

PROVINCE OF BRITISH COLUMBIA

---

# Department of Agriculture

SIXTY-FIRST

## ANNUAL REPORT

1966



Printed by A. SUTTON, Printer to the Queen's Most Excellent Majesty  
in right of the Province of British Columbia.

1967

COVER

Aerial view of Friendly Cove on Nootka Sound, site of the first attempt at land cultivation on Canada's west coast by the East India Company in 1786.

(Photo courtesy of the Tahsis Company.)

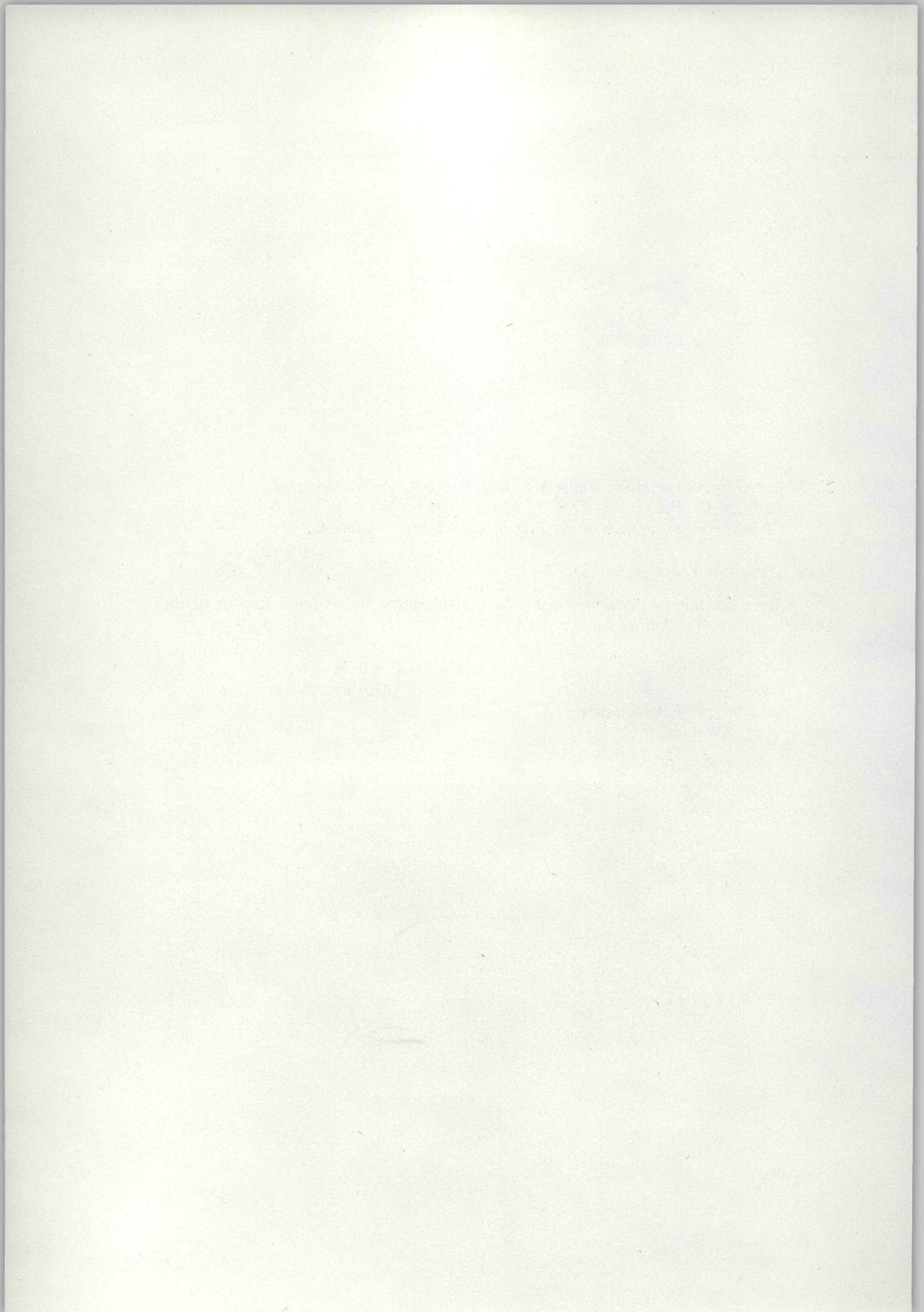
*To Major-General the Honourable GEORGE RANDOLPH PEARKES,  
V.C., P.C., C.B., D.S.O., M.C., C.D.,  
Lieutenant-Governor of the Province of British Columbia.*

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 1966.

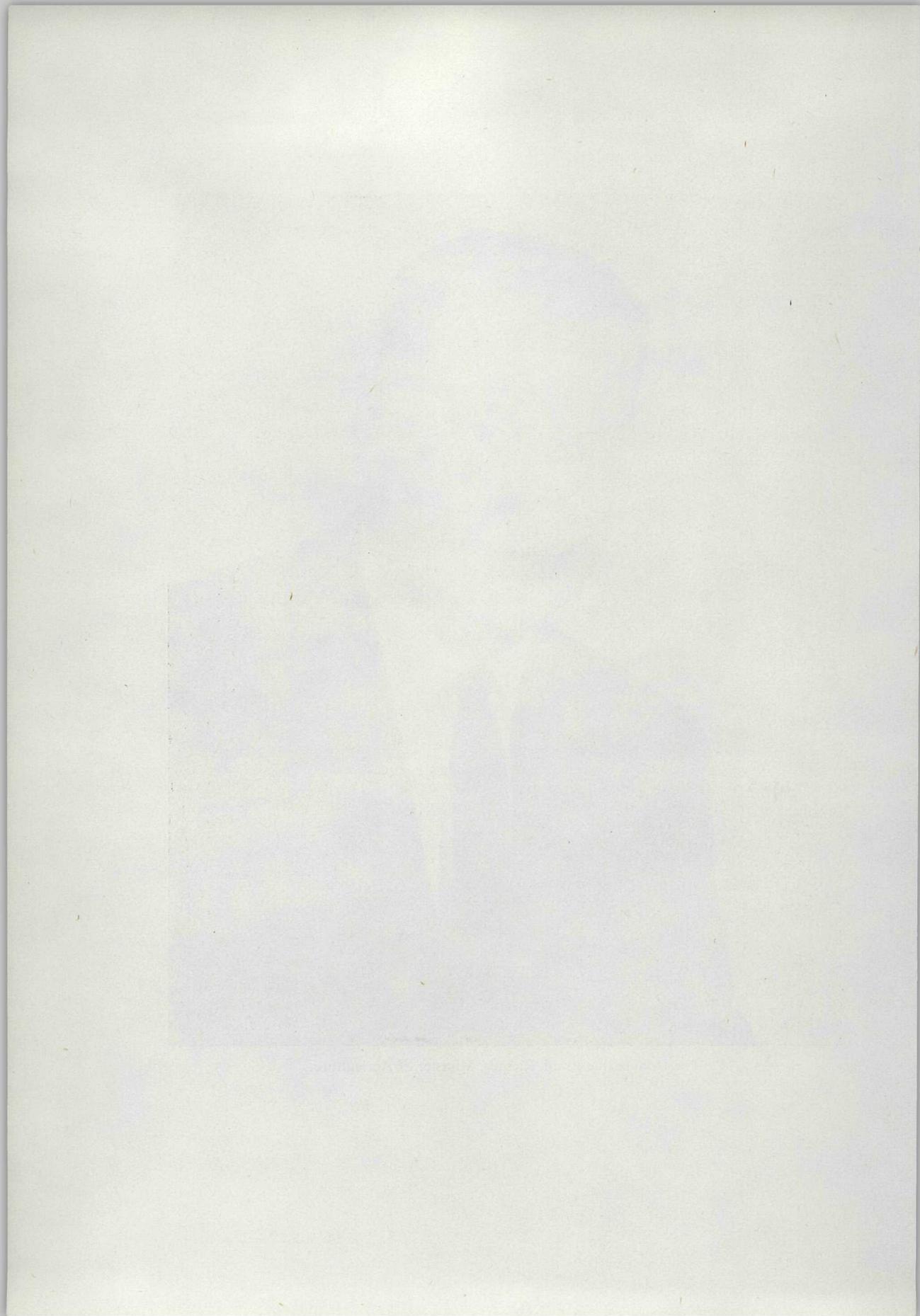
FRANK RICHTER,  
*Minister of Agriculture.*

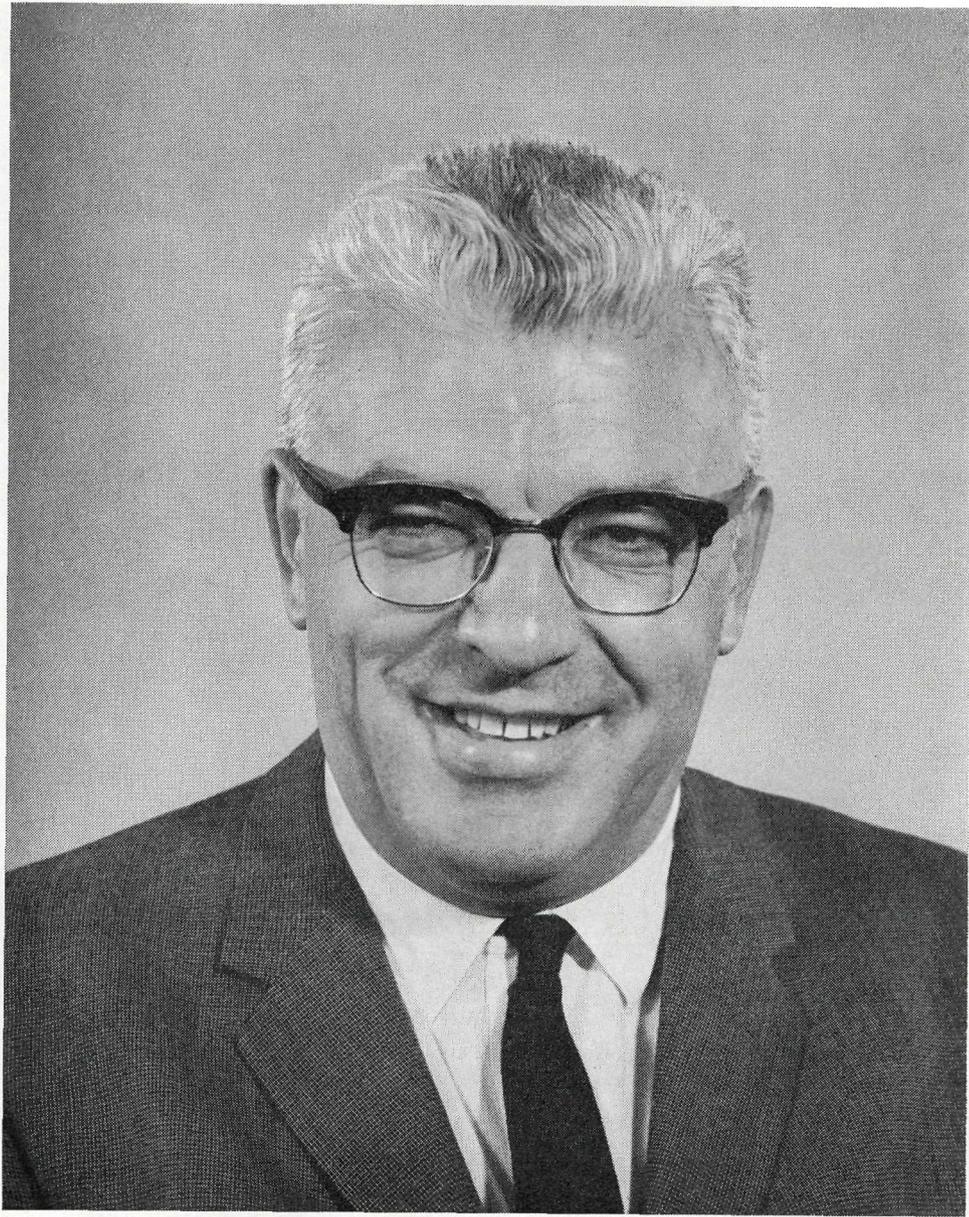
*Department of Agriculture,  
Victoria, B.C.*



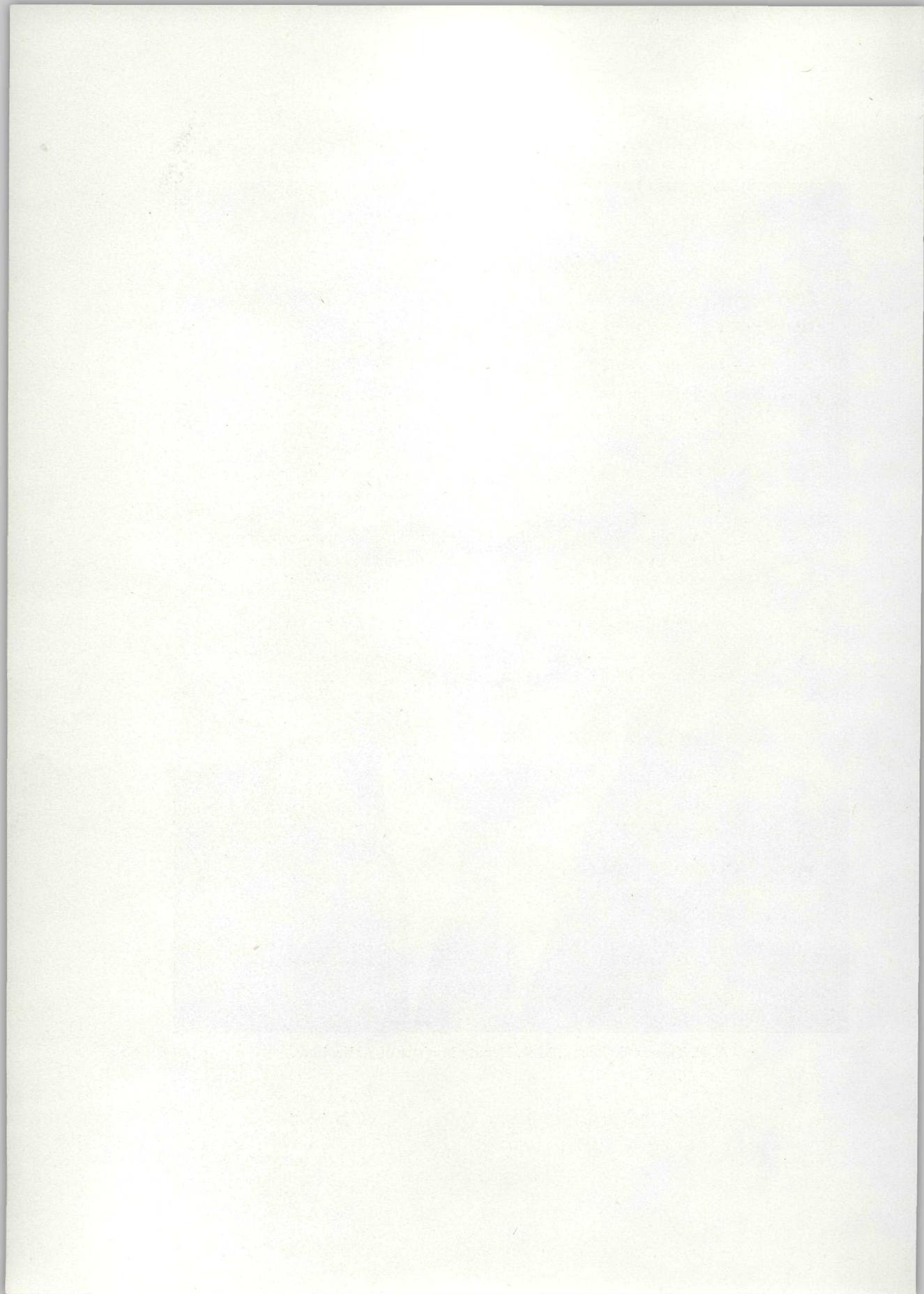


The Honourable Frank Richter, Minister of Agriculture.





A. H. Turner, B.Comm., M.S., Deputy Minister of Agriculture.



# BRITISH COLUMBIA DEPARTMENT OF AGRICULTURE

## MINISTER

The Honourable FRANK RICHTER

## DEPUTY MINISTER

A. H. TURNER, B.COMM., M.S.

## SENIOR PERSONNEL

### GENERAL ADMINISTRATION

#### ADMINISTRATION AND PERSONNEL

J. NEWMAN  
*Administrative Assistant*

#### FARMERS' INSTITUTES AND FAIRS

L. W. JOHNSON  
*Superintendent*

#### INSTITUTIONAL FARMS

W. B. RICHARDSON, B.S.A.  
*Superintendent*

#### PUBLICATION DISTRIBUTION

B. K. OXENDALE  
*Clerk*

### GENERAL SERVICES

#### ARDA

J. S. ALLIN, B.S.A.  
*Co-ordinator*

#### CROP INSURANCE

E. M. KING, B.S.A., M.S.A.  
S. G. PRESTON, B.S.A., M.S.A.  
*Administrators*

#### FARM ECONOMICS

J. PANKRATZ, B.S.A.  
*Director*

#### MARKETS AND STATISTICS

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

## PRODUCTION AND SPECIAL SERVICES

### AGRICULTURAL DEVELOPMENT AND EXTENSION

S. B. PETERSON, B.S.A.  
*Director*

#### APIARY

J. CORNER  
*Provincial Apiarist*

#### BRANDS

A. L. KIRKBY  
*Recorder*

### FIELD CROPS AND SOIL TESTING

N. F. PUTNAM, B.Sc., M.Sc.  
*Commissioner*

#### 4-H CLUBS

J. E. HALL, B.Sc.  
*Supervisor*

### HORTICULTURE

A. C. CARTER, B.S.A.  
*Provincial Horticulturist*

#### D.H.I.A.

J. A. MACE  
*Superintendent*

### ENGINEERING

G. L. CALVER, B.A.Sc.  
*Senior Agricultural Engineer*

### ENTOMOLOGY AND PEST CONTROL

C. L. NEILSON, B.S., M.S.  
*Provincial Entomologist*

### PLANT PATHOLOGY

W. R. FOSTER, B.Sc., M.Sc.  
*Provincial Plant Pathologist*

### POULTRY

W. H. POPE  
*Commissioner*

### SOIL SURVEY

P. N. SPROUT, B.S.A.  
*Senior Soil Surveyor*

### VETERINARY AND LIVE STOCK

A. KIDD, D.V.M., V.S., D.V.P.H.  
*Live Stock Commissioner and  
Chief Veterinary Inspector*

### DAIRY

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

## HIGHLIGHTS OF 1966

- Crop Insurance Branch established to administer agricultural crop insurance.
- First Agricultural Outlook Conferences for British Columbia organized, with meetings at Prince George, Penticton, and Vancouver.
- Home Economist appointed to develop new market relations programme.
- First regulations introduced covering distribution and sale of agricultural pesticides at retail level.
- Report on British Columbia dairy industry published.
- Initial Rural Development Research Project commenced under ARDA programme.
- First analysis of farm operations among participants in farm-management programme completed.

# Report of the Department of Agriculture

## REVIEW

In common with most other sectors of the economy, British Columbia agriculture established new record high levels in cash returns during 1966. Contributing to this, apart from the general inflationary trend, were increases in production of several products, poultry and eggs in particular. Although the farm prices index showed an average gain of approximately six points over the comparable 1965 figure, there were indications of a levelling-off during the later months of this year as prices for a number of items softened. In spite of this, however, preliminary estimates place the total of cash receipts received by farmers from the sale of farm products at over \$170,000,000, a gain of some \$11,000,000 over the total for the preceding year.

A highlight of the production picture this year was the remarkable recovery of the Okanagan tree-fruit industry from the effects of the severe winter injury sustained in late 1964 and which resulted in a drastic reduction in 1965 production. The total crop showed an increase of nearly 50 per cent, bringing it slightly above the five-year average figure.

The Okanagan apple crop amounted to nearly 8,000,000 boxes, the second highest on record. Of this total, 2,474,239 boxes were scheduled for processing, leaving 5,448,960 to be sold on the fresh market. By year's end about one-half of the fresh supply had been moved, with sales within Canada up by 55,000 boxes over the comparable 1965 figure. Shipments to United States points amounted to 443,793 boxes, nearly double those of the preceding year, while offshore shipments reached 679,265 boxes, 10 per cent below the 1965 movement.

For the first time in recent years the cattle population declined moderately, the mid-year count showing a drop of 14,000 head to a total of 531,000. All classes shared in this trend, with the exception of beef cows, up by 2,000 head, and bulls, which remained unchanged. Despite this reduction in numbers, milk output climbed by an estimated 34,000,000 pounds, indicating a further increase in average per cow production.

Fluid sales of milk rose about 4 per cent, roughly equal to the increase in consumer population. Production of creamery butter, milk powder, Cheddar and cottage cheese was up, while declines were recorded in the output of evaporated milk and ice-cream.

Total marketings of cattle and calves for the year reached only 182,444 head, a decrease of 26,000 from 1965. Of this figure, 67,437 head were shipped eastward and 28,503 to United States points. The latter represented a reduction in numbers of nearly 12,000 head from the preceding year's export shipments.

This drop in export trade reflected a strong domestic demand, particularly during the latter half of the year, when choice steers brought prices \$1 to \$2 above those of the comparable period in 1965.

The Province's relatively small swine population recorded a modest gain during the year, while sheep and lambs continued their downward trend. Hog prices weakened slightly as the year progressed but remained well above 1965 averages, with average quality continuing to show improvement. Prices for sheep and lambs remained firm throughout at levels \$1 to \$1.50 above comparable 1965 returns. The wool clip declined by 13 per cent to only 248,000 pounds, reflecting the reduced population.

All phases of the poultry industry recorded significant gains in 1966, with turkey marketings up 20 per cent, broiler chickens 17 per cent, and eggs nearly 10 per cent. Grower prices for turkeys remained steady at an average weighted price of 27.6 cents for the year, while chickens recorded an average gain of 1 cent. Egg prices were the highest of recent years, with an average weighted return of 36 cents per dozen. The total poultry population at mid-year was calculated at close to 10 per cent above the preceding year's count.

Fur-farming continued to attract attention this year as the number of breeding mink reached 176,258 on 315 farms. With a production of approximately 400,000 pelts per year, British Columbia now accounts for 25 per cent of the national output of ranch mink. Pelt prices at the 1966 auctions averaged \$18.70, bringing the total value for the year to \$7,400,000.



Stretching mink pelts in preparation for drying.

Production of both cereal grains and hay showed increases in 1966 in spite of unfavourable growing conditions during the late spring months. The total grain crop of 11,204,000 bushels represented an increase of 10 per cent over 1965, and quality was generally of a good grade. With generally lower prices prevailing, production of grass and legume seeds was down by some 2,000,000 pounds from the 1965 total of 10,598,000. Only white clover showed a significant gain at 1,046,000 pounds.

As expected, potato acreage increased following the record high prices reached in 1965. The yield was generally good, but marketings during the last quarter were sluggish at prices slightly below the five-year average.

The recovery of strawberry production in the Fraser Valley and grapes in the Okanagan was a prime factor in this year's gains in the small-fruit industry after the reverses resulting from winter injury in 1964. The former recorded a sevenfold increase as per acre yields averaged 6 tons for an all-time record. With increasing acreage coming into bearing, grape production climbed to more than 3,000 tons.

Total output of small fruits, including grapes and filberts, amounted to an estimated 23,400 tons, almost double the 1965 crop. Prices were generally firm, but down 6 cents per pound for strawberries as supplies returned to normal levels.

Vegetable production was hampered somewhat by unfavourable weather during the early stages of the growing season, resulting in some losses among the earlier-harvested items. Prices for most were fair to good as demand remained steady. Sweet corn production benefited from warm weather at maturity, which brought the average per acre yield up to 7.5 tons. Similarly, higher temperatures produced improved yields for processing-peas after a disappointing start. The total crop was estimated at just under 2 tons per acre, close to the average recorded in recent years.

Among the specialty crops, mushrooms increased by 30 per cent this year to 3,645,000 pounds, and prices on the fresh market rose fractionally in response to continued steady demand.

Although the number of bee colonies increased by 5,100 to a total of 36,600 this year, honey production dropped sharply to 2,700,000 pounds from the all-time record output of 4,300,000 pounds in 1965.

On balance, in spite of rising costs and shortages of experienced labour, agriculture continued to display its ability to retain its position as one of the more stable industries of the Province.

#### ADMINISTRATION

The organization of the first of a series of annual Agricultural Outlook Conferences early in the year set a pattern for improved communications among all branches of the Department, arising from the teamwork involved in assembling the required data in presentable form. A further benefit was obtained from closer liaison with the Canada Department of Agriculture, the University of British Columbia, and a number of commercial agricultural agencies in the Province, as well as with the British Columbia Federation of Agriculture and associated groups in the farm community.

While the primary objective of these conferences was the examination of both long- and short-range prospects for British Columbia's agriculture as a basic industry, the discussions inspired among those in attendance provided the means for useful evaluations of current policies and programmes of the Department.

The Crop Insurance Branch was established during the year to administer the Department's newly introduced crop insurance service, and a graduate home economist was added to the Markets and Statistics Branch to develop a market and consumer relations programme. A number of internal staff changes were carried out as well, but with no change in permanent staff numbers.

Short courses and the self-improvement plan for personnel were continued and again proved of wide interest. While eventual results of these are necessarily of a long-range nature, their impact is already evident in improved staff performance.

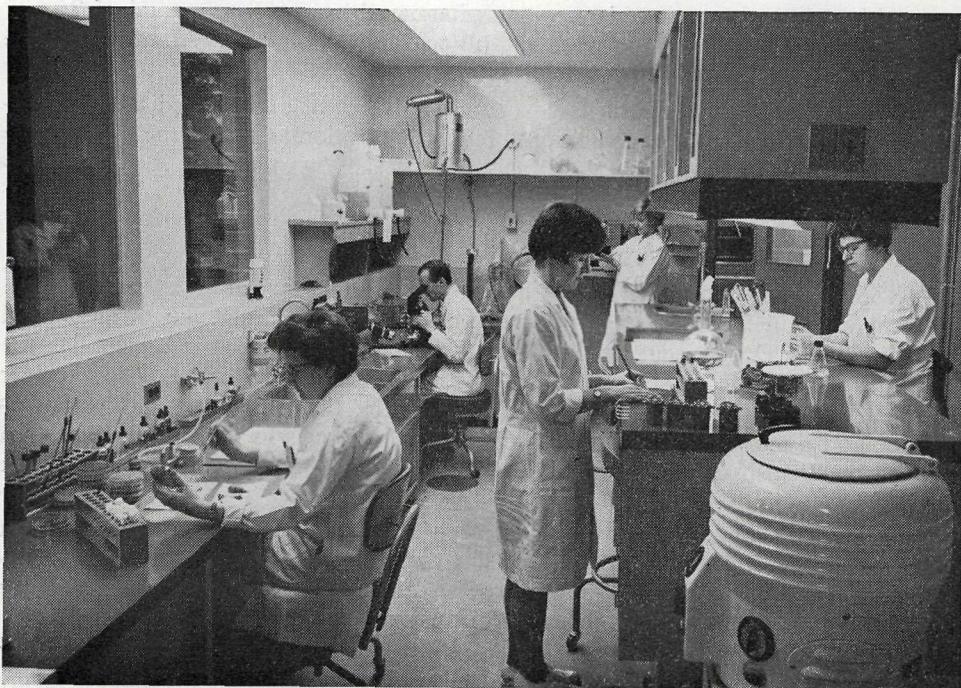
Also continued was the wide use of all communication media to publicize Departmental services and activities. Most consistent use was again made of television facilities in the Peace River District and in the Southern Interior area of the Province. All available surveys indicate a relatively high audience rating for these presentations.

Further up-dating of published material for public distribution was undertaken this year, as well as the publication of new work. Interest in these remains high, indicating the need for constant revision.

## LIVE STOCK

Although a number of cases were reported during the year, the incidence of live-stock diseases appeared to have been substantially reduced in all areas of the Province. For the most part, those diseases that did break out were of a sporadic nature.

With the completion of the second brucellosis test of Vancouver Island, the area was officially established as the first brucellosis-free area of British Columbia. During the 12-month period ended June 1st a total of 53,631 calves was inoculated with Brucella Strain 19, but, effective April 1st, payments to veterinary practitioners for inoculation services were discontinued, marking the commencement of the de-emphasis phase of the eradication programme for this disease. The cumulative total of payments made reached \$626,389 with the disbursement of \$54,452 this year.



Interior view of the Bacteriology and Serology Section of the British Columbia Department of Agriculture Veterinary Laboratory at Abbotsford.

A total of 465 fur-farms with 190,813 breeding males and females was licensed in 1966. This was a gain of 36 farms and 13,000 animals over the previous year.

Veterinary Inspectors completed 585 visits to licensed public sales yards during the year, inspecting a total of 169,961 animals. Inspections for foot-rot in sheep prior to the issuance of grazing permits involved only 7,120 head.

Killing-plant inspections at Provincially licensed establishments this year accounted for 32,308 head of cattle and calves, 17,030 hogs, and 5,907 other live stock. An additional 3,750 carcasses of farm-killed stock were also inspected. These together represented a decrease of 10 per cent from 1965 totals.

At mid-year 20,878 cows in 549 herds were being tested monthly by the Department's dairy herd improvement services. This was an increase of 3,470 head over the number on test one year earlier. The average herd size increased fraction-

ally to 38 cows. Production records continue to show improvement, due in part to improved breeding and feeding techniques, and to the fact that dairymen are still turning in increasing numbers to the Holstein breed. These larger animals now make up nearly 80 per cent of the total number on test.

The Recorder of Brands issued 433 new brands in 1966 as a part of the total of 1,457 individual brands recorded. Brand inspections covering live-cattle shipments amounted to 192,922, with an additional 15,929 hide inspections. Horse inspections totalled 8,794 for the year. The total of all such inspections was down by 1,179 from the 1965 figure.

Records of 24 artificial insemination centres indicated a total of 74,271 first services, a slight decrease from the preceding year. Among all dairy cattle on test in the Province this year, one-half were sired by bulls standing at artificial insemination centres. These cows continue to out-produce others by an average of 300 pounds of milk and 12 pounds of fat per lactation.

The new Veterinary Laboratory at Abbotsford reported 1,073 owners of live stock and poultry using facilities there, as well as 69 veterinary practitioners. Altogether, a total of 8,185 animal specimens and 39,604 serology specimens was handled during the year.

### DAIRYING

Licences were issued by the Dairy Branch to 50 dairy plants in the Province in 1966, but by the year's end this number had dropped to 44, of which 37 were pasteurizing milk, 15 manufacturing ice-cream, 9 making cottage cheese, and 9 making butter. Continuing in operation were two plants turning out Cheddar cheese and one each manufacturing evaporated and powdered milk respectively.

The completion of the second full year of the Branch's milk-grading programme revealed a market improvement in the already high quality of that product in this Province. Of a total of 24,357 samples tested, 79 per cent were found to have bacteria counts of less than 30,000 per cubic centimetre, as compared with 71 per cent in that category in 1965.

A comprehensive report on the dairy industry of the Province was published during the year. Essentially, this report brought together all recent findings in the industry under one heading. Assistance was given by the Economics Branch of the Canada Department of Agriculture in its preparation.

The Dairy Branch laboratory performed 32,208 analyses, of which 26,570 were of a regulatory nature, involving loop plate count and antibiotic residue on raw milk and standard plate count, coliform and phosphatase tests on pasteurized milk and cream. The remainder consisted of special tests and surveys.

Under the dairy-farm inspection programme a total of 2,055 premises was approved for the shipment of fluid milk. Seventy-two farm milk holding-tanks were checked this year.

### FIELD CROPS

A significant increase in the number of soil samples submitted for analysis by the Field Crops Branch soils laboratory was achieved this year as 3,660 tests were completed. Approximately two-thirds of these were submitted by farmers and a further 13 per cent from greenhouse operators. The remainder came from golf courses and home gardens. Test results were set up for data processing.

Considerable headway was accomplished in correlating fertilizer response with forage crops on Vancouver Island and in the Fraser and Okanagan Valleys as a

means of assessing the accuracy of fertilizer recommendations for these crops on specific soil types as indicated by the soil tests.

Weed-control work was continued, with emphasis on the use of field trials to demonstrate and evaluate chemical control applications in specific crops as well as in road allowances. Four Inspectors were again engaged for this work.

Only 19 permits were issued this year to live-stock feeders for the use of refuse grain screenings and 14 for the removal of screenings from elevators. Records indicated that 73,894 tons were fed in the Province during 1966, while a total of 103,552 tons was exported.

In co-operation with the Research Station of the Canada Department of Agriculture at Vancouver, the Branch conducted a series of trials on moisture control through irrigation and rhizoctonia incidence in potatoes. A special test project was carried out on 117 tuber samples supplied by 15 elite potato-seed growers, also with the co-operation of the Federal Department.

### POULTRY

The field staff of the Poultry Branch is now centred entirely at Abbotsford, adjacent to the heaviest concentration of the Province's poultry and egg producers. Under this arrangement, staff personnel are enabled to devote specialized attention to specific aspects of the industry.

Completed this year was the eighth official random sample egg-laying test at Abbotsford. These tests, designed to provide commercial egg-producers with useful information on the inherent productive capacity of the various breeds and strains of laying birds offered for sale within the Province, have been well received. It has been found that in the strain common to all eight tests, mortality was below average in the first four but equal to or greater than the average in the remaining four. The same held true for production per bird and in the calculations of feed consumption per dozen eggs produced, all of which indicated a deterioration in this particular strain in comparison with other strains on test.

For the ninth test, begun this year, all entries were housed in cages for the first time. As well as providing conditions more closely allied to those found in commercial enterprises, this arrangement made possible the provision of four rather than two replicas as in previous tests.

In co-operation with the Canada Department of Agriculture, a special project to evolve and test new strains of Leghorn birds of Canadian origin was continued through 1966. Results obtained thus far have produced useful data which will in turn assist in the selection of desirable matings for further trials.

Also continued this year were studies to determine the efficiency of available feeds in producing economical gains in broiler chickens as well as the capability of different strains of birds to make economical growth. Concurrent with these were trials to determine whether the strains of broiler-type turkeys now being used here and the available commercial feed rations are fully adequate to meet modern grading standards. Meaningful results are looked for in the near future.

A survey conducted by the Branch of the marketing pattern for eggs produced in British Columbia revealed that all areas of the Province, with the exception of the Fraser Valley and Vancouver Island, produce less than one-half of their egg requirements. These deficiencies are made up by shipments from the Fraser Valley and other Provinces.

Tests for suspected excessive pesticide residues were conducted on Vancouver Island and in the Fraser Valley and Okanagan-Kamloops regions this year. Find-

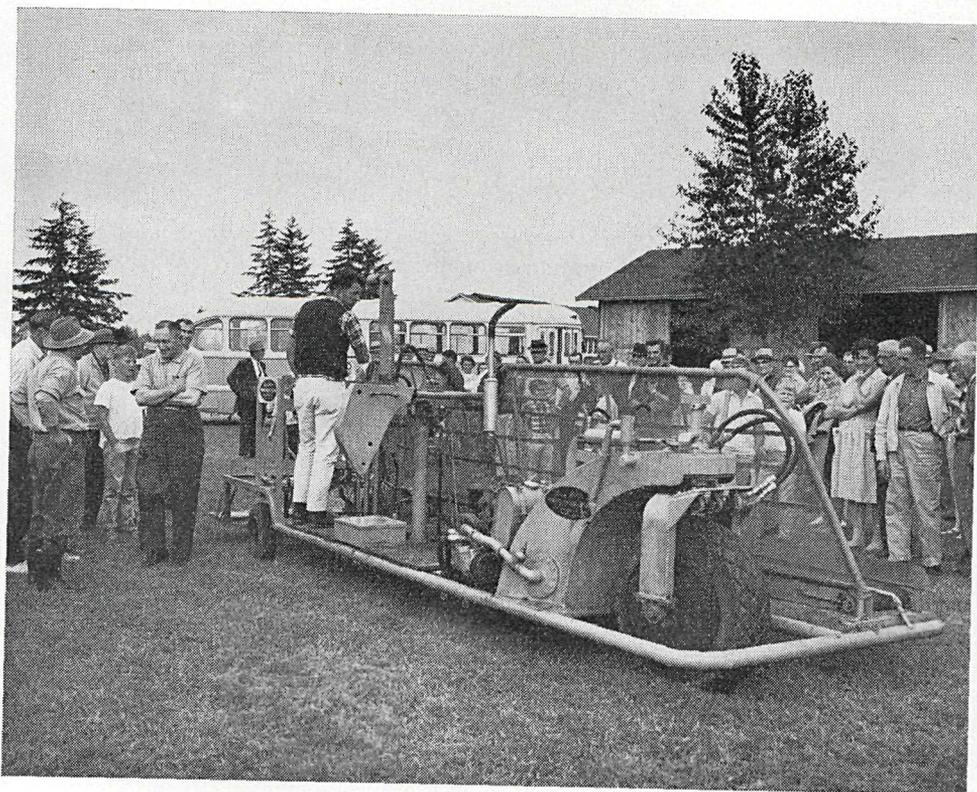
ings in the first two of these regions were negative, but excessive residues resulting in contaminated eggs were detected in several premises in the third. All birds in such premises were destroyed, the premises decontaminated, and the operators advised of alternate non-toxic materials that could be used.

### HORTICULTURE

A total of 192,945 apple and 11,345 cherry nursery trees were colour-coded and certified in 1966 by the Horticulture Branch, an increase of 57 per cent over the 1965 total. Under this programme the use of certified budwood has become general throughout the orchard industry, and the percentage of variety mixtures has steadily declined.

Coding of peach budwood has now been accepted in principle and will likely be adopted as a part of the programme. Also initiated was a trial method of colour-coding to differentiate between spur and standard varieties of Red and Golden Delicious apples. This has proved effective and will be adopted as part of the programme.

Among the demonstration projects undertaken by the Branch in 1966 was a series of trials in the mechanical harvesting of raspberries. A harvester was constructed and tried out in the Fraser Valley with some measure of success, but further refinements will be necessary in order to permit the harvesting of the fruit at a stage of maturity acceptable to the retail trade.



Prototype mechanical raspberry-harvester on view at growers' field-day, Abbotsford.

Continued were the nematode analysis service and the demonstration work on greenhouse soil substitutes. The former involves the determining of the population level of harmful nematodes prior to the planting of such crops as strawberries and raspberries. To date close to 40 per cent of the soil samples analysed have shown the presence of species harmful to such crops. The latter deals with the use of sawdust and sawdust-sand mixes as growing media for tomatoes, and was initiated last year with encouraging results.

Results of the storage trial for strawberry plants, aimed at devising a workable technique for digging and storing in autumn to avoid winter injury, have shown that Siletz and British Sovereign varieties can be successfully stored when lifted at any time between mid-November and March. Thus far Northwest has presented some difficulties, and is the only variety being tested during the 1966/67 winter.

### APIARY

The value of planned pollination of seed and fruit crops, using both honeybees and wild bees, was again emphasized by the Apiary Branch. Tree-fruit growers in the Southern Interior areas of the Province rented 1,622 colonies of bees in 1966, while blueberry-growers in the Fraser Valley used 800 with gratifying results. A further 1,700 colonies were placed at Creston to pollinate 2,000 acres of white Dutch clover for seed production. Colony rentals produced beekeeper returns of \$34,894.

A total of 7,329 colonies was inspected this year and 135 ordered destroyed. There were 59 cases of American foul brood and 10 of European foul brood detected.

In the alfalfa-seed production project near Kamloops, approximately 400 pounds of seed per acre were harvested in spite of some management difficulties. The project has demonstrated the proven value of Alkali and Leafcutter bees in producing larger yields.

### EXTENSION

The Agricultural Development and Extension Branch continued its rearrangement of duties to provide more emphasis on priority programme specialization by individuals throughout various regional districts. This was accompanied by increasing attention to extension in farm management, resulting from the improved information made available as a result of analyses prepared under the Department's farm-management programme.

The Agricultural Engineering Division continued its work in testing fruit-handling equipment, with particular emphasis on the packing of McIntosh apples in the popular "handi-pak" container. Results obtained thus far indicate that the cushioning effect of forced air may offer worth-while savings by reducing the incidence of bruising sustained under present filling practices. The Division also plays a leading role in the development of a mechanical raspberry-harvester and in the field-day held in conjunction with that project, which attracted some 200 growers and handlers.

Further trials were carried out this year in both grain- and hay-drying techniques. With damp grain the effectiveness of increased air temperatures was investigated along with the use of a more powerful fan. Tests on hay drying were broadened to include chopped hay, and satisfactory results were obtained. This opens the way for further development of labour-saving techniques through the complete mechanization of hay harvesting and storage.

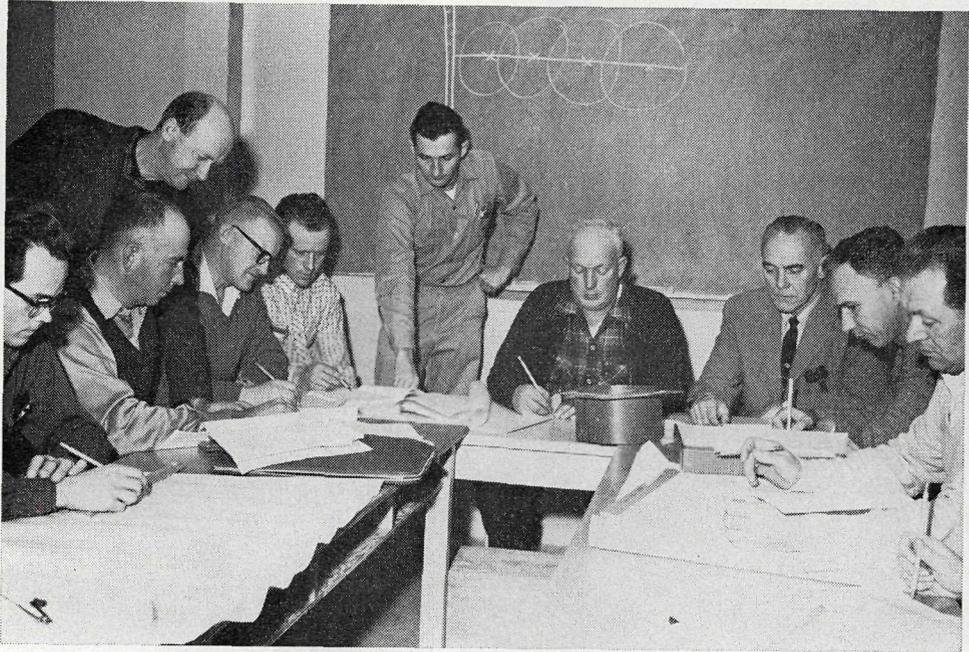


No ladders to move: harvesting Okanagan apples from a hydraulic hoist.

Continued tests of the effectiveness of drainage installations in the Fraser Valley were carried out, including a comparison of the efficiency of plastic- and clay-tile lines. It was found that the latter provides superior drainage under conditions obtaining in the test area.

In the field of irrigation, electronic processing techniques were utilized this year to develop more reliable sprinkler distribution data to yield advanced design information in the shortest possible time. This in turn is expected to accelerate the findings necessary in this important factor in much of British Columbia's agriculture. Irrigation workshops were again conducted at seven locations in the Interior for the purpose of providing irrigators with a sound working knowledge of the system designs currently available.

The demand for farm building plans continued to grow in 1966, as indicated by the 1,381 plans developed by the Division and distributed to farmers. New plans drawn up this year included dairy housing and cattle equipment.



Ranchers designing irrigation systems for their individual ranches, under supervision provided by Agricultural Engineering staff.

Increases in both the number of clubs and in total membership were reported by the 4-H Clubs Division in 1966. There are now 245 clubs with a combined enrolment of 3,282, representing an increase of over 5 per cent over the preceding year. Two-thirds of the members are living on farms, the remainder on rural or suburban holdings. Clothing, beef, and dairy clubs remain the most popular, accounting for more than 70 per cent of the total membership.

Exchange programmes, in which selected club members are afforded an opportunity to visit other Provinces and States, were again a prominent feature among 4-H Club projects during the summer months.

### SOILS

Soil-classification work again occupied much of the attention of the Soils Branch this year, to meet the needs of the Canada land-inventory phase of the ARDA programme. Soil classification was extended in the Fraser Valley, to which was applied soil-capability ratings. Similar ratings were completed in the East Kootenay region, as well as in the Shuswap Lake area and some of the upper levels of the Okanagan Valley.

A reconnaissance soil survey was extended in the area between Prince George and Vanderhoof, preparatory to the provision of soil-capability ratings for both agriculture and forestry.

Detailed soil surveys were conducted in the Winfield-Okanagan Centre and Black Mountain Irrigation Districts to determine irrigation-water requirements.

In co-operation with the Canada Department of Agriculture and the Soil Science Department of the University of British Columbia, a small-scale soil map of the Province was completed. For correlation purposes an FAO-UNESCO soil tour was held this summer to show representative soils. In attendance were representatives from Rome, the United States, Mexico, and Argentina.

## ENTOMOLOGY

Although there were no major insect outbreaks in the Province, the growing concern over the increasing use of pesticides and the steps taken to regulate their sale added to the responsibilities assumed by the Entomology Branch this year. A series of 34 courses on pesticides was held at strategic points throughout the agricultural areas, designed primarily to assist retail dealers in these products to qualify for dispenser certificates, now required under the official regulations governing their distribution and sale. A total of 572 retail outlets and 1,096 dealers qualified.

Inspection of outlets revealed only a very few violators of the regulations, all of whom were issued warnings in writing.

A study of warble fly damage at two meat-packing plants in Vancouver, involving the examination of 5,584 head of cattle, revealed varying infestations, averaging in excess of 20 per cent during the spring months. The findings indicated that many cattlemen and feed-lot operators are ignoring control methods, and a concerted educational campaign was initiated to overcome the problem.

The Pesticide Laboratory completed 881 analyses, chiefly of milk, egg, and vegetable samples.

## PLANT PATHOLOGY

Once again plant diseases were of minor economic importance in British Columbia, although collectively these continued to cause some concern. Among the more publicized was the golden nematode outbreak, now considered to be well under control in the Saanich area of Vancouver Island. Treatment of this infestation covered close to 130 acres, where a total of 27,000 soil samples was collected and a rigid soil-fumigation programme carried out.

Bacterial ring-rot of potatoes was detected on nine farms this year, eight of them in the Fraser Valley. Inspection of incoming potato carloads revealed five out of a total of 734 containing infected tubers.

In Coastal areas, red stele and root-rot continued to cause up to 10 per cent damage in strawberry plantings. The Siletz variety has proved usually resistant and is becoming more popular among growers for that reason.

## OTHER SERVICES

The Markets and Statistics Branch continued to assist in the sales promotional programmes for a number of British Columbia farm products, particularly in horticultural crops. Total expenditures exceeded \$10,000, with the bulk of this sum devoted to press space.

Considerable time and effort were directed to producer groups requesting assistance with marketing problems, and to the commercial turkey and mushroom growers, who were successful in obtaining marketing schemes under the *Natural Products Marketing (British Columbia) Act* this year. In the two plebiscites conducted among growers of these products, the voting showed heavy majorities in favour of the proposed schemes.

The Farm Management Service of the Branch concluded a successful year of operation with the publication of a report, "The Business of Farming and Ranching in B.C., 1965," which has proved useful as a manual defining an approach to farm economic and business management practices.

The Canada Department of Manpower contributed the equivalent of one employee toward the development of this programme.

The first analysis of individual farm operations as shown in the detailed accounts kept by participants in this programme was completed this year. This permitted a thorough evaluation to be made of the work accomplished thus far, as well as establishing useful guide-lines for future refinements.

A series of workshops on economic and management principles in various centres of the Province brought encouraging responses, and further workshops of this type are planned for the future, with emphasis on such aspects as estate planning and tax management.

At the year's end there were 115 Farmers' Institutes still active in British Columbia, of which 104 filed annual returns showing a combined membership of 4,558 farmers with a total value of commodities purchased amounting to \$1,442,289.

Twenty-one exhibitions and 34 fall fairs were officially recognized in 1966, and received grants totalling approximately \$90,000.

Five grasshopper-control areas received advances totalling \$42,000 for the control and extermination of grasshoppers.

The institution farms report for 1966 again reveals the excellent record being maintained by the Holstein herd at Colony Farm. This herd leads all Canada in the production of lifetime records of cows producing more than 100,000 pounds of milk. One of these, Colony Vale Princess Schuiling, this year completed her seventh lactation to bring her total production to more than 200,000 pounds of milk and 7,000 pounds of fat. She is the first cow in Canada to reach this level in seven lactations on twice-a-day milking.

The new Crop Insurance Branch was established in the closing months of the year, during which time a crop insurance plan was developed for tree fruits. Sales of policies for both tree and crop loss were begun in December.

While actual selling, servicing, and adjusting of insurance policies will be contracted to outside agencies, the Branch will administer the Crop Insurance Fund and handle all premium income and indemnity payments.

Distribution of published material by the Publications Branch amounted to 136,887 units this year, in addition to over 836,902 copies mimeographed from 4,352 stencils.

Under the ARDA programme a total of 27 projects was submitted in 1966, including 22 soil and water projects to cost an estimated \$6,053,720. One air-photography project involved 26,610 square miles, chiefly in the Central Interior region of the Province. This was designed to up-date older survey maps as a part of the Canada land-inventory programme.

The initial rural development research project was commenced this year, laying the groundwork for a comprehensive programme aimed at the eventual rehabilitation of those areas of the Province where development to date has been lagging behind that of other areas.

