 13 years, and one-third do not

live on farms. Among the various activities carried out in 1964 was a Province-wide public speaking competition, which drew keen interest from virtually all clubs. As usual, rallies and field-days made up much of the year's programmes, with emphasis upon demonstrations, judging, and display work.

The use of television and radio, particularly the former, as an extension tool was sharply increased during the year. In addition to the regular weekly farm telecasts originating in Kelowna, Kamloops, and Dawson Creek, a series of 19 programmes was presented to Okanagan fruit-growers during the growing season to advise on such matters as pest and disease control in orchards.

The Engineering Division also made use of radio and television this year, presenting, in all, five programmes on hay-drying and land-clearing.

The Division continued its testing projects on crop-spraying and fruit-handling equipment, hay-drying techniques, and soil and water problems associated with drainage methods. Advisory assistance was provided individual farmers in both drainage and water-supply problems. In addition, published material on irrigation systems and algae control was compiled, along with a wide range of farm building plans. Several farm-machinery field-days and one irrigation field-day were conducted during the year.

In the land-clearing programme a total of 8,462 acres was cleared and 5,101 acres broken this year, at a cost of \$369,502. Total expenditures under this programme since its inception in 1946 now stand at over \$5,250,000.

#### OTHER SERVICES

The Entomology Branch this year reported substantial increases in the resistance of cabbage and turnip maggot, carrot rust fly, and tuber flea beetle to the chlorinated hydrocarbon insecticides. Pear psylla resistance to guthion was also established.

Assistance was provided in control work covering pear psylla, mites, peach twig borer, European and San Jose scale. In addition to the common problems with root weevils on strawberries and fireworms on cranberries, the Branch this year was also called upon for assistance with a serious outbreak of leaf roller on blueberries. Control measures for mosquitoes were continued, and a detailed survey of breeding areas along the lower reaches of the Fraser River was carried out.

The Branch dealt with many requests for identification and control information on a substantial number of household and other pests. In addition, extra effort was required this year with problems related to pesticide residues and the drawing-up of plans for a new pesticide residues laboratory in Vancouver.

The Plant Pathology Branch was called upon to deal with a larger than usual number of plant disorders in 1964, most of which were traceable to the unusually cool, moist weather conditions which prevailed during the summer months. These included bean rust, downy mildew of onions, and the wheat diseases basal spikelet rot, glume blotch, and wheat scab.

The Branch reported outbreaks of onion smut for the first time in the Kootenays and the Fraser River delta, and white rot of onions in the Okanagan. Root-knot nematode in carrots was also diagnosed for the first time in the Fraser Valley. Also reported were heavier than usual losses from powdery mildew and water core in apples.

Five grasshopper-control areas received advances totalling \$40,000 in 1964, and 106 licences to sell poisons used exclusively in agriculture were issued.

The Department recognized and supported 21 agricultural exhibitions and 38 fall fairs throughout the Province. Also recognized were 120 Farmers' Institutes, having a combined membership of 4,664.

Assistance covering a wide range of agricultural products was provided again this year by the Markets and Statistics Branch. For the first time, assistance was also given to a non-agricultural group when the commercial oyster-growers of the Province applied for and were granted a marketing scheme under legislation administered by this Department.

A total of 117,708 pieces of published material was issued by the Publications Branch.

PROVINCE OF ONTARIO  
DEPARTMENT OF CORRECTIONS

Annual Report  
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1964

1964-1965 FISCAL YEAR

1964



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