

PROVINCE OF BRITISH COLUMBIA

Department of Agriculture

SIXTY-FOURTH

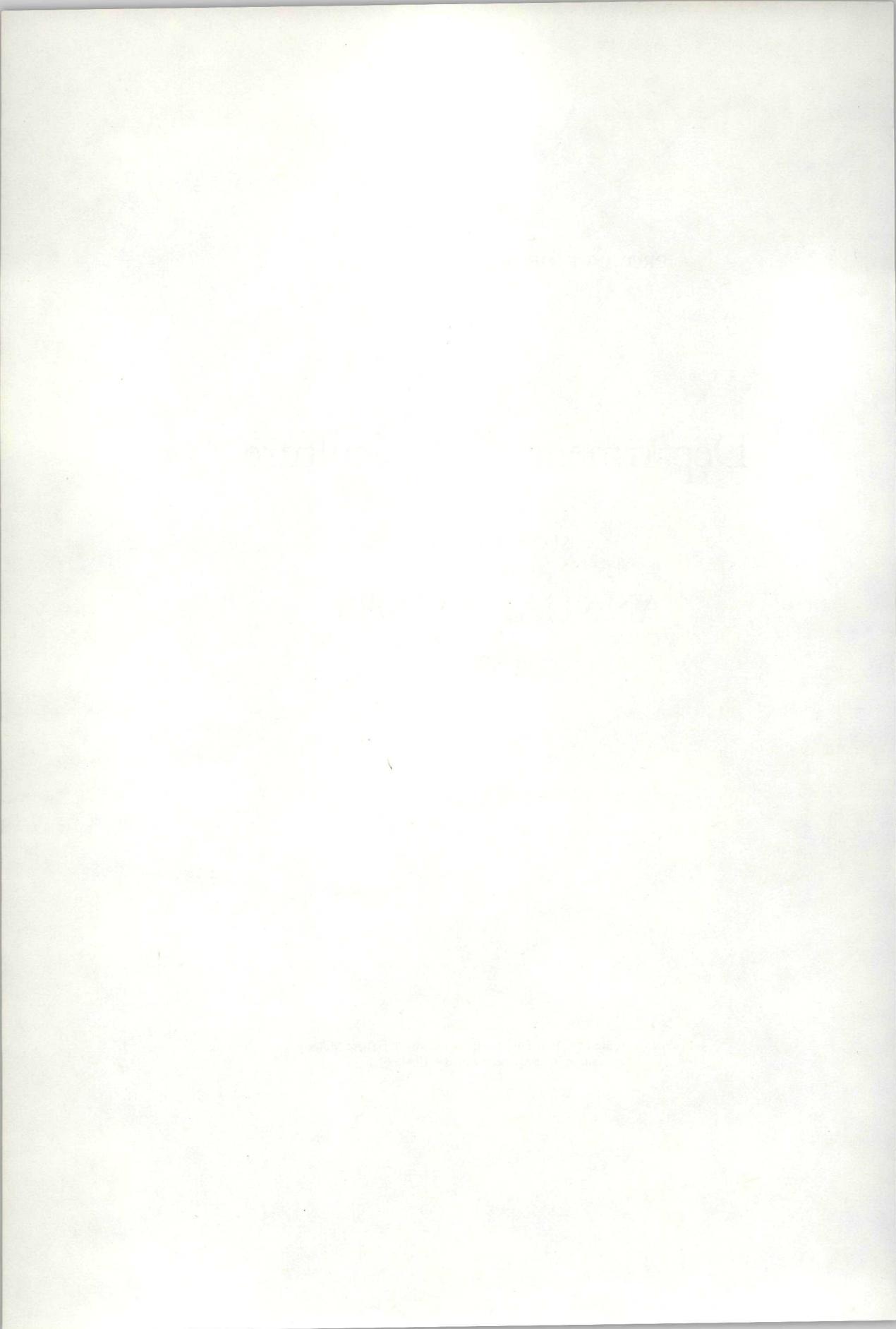
ANNUAL REPORT

1969



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1970



*To Colonel the Honourable JOHN R. NICHOLSON, P.C., O.B.E., Q.C., LL.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 1969.

CYRIL M. SHELFORD,
Minister of Agriculture.

*Department of Agriculture,
Victoria, British Columbia.*

To His Excellency the Governor, R. N. Anderson, Esq., U.S. Marshal,
Department of Agriculture, of the Territory of Alaska, Anchorage.

MADEIRA, 20th Dec 1902.

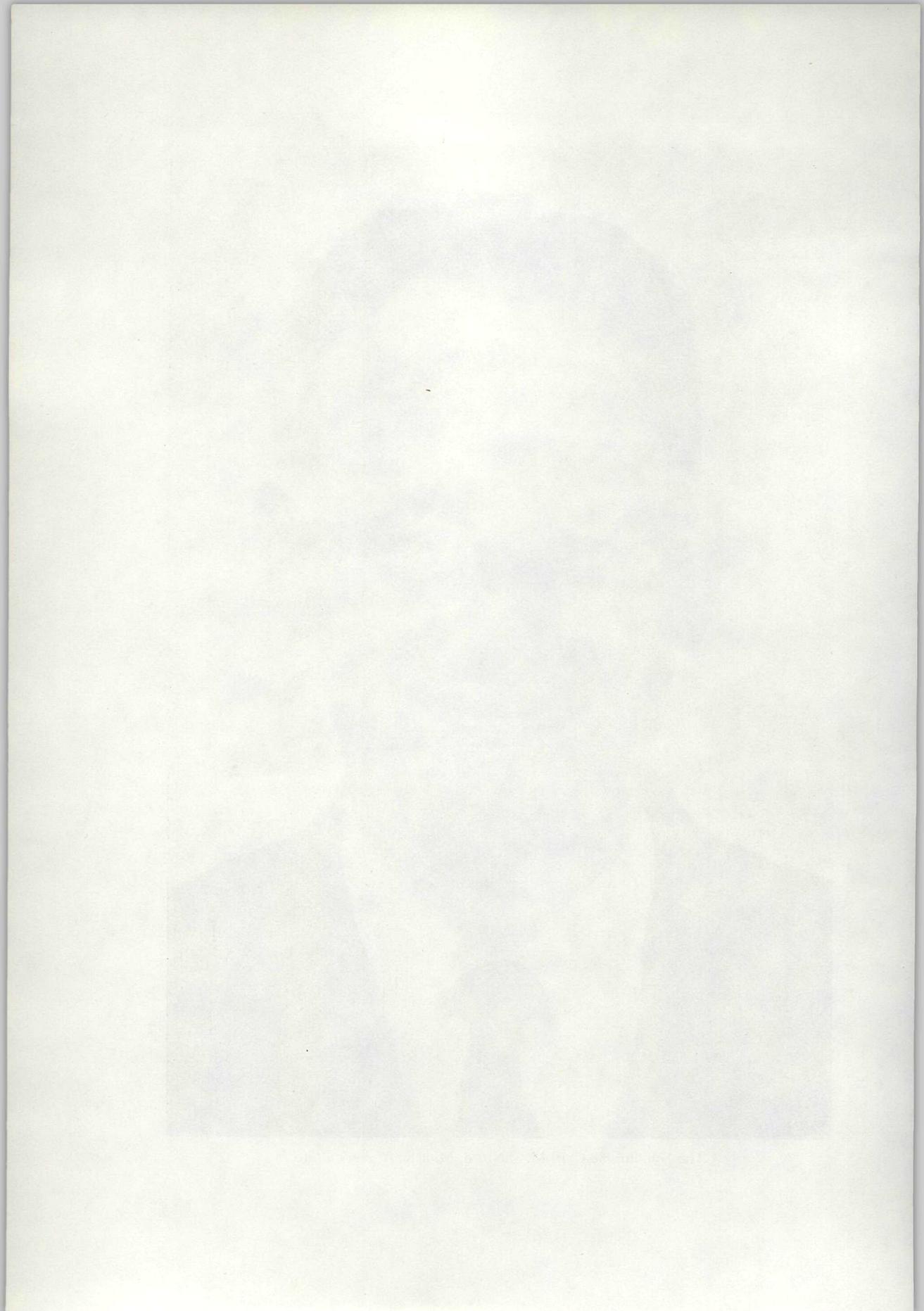
I have the honor to acknowledge your kind letter of the 17th inst. in relation to the Annual Report of the
Department of Agriculture for the year 1902.

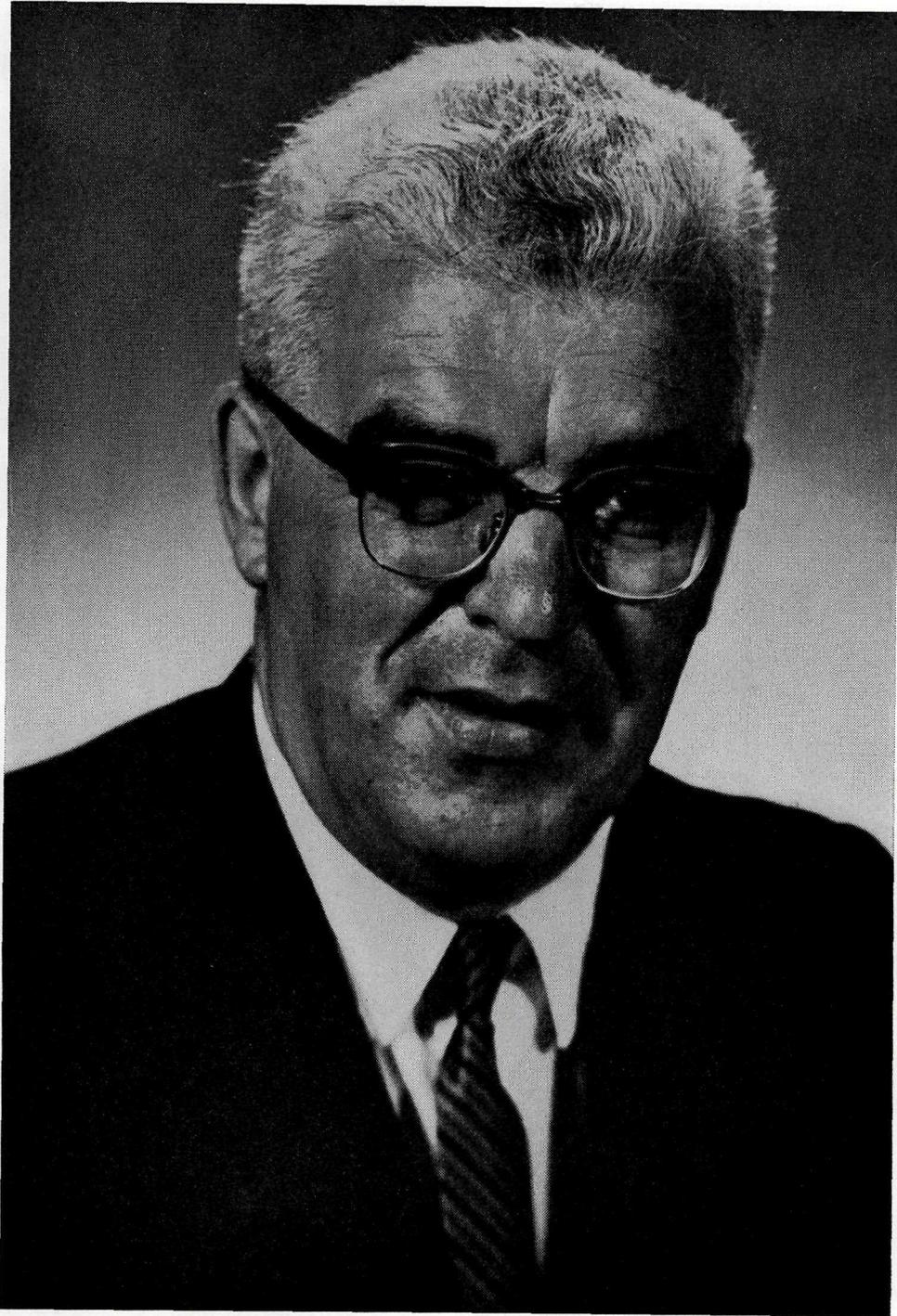
Yours faithfully,
WALTER M. SHEPHERD,
Minister of Agriculture.

Department of Agriculture,
Washington, D.C.

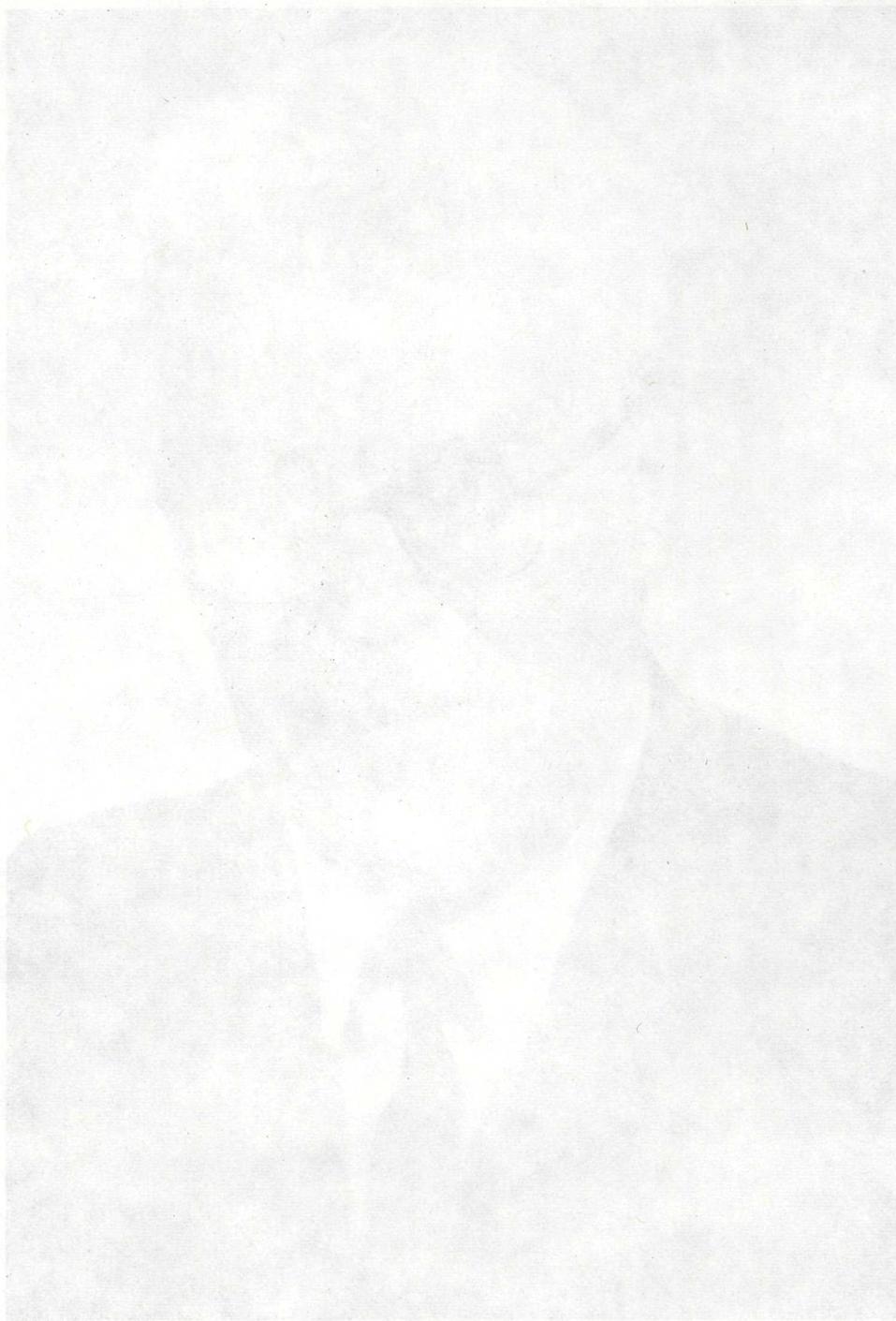


The Honourable Cyril M. Shelford, Minister of Agriculture.





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

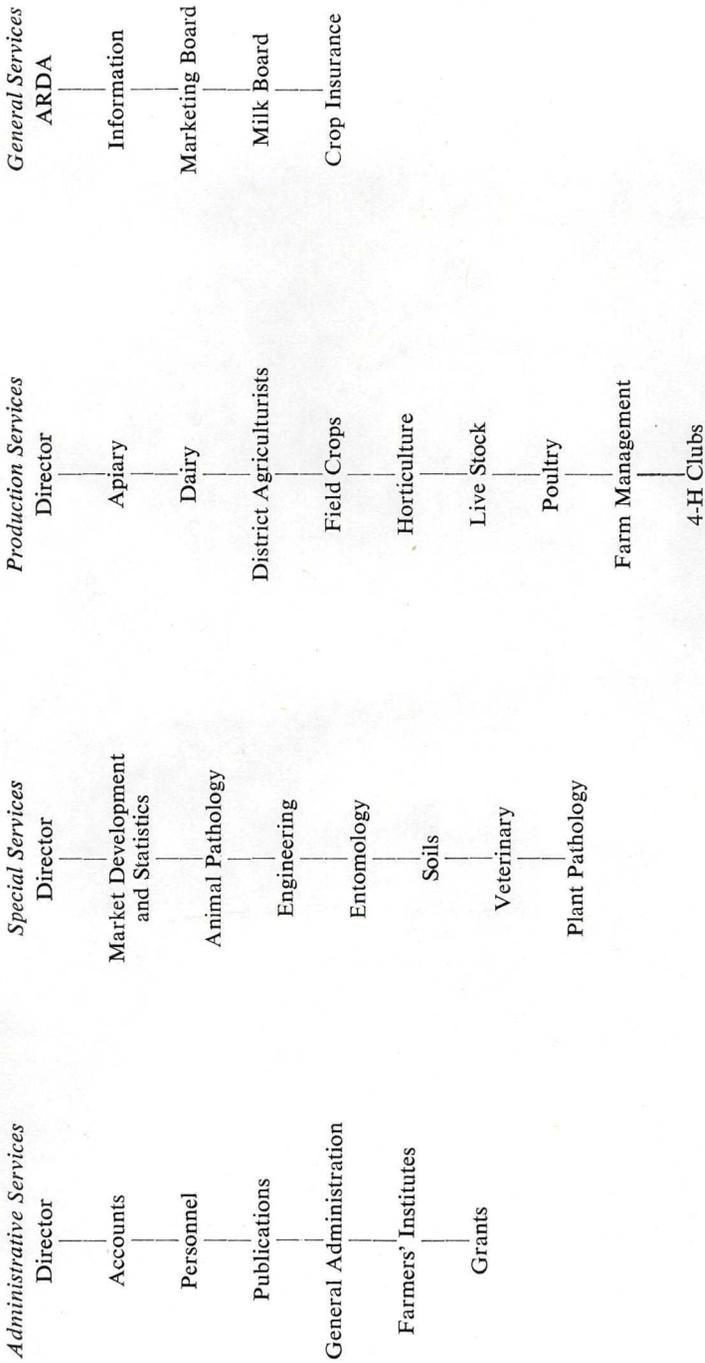


Portrait of [Name], [Location], [Date]

BRITISH COLUMBIA DEPARTMENT OF AGRICULTURE

MINISTER

DEPUTY MINISTER



1. The first part of the report deals with the general situation of the country and the position of the various groups. It is a very interesting and well-written account of the country and its people.

2. The second part of the report deals with the economic situation of the country. It is a very interesting and well-written account of the country and its people.

3. The third part of the report deals with the social situation of the country. It is a very interesting and well-written account of the country and its people.

4. The fourth part of the report deals with the political situation of the country. It is a very interesting and well-written account of the country and its people.

5. The fifth part of the report deals with the cultural situation of the country. It is a very interesting and well-written account of the country and its people.

6. The sixth part of the report deals with the educational situation of the country. It is a very interesting and well-written account of the country and its people.

7. The seventh part of the report deals with the health situation of the country. It is a very interesting and well-written account of the country and its people.

8. The eighth part of the report deals with the housing situation of the country. It is a very interesting and well-written account of the country and its people.

9. The ninth part of the report deals with the transportation situation of the country. It is a very interesting and well-written account of the country and its people.

10. The tenth part of the report deals with the communication situation of the country. It is a very interesting and well-written account of the country and its people.

Report of the Department of Agriculture

REVIEW

For the first time since 1955, farm income in British Columbia in 1969 registered a decrease from the total of the preceding year. This was attributable to a significant decline in fruit production as well as lowered receipts from the sale of cattle and calves, which together resulted in a reduction of nearly \$4,000,000 from the all-time high figure of \$204,632,000 realized in 1968.

Elsewhere on the farm front, production levels were well maintained and prices, with few exceptions, notably grains, were generally equal to or better than those of the previous 12 months. This was partially reflected by the Farm Price Index, which showed a gain of 6 points over the 1968 average of 117.0.

In the tree-fruits industry, stone fruits were virtually wiped out and the pear harvest amounted to only 5 per cent of normal as a result of severe winter damage. Only apples approached average production volume with a total crop amounting to some 6,000,000 boxes. Apple prices tended to soften somewhat under the impact of heavy offerings from other producing areas.

A highlight of this year's fruit-marketing programme was the sale of 45,000 boxes of Red Delicious and Spartan apples to New Zealand, culminating many years of effort to break into that market.

Production of grapes was sharply reduced by winter injury, as were strawberries in the Lower Mainland area. Other berry crops held up relatively well.

Both production and prices for vegetables were generally satisfactory, reflecting steady demand throughout the year.

All sectors of the poultry industry recorded gains, highlighted by an increase of 12 per cent in total income from eggs as the average weighted price for the year rose to 38.5 cents per dozen. Output of poultry meat jumped by nearly 24 per cent over the 1968 total in the face of strong market demand. Prices were generally firm throughout the year.

The weighted average grower price for broiler turkeys was about 2 cents per pound above the 1968 average, while broiler chicken maintained firm price levels up until the latter weeks, when storage stocks built up sharply.

A continuing decline in numbers of dairy herds resulted in a further lowering in the dairy-cow population to a total of 78,000 head by the year's end. This in turn brought about a moderate decrease of about 1 million pounds in milk output, despite increased yields per animal. Average returns to primary producers rose to \$5.30 per hundredweight for 3.5 per cent milk.

There was a considerable selling-off of beef feeders during the year, following a general hold-back on farms and ranches in 1968. Shipments of feeders to Alberta and eastward increased by more than 30,000 head to a total of 110,129, more than offsetting a decline of some 1,500 to United States points.

Inspected slaughterings of British Columbia cattle rose sharply to 80,162 head, a gain of 17 per cent over the previous year.

The Province's small hog population rose fractionally to 44,000 head during the year, while numbers of sheep and lambs dropped by 6 per cent to a new low figure of only 33,000. Slaughter prices remained firm throughout, particularly for the better grades of hogs.

British Columbia grain growers were hampered by unfavourable weather conditions at harvest this year, with resulting declines in yields. This, coupled with lower prices arising from heavy carryovers elsewhere in Canada, exerted downward pressures on total returns. On the other hand, continued firm demand for live stock feeds permitted generally good movement of the lower grades.

A carryover of pelts tended to depress prices in the mink industry, the average remaining below \$14 during the year. The number of mink ranches remained unchanged at 231, with a total population of 145,763. Increasing interest in chin-chilla-breeding brought the total of farms to 208 and animals to 16,580.

Honey production increased significantly to an estimated 3,500,000 pounds, but producer prices remained relatively unchanged as stocks continued to move slowly. The wool clip was down slightly with prices rising fractionally.

Adverse weather cut forage-crop seed yields sharply to a total of only 4,830,000 pounds, less than half the 1968 figure.

Altogether, 1969 was a year of mixed reactions on the farm front, with gains in a few sectors but substantial losses in others. Once again the diversified nature of agriculture in this Province enabled producers to complete their year's effort with better returns than might otherwise have resulted.

ADMINISTRATION

Significant changes at the higher administrative level were introduced this year as the Departmental staff were categorized under four broad headings as an efficiency measure. While the transition was not completed by year's end, tentative plans called for a regrouping into Special Services, Production Services, Administrative Services, and General Services. A director was appointed to head each of the first three of these, while a fourth is contemplated at some later date.

Special Services now includes Markets and Statistics, Entomology, Plant Pathology, Engineering, Animal Pathology, and Soil Surveys, with plans to include Veterinary Services.

Production Services embraces Horticulture, Live Stock, Poultry, Farm Management, Field Crops, Dairy, Apiary, and such extension personnel as District Agronomists and 4-H Clubs.

Administration now covers Accounts, Personnel, Publications, and Farmers' Institutes, as well as the routine administrative functions associated with such matters as financial grants.

Plans call for Crop Insurance, ARDA, the Milk Board, and a proposed Information Service to make up General Services.

The primary objective in this reorganization is the separating of Departmental functions in such a manner that more specific policies may be carried out under single direction, thus streamlining the decision factors while retaining cohesion among interrelated disciplines.

Once again, short courses covering a full range of subjects attracted considerable interest, while the self-improvement plan for staff personnel continued to prove its value, as reflected by the sustained interest displayed in refresher courses and post-graduate work.

The Outlook Conference series was continued during the winter, with meetings staged at Salmon Arm, Nanaimo, and Dawson Creek, and a fourth at Terrace in co-operation with the Department of Industrial Development, Trade, and Commerce. Response among the farm community was generally satisfactory at all points.

At Victoria, meetings of senior staff officials were again held at intervals throughout the year, designed to sustain knowledge of and interest in Departmental activities and in other related areas.

Total permanent staff personnel as of December 31st stood at 350.

DAIRYING

As the number of approved fluid dairy farm premises declined still further this year to a total of 1,710, the long-term transitional period of change from the old standard 10-gallon can system to the farm holding-tank drew near to completion. The extensive renovations associated with this changeover have required additional attention by Dairy Branch staff in an advisory capacity. Coupled with this has been the rechecking of installed holding-tanks and, where necessary, recalibration and other adjustments.

Similarly, the construction of new dairy plants and the renovation of established installations necessitated the revitalization of the Branch's inspection programme in this field.

These activities were in addition to regular inspection procedures and improvements in sampling techniques involving the transfer and care of composite samples, plus a special preparatory project with laboratories in respect to finished product analyses by means of I.R.M.A.

In the legislative field, the unorganized territory in the Nakusp and Gibson's Landing School Districts were established as milk-pasteurization areas. This brought to 73 the number of such areas established in various parts of the Province.

Ministerial exemption from classification as imitation milk products were issued in 1969 in respect of five such products meeting the requirements set forth in the *Milk Industry Act*. At the same time, one instant coffee incorporating a whitener agent was withdrawn from the British Columbia market because of failure of its accompanying advertising and labelling to meet the Act's requirements.

Under terms of the Dairy Producers Protection Fund, plan moneys collected from producers had exceeded \$75,000 by late autumn. At that point further collections were suspended.

A total of 38 dairy plants were licensed this year, along with four margarine manufacturers and 24 wholesalers.

LIVE STOCK

The incidence of disease among the Province's live-stock population continued at a relatively low level this year, although there were a few sporadic outbreaks of infectious bovine rhinotracheitis attributed in part to severe winter conditions. These were quickly diagnosed at the Branch's Veterinary Laboratory, as were a number of cases of leptospirosis. In regard to the latter, the laboratory has embarked upon a survey to determine the extent of this disease, which was determined to be a factor in some abortions among cattle and swine. Other abortion cases were traced to the bovine virus diarrhoea (BVD) virus, while others appeared to result basically from malnutrition and vibriosis.

Calfhood vaccinations totalled only 8,275, as the phasing-out of the Brucellosis Control Programme was continued.

Under provisions of the *Fur Farm Act*, 439 licences were issued to operators, covering a total of 162,371 fur-bearing animals, the great majority of which were mink. Also licensed were 18 public sale yards, 14 sale-yard operators, and 47 auctioneers under the *Live-stock Public Sales Act*. Altogether, 686 public sales

were held in 1969 and a total of 188,874 head of stock was inspected by Branch officials.

Veterinary Inspectors carried out 1,041 visits to licensed establishments, as well as 22 checks for farm slaughter operations. In addition, 204 visits were made to open shops engaged in the sale of agricultural pesticides and veterinary drugs under provisions of the *Pharmacy Act*. There were 83 places of business licensed to sell veterinary drugs and 91 to sell medicated feeds.

Seventy-one technicians were licensed to operate in the 23 artificial-insemination centres throughout the Province this year. In this connection, the programme of assistance to artificial-insemination centres was continued and co-operation was extended in the cost-sharing of technician training at the British Columbia Artificial Insemination Centre.

The Dairy Cattle Placement Policy was also continued in 1969 with 82 Holstein heifer calves, yearlings, and two-year-olds from DHIA herds in the Fraser Valley being secured and shipped to Interior points. This brought to 1,196 head the total number placed since the inception of the policy.

At the British Columbia Beef Cattle Test Station, 70 bulls in 14 progeny groups of 5 each were placed on test for 168 days. Bulls on test this year were self-fed rather than hand-fed as in previous years, and alfalfa was excluded from the rations, which were adjusted to compensate for the lower protein content in the grass hay used. These measures were designed to reduce management costs while allowing for more accurate calculation of differences in genetic inheritance.

The Dairy Herd Improvement Service reported 510 herds on test in 1969, representing a total of 22,118 cows. Average actual production rose to a new high of 12,496 pounds of milk and 481 pounds of fat for an average butterfat content of 3.85 per cent.

For the first time in the Province's history a herd exceeded 18,000 pounds of milk, averaging 18,497 pounds of milk and 700 pounds of fat. In all, 17 herds averaged in excess of 600 pounds of fat.

By the year's end, 96 herds were on the computer programme associated with I.R.M.A., using part-time samplers, and more will be added as procedures are established for more accurate compilation.

With the addition of seven Deputy Brand Inspectors this year, the Brands Division now has a staff of 43 deputies, the additional number being required to fulfil inspection duties formerly carried out by the R.C.M.P.

The Division reported this year that identification or "number" brands continued to attract little or no interest among cattlemen. Similarly, freeze-branding thus far has failed to gain support.

A significant increase in the usage of the Veterinary Laboratory took place this year as more operators became aware of the value of the diagnostic services offered. This was indicated by the 10,943 poultry specimens processed in addition to 31,804 serology specimens, which together made up the bulk of the 48,038 total submissions. Expansion in the field of serology included the development and perfection of serological tests for the various leptospirosis antigens.

FIELD CROPS

A sharp increase in soil analysis work was a highlight of the Field Crops Branch's activities in 1969 as 5,900 samples were processed. In co-operation with soil fertility work, some 300 samples were processed for research purposes.

Soil test correlation and fertilizer trials were continued in the Interior on forage crops in addition to two potato plots. Also continued were the fertilizer test plots

in the Central Interior in co-operation with the Federal Research Station at Prince George.

Testing of a number of new herbicides for weed control was conducted at various locations, as well as the demonstration project on knapweed control in the Kamloops area. Weed Inspectors were again appointed for duties in the Peace River District and at Pemberton.

Appointed this year was a range-extension specialist, headquartered at Kamloops, to accelerate planned programmes for improved range management.

The Branch issued 15 permits for the removal of screenings from grain elevators this year, along with two feeders' permits. There were over 4,700 tons of raw, uncleaned, and refuse screenings and some 2,200 tons of pelleted refuse consumed in the Province, while exports amounted to 17,343 and 64,397 tons respectively, according to Branch records.

ENTOMOLOGY

The Entomology Branch's integrated control programme for orchard insects, designed to reduce the amount of spraying for mites through the more effective use of predators, attracted the active participation of some 400 orchardists this year. Savings of \$15 to \$20 per acre in spraying costs on 5,000 acres were reported.

The use of a number of well-known pesticides was considerably reduced in British Columbia when these were removed from official Departmental recommendations. These included DDT, chlordane, heptachlor, aldrin, dieldrin, and endrin, which are now obtainable only by signing the official Poison Register. To minimize possible pollution hazards, a programme of collection and disposition of unwanted pesticides was established for the public benefit.

A total of 105 firms was licensed to apply pesticides in one or more categories of work, and 324 persons were granted certification after examination as pesticide operators. The Branch conducted special one-day courses of instruction for those engaged in either the sale or use of pesticides commercially.

The Branch co-operated with 20 mosquito-control organizations in 1969 in a concerted effort to alleviate the nuisance factor associated with these insects.

A total of 762 samples submitted for pesticide residue analysis produced none showing harmful concentrations. These included foodstuffs, water, soil, animals and animal feeds, birds, and marine life.

EXTENSION

Although the Department's Farm Management Programme has received top priority during recent years and has occupied much of the time of District Agriculturists in some areas, it became fully evident this year that the Province's primary producers still show reluctance in accepting it as an integral part of their farming business. The advent of the CANFARM programme had brought renewed enthusiasm among staff personnel since it appeared to remove much of the difficulty in recording of physical data, which had earlier been considered the chief obstacle to broader acceptance. However, only 20 British Columbia farmers enrolled in the national programme in 1969. One result has been a period of consolidation and reorientation. A CANFARM workshop for selected staff was conducted during the year to enable the group to serve as regional specialists in support of the programme.

On the brighter side, valuable information was collected again from data sheets to provide a useful pool of information on production costs of those crops covered in the programme. This, it is anticipated, will assist the District Agriculturists in providing sound advisory services.

In Central British Columbia, another forage improvement programme was initiated in co-operation with personnel of the Canada Department of Agriculture in a further attempt to stimulate interest in increasing the quantity and quality of forage production, both hay and pasture. While programmes of this nature have been carried out in this region for many years, this latest effort included the use of an increasing rate (logarithmic) fertilizer spreader to demonstrate graphically the degree of response to different rates of fertilizer application. Coupled with the Field Crops Branch's soil test correlations in a number of the test locations, this programme represented a rather more sophisticated approach to the perennial problem of relatively low yields and the lack of quality in forage crops here.

Another co-operative venture saw the establishment of an irrigation project at Vanderhoof to determine the economic feasibility of irrigating the heavier soils of that area for forage production. Climatological equipment was set up adjacent to the test area and electrical resistance blocks installed to measure soil moisture.

The Fraser Valley Dairy Extension Committee, comprised of the District Agriculturist and producer members, continued to function effectively during the year, acting in an advisory capacity to ascertain the extension needs of the dairy industry in the Lower Mainland. The workshops and field-days organized by the committee have stimulated considerable interest among dairymen, resulting in extraordinary attendance and participation in planned events.

Extension staff increased its use of radio, television, films, and slides as well as newsletters as a means of effective communication with the farm community. To improve personnel capacities in the presentation of radio and television programmes, a television workshop was organized this year to acquaint selected staff with acceptable standards of work.

ENGINEERING

Engineering activity this year involved a broad range of projects in the field of power and machinery, soil and water, and farm structures. Several of these attracted financial support from the private sector, reflecting a growing interest in and appreciation of the tangible benefits that such work is producing.

In the Okanagan, industry money was made available to a programme aimed at designing, fabricating, and installing an efficient fruit-sorting system. The final phase was completed this year and is expected to become fully operational in 1970. In the same area work was continued on the development of a suitable automatic bagging unit for tree-fruits, as well as an accurate Handipak-filler for apples.

The fourth of a series of experimental raspberry harvesters was tested this year in the Fraser Valley, with encouraging results. This has led to interest in developing a variety that will lend itself profitably to mechanical harvesting.

In horticultural circles generally there was an increasing interest in furthering mechanization as a means of overcoming labour-cost factors, and the Engineering Division became directly involved in such matters affecting a number of specific crops. Priority was given to commercial blueberries, but other specialized crops were also considered.

An engineering report was also prepared on major farm machinery and equipment items and components as currently used under British Columbia conditions. Coupled with this was a report on the feasibility of importing British-made tractors.

Further work was carried out on drainage potentials on the lower elevations of the Fraser Valley, with particular reference to the relative merits of plastic and conventional clay tile-drains.

Optimum spacings and sprinkler combinations for particular crops in various parts of the Province were developed, including some preliminary investigation into the feasibility of solid-set irrigation systems for raspberries.

With the increasing public concern over methods of waste-handling, increased emphasis was placed upon improved methods of handling live-stock and poultry manures. Included were investigations into above-ground storage tank installations for hydraulic agitation and sprinkler distribution of dairy slurries, an oxidation ditching system for the stabilization of swine manure, and deep-pit laying-cage housing for poultry.

A liquid manure-handling field tour organized by the Division in the Fraser Valley proves most successful, as was a grain-drying workshop at Fort St. John. The latter extended over two days.

Under the land-clearing programme, a further 9,261 acres were cleared this year and 6,111 acres broken. These brought to 187,041 and 92,939 acres respectively the totals achieved since inauguration of the programme.

4-H CLUBS

Total membership in 4-H Clubs in the Province increased again this year to 3,710 in 243 clubs, involving 4,501 projects. Beef Clubs continued to lead in popularity with 794 members in 55 clubs, followed by Clothing, Dairy, and Garden Clubs.

Rallies were conducted in all districts, with added support from the Canadian Imperial Bank of Commerce.

Club members were also active as usual in fairs and exhibitions, the Pacific National in particular, as well as the Province-wide public-speaking competition at Chilliwack.

The summer-camp programme was successfully organized at Williams Lake, Salmon Arm, Duncan, and the Fraser Valley, as was a 4-H Builders' Conference in November. In addition to these, 10 delegates accompanied by two staff personnel attended the first Western 4-H Seminar, held in Saskatchewan. Fourteen delegates attended the National Conference in Ottawa and Toronto.

The exchange programme, whereby 4-H members visit and in turn are visited by their counterparts in other provinces and United States points, again proved highly popular.

Training workshops for 4-H leaders and senior members attracted a combined attendance of 405, while the 4-H Home Arts Clinics in October brought out an estimated 80 to 90 per cent of the membership in these clubs.

For the first time, the provincial 4-H Club Week programme this year featured several speakers other than Departmental personnel, a move that proved useful to those attending.

Division personnel took part in the preparation of news releases and television appearances, while the Kamloops Home Economist handled the taping and distributing of 52 talks for broadcast over 16 stations.

SOILS

The ARDA Canada Land Inventory Programme continued to occupy much of the attention of the Soils Branch during 1969, with heavy emphasis being placed on broad-scale reconnaissance soil surveys to be used as a basis for agricultural and forestry capability ratings.

The detailed soil survey of the Lower Fraser Valley was completed, then expanded on a reconnaissance basis to include remaining land, most of which is

mountainous. In addition, some detailed mapping was carried out in the Gibsons-Sechelt area, and capability ratings applied to all areas. At the same time, the reconnaissance soil survey of the North Central Interior was also completed with capability ratings applied. A similar reconnaissance survey was commenced in the Shuswap Lake area.

Design flow maps were drawn up for several irrigation districts at the request of the Water Resources Service, as well as a detailed survey of the Southeast Kootenai Irrigation District.

Advisory services on general soil problems, irrigation, and drainage were continued in the Southern Interior, and a large number of chemical analyses were completed. Mineralogical analyses were conducted on selected Fraser Valley samples, and studies on the minor element relationships between soils and plants from the Cariboo-Chilcotin area were continued, as was the coding of chemical data and descriptive soil material for computer input with the insertion of data from the Municipalities of Delta and Richmond. An interim soil-survey report and map for these two municipalities was completed and distributed during the year.

Altogether, the reconnaissance soil surveys and capability for agriculture ratings covered 4.9 million acres each, while capability for forest ratings accounted for 10.5 million and detailed soil surveys for 35,000 acres in 1969.

HORTICULTURE

The 1969 work programme for the Horticulture Branch was largely related to the economic aspects of production. The close planting of crops and similar intensive cultural techniques have necessitated many changes in established practices. Numerous experimental programmes embodying these were undertaken during the year.

In the Okanagan, the integrated mite-control programme was expanded and resulted in substantial savings to fruit-growers there, while extensive trials utilizing a balloon and artificial hawk as a device for frightening off birds, starlings in particular, proved highly successful to the point where producers were encouraged to give this technique limited commercial trial.

New pests were discovered affecting cherry production in the Okanagan, including the cherry fruit fly, as well as a virus-like condition which is of particular concern to the cherry-growers.

Continuing to receive attention was the use of sawdust as a root media for the production of greenhouse cucumbers and tomatoes. Further work was carried out on the problems arising from moisture application at differing depths of the medium, plus tests to determine optimum fertilizer solutions under varying growth conditions.

Variety trials over a wide range of vegetables, including replicated variety trials, were conducted in the Fraser Valley. These included trial plantings of various imported varieties to determine their adaptability to British Columbia conditions.

Orchard spray programmes were further updated in keeping with needs arising from newer techniques now being employed with advanced chemical formulations. Extensive checking of these was necessary in view of the ever-present possibility of undesirable side effects or, in extreme instances, serious damage to immediate and adjacent plantings.

Further efforts were carried out in demonstration work involving all aspects of crop husbandry, including irrigation, root stocks, and tree-training. Similar work was continued in grape culture, in spite of severe winter damage to many of the vineyards.

POULTRY

The Poultry Branch continued this year to expand its advanced programme designed to convey to the producer sector the best available information on production and management techniques, with special emphasis on nutrition and disease control.

The Branch co-operated with municipal authorities in an effort to reduce the conflict of interest arising from urban encroachment onto areas of intensive poultry production. As a result, a radical change was developed in recommended design of poultry housing based upon a modification of the Maine Deep Pit Poultry Building.

Continued in co-operation with the Canada Department of Agriculture was the project aimed at developing a cross-strain Leghorn comparable to United States strains currently used in the Province commercially. Nine different two-way cross females were each mated with one of five pure male lines. At the end of the year, 3,500 females from these matings were supplied to hatching flocks, with a further 2,500 for delivery to the Maritime Provinces.

In co-operation with the Department of Poultry Science at the University of British Columbia, two trial projects were carried out in the field of nutrition. One, to determine if the protein content of high protein wheat could be supplemented with lysine and methionine to maintain egg production, was hampered by high mortality which precluded the drawing of satisfactory conclusions; the other, a full-feed trial to test rations which could be fed to broiler breeders without the necessity of limiting feed intake or skip-a-day feeding in broiler-chicken production, will be continued into 1970.

Also continued was a test to determine if poultry manure can be buried without causing pollution in ground water. Initial findings indicated that after four months there is a significant increase in nitrates in the surrounding soil, but negligible change in the mould and coliform count.

A test to determine the effect of different debeaking systems in commercial egg-type single-comb White Leghorns revealed that birds debeaked as day-old chicks and re-debeaked at 150 days produced 18 more eggs per bird than those debeaked at 8 weeks of age and 33 more than those that were not re-debeaked.

For the first time a trial was instituted to determine whether ducks could be reared indoors successfully under British Columbia conditions. Results indicated that ducks can be raised on either slatted wooden floors or on a combination of wire and litter equally well, and that feeds based mainly on wheat are slightly superior to those in which corn is the sole grain ingredient.

Changes in the Hatchery Supply Flock Policy this year provided for a registration fee of 5 cents per day-old pullet, which included participation in the Poultry Health Programme, which in turn included free laboratory diagnostic services.

MARKETS AND STATISTICS

Problems associated with legal definitions contained in a number of marketing schemes, drawn pursuant to the *Natural Products Marketing (British Columbia) Act*, which have arisen in part from recent Court decisions and from difficulties encountered in the issuance and transfer of marketing quotas, occupied much of the attention of the Branch during 1969. A meeting of several boards' legal counsel was held to arrive at agreement on possible amending orders, with further action to be considered at a more appropriate time.

To a large extent these difficulties are of a nature that was not foreseen when the original legislation was drawn up, and reflect the increasing complexities that now surround the marketing processes.

The rapid increase of interest in regulated marketing in other parts of Canada, which has led to the establishment of a number of marketing boards concerned with products similar to some of those under regulation in British Columbia, has also introduced a new dimension to the over-all marketing picture.

In the field of poultry and poultry products in particular there was serious discussion among those provinces concerned, including British Columbia, with the feasibility of establishing national marketing boards as one means of alleviating problems encountered by the individual provinces when one or more of them are faced with product surplus to their respective intra-provincial needs. The Markets Commissioner took part in a meeting in Winnipeg dealing with this matter in company with representatives from Alberta, Saskatchewan, Manitoba, Ontario, and Nova Scotia. Concrete plans were drawn up at that time and legal counsel instructed to proceed with those steps deemed necessary for introduction of the proposed legislation to the appropriate authorities in Ottawa.

Within the Province there were a number of marketing problems in 1969, some of which stemmed from losses sustained as a result of winter damage. Others occurred in such areas as roadside fruit and vegetable stands and the illegal transportation of produce subject to marketing board jurisdiction.

Marketing board functions and possibilities were fully outlined to growers representing the greenhouse cucumber and tomato industry in both Vancouver and Victoria during the year. Meetings were well attended at both centres and interest on the part of all growers grew sufficiently to warrant the holding of a plebiscite to determine whether a substantial majority wished to operate under terms of a marketing scheme drawn up in consultation with the Markets Commissioner. While the vote showed a numerical majority in favour of the proposed scheme, it was not considered decisive enough to justify the establishing of a marketing board at that time.

Similar explanatory meetings were conducted among commercial grain growers of the Peace River District on the question of a proposed marketing board for feed grains produced in that area. The interested parties were advised against proceeding at the present time in view of the current grain situation wherein huge surpluses are in storage in the major producing provinces.

Difficulties arising from the mishandling of potatoes and vegetables in the Pemberton area required attention this year and a series of meetings produced a solution considered adequate in the short term, but considerable negotiation was conducted aimed at arriving at a more permanent arrangement acceptable to all concerned.

A televised consumer education programme was organized this year by the Branch's Food Consultant, designed to be of general interest among viewers of all income levels. The video-taped presentations were well received and were subsequently requested by public health, adult education, and home economics education authorities for showings throughout the Province. More of this type of presentation is contemplated for future years.

At the 1969 Pacific National Exhibition, the Branch co-ordinated the highly successful "Acres of Food" show viewed by over 600,000 visitors. Coupled with the response from the television series, this was instrumental in stimulating demand for the Branch's shopping information and recipe publications. Several thousands of these were processed during the year.

OTHER SERVICES

The Farmers' Institutes Branch reported little change in total membership of active institutes in 1969, with 4,648 enrolled as compared to 4,751 in 1968. In all, 98 institutes filed reports revealing a combined value of commodities purchased totalling \$1,765,000, a gain of \$65,000 over the figure for the preceding year.

The fifty-second annual meeting of the Farmers' Institutes Advisory Board saw eight delegates in attendance to consider 57 resolutions, of which number 43 were adopted. The Board then met with the Executive Council to present its customary annual brief.

Fifty-four exhibitions and fall fairs recognized by the Department were held in the Province this year, receiving grants in the amount of \$95,846.

Four pound districts were constituted and the boundaries of 10 more were extended in various areas, while six grasshopper-control areas were established and received grants totalling \$45,000 for the control and extermination of these pests.

The production of food for the associated institutions was again the major enterprise at the Institutional Farms. At Colony Farm the total value of milk and cream, meat, potatoes, and vegetables produced for institutional use, plus outside sales of breeding live stock, amounted to \$548,870. Production and sales of similar items at Tranquille were valued at \$211,279. This year there was an increasing trend toward more processing and prepackaging of the produce, resulting in a more acceptable end product, at the same time reducing wastage in kitchen preparation.

The Holstein dairy herd continued to produce at a very satisfactory level, 229 records being completed with an average B.C.A. of 128 per cent for milk and the same for butterfat. Colony Farm has now developed five cows having lifetime production records exceeding 200,000 pounds of milk and 6,800 pounds of fat. As a result there was again a strong demand for breeding stock, which included export sales this year to Cuba, Martinique, and Korea, in addition to the usual demand for 4-H Clubs' projects.

During the year the last of sow and litter tests were completed in the Colony Farm swine herd and the new back-fat probe and sire progeny-testing commenced. The herd has been used by technicians responsible for back-fat probing in British Columbia to perfect this measurement technique.

The polled Dorset sheep flock continued to progress and the ewes grew to 100 in number this year. Demand for progeny was strong throughout the year, with sales being made in all four Western provinces.

Similarly, demand for Holstein stock from the Tranquille Farm also remained steady as the herd maintained high production records with an average B.C.A. of 141 per cent for milk and 144 for fat.

The Crop Insurance Branch administered four insurance programmes this year covering tree-fruits, berry crops, grapes, and cereal grains respectively. Losses in all of these crops resulting from damage sustained in the previous winter were well in excess of premium income, necessitating upward adjustments in premium rates. Out of a total risk of close to \$9,000,000, indemnities were estimated at well over \$3,000,000. Indemnities covering cereal grains alone were expected to exceed \$1,500,000.

The field work involved in selling policies and adjusting losses was again contracted to private agencies, with Fruit Growers Mutual Insurance Company, of Kelowna, handling the tree-fruit and grape accounts, and Hugh and McKinnon of Surrey the balance. All premium rate-making and adjustments, as well as the preparation of policies, riders, and work-sheets plus discount and deductible features

remained the responsibility of the Branch. To a large extent, sales and adjustment personnel training was also carried out by the same authority.

Twenty projects were submitted and approved in 1969 under terms of the *Agricultural and Rural Development Act (ARDA)*, representing a total commitment of \$2,205,863. Half of this number was taken up by soil and water projects and the balance made up by Canada Land Inventory, rural development, research, and miscellaneous programmes. This brought to 147 the total number of projects approved since the ARDA programme was launched here in 1963, involving a total expenditure of close to \$30,000,000.

A composite map of the Prince George Special Sale Area was published this year, the first of such maps to be completed under the Canada Land Inventory programme. The map provides a base for recommendations on best typical land use, and will be followed by similar maps in due course.

The Publications Branch reported a total of 110,570 publications distributed and 986,000 mimeographed sheets run off during the 12-month period.

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