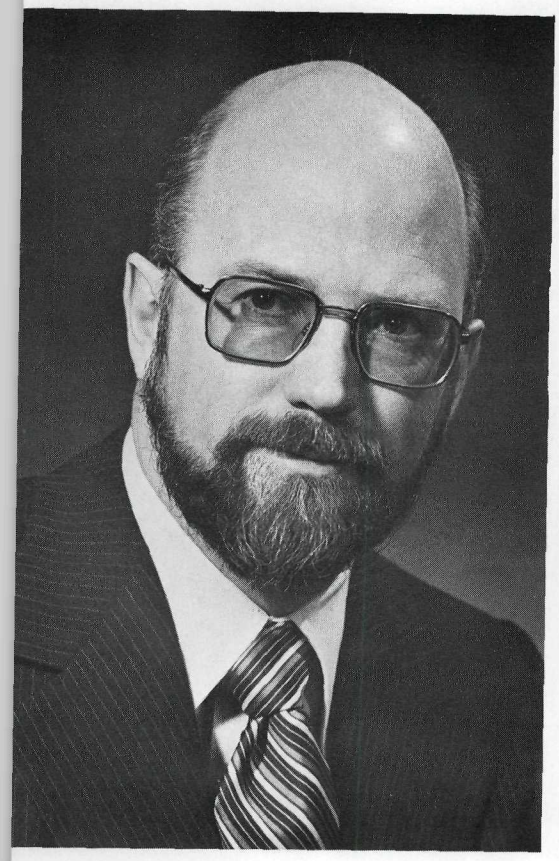

To Colonel the Honourable
HENRY P. BELL-IRVING, D.S.O., O.B.E., E.D.
Lieutenant-Governor of the Province of British Columbia

MAY IT PLEASE YOUR HONOUR

I have the honour to submit for your consideration the Annual Report of the Ministry of Agriculture for the year 1979.

James J. Hewitt
Minister of Agriculture

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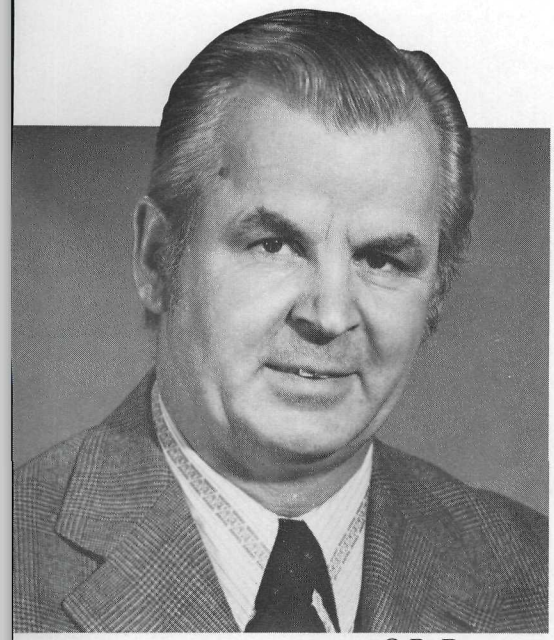


S.B. Peterson

Report of the Deputy Minister of Agriculture

To the Honourable James J. Hewitt
Minister of Agriculture

Sir:

I am pleased to present the 1979 Annual Report of the British Columbia Ministry of Agriculture. The report summarizes activities of your Ministry for the 12 months ending December 31, 1979.

During the year, your Ministry's executive intensively studied proposals for improved regional service to British Columbia's farmers. We anticipate full implementation of a new approach to regional program delivery during 1980.

In general, markets were good for most British Columbia agricultural commodities. However, some horticultural crops suffered abnormal winter damage resulting in reduced yields and inadequate supplies to processors. Ministry financial programs assisted growers in maintaining their operations during this loss period thus allowing continued planning for future crop production.

The ministry actively supported commodity groups by co-sponsoring sales promotions to increase overall awareness and consumption of B.C. grown foodstuffs. As well, strong efforts continued in the search for new export markets and in the expansion of existing ones.

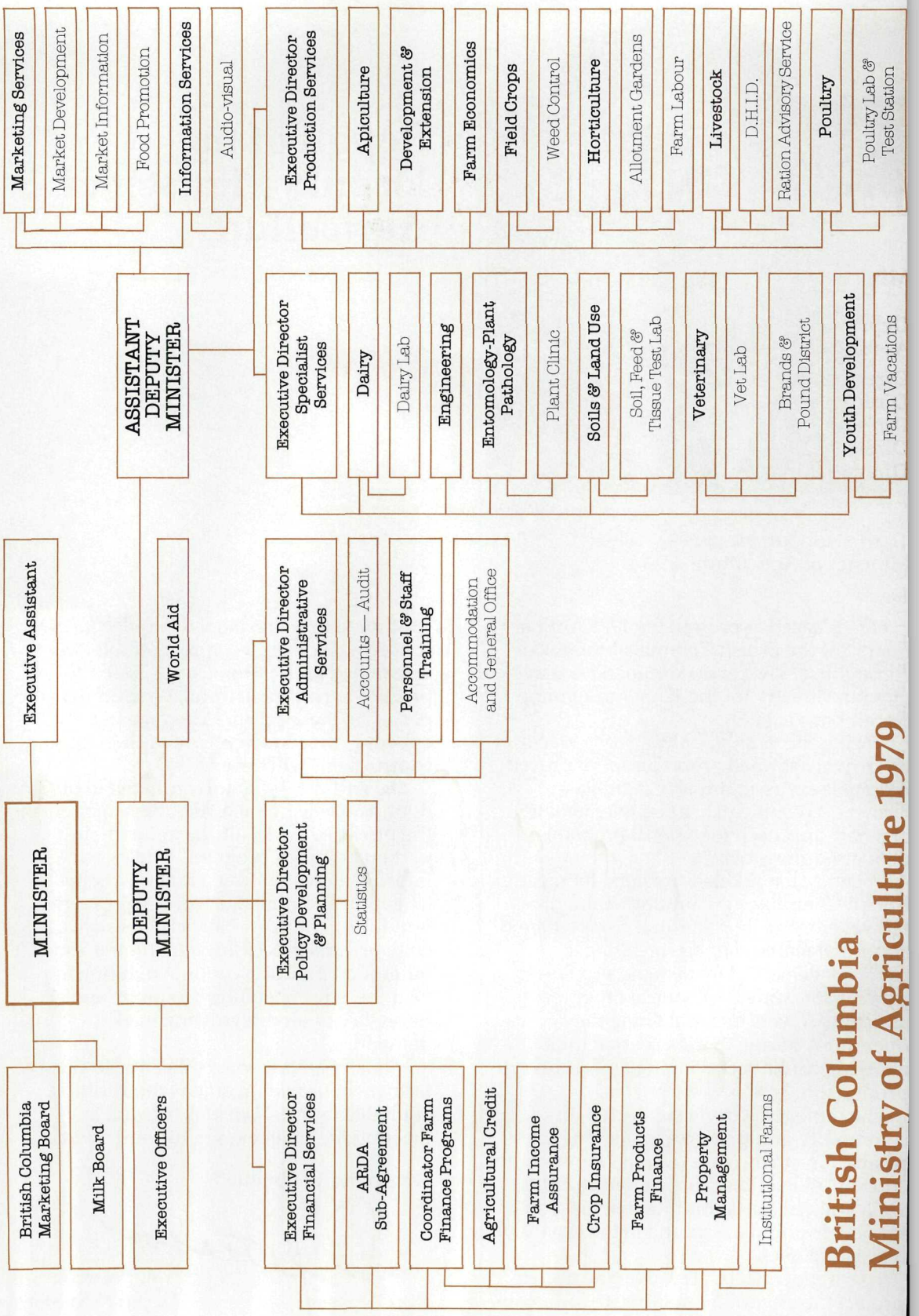
As public concern grew over the need to protect the environment, Ministry programs continued to be developed to reflect these concerns. Biological control methods were researched and, in some cases, put into practice to control harmful weeds and insect pests. As these practices become more effective, the industry's use of chemicals to control pests will lessen.

The ARDSA program continued to play a dominant role in the further development of the province's agricultural industry. In particular, major programs leading to improvements to Crown ranges, district irrigation and drainage works were carried out during the year. Financial assistance to eligible firms processing agricultural and other food products continued during the year thereby expanding product output necessary to serve a growing market demand.

Ministry staff worked diligently to assist farmers in providing quality foodstuffs at equitable returns. We look forward to meeting the challenges of the next decade.

Respectfully submitted,

S.B. Peterson
Deputy Minister


British Columbia Marketing Board
Milk Board
Executive Officers
MINISTER
Executive Assistant
DEPUTY MINISTER
World Aid
ASSISTANT DEPUTY MINISTER
Executive Director Financial Services
ARDA Sub-Agreement
Coordinator Farm Finance Programs
Agricultural Credit
Farm Income Assurance
Crop Insurance
Farm Products Finance
Property Management
Institutional Farms
Executive Director Policy Development & Planning
Statistics
Executive Director Administrative Services
Accounts — Audit
Personnel & Staff Training
Accommodation and General Office
Executive Director Specialist Services
Dairy
Dairy Lab
Engineering
Entomology-Plant Pathology
Plant Clinic
Soils & Land Use
Soil, Feed & Tissue Test Lab
Veterinary
Vet Lab
Brands & Pound District
Youth Development
Farm Vacations
Executive Director Production Services
Apiculture
Development & Extension
Farm Economics
Field Crops
Weed Control
Horticulture
Allotment Gardens
Farm Labour
Livestock
D.H.I.D.
Ration Advisory Service
Poultry
Poultry Lab & Test Station
Marketing Services
Market Development
Market Information
Food Promotion
Information Services
Audio-visual
British Columbia
Ministry of Agriculture 1979

Ministry Executive and Branch Heads

1979

Minister ..... **Hon. James J. Hewitt (appointed May 10/79 following election)**
Deputy Minister ..... **S.B. Peterson**
Assistant Deputy Minister ..... **E.M. King**

Director, Administrative Services ..... **J.F. Newman**
Director, Financial Services ..... **I.C. Carne**
Director, Policy Development and Planning ..... **C.J.N. Gibbs (resigned May 31/79)**
Director, Production Services ..... **R.L. Wilkinson**
Director, Specialist Services ..... **R.J. Miller**

Agricultural and Rural Development ..... J.R. Steele
Agriculture Credit ..... M.K. Thompson
Apiculture ..... J. Corner
Crop Insurance ..... P. Humphry-Baker
Dairy ..... D.J. Blair
Development and Extension ..... M.G. Oswell
Engineering ..... T.A. Windt
Entomology-Plant Pathology ..... H.J. O'Reilly
Executive Officer ..... P.H. Pettyfer
Farm Economics ..... B.A. Hackett
Farm Finance Programs (Coordinator) ..... J.E. Hall
Farm Income Assurance ..... W.F. Morton
Farm Products Finance ..... J.B. Phillips
Field Crops ..... J.V. Zacharias
Horticulture ..... A.C. Carter
Information Services ..... R.A. Sera
Livestock ..... J.A. Pelter
Marketing Services ..... D.A. Rugg
Poultry ..... H.S. Mangat (appointed Feb. 26/79)
Property Management ..... B.R. Richardson
Soils ..... R.S. Bertrand (appointed April 1/79)
Veterinary ..... R.J. Avery (appointed March 29/79)
Youth Development ..... D.E. Freed

Distribution of Farm Cash Receipts - 1979*

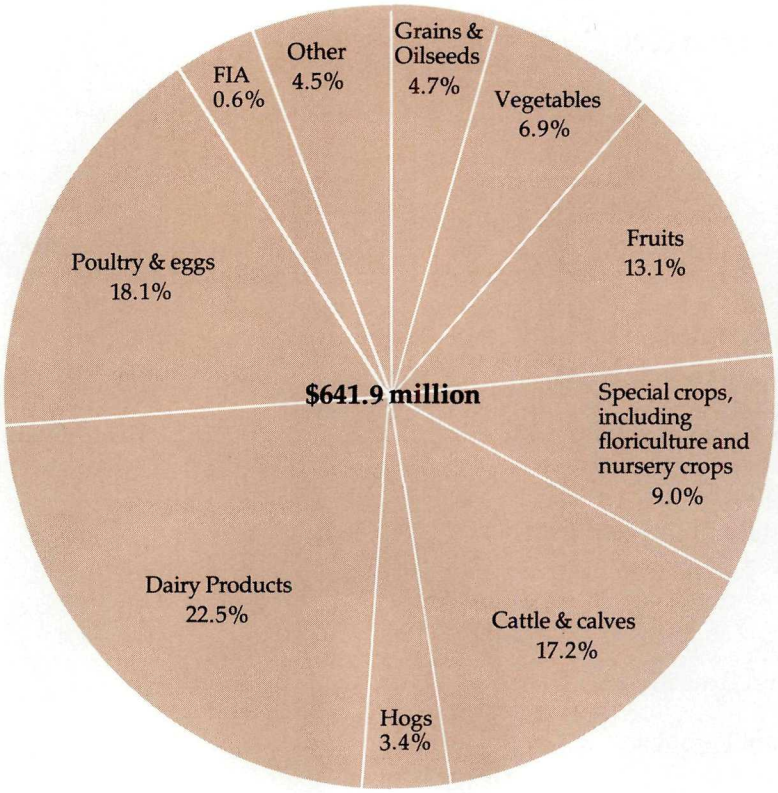


Table I Distribution of Farm Cash Receipts, 1979, British Columbia

	$ mil.	per cent
Grains and oilseeds	29.9	4.7
Vegetables	44.3	6.9
Fruits	84.1	13.1
Special crops, including floriculture and nursery crops	58.0	9.0
Cattle and calves	110.4	17.2
Hogs	20.0	3.4
Dairy products	144.1	22.5
Poultry and eggs	116.1	18.1
FIA (Farm Income Assurance)	3.9	0.6
Other cash receipts	29.1	4.5
Total Farm Cash Receipts	641.9	100.0

*Source: Statistics Canada

January 1980

1979 Agricultural Review

Farm Cash Receipts (Tables I and II)

British Columbia's total farm cash receipts in 1979 reached a record level of $641.9 million, an increase of 10.3 per cent over 1978. In the crop sector, cash receipts totalled $216 million, up by 3.3 per cent. Wheat and rapeseed receipts increased considerably. However, owing to a decline in the volume of oats and barley grown and marketed at the farm level, receipts from all grain sales fell by 4 per cent despite increased Canadian Wheat Board payments. Rapeseed receipts, on the other hand, rose by an impressive 42.6 per cent as a result of significant increases in both price and marketings. As well, cash receipts from fruit increased by 8 per cent, while sales of nursery stock and greenhouse crops were up by 17 per cent. Vegetable sales showed little growth, as in the previous year.

In the livestock and livestock products sector, cash receipts totalled $410.9 million, an increase of 17.7 per cent over 1978. There were healthy gains in sales of cattle and calves (up by 18.1 per cent), hogs (up by 24.1 per cent) and sheep and lambs (up by 13.7 per cent), due largely to better 1979 prices. Cash receipts from dairy products also rose appreciably (by 15.2 per cent) due to an increase in Milk Board administered prices and increased consumption. There was significant growth in poultry sales (up 29.2 per cent) and encouraging, if modest, growth in sales of eggs and honey.

Farm Operating Expenses (Table III)

The cost of farming continued to escalate. Production expenses for 1979 totalled $553.8 million, an increase of 14.2 per cent over 1978. Significant cost increases occurred in farm rent (up by 21.4 per cent), in farm wages (up by 16.3 per cent), and in feed and other livestock expenses (up by 11.9 per cent and 12.4 per cent, respectively). However, as in 1978, interest on farm debt showed the largest single increase (up by 33.7 per cent), reflecting growth in capital investment in agriculture. The sharp upward trend in interest rates in the latter half of 1979 added to farmers' interest costs. There was some relief due to payments to farmers under the British Columbia Partial Interest Reimbursement Program. In 1979 this program paid $8.2 million in interest reimbursement benefits to farmers for 1978 loans, an amount substantially higher than that paid in 1978.

Farmland and Number of Farms

The area of cultivated farmland in British Columbia increased to 2.0 million acres in 1979, a 5 percent increase over the area estimated in 1978. Associated with this increase was the continued increase in farm numbers in British Columbia, when most other provinces were experiencing declines. The total number of agricultural holdings in 1979 grew to 20,600, an increase of 4 per cent over the number estimated in 1978.

Food Processing (Table IV)

The estimated value of agricultural commodities marketed by British Columbia food and beverage manufacturing firms in 1979 came to $2,130 million. This was an increase of 18 per cent over the $1,804 million estimated for 1978. As of July 1979, there were 529 firms processing food and beverages in British Columbia, a considerable increase over the number recorded in the previous year.

Retail Food Prices

British Columbia's retail food prices increased by 11.7 per cent in 1979. Major increases occurred in eggs (up 10.4 per cent), dairy products (up 10.2 per cent), fruit and vegetables (up 10.0 per cent), and meat (up 9.2 per cent). Although food prices increased, Agriculture Canada's survey of food costs for 12 major Canadian cities showed that Vancouver families had the lowest rate of increase (8.5 per cent) in average monthly food costs over the year.

Table II British Columbia Farm Cash Receipts, 1978 - 1979,

	— thousands of dollars —		
	1978	1979	% Change
Wheat	4 725	5 316	+12.5
Oats	1 865	1 411	−24.3
Barley	9 417	8 156	−13.4
Western Grain Stabilization Payments	1 100	1 600	+45.5
Rapeseed	9 433	13 451	+42.6
Potatoes	11 950	10 423	−12.8
Fruits	77 855	84 132	+ 8.1
Vegetables	33 782	33 906	+ 0.4
Floriculture and Nursery	30 700	35 935	+17.1
Forage Seeds	2 311	3 000	+29.8
Other Crops	20 593	19 024	− 7.6
Total Crops	203 731	216 354	+ 6.2
Cattle and Calves	93 423	110 374	+18.1
Hogs	17 691	21 960	+24.1
Sheep and Lambs	982	1 117	+13.7
Dairy Products	125 090	144 078	+15.2
Poultry	55 103	71 205	+29.2
Eggs	40 718	44 930	+10.3
Honey	3 520	3 749	+ 6.5
Other Livestock and Products	12 443	13 486	+ 8.4
Total Livestock and Products	348 970	410 899	+17.7
Forest Products (farm woodlots)	2 935	3 476	+18.4
Farm Income Assurance	17 519	3 885	−77.8
Dairy Supplementary Payments	6 825	7 272	+6.5
Deficiency Payments	2 176	7	−
Total Farm Cash Receipts	582 156	641 893	+10.3

Source: Statistics Canada

January 1980

Table III British Farm Operating Expenses and Depreciation Charges, 1978 - 1979

	Projection % Change		
	1978	1979	1979/1978
	$'000	$'000	%
Taxes	14 636	15 500	+ 5.9
Gross farm rent	11 364	13 800	+ 21.4
Wages to farm labour	70 932	82 500	+ 16.3
Interest on indebtedness	*66 911*	*91 843*	+ 37.3
Provincial interest reimbursement	*4 387*	*8 243*	+ 87.9
Net interest on indebtedness	62 524	83 600	+ 33.7
Machinery expenses	45 102	47 200	+ 4.7
Fertilizer and lime	15 997	17 200	+ 7.5
Other crop expenses	19 833	21 900	+ 10.4
Feed	111 717	125 000	+ 11.9
Other livestock expenses	15 219	17 100	+ 12.4
Repairs to buildings	9 988	11 200	+ 12.1
Electricity and telephone	13 494	13 500	–
Miscellaneous	34 350	38 000	+ 10.6
Total Operating Expenses	425 156	486 500	+ 14.4
Depreciation on buildings	18 699	20 600	+ 10.2
Depreciation on machinery	40 991	46 700	+ 13.9
Total Operating Expenses and Depreciation Charges	484 846	553 800	+ 14.2

Source: Statistics Canada Ottawa Outlook Conference December 1979

Table IV Number of Food and Beverage Industries, British Columbia, 1979

Slaughtering and Meat Processors	92	Biscuit and Confectionary Manufacturers	10
Poultry Processors	18	Nuts	8
Egg Processors	21	Bakeries	32
Fish Products Industry	100	Sugar and Honey Processors	20
Fruit and Vegetable Canners, Preservers and Frozen Fruit and Vegetable Processors	65	Miscellaneous Food Processors	39
Dairy Products Industry	34	Soft Drink Manufacturers	19
Flour and Breakfast Cereal Processors	7	Distilleries	6
Feed Industry	45	Breweries	7
		Wineries	6
		January 1980 Total	529

Executive Officer

The Executive Officer is responsible for the coordination of legislative matters within the ministry. In 1979, 47 Orders-in-Council were processed relating to 11 Acts. During the 1979 Session of the Legislative Assembly, the following agricultural legislation was enacted:

Bill 14: Milk Industry Amendment Act, 1979

Amendments were made necessary by a judgement of the Supreme Court of Canada that ruled that a section of the Federal Agricultural Products Marketing Act was invalid. In parallel with the principle of the judgement, the Milk Industry Act was therefore extended to authorize the fixing and collecting of levies and to allow for a program of surplus removal.

Bill 40: Miscellaneous Statutes Amendment Act, 1979

The Act contains amendment to a number of Acts including:

BEE ACT

The amendment provides for the establishment of honeybee stock improvement areas to facilitate the development of quality breeding stock.

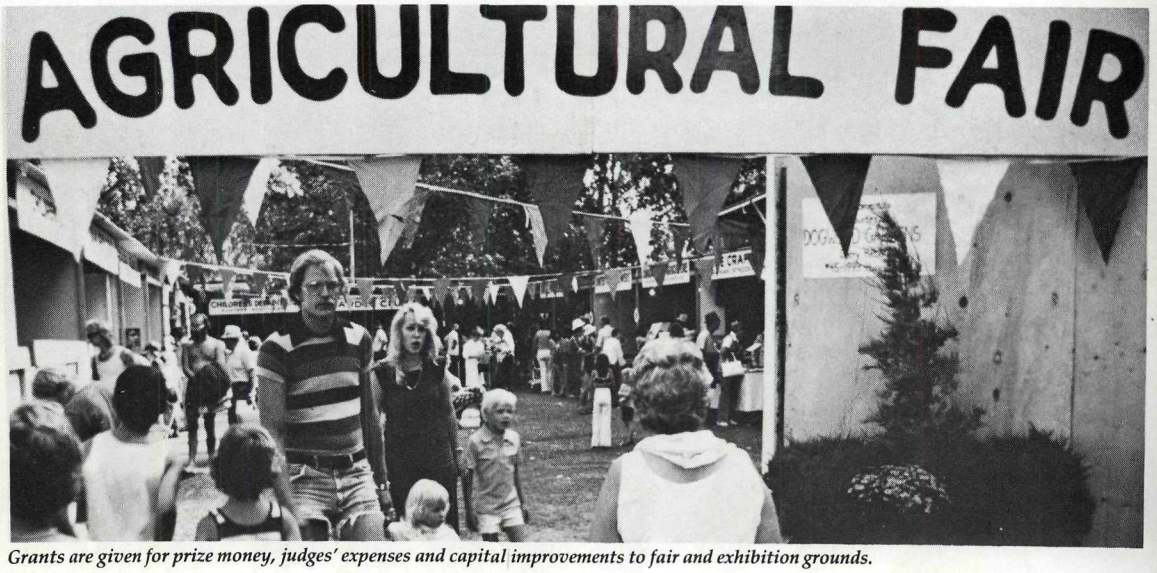
WEED CONTROL ACT

The amendment was necessary to clarify the powers of inspectors and the disposition of money recovered by a municipality.

The Executive Officer serves as secretary to the British Columbia Agricultural Aid to Developing Countries Advisory Committee which, in the fiscal year 1978/79, recommended support for 59 projects, sponsored by 23 charitable organizations, in 29 countries. A similar number of projects will have been supported by the end of the 1979/80 fiscal year.

The Executive Officer is responsible for the administration of the ministry's policy of financial assistance to many agricultural associations. Under this policy, grants are given for prize money, judges' expenses and capital improvements at fair and exhibition grounds, and for assistance towards operating expenses of the Provincial Womens' Institutes, District Farmers' Institutes and other associations. As Superintendent of Farmers' Institutes, he provides liaison services for their members with the ministry, and organizes the annual meeting of the Farmers' Institutes Advisory Board.

Additional duties of the Executive Officer include that of secretary at the monthly senior staff meetings and secretary to the B.C. Agricultural Services Coordinating Committee which, through direction of six lead science committees, maintains a watch on agricultural developments in the province and encourages research to overcome problems of importance to the agricultural population.



Grants are given for prize money, judges' expenses and capital improvements to fair and exhibition grounds.

Assistant Deputy Minister

E.M. KING
Assistant Deputy Minister

Information Services

The Information Services Branch acts as the communications/public relations arm of the ministry in creating an awareness of programs of interest primarily to the farm audience. Increasing effort, however, was devoted to programs directed at the non-farm audience.

Techniques used during the year included the preparation of news releases, feature articles, technical publications, advertisements, audio-visual productions and displays.

News Releases

The branch continued to be responsible for preparation of all new releases issued by the ministry. News releases covered a variety of topics ranging from announcements of new policies to informing the public and farmers about new production techniques. A total of 61 news releases were mailed to about 1,500 recipients across Canada including governments, industry, media and private individuals. In addition, the branch edited 51 federal-provincial news releases relating to the DREE/ARDSA program.

Publications

The editing and processing of ministry publications continued to be a major function of the branch. A total of 68 publications, pamphlets and brochures were written, revised or reprinted. All publications were scrutinized by branch staff for editorial quality and design.

A new set of single-sheet pamphlets was prepared to service mainly the non-farm public wishing general information on British Columbia agriculture. The set consisted of eight separate pages, each of which described agriculture in one of the eight agricultural reporting regions of the province. School students made the largest use of the pamphlets.

A pamphlet describing general agriculture in British Columbia was translated into Japanese, Chinese, French and Spanish for use as a handout to visiting delegations from foreign countries.

Preparation of the 1979 production guides again constituted a major effort by branch staff.

The branch also produced the ministry's annual report.

Advertisements

Throughout 1979, the branch was responsible for placing technical advertisements into farm press. The advertisements related to ministry sponsored events, deadlines for farm applications for specific ministry programs, minister's messages, promotion of livestock improvement programs, etc. Advertisements placed by the Information Services Branch were directed primarily at the farmer as opposed to consumer related advertisements normally placed by the Marketing Branch.

Factsheets

Most of the branches within the ministry produce factsheets for use by farmers. They were distributed primarily through mailing lists within the various field offices. A separate mailing list was being compiled during the year of those persons requesting specific factsheets on a regular basis. The Information Services Branch co-ordinated the factsheet series although each branch was responsible for the technical content. Factsheets included Agrimarket Reporter, Engineering Notes, Farm Business Management, Field Crops Facts, B.C. Food Markets, Pest Control Notes, Stock Talk, Soils Notes and Poultry Facts.

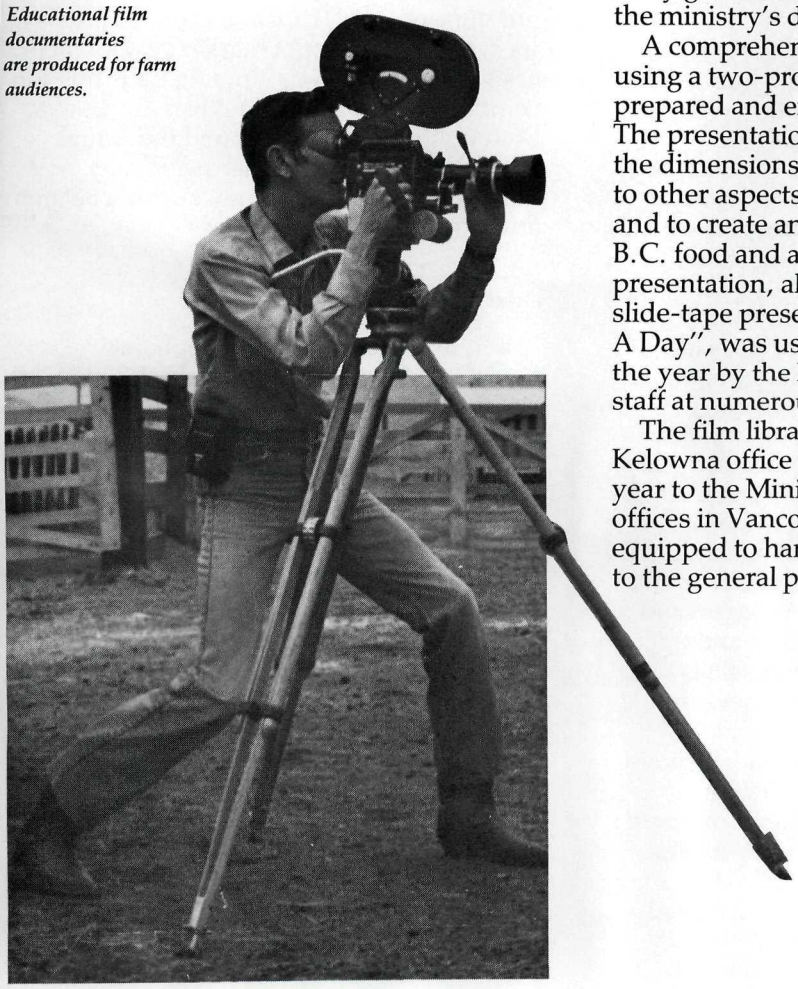
Public Relations

The public relations function largely involves preparation of news releases and feature articles for the media and the design of displays for use at industry conventions and special events. Numerous feature articles were prepared specifically for Country Life Magazine and printed as deemed appropriate by the publishers.

The branch's display structure was used extensively by field staff attending various conventions and special agricultural events.

The B.C. Ferry Corporation invited several government ministries to participate in construction of a display shelter at each of the major ferry terminals. The shelter, similar to

those at the entrance of provincial parks, was planned to exhibit a 4′ × 8′ display panel from the participating ministries on a one-month rotational basis. The ministry of agriculture panel was entitled "Our Neighbours In The Country" and was nearing completion at year end. The panel will depict many facets of B.C. agriculture through the use of artwork, colour photographs and a map of B.C. showing the areas of agricultural production.



Educational film documentaries are produced for farm audiences.

Audio-Visual

The audio-visual unit at Kelowna continued very active in producing numerous slide-tape presentations and feature film presentations. Also, hundreds of black and white and colour photographs were taken for use in publications, factsheets and media articles.

The 1979 fruit growers' chautauqua was completed for February broadcast and filming done for the 1980 version. A 15-minute film on Eurasian Milfoil was also completed for the Ministry of Environment. Film sequences were shot for an instructional film on predator control in British Columbia. The film was designed to inform livestock producers of proper techniques in identifying predator kills and reporting them expeditiously. The film also will point out the scope of the predator problem in the province. A 15-minute film on automated dairy grain feeding systems was prepared for the ministry's dairy specialist.

A comprehensive slide-tape presentation using a two-projector dissolve system was prepared and entitled "Food In Perspective". The presentation was designed to illustrate the dimensions of B.C. agriculture in relation to other aspects of the provincial economy and to create an appreciation of the role of the B.C. food and agriculture industry. This presentation, along with a companion slide-tape presentation entitled "Three Meals A Day", was used extensively throughout the year by the Minister and other ministry staff at numerous agricultural functions.

The film library normally housed at the Kelowna office was transferred during the year to the Ministry of Tourism film library offices in Vancouver which was better equipped to handle loan-in/loan-out services to the general public.

Marketing Services

The Marketing Services Branch is primarily concerned with the enhancement of the food and agriculture industry within the province of British Columbia through increased utilization of B.C. products; improved management decision-making through preparation of accurate and timely market information and analysis; provision of consulting assistance in problem solving within the food processing and handling industry and through maintainence of a legislative and regulatory climate that will allow these objectives to be met.

During 1979, staff attempted to meet these goals through four distinct components of the branch. These are: administration, food promotion, market development and market information. As well as handling the regulatory roles, the administration component coordinated the other three functions.

During 1979, the function of the market information unit expanded with increased readership of the unit's bimonthly reports and a rapidly escalating demand for individual analytical services. The market development unit was able to undertake a limited number of assistance projects with the processing industry by using student assistance.

The branch cooperated on a number of initiatives with the federal provincial task force on agriculture export development. Reports were received on a wide range of commodities including breeding cattle and semen, cheese, blueberries, processed fruits, vegetables and meats and export financing. These reports identified areas where action was required and resulted in examination of methods to remove these export constraints.

Funded under the ARDSA program and coordinated by this branch, the market opportunities identification project has produced 10 reports identifying new and expanded possibilities for vegetable production in the Lower Mainland. This also resulted in the formation of an action committee to resolve the problems of storage and removal of field heat from vegetables.

As a member of the Part 1 ARDSA technical sub committee, the branch head coordinated two reports which were released; namely, a study on a terminal market for the Lower Mainland, and a study on the B.C. rabbit industry.

The branch began work with the Women's Institutes in 1979 with a view to using their membership to promote Home Grown - B.C. Quality foods and the nutrition therein. The institutes were also interested in evaluating the report on farmer's markets produced by the branch during the past year.

Approval was received to proceed with a second logo in the promotion of B.C. foodstuffs. This is the Home Processed - B.C. Quality logo, which is used by B.C. food processors where they are unable to qualify for the use of the Home Grown logo. This initiative was very well received by the processing industry and is expected to expand in coming years.

The branch coordinated a number of incoming trade missions, primarily Japanese missions on seed, feed and dairy cattle. As well, the supervisor of market development assisted with a major outgoing trade mission composed of B.C. food and fish processors. Staff on this mission attended the Anuga Trade Fair in Cologne, Germany, and followed up on opportunities within Belgium and England.

Market Development

Requests for market development assistance far exceeded the branch's ability to assist. Activities included product development, taste and preference panel work, management consulting and processing consulting. It is intended that this type of work be expanded with additional staff in the near future.

Home Economics

The branch's home economist worked in conjunction with the Food Promotion Unit. She also became involved in the supply of information and promotion of B.C. food products within the school system. About 50,000 pieces of information per month were distributed and used in classroom activities. The home economist also released new recipes used in the food promotion program and in conjunction with commodity groups. An example of this is the recipe book

produced by the B.C. Honey Producers Association, which will become available in early 1980.

Food Promotion

The food promotion unit sucessfully participated in the cooperative production and presentation of promotional undertakings with commodity groups and food processors. Also, a further four issues of the popular quarterly recipe and gardening guide were produced.

Programming began with the non-food portion of the agriculture industry during the year including the Nursery Trade and United Flower Growers. A major salad promotion was also conducted, including a giant salad luncheon co-hosted with the B.C. Fresh For Flavour Foundation and the commodity organizations involved. As well, the brown bag program was completed with the presentations to the winners of the school nutrition poster contest in February.

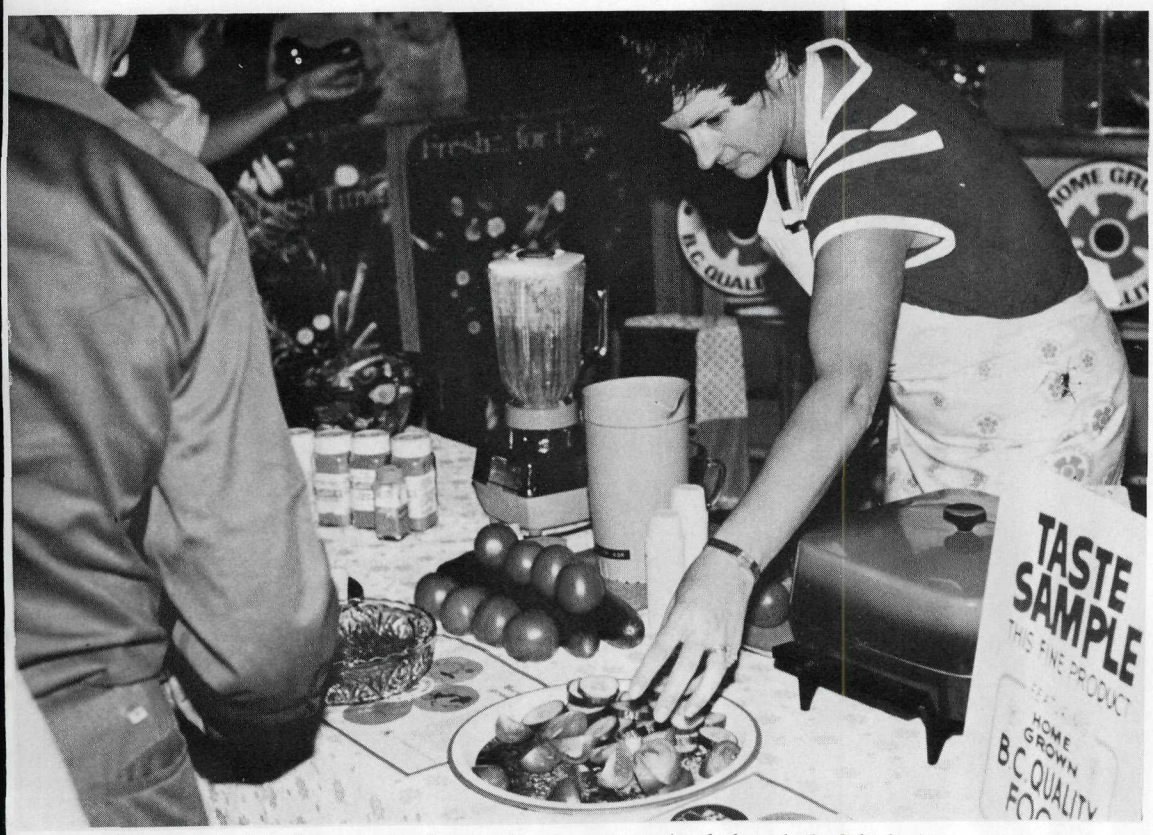
The instore food demonstration program expanded in 1979. Staff carried out about 100 demonstrations using products from 36 processors and commodity groups.

Market Information

During 1979, 12 issues of B.C. Food Markets and 23 issues of Agrimarket Reporter were produced. At year end, B.C. Food Markets had a circulation of over 1,800 with sectors of the media quoting it consistently. Agrimarket Reporter, combined with a further monthly report entitled Fresh Fruit and Vegetable Report, was used extensively by the industry.

The Directory of Food and Beverages Industry for British Columbia was updated. This publication formed the basis of a new Ministry of Economic Development publication to be produced in early 1980.

Volume 1 of the B.C. Vegetable Marketing Guide was produced and a total of 750 copies were distributed to vegetable growers and



Display and sampling of B.C. food products at food stores, shopping centres and trade shows further helped to increase consumer awareness of British Columbia Home Grown and Home Processed foods.

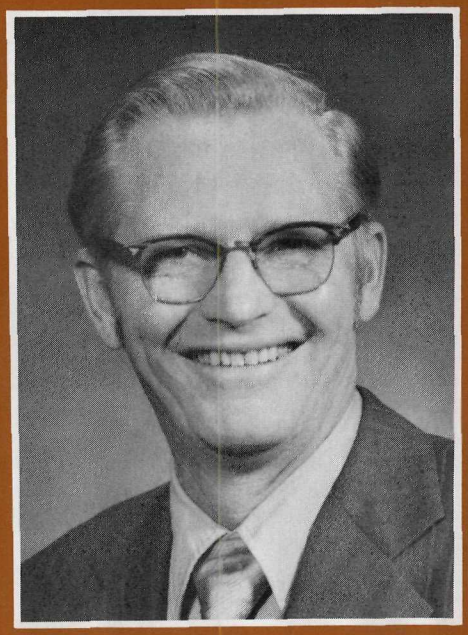
organizations throughout the province.

A report by the market information unit assessed refrigerated trucking services in British Columbia. This publication was intended as a reference to assist those companies involved in marketing of perishable foods throughout the province and Western Canada.

Staff of the market information unit were involved in advising on seasonal application of tariffs on fresh fruits and vegetables. On October 24, 1979 the renegotiated fresh fruit and vegetable tariff changes were instituted, and a new surtax procedure announced. Details of implementation were yet to be worked out at year end.

During 1979, information packages were distributed to roadside stand operators throughout the province to assist them in identifying operational requirements and services available.

Financial Services



I.C. CARNE
Director, Financial Services

Agricultural and Rural Development

The ARDA Branch is responsible for the coordination and administration of two major programs operating under joint funding arrangements between the Province and the federal department of regional economic expansion.

ARDA Projects Completed

The Agriculture and Rural Development Agreement 1975/77 (ARDA) expired on July 31, 1977. Approved work on ARDA projects was allowed until December 31, 1978, with a deadline of March 31, 1979, for filing ARDA claims with the federal government.

Work related with ARDA was essentially completed during 1978, with full attention subsequently given to the new federal-provincial Agriculture and Rural Development Subsidiary Agreement (ARDSA).

ARDSA Approaches Mid-Point

The ARDA Branch is responsible for administering the five-year ARDSA program which began on August 1, 1977. ARDSA's $60 million budget is funded equally by the federal department of regional economic expansion (DREE) and the British Columbia ministry of agriculture.

The first 29 months of the ARDSA program have proven it to be a very comprehensive assistance program offered to British Columbia's agricultural and food processing sectors.

Growing Interest

The ARDA Branch received 588 written applications for funding under ARDSA as at December 31, 1979. Five hundred and twenty-eight of these were considered eligible for further analysis and 60 rejected as ineligible when received.

Since the inception of the ARDSA program, the management committee has approved 215 applications for funding, committing $25,812,765 of the five-year, $60 million budget. A further 113 applications have been either rejected as ineligible by the management committee or withdrawn by the applicants. This left approximately 200

Summary of ARDSA Approved Projects

August 1, 1977 to December 31, 1979

		Number of Projects	Total Project Cost	ARDSA Contribution
Part I	Research, Planning, Training and Market Promotion	41	$3,620,495	$3,364,260
Part II	Co-ordinated Resource Management (Range Improvement)	70	$9,608,359	$8,648,174
Part III	Primary Resource Development (Drainage and Irrigation)	14	$6,344,678	$4,751,838
Part IV	Support Services and Community Development (processing, rural hydro, etc.)	90	$33,339,760	$9,048,493
Total		215	$52,913,292	$25,812,765

applications pending at year-end.

Each month, the ARDA Branch received an average of 18 ARDSA applications eligible for further analysis, some of which were referred to private consultants, related ministries and other BCMA branches for processing.

Part I - Research, Planning, Training and Market Promotion

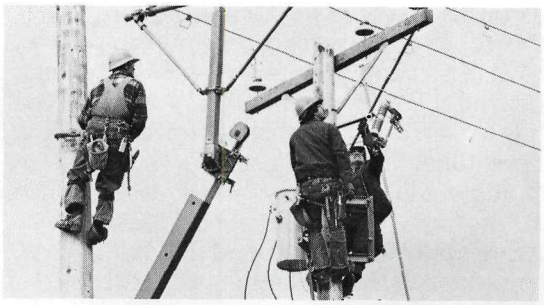
In 1979, 16 new projects were approved under Part 1 for a total of 41, representing a commitment of $3,364,260 in ARDSA funds.

Some of the 1979 projects included a comprehensive three-year financial management program for B.C. farmers, the research and demonstration of commercial fruit dehydrating techniques, and the development of British Columbia's first commercial sheep farm using total confinement with a light-controlled environment.

Part II - Co-ordinated Resource Management

Forty-five projects were approved in 1979 under Part II, 44 of which concerned development of Co-ordinated Resource Management Plans (CRMP's) and one project for a large scale CRMP mapping system. In total, 70 Part II projects have been approved with an ARDSA commitment totalling $8,648,174.

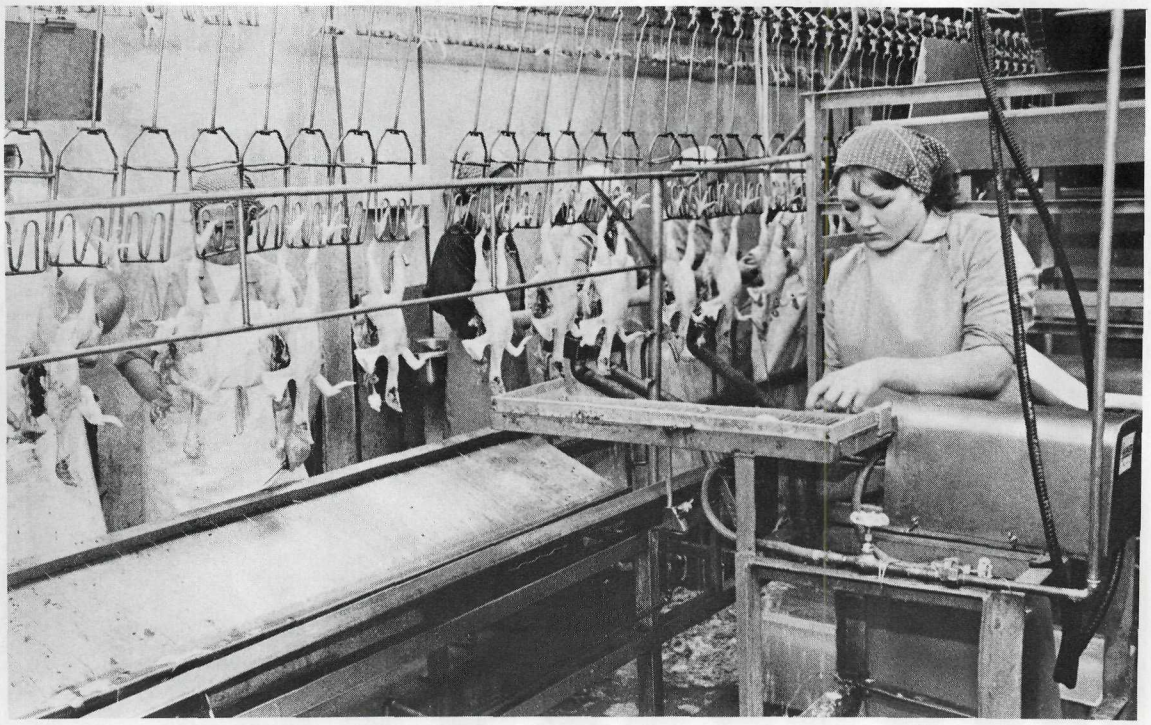
The number of CRMP's developed under both ARDSA and ARDA totalled 87, costing over $16 million. About 528 ranchers have been involved in the plans and have cattle grazing on the areas.



Electric power lines are constructed in rural areas with ARDSA funds.

Part III - Primary Resource Development

Part III got off to a relatively slow start with ARDSA committing only $383,700 to three



ARDSA funds helped establish the Interior's only poultry processing line at Armstrong.

projects up to December 31, 1978. In 1979, however 11 projects were approved with ARDSA commitments of over $4.3 million.

Under Part III, applications were received for irrigation and drainage projects valued at $55 million. Feasibility studies were completed for projects valued at $30.5 million of the total. As a result, almost $5 million were approved at year-end for Part III projects. Of the remaining projects valued at $25.5 million, about half were considered economic and were under review.

Part IV - Support Services and Community Development

ARDSA committed $4,630,869 to 48 Part IV projects in 1979 for a total of 90 projects with an ARDSA commitment of $9,048,493.

In 1979, 15 new rural electrification projects were approved under Part IV for a total of 30 rural electrification projects valued at $3,598,983. ARDSA contributed $1,570,152 to the 30 projects with the balance funded by B.C. Hydro's Rural Electrification Act (REA) and local contributions.

Food processors are assisted through ARDSA funds in the development of new food products.

Some of the other projects assisted under Part IV in the past year included seven seafood processing plants, upgrading work at four tree-fruit packing houses in the Okanagan, a food product development and testing laboratory and a mushroom canning plant.

ARDSA funding assists land improvement projects such as the design and construction of land drainage equipment.
(Photos by Sid Klassen.)

Agricultural Credit

The Agricultural Credit Act and the Agricultural Land Development Act are administered by the Agricultural Credit Branch. These Acts provide financial assistance to eligible farm operators within the province. The financial assistance programs are summarized as follows:

a) A provincial government guarantee to chartered banks or credit unions as supplemental support security on loans to farmers.
b) A partial reimbursement of interest paid by farmers on agricultural loans from approved lenders.
c) Provision of incentives to farmers to participate in programs to be proclaimed and encouraged by the Province in specified areas of B.C. These incentives to farmers may take the form of additional reimbursement of interest paid and/or reimbursement of loan principal payments.
d) Provision of direct loans to a maximum of $15,000 for primary and secondary land development.

Guaranteed Loan Program

In 1979, there were 36 loan portfolios, representing a total of $4,671,910, guaranteed for banks and credit unions. Since the inception of the guaranteed loan program in July 1974, there have been 263 guarantees approved, amounting to $24,265,471, which provided additional support security to farm loan portfolios of chartered banks and credit unions.

In 1979, five claims were made by lenders under the guarantee covenant. These claims totalled $241,668.40. Since the inception of the program in 1974, total claims of $279,687 have been paid which represented 1.56 per cent of the total loans guaranteed.

Special low-interest loan programs assisted farmers in clearing and developing land.

Partial Interest Reimbursement Program

In 1979, farmers in British Columbia received $8,242,934 representing partial reimbursement of interest paid by them to approved lenders during the calendar year 1978. Interest costs for this period were reimbursed to reduce the effective interest rate to approximately 9 per cent. There were 6,666 applications received from farmers who had paid interest to approved lenders identified as chartered banks, credit unions, Farm Credit Corporation, Federal Business Development Bank and the Director of the Veteran's Land Act.

From inception of this program on July 1, 1974 to December 31, 1979, a total of $26,893,531 in interest reimbursement benefits have been distributed to farmers to reduce their interest costs.

Special Programs

PEACE RIVER LIVESTOCK PRODUCTION INCENTIVE PROGRAM

Since the inception of this program in November, 1974, 92 farm operators located in the Peace River area of the province have received benefits totalling $102,965 in the form of partial interest reimbursement. In 1979, 44 farmers received benefits amounting to $14,487 in the form of reimbursement of a portion of their interest costs paid in 1978 on special loans to purchase or retain livestock. The reimbursement had the effect of reducing interest rates on such loans to 4 per cent for non-guaranteed loans and 4½ per cent for those loans under covenant of Provincial Government guarantee.

AGRICULTURAL LAND DEVELOPMENT ACT (A.L.D.A.)

In 1979, there were 724 contracts issued under this program representing a total value of $4,698,956. This direct loan program assisted farmers in financing the cost of primary and secondary land development.

Crop Insurance

During 1979, the head office of the Crop Insurance Branch was relocated to Kelowna from Victoria.

The function of the Crop Insurance Branch is to administer the B.C. Crop Insurance Act and the Crop Insurance Stabilization Fund Act.

The objectives of the Crop Insurance Branch are:

1. To reduce the fluctuations in net income of individual producers who suffer crop losses due to weather and other uncontrollable factors.
2. To maintain an effective system for administration of crop insurance programs for selected commodities.
3. To reduce the need for ad hoc assistance programs in crop loss situations.

The crop insurance program involves the participation of the farmer and the provincial and federal governments.

The farmer and the federal government each contribute 50 per cent of the total cost of the premium involved, while the provincial government contributes the cost of administering the program.

The following six groups of crops are covered by existing crop insurance plans.

Berries

Freezing temperatures during the winter caused injury to strawberry plants. The cumulative deficits in strawberry crop loss and plant loss were written off in June, but the experience of 1979 will put growers back into a deficit position.

Losses to raspberry and cranberry crops were light, while blueberries cropped heavily and no claims were received for this crop. The premium earned this year will be sufficient to eliminate the cumulative deficit in the blueberry program.

Forage

The early summer drought in the Peace and Cariboo resulted in poor growth early in the season, with the first cut yielding below average tonnage in most cases.

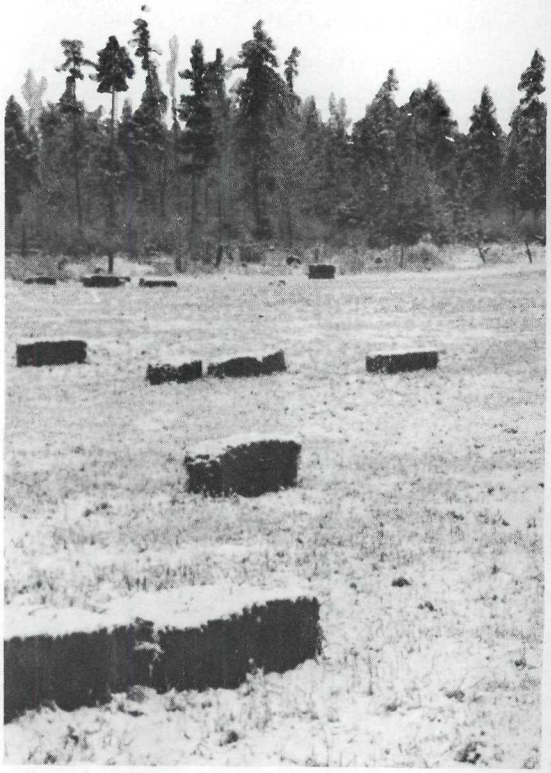
Later in the summer, frequent rains produced good growth but haymaking conditions were poor and some crops were lost in the swath. A number of claims resulted and indemnities will again exceed the premium income.

Participation for the 1980 crop year has climbed to about 100.

Grain

Participation in the grain program declined further in 1979 as a result of low commodity prices and higher operating and living costs. The continuing good experience with rapeseed enabled a reduction of the rapeseed premium for the second year in succession.

There were few wheat, barley and oat claims. Most damage was suffered by rapeseed crops which were adversely affected by the wet weather, particularly in the North Peace where some very wet areas made harvesting a problem.



Crop insurance enables farmers to withstand high crop losses due to unavoidable weather hazards.

Grapes

The long period of freezing temperatures, together with the lack of snow cover, caused extensive vine damage in the Oliver-Osoyoos areas and to a lesser extent further north where some tender varieties were injured.

The extent of the damage was made worse by the late harvesting of the grapes which, in some instances, were picked only a few days before the first frosts occurred.

Crop loss indemnities were high as some of the largest insured vineyards are in this area.

Both the crop loss and vine loss reserves were in a strong financial position going into the year. Due to high losses, it is anticipated that the crop loss account will be in a deficit position of about $300,000 at year-end while the vine loss account should still show a small surplus.

Where the surviving damaged vines received good care and attention, regrowth has been strong. The prospects for the coming year are encouraging.

Tree Fruits

Participation in 1979 was up to 1,021 from 960 and has increased further to over 1,070 for 1980.

Following the reduction in premium rates for peaches, pears and apricots in 1978, an improved discount system was brought into effect for 1979, in which the maximum earned discount was increased to 50 per cent from 25 per cent.

Cherries suffered to a lesser extent.

Isolated hail storms were again a factor in the Oliver area. Although the storms were not widespread, they were very intense locally, and, in some instances, 100 per cent indemnities were paid on apple crops.

Vegetables

Potatoes were added to the list of insurable vegetable crops in 1979. Nearly 1,000 acres of potatoes in the Fraser Valley were covered. Drought in the summer adversely affected yields in some crops, but only one claim resulted.

Other vegetable crops such as carrots, onions, cabbage and turnips were also proposed for insurance coverage, but the response was too small to justify the installation of a program.

National Crop Insurance Conference

British Columbia acted as host for the biennial national conference.

About 50 delegates attended the meetings held at the Bayshore Inn Hotel in Vancouver. Eight members of the Crop Insurance Branch also attended.

Stabilization Fund

A non repayable grant of $1,826,912.00 was paid out of the stabilization fund to the Crop Insurance Fund in March, 1979 to help offset deficits in the grain and berry programs.

Status of Crop Insurance Fund at March 31, 1979

	March 31/79 (Cr)	March 31/78 (Cr)
Current Account Balance	$ 3,014,340.31	$ 546,419.00
Undistributed reserve	0	(5,307.00)
Due from Government of Canada	0	172,926.00
Grain Program	(284,686.25)	1,050,389.00
Tree Fruit Program	(1,877,963.13)	(1,739,936.00)
Berry Program	(344,799.96)	315,340.00
Grape Program	(454,125.07)	(326,559.00)
Forage Program	6,553.83	6,783.00
Vegetable Program	(59,319.73)	(20,055.00)
Crop Insurance Fund Deficit	$ 0	$ 0
Add: Advances from Stabilization Fund	0	0
Balance	$ 0	$ 0

Note: This statement shows the actual status of the Crop Insurance Fund as of March 31, 1979 and covers the period since the Fund's establishment. The above program figures will not necessarily agree with figures at the end of the 1979 crop year.

Farm Income Assurance

The branch administers the income assurance program comprised of a number of commodity plans which protect producers against income loss due to low market returns. Plans for 12 commodities were implemented in the period 1973 to 1977, mostly for a term of five years. Nine of the 12 have now expired. The three remaining plans — commercial eggs, potatoes and raspberries — terminate following settlement of claims to March 31, 1980 for eggs, the 1979 crop for potatoes and the 1980 crop for raspberries.

The total cost to government of all plans in the 1979 calendar year was $4,183,623, well below the cost anticipated. Strong market returns for most crops covered by plans resulted in reduced indemnity payments and in some plans, premium income. The total cost to government since inception has been $112,088,450.

Regulations for a second generation of plans were approved in September, 1979 and new plans have been implemented for tree fruit, swine, strawberries for processing, and peas, beans and corn for processing. Plans for beef and broiler hatching eggs are being developed. Requests for a second generation of plans for blueberries, sheep and greenhouse vegetables have been approved

Second generation farm income assurance plans have been implemented for a number of crops including tree fruits.

for development. A request for a plan for grain growers in the Fraser Valley and Okanagan is being examined.

The second generation plans differ from the first in several respects. The plans have no fixed term. There are maximums of benefits payable in any one year to participants and maximum indemnities per unit of production. Premiums are shared equally by producers and government and adjusted on a moving five-year average. The gross indemnity, formerly 75 per cent of the deficit of market return to basic cost, is now 100 per cent of the deficit. Commodities that have an alternative form of price stabilization, as in dairy, are excluded from the program. Continuous participation is encouraged by imposing penalties on those who reduce or postpone their participation.

Summary of Financial Activities

Farm Income Assurance Program

Commodities	Gross Indemnities	Producers Premiums	B.C.F.A. Fund	Net Payments to Producers	Government Premiums	Program Deficit or (Surplus)	Cost to Government
January 1/79 to December 31/79 ALL PLANS	8,831,721.34	4,648,098.00	141,816.62	4,629,231.54	6,841,486.73	(2,657,863.39)	4,183,623.34
Since inception to December 31/79 ALL PLANS	173,581,971.21	61,493,521.06	1,302,199.03	118,570,648.71	105,443,952.64	6,664,497.51	112,088,450.15

Farm Products Finance

The Farm Products Finance Branch is responsible for the implementation and administration of a program of financial assistance under the Farm Products Industry Act which encourages and assists the continued development of the processing and services sectors of the agriculture industry of British Columbia.

Since the introduction of this program in late 1973, financial assistance totalling approximately $45 million has been provided to 45 agricultural organizations. During 1979, requests for assistance were received from 53 organizations, including firms in serious financial difficulty, groups of producers adversely affected by physical disasters beyond their control and firms wishing assistance to expand their facilities but not eligible under other assistance programs. At year-end, loans, guarantees and shareholdings totalling approximately $15 million were being provided or held for 13 agricultural food firms.

Early in the year, the processing plant and hatchery of Panco Poultry was sold thus completing the government's plan of divesture of Panco's assets. The total gross realization on the assets was approximately $15 million.

The branch assisted in the finding of a buyer for the assets of South Peace Dehy-Products Ltd. of Dawson Creek which had been operated in receivership on behalf of the ministry for the 1977 and 1978 crop years. The assets were purchased near year-end with the new owner indicating that the plant will be in operation for the 1980 crop year. The plant is an important processing unit for the agricultural industry of the Peace River area.

A plant constructed in the Fraser Valley to produce pellets from poultry waste was closed due to financial problems. The ministry was required to pay out approximately $228,000 in loan guarantees that had been provided in 1975 under the Farm Products Industry Act.

A honey processor in the Lower Mainland was provided with a $100,000 low-interest loan as part of a jointly sponsored refinancing plan with the British Columbia Development Corporation.

The Farm Products Finance program provides loan guarantees to enable food processing firms such as this natural fruit juice processor to expand their operations.

Late in the year, a special program of financial assistance was made available to elevator operators in the North Peace area to assist them in the trucking of grains to Dawson Creek because of the destruction by fire of a British Columbia Railway bridge over the Peace River. The three elevator operators in the area accepted the assistance program offered.

Funds continued to be provided, on a matching basis with the federal department of agriculture, to the B.C. Raspberry Growers' Association and the Association of B.C. Grape Growers. These funds are provided under five-year programs to assist the organizations in expanding their existing markets, finding new markets and developing new product forms. To December 31, 1979, the B.C. Raspberry Association had

received $121,168 and the Association of B.C. Grape Growers had received $29,050 in provincial funds under this arrangement. At the same time, funds continued to be provided to the Association of B.C. Grape Growers, jointly with federal participation, under a New Crop Development Fund program supporting a long term program for the introduction to the Okanagan of West German grape varieties.

The branch continued to be involved in the Agriculture and Rural Development Subsidiary Agreement (ARDSA) program through the provision of financial analysis services to the ARDA Branch on proposals submitted under Part IV of that agreement. Part IV provides financial assistance to agricultural and food firms wishing to create new or to expand existing processing facilities when such assistance can be shown to be needed for the project. A total of 88 submissions were received during the year, combined with 31 on hand at the beginning of the year for a total of 119 submissions under review in 1979. At year-end, financial analysis had been completed on 46, with 43 still in process and a further 30 withdrawn, postponed or cancelled by the applicants.

Property Management

On behalf of the provincial government, the Property Management Branch manages all farms and agricultural properties administered by the Agricultural Land Commission.

The past year has seen some changes in direction of the leasing and farm operation programs administered by the Property Management Branch. The maturing of the agricultural production programs associated with the majority of the leased properties has allowed for rental rate reviews which reflect increased revenue from this source. The number of leases which carry options to purchase has increased significantly with two properties sold to tenants who have exercised this privilege.

The Agricultural Land Commission developed a new format for reporting on-site inspections resulting in more uniform reports. The volume of requests of this nature to the branch remained constant during 1979.

Special Project Properties

Special project properties demanded considerable attention. The Minnekhada Property - #8 presented a real challenge to establish appropriate farm programs. As of August 1, 1979 four separate tenant programs were established, each carrying a 20-year lease. The balance of the total property, 310 acres of non-agricultural land, was destined for possible heritage value. An advisory committee was formed and charged with the responsibility of making a recommendation to the Land Commission by April 1, 1980 regarding the long-term use of this area.

The leasing of the 28 separate parcels on the Langley Farms Property - #22 was completed. Two of the parcels involved were retained on one-year leases pending the ultimate decision by other government agencies for long-term use. The legal re-survey of this total property was finalized and with the completion of the registry detail, the direct payment of property taxes by the tenants will be possible.

The programs associated with the other special project properties namely, Hayes-Christson-Shaw - #48, Pearce Ranch - #35, and Archdale-Forbes - #38, Callahan - #49 (Vernon Effluent Spray Irrigation) were progressing satisfactorily at year-end.

Farm Operations

The farm operations program was enhanced during 1979 with consistent staffing. The operation of the East Kootenay Ranches benefited significantly from the presence of a qualified ranch manager throughout the year. Good progress was made on the development phase of this project, with approximately 200 acres of newly seeded areas added to total available pasture.

A cattle weighing project was started in 1979 with the data gathered going to the Faculty of Agriculture, University of British Columbia for analysis. Gains recorded by yearling cattle on pasture averaged 2.05 to 2.55 pounds per day. This project will continue during 1980.

The Minnekhada Lodge, former home of two Lieutenant-Governors of British Columbia, is being administered by the Property Management Branch and may be developed as a heritage museum open to the public.

In April 1979 the Corrections Branch, Ministry of Attorney-General commenced a juvenile weekend attendance program at the Lost Creek Ranch. These young people were involved in work projects and character-building activities on the ranch property and in the surrounding community.

The membership structure of the East Kootenay Ranches Advisory Committee was altered to reflect a more dominant non-government involvement. The membership included three individuals from the East Kootenay Livestock Association and an equal number from the East Kootenay Wildlife Association. The annual public field day was held at the Steeples Ranch on August 15, 1979.

Institution Farms

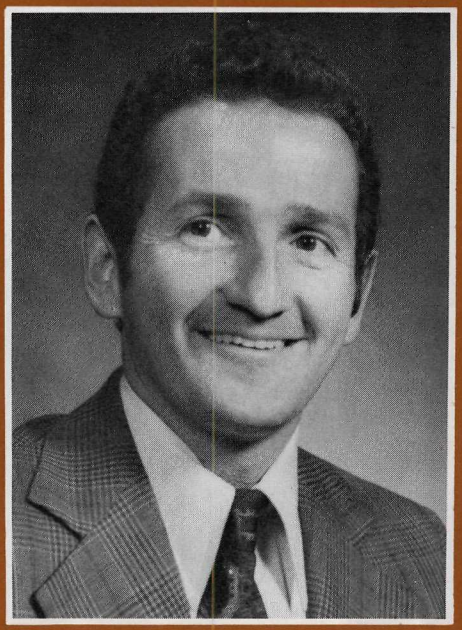
The establishment of farm management committees to promote the co-operative use of farm resources improved operations at Colony and Tranquille Farms.

The food production role of the farms was maintained at levels comparable to the immediately preceeding years. The demand for breeding stock from the production-tested livestock units was very high throughout the year.

The British Columbia Buildings Corporation was active at both farm locations initiating and completing several projects which have improved the physical facilities. The corporation commissioned feasibility studies for the Ministry of Human Resources at Tranquille and the Ministry of Health at Colony Farm to evaluate and recommend major changes in the facilities. Branch representatives also participated in these studies.

University students provided auxiliary help during the summer months for the farm operations. A high percentage of the students employed were enrolled at the U.B.C. Faculty of Agriculture.

Specialist Services



R.J. MILLER
Director, Specialist Services

Dairy

Consolidation within the dairy industry continued throughout 1979. The number of dairy farms decreased by 31 to 1,135 at year end. Nevertheless, farm milk sales from the combined Milk Board areas of production increased 5.6 per cent to 422.3 million litres. The provincial dairy herd increased by 3 per cent to 110,000 head of dairy cattle and young stock.

Fluid milk retail sales in Milk Board areas of production increased by 5.3 per cent to 287.3 million litres. Butter production was up 27 per cent to 2,673,000 kg. Cheddar cheese production increased 33.5 per cent to 2,096,000 kg. Ice cream mix production increased 5.6 per cent to 19.6 million litres.

Farm cash receipts from the sale of dairy products were estimated at $143 million. Milk used in fluid retail sales increased in value by $5.497/hL to $42.183/hL for December, 1979. The butterfat differential was 31¢/kg at year end. The five-year Dairy Income Assurance Program was completed on February 28 and was not renewed. Supplementary payments to dairymen from the National Dairy Program for milk used in the manufacture of dairy products were estimated at $7.5 million. The dairy year traditionally ran from April 1 to March 31, however, the National Dairy Program chose to shift the dairy year to commence August 1, 1979 and terminate July 31, 1980. This change was intended to

Seven Year Production/Fluid Utilization Summary For Milk Board Areas

Year	Millions of litres			Fluid Sales as Per Cent of Prod.	Fluid Sales as Per Cent of Quota
	Milk Production	Quota Milk	Fluid Sales		
1973	350	272	242	69.1	88.9
1974	363	289	253	69.7	87.6
1975	384.5	296.5	251.5	65.4	84.8
1976	386.4	301.5	254.2	65.7	84.3
1977	398.2	307.1	261.4	65.6	85.1
1978	399.8	314.3	272.5	68.1	86.7
1979 (est)	422.3	330.4	287.3	68.0	86.9

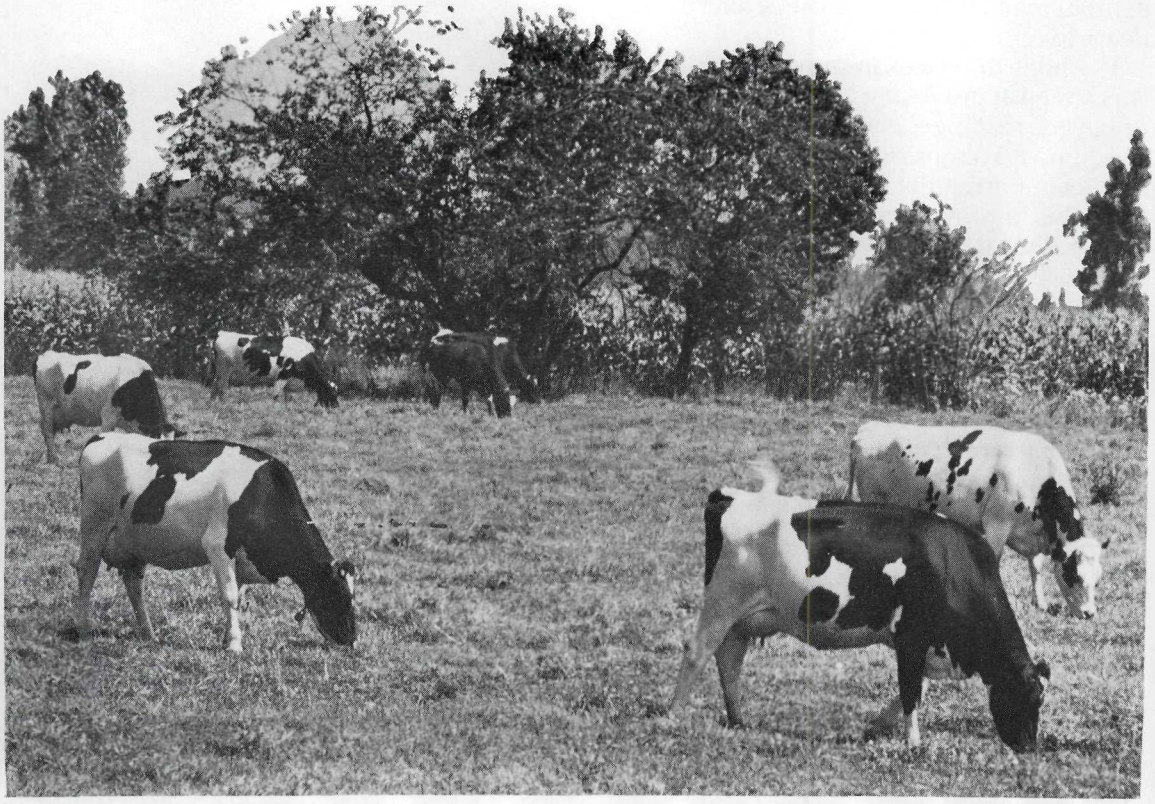
encourage more uniform milk production throughout the year.

The milk quality program was continued by means of inspection of farm premises, transportation facilities and dairy plants, as well as the regular monitoring of product quality carried out at the central laboratory. On January 1, a system of cash levies was imposed on producers of sub-quality milk. Warning letters were issued to 464 producers while 128 producers were levied a total of $36,778. This revenue was directed to the Dairy Products Promotional Fund. The quality of finished products improved as 96.73 per cent of all samples analyzed were in compliance of bacterial content standards. This compared favourably with 95.48 per cent in 1978.

The mastitis control program gained momentum when the B.C. Federation of Agriculture dairy committee employed a field technician to test and collect samples from dairy herds. The veterinary laboratory provided specific pathogen identification and recommendations for the appropriate selective antibiotic. Requests for milking equipment analysis and checks for the presence of tingle voltage indicated continued producer interest in reducing the incidence of mastitis.

To assure the safety of the milk supply, a province-wide check for contamination by pesticides, PCBs and heavy metals was carried out. Tests conducted at the environmental laboratory indicated that such contamination was practically non-existent.

The planned production of ultra high temperatures (UHT) dairy products received considerable attention from all sectors of the industry. Construction of a plant is underway and product is expected to be available by the mid 1980s.



Estimated 1979 milk production increased by 5.6 per cent to 422.3 million litres.

D.A.T.E. Program

The D.A.T.E.(Demonstration of Agricultural Technology and Economics) Program continued in 1979 to fund projects aimed at demonstrating new advances in agricultural technology.

A biological control project was initiated to control mites and whiteflies in greenhouses. This project was funded under D.A.T.E. and through Entomology-Plant Pathology Branch funds. This technique is now widely accepted by the greenhouse industry and has resulted in a private commercial venture. This venture will be financially assisted for the first five years under the ARDSA program.

The drainage and irrigation benefit study prompted engineering design studies for potential water management projects. Benefit studies were completed or were well underway for six agricultural areas in the Fraser Valley. Construction work was due to start in early 1980 on one of the projects in the Logging Ditch area.

Significant alfalfa yield increases were demonstrated through the use of lime in the Peace River.

The honeybee stock improvement funding was aimed at producing an efficient honeybee that is genetically selected for B.C. conditions. This program could open a market opportunity for packaged B.C. bees as well as improve local honey production.

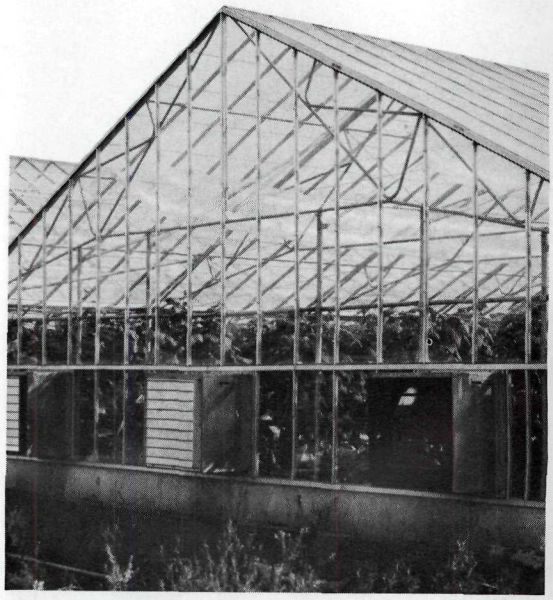
A biological technique that was shown to control flies in poultry houses in the Fraser Valley last year is now a commercial venture.

A total of 10,800 acres has now been seeded by the 12 ft. and 9 ft. seeders developed under the range seeder project. The smaller 9 ft. seeder, for use with traditional ranch equipment, was fabricated and tested in 1979. This project was started under D.A.T.E. and then received funding under the DREAM Program (Agriculture Canada), and is now funded under ARDSA for $688,840.

The brood cow project reached the stage where calves from the Fraser Reds have demonstrated superior weight gain characteristics over traditional Hereford stock. The Fraser Reds exhibited excellent brood cow characteristics, i.e. ease of delivery when mated with larger exotic bulls as well as good milk production and good foraging potential. In 1979, 25 head of pregnancy tested Fraser Reds were sold to an Armstrong rancher. Performance records will be kept on the calves from the females over the next 3 years.

The virus-free seed potato project was started to make available greenhouses in the Pemberton and Cariboo areas so that growers could propagate virus-free potato stock. Four greenhouses were constructed in Pemberton and an additional two have been approved for construction in the Cariboo seed potato area.

The project dealing with water treatment requirements for trickle irrigation in the Okanagan has produced a filtration chlorination system that minimizes "trickler" plugging problems. With this problem solved the advantages of trickle irrigation (reduced power, water and labour requirements) will gain greater acceptance in orchards and vineyards.



A biological control program originally funded under DATE was initiated to control mites and whiteflies in commercial greenhouses.

Engineering

In 1979 the branch continued to provide engineering advice to the agricultural industry on irrigation, drainage, farm structures, waste management, mechanization and land development. The services were provided through workshops, field days, extension bulletins, press articles and direct producer contact. Over 800 assignments were handled in 1979.

Irrigation

Significant growth in the irrigation industry was reflected by the 25 per cent increase in design checks related to government financed irrigation systems. The trend was toward more automated irrigation systems such as solid set sprinklers and trickle installations for orchards and large (giant guns) sprinkler set-ups for forage production.

The development of reliable water supply systems for forage production was one of the main concerns of the branch during the year. A report titled "Potential for Increasing Forage Production, South Thompson River Benchlands" was completed.

The newly formed Irrigation Association of B.C., with assistance from branch staff, drafted a set of guidelines for irrigation system design and installation.

Drainage

The drainage industry continued its dramatic growth pattern established in 1978. The two new high-capacity drain installation machines contributed to a record level of acreage drained. Installations jumped from 1,000 acres in 1977 to 3,200 acres in 1979. Branch staff made presentations to farmer groups at short courses and seminars and held a drainage equipment field day attended by 145 people.

The drainage contractors responded well to the change in branch policy regarding detailed designs for farmers in the Fraser Valley. Fifty-one designs were submitted for review in connection with government financed loan applications. The branch's design service was primarily active on Vancouver Island and in the North Okanagan and the Cariboo.

The Engineering Branch was involved in 15 regional water management projects. Four of these ARDSA funded projects were essentially completed.

Farm Structures

Farmstead layout plans complete with detailed structural drawings were in strong demand. Over 1978 and 1979, there was an 85 per cent increase in plan sales. The rapid expansion of the swine industry was responsible for much of the increase.

The standards of farm construction practices were investigated in one project. Structural deficiencies were discovered which, if corrected, could have significantly reduced the widespread damage that occurred during the wind storm that hit Sumas Prairie in February.

Waste Management

The waste management advisory service is closely related to the farm structures program and involves the provision of up-to-date technical advice on the storage, handling and disposal of manure and other waste products.

An important function of the program is the support provided to the Agricultural Environmental Control Program. Work continued during 1979 on the development and implementation of the green zone method of siting farm buildings.

Much of the work in the waste management program centred on the development of adequate technology, plans and guidelines for the swine industry.

Mechanization and Agricultural Land Development

The mechanization and land development program emphasized rangeland renovation, minimum tillage, crop sprayers and forage handling systems.

The development, testing and demonstration of rangeland seeders continued in 1979. A small 9-ft. range seeder was fabricated for use with rancher owned

equipment. During the year, over 6,000 acres were seeded with the 12-ft and 9-ft models.

The farm machinery complaint and farm safety programs continued to receive support.

Special Assignments

As well as advisory and design services, the branch was involved in a number of projects and special assignments.

- planning and construction supervision of main channel upgrading at Minnekhada Farm for the Property Management Branch
- inspection of Agricultural Land Development Act financed land clearing jobs
- planning and conducting three inter-agency seminars on agriculture and fisheries conflicts
- preparation of guidelines on floodproofing farm buildings for the ministry of environment
- preparation of environmental guidelines for the beef industry
- minimum tillage for cereal crop production
- assessment of swine manure aeration equipment
- investigation of water quality of trickle irrigation systems
- development and operation of range renovation equipment
- investigation of equipment for native meadow development

Engineering Branch staff were involved in field days to show farmers new land improvement equipment. (Photo by Sid Klassen.)

Entomology-Plant Pathology

The major responsibility of the Entomology-Plant Pathology Branch is to provide information on controlling plant diseases, insects and mites. The branch also develops controls for vertebrates including deer, rodents, moles and birds.

Throughout 1979, the staff conducted training courses and educational programs for farmers, orchardists, greenhouse operators and homeowners; in addition, field trials were carried out to evaluate pesticides and pest control techniques.

Diagnostic and Advisory Services

Disease and insect diagnostic clinics for home gardeners, commercial growers, farmers and ministry staff were operated at Cloverdale, Victoria and Summerland.

Throughout most of the summer, a public information centre operated at a trailer in the Kitsilano area of Vancouver. The centre was staffed with summer students who answered questions on gypsy moth and other garden pests.

Tree Fruits and Grapes

Cold temperatures during the winter of 1978-79 reduced the level of powdery mildew on apples in the Interior but caused extensive injury to stone fruits and grapes in the south Okanagan and Similkameen.

Little cherry disease continued to take its toll. One hundred and nine infected trees were discovered: 2 in Cawston, 46 in Penticton, 28 in Naramata, 22 in Kelowna, 4 in Summerland and 7 in Oyama. This was the first time the disease had been found in Cawston and Oyama.

After years of research, Agriculture Canada entomologists and plant pathologists at Summerland identified apple mealybug as the insect responsible for the spread of little cherry disease. This major breakthrough may be the turning point in developing effective control techniques.

Outbreaks of two species of summer leafrollers caused major problems in the Okanagan and Similkameen, particularly to cherries at Winfield and Oliver. Harvested fruit from these areas destined for canning had to be fumigated to destroy a heavy infestation of leafroller larvae. Damage to other tree fruits was minimal although some injury occurred to apples where the first brood codling moth spray had been omitted. Surveys with sex pheromone traps showed that both species of leafroller were present in most Interior fruit growing areas.

Populations of predaceous mites reached normal levels in Interior orchards, belying predictions of a high winter mortality. European red mites increased in many districts causing extra sprays to be applied.

Gypsy Moth - Winter Moth - Pine Shoot Moth

In spite of strong opposition by the Vancouver Greenpeace organization, 80 per cent of the properties in a two block area in the Kitsilano area of Vancouver were sprayed with carbaryl (Sevin) to eradicate a small infestation of gypsy moth. No moths were collected in subsequent sex trap surveys suggesting the infestation had been eradicated and, thus, a major threat to British Columbia's agricultural and forest industries removed. Recognizing the extensive damage this pest can cause to shrubs and trees, the City of Vancouver played a major role in supporting the efforts of Agriculture Canada. This ministry participated actively in the eradication planning and information programs.

The winter moth continued to defoliate ornamental trees, shrubs and fruit trees on southern Vancouver Island. Under a ministry grant, two species of parasites were released in the Victoria area as part of a long term biological control program. A small number of winter moths was found in the Richmond area - the first time the pest had been found on the B.C. mainland.

Inspections for pine shoot moth at 159 nurseries on Vancouver Island and the lower mainland revealed a marked increase over

1978 in both the number of nurseries infested and the levels of infestations.

Field Crops

Alfalfa fields throughout the province were surveyed for Verticillium wilt. This recently introduced disease was found to be widely distributed throughout southern British Columbia. The most severely infected districts were the Creston Flats and the Similkameen Valley. Other districts where diseased fields occurred were Kamloops, Okanagan, Shuswap, Cranbrook, Grand Forks, Cache Creek, Williams Lake and Quesnel. No diseased fields were discovered in the Peace River or Vanderhoof areas. Disease severity varied from a few scattered plants to 50 per cent loss of stand in three-year old fields. Control of this disease is difficult and it will be several years before resistant varieties are available.

Vegetables

Downy mildew and white rot caused serious loss in Fraser Valley onions. Onion white rot had spread to all but two of the large onion farms in the Cloverdale area. In broccoli and brussels sprouts, downy mildew was widespread, and root rot in beans was becoming increasingly common.

Bacterial ring rot was found in potatoes on several Fraser Valley crops although it did not occur on any certified seed farms. Some seed potatoes from the Cariboo showed extremely high levels of witches' broom disease.

Vertebrate Pest Control

The results of field trials conducted over the past three years were being used to obtain Canadian registration of a strychnine bait for pocket gopher control and registration of two anti-coagulants — one to control mice and another to control ground squirrels.

Three deer repellents were selected from a large number of materials tested to minimize the deer damage to Interior orchards.

Trials conducted in selected vineyards and orchards showed that broadcasting distress calls gave good protection from starlings. Yellow flagging tape and starling distress calls provided protection to blueberry plantings in the Fraser Valley.

Pear Trellis Rust

During 1979 in the Fraser Valley, 4,990 junipers were inspected and 352 were destroyed as part of the continuing pear trellis rust survey, eradication and juniper certification program. Ten per cent of 12,169 pear trees inspected had one or more infections. Twelve nurseries were certified to ship 55,000 junipers outside of the quarantine coastal area. As a result of pear inspections, 13 nurseries were certified for 1979 - 1980 shipping. Four nurseries became eligible for the first time in 1979 while three others which had previously been eligible lost their certificates.

Mosquito Control

Mosquito populations were average to below average in most parts of the province. In 1979, there were no confirmed cases of horse or human encephalitis which is spread by a mosquito vector.

Guidance on mosquito control was extended to groups in Kamloops, Merritt, Duncan, Thetis Island, MacGregor, Upper Fraser, McKenzie and the Okanagan and Fraser Valleys. A training program was held for mosquito abatement personnel.

Biological Fly Control

In cooperation with the Poultry Branch, a D.A.T.E. project was conducted on the use of a parasitic wasp to control flies in egg poultry operations. A parasite release rate was formulated that appears to give optimal fly control. It was shown that floor baits can be used to complement fly control without endangering the biological agents.

Greenhouse Industry

Predators and parasites to control mites and whiteflies were reared and made available to all greenhouse tomato and cucumber growers. A large majority of the 49 growers that used these biological agents expressed satisfaction with the control

achieved. Training programs were held for growers on the use of parasites and predators. Progress was made in developing methods of controlling thrips, springtails and powdery mildew without affecting the biological agents. In 1980, the rearing and distribution of parasites and predators are to be taken over by private enterprise.

Deer repellent trials were being tested to minimize damage that deer inflict upon orchards in the Interior.

Soils

The major responsibility of the Soils Branch is to assist in protection, maintenance, development and effective use of the agricultural soils resource in British Columbia. Activities of branch staff in 1979 included: soil advisory services; demonstration of soil management techniques and investigation of soil related concerns; operation of the soil, feed and tissue testing laboratory; provision of technical services to the provincial Agricultural Land Commission; and administration of the Soil Conservation Act.

Advisory Services

In support of 19 potential water management projects, information on land use and irrigation and/or drainage design parameters was collected to form the basis for project designs and evaluations.

Drainage investigations were conducted on 1,500 acres and drainage designs for 35 projects were checked. Drainage construction increased dramatically with two million feet installed compared to nearly one million feet in 1978.

Irrigation information on available water holding capacity and water application rates was provided for 500 soil samples submitted by farmers and irrigation designers. The irrigation scheduling program was expanded to 30 growers in Summerland Municipality.

A pamphlet on erosion causes and control in the Peace River area was prepared.

Soils information was provided for seven proposed or active effluent irrigation projects in the southern Interior.

Other advisory services included recommendations on soil management, fertilization, crop suitability and agricultural capability.

Demonstration and Investigation

Staff initiated or participated in projects to demonstrate soil and water management techniques and in investigations of soil and water related concerns. A processed sewage sludge marketed as a soil conditioner was found to contain unacceptably high amounts of cadmium and other heavy metals. An investigation of some turf operations in Delta showed excessive soil removal. Specialists advised turf growers on techniques to minimize soil removal and maintain long-term productivity. An ARDSA project to determine water requirements for irrigation was completed in the Fraser Valley. The peak evapotranspiration rate was found to be 5 mm/day. A survey in the Quesnel area found most soils to be boron deficient for alfalfa production. Methods of correcting soil acidity in orchards were investigated and a laboratory method for determining lime requirements of acid orchard soils was developed. A project to determine fertilizer requirements of alfalfa in the Creston area was initiated.

Soils Branch Statistics

	1979	1978	1977	1976	1975
Soil samples analyzed	15,500	13,660	11,000	12,000	9,780
Feed & tissue samples analyzed	9,000	6,708	6,000	5,300	3,748
ALR appeals investigated	104	150	177	170	150

Soil, Feed and Tissue Testing

A 14 percent increase in demand for laboratory services occurred in 1979. About 15,500 soil samples and 9,000 feed and tissue samples were received. Of the soil samples submitted, 80 per cent were from growers requesting fertilizer and lime recommendations and 20 per cent were in support of demonstration and applied research projects, related to soil fertility and plant nutrition. Sixty per cent of the feed and tissue samples were from growers and 40 per cent from project and diagnostic work related to soil fertility, plant nutrition and animal nutrition.

A year-long project was undertaken to develop a selenium analysis procedure for plant and animal tissue. Three thousand samples from throughout B.C. were analyzed.

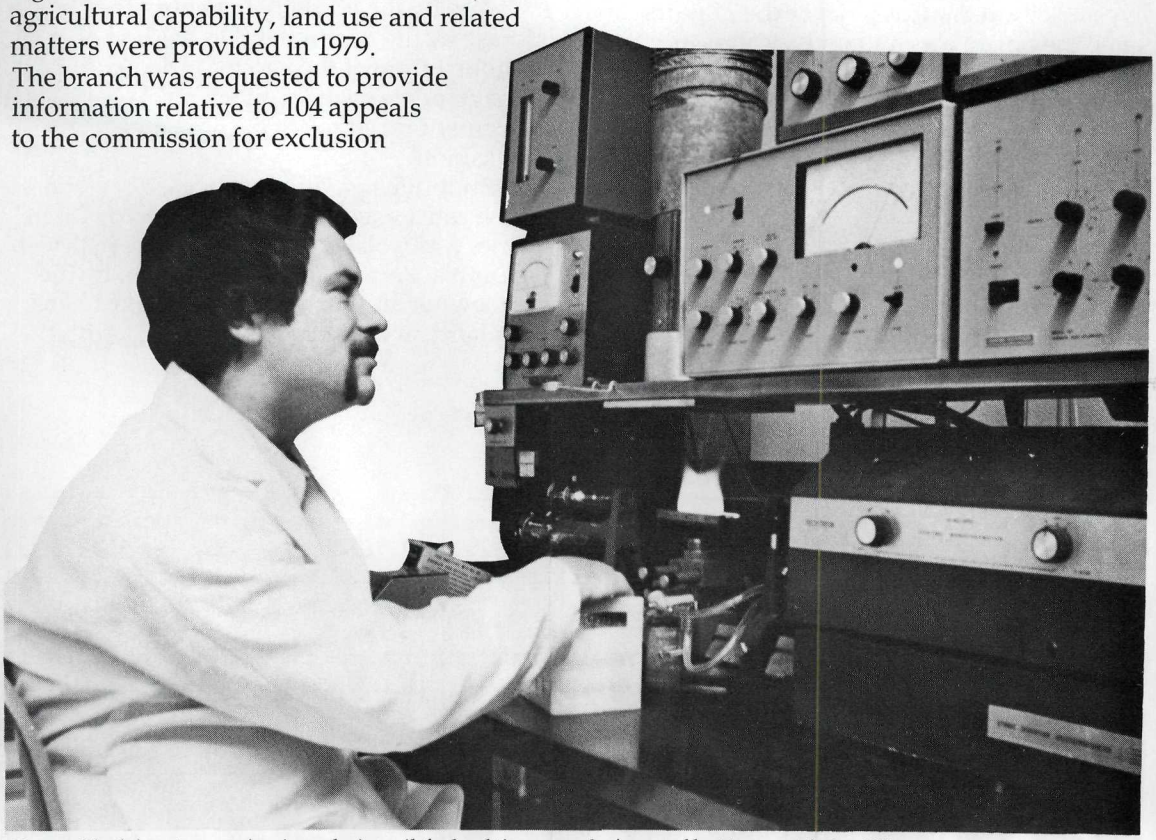
Land Commission Technical Services

Technical services to the provincial Agricultural Land Commission on soils, agricultural capability, land use and related matters were provided in 1979. The branch was requested to provide information relative to 104 appeals to the commission for exclusion from or non-agricultural use within the Agricultural Land Reserves. As a result of the requests, 63 on-site inspections and reports, detailing land use and capability for agriculture, were made.

Due to the volume of appeals from various areas, the commission requested eight area" reviews totalling 10,000 acres. Updated land capability reports and maps were prepared for each area.

Soil Conservation

The branch continued to assist local governments and the provincial Agricultural Land Commission with administration of the Soil Conservation Act. Upon request, 30 on-site inspections and reports were made relative to applications for soil removal from or placement of fill on land within Agricultural Land Reserves. Reports contained recommendations on whether or not to permit the applications and, if permitted, details on acceptable removal and filling procedures and methods for site rehabilitation.



Demand for laboratory services in analyzing soil, feed and tissue samples increased by 14 per cent during 1979.

Veterinary

The Veterinary Branch, including the laboratory, brands and field veterinary divisions, carries out duties under the Contagious Diseases (Animals) Act, Pharmacy Act, Fur Farm Act, Meat Inspection Act, Laboratories Act, Livestock Public Sales Act, Brands Act, Pound District Act and Trespass Act.

Branch staff carry out programs to control the spread of disease, provide a diagnostic service, provide information on the treatment and prevention of disease, provide for and control the distribution of veterinary drugs and biologics, oversee the sale and distribution of meat and meat products in the designated areas and provide a brand inspection service.

Veterinary Service Districts

In remote areas of the province, veterinary service districts are supported by the ministry to assist veterinary practitioners in becoming established where a potential for a viable livestock industry exists. Over the 22 years since the policy was initiated, 28 agreements have been signed in 15 areas which resulted in the establishment of 11 self-supporting practices. One district was added in 1979 in the Clearwater area and three more received continued support.

Meat Inspection

One more abattoir, in the designated area, qualified under the Federal/Domestic Meat Inspection program, bringing the total for 1979 to six.

Disease Situation

The testing of Aleutian disease in mink continued and, although the number of positive animals detected by the serological testing procedures increased, there was little, if any, increase in the number of infected premises. A few cases of distemper were diagnosed but the losses were not significant.

Infectious laryngotracheitis (I.L.T.) of poultry was still a problem in the Fraser Valley and is expected to remain so as long as the industry continues administering the available ocular vaccine in the drinking water; this does not produce a firm immunity. A problem encountered during the summer with the marketing of "spent-fowl" was aggravated by the fact that neither Alberta nor Washington state would accept birds from the Fraser Valley for processing because of the presence of I.L.T. Pressure by the industry to control the disease by the recommended method of administration of the vaccine, adequate management practices and control of movement could result in complete eradication.

Hemophilus parahemolyticus, a bacteria which causes acute pneumonia and death in swine, was isolated for the first time in British Columbia. As a result of cooperation by the herd owner and the owner of a contact herd, both herds were depopulated by slaughter

Veterinary Branch Statistics

	1979	1978	1977	1976	1975
Laboratory Specimens	71,940	41,785	37,729	40,155	34,457
Brand Inspections - Cattle	269,259	290,694	314,155	245,079	236,451
Horses	2,465	1,470	8,896	5,936	6,239
Cattle exported	127,008	129,666	136,202	113,833	109,021

and marketing. The premises were cleaned and disinfected and were to remain empty for two to three months prior to repopulation.

Mycoplasma mastitis was detected in four dairy herds in 1978 and 1979.

The Health of Animals Branch of Agriculture Canada announced on June 28, 1979 that British Columbia and the Peace River area of Alberta had been declared a Brucellosis-free region. The Maritime provinces are the only other area of Canada that has achieved this status. Regulations now require that cattle entering the region from other parts of Canada adhere to more stringent federal testing procedures. Provincial brand inspectors assisted Agriculture Canada and RCMP officials in the checking of permits at border crossing points, weigh scales and on the open highway. No cases of bluetongue in cattle, sheep or wildlife were diagnosed in the province in 1979, nor were any cases of rabies reported.

Assistance to V.I.D.O.

An agreement was made to match dollar for dollar donations from the livestock or poultry industry in British Columbia to the Veterinary Infectious Diseases Organization (V.I.D.O.). It is a privately funded research organization situated on the campus at the University of Saskatchewan and operates in close cooperation with the Western College of Veterinary Medicine. The organization's work on the production of a calf scour vaccine has proven successful and the product is to be available in spring of 1980.

During the fiscal years 1977-78 and 1978-79, the ministry matched contributions to the sum of $23,800 and in 1979-80, a further $6,700 will be contributed.

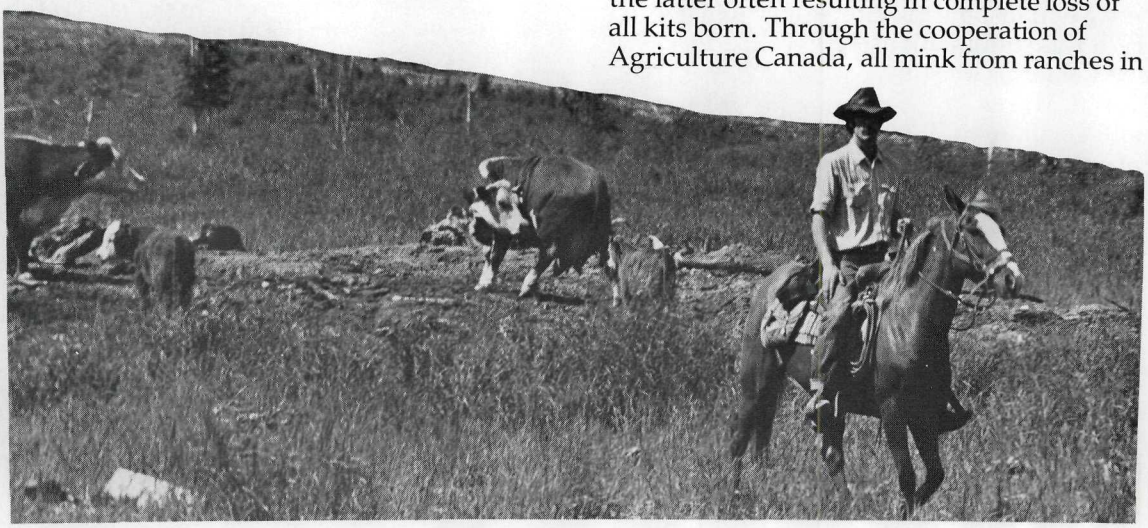
PCB Feed Contamination

In June, 1979 an industrial accident occurred at a rendering plant in Billings, Montana resulting in the contamination of tallow by polychlorinated biphenyls (PCBs). Some of this tallow was imported into the Fraser Valley by three feed companies, resulting in the distribution of contaminated poultry feed, including pheasant feed.

The ministry cooperated with the federal departments of Agriculture and Health and Welfare which took the responsibility to ascertain whether already processed poultry, or that to be processed, was acceptable for human consumption. None of the poultry in storage, birds to be processed nor eggs were found to be above the actionable tolerance set by Health and Welfare.

Unfortunately, the pheasants, which had been fed a turkey ration with added fat, did contain levels well above the actionable levels and those in storage were destroyed, while those still on feed were not acceptable for processing.

As an off-shoot to the poultry problem, because of the high percentage of poultry products in mink rations, the mink industry indirectly became involved. It is well established that mink are probably the most susceptible species to PCB toxicity, which results in either death or impaired fertility, the latter often resulting in complete loss of all kits born. Through the cooperation of Agriculture Canada, all mink from ranches in



In mid-1979, British Columbia was declared a brucellosis-free region.

the Fraser Valley were tested for PCB content in their fat and other tissues and, as well, stored feed and feed ingredients. PCBs were also found in some ingredients, particularly in fish.

Veterinary Laboratory

In 1979 there were 7,300 submissions which, though only a small increase over the previous year, resulted in a marked increase in the number of individual specimens, from 42,000 to 72,000 (71 per cent), as well as a significant increase (12 per cent) in the number of laboratory diagnoses and findings. Because of this increase in laboratory procedures performed, it was necessary to curtail some of the work, particularly that in virology, previously performed on dog and cat specimens. Work in toxicology was limited due to a revamping of available fume hoods, air handling and installation of a new perchloric acid hood.

Some of the projects that the laboratory was involved in were:

***Specific Pathogen-free Turkeys**

Turkey hatching-egg antibiotic treatments resulted in a flock free from Arizona, Salmonella and Mycoplasma pathogens. This was a cooperative project with the Poultry Branch.

***Dairy Mastitis Survey**

Mastitis in dairy herds results in significant milk production losses. In cooperation with the Dairy Branch and practising veterinarians, the mastitis survey initiated in 1978 was continued, using the California Mastitis Test (CMT) as an initial indicator of a mastitis infection.

***Detecting Salmonella-infected Breeder Flocks**

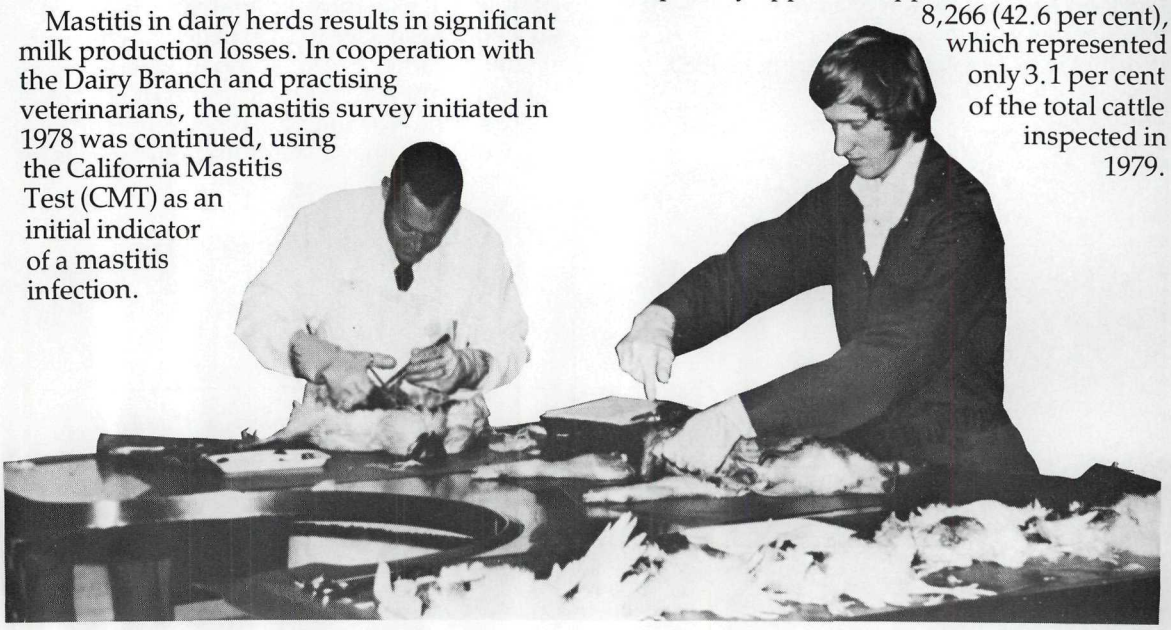
In cooperation with the Poultry Branch, samples were collected from 46 poultry flocks to determine the presence of Salmonella and evaluate effective control procedures.

Brand Inspection

The standard of service provided under the brand inspection program in the prescribed area was maintained throughout 1979, while the actual enforcement of the brand regulations throughout the province was increased. Road patrols were instituted to check vehicles transporting cattle and horses in the Interior and, with this increased activity, the number of infractions under the Stock Brands Act that were encountered dropped 45 per cent over the year. This would indicate a greater understanding and compliance with the brand regulations by those involved in the industry.

There was a slight decrease in the workload experienced in 1979. Statistics showed an 8.1 per cent decrease in the number of cattle inspections completed while there was a 67.7 per cent increase in the number of horses inspected at public sales (1,470 to 2,465). The number of livestock slaughtered in plants not under inspection showed a 9.6 per cent decrease.

The number of horned cattle to which the $2 penalty applied dropped from 14,398 to 8,266 (42.6 per cent), which represented only 3.1 per cent of the total cattle inspected in 1979.



There was a marked increase of 71 per cent in the number of individual specimens submitted to the veterinary laboratory for analysis.

Youth Development

The branch is responsible for the development and delivery of the 4-H and farm vacation programs in British Columbia. It is also the provincial coordinator for the International Agricultural Exchange Association (IAEA).

4-H Program

4-H provides young people with unique educational and recreational opportunities. The program is open to boys and girls from nine to 19 years of age, with local leadership provided by volunteers. Members are encouraged to develop skills in many areas; e.g. technical project skills and communication skills such as public speaking.

During 1979, members participated in a variety of travel and exchange programs in addition to their regular project and club work. "Children's Rights" was the theme of the Ottawa Citizenship Seminar and "Energy Use in the Food System" was the focus of the National 4-H Conference. The Summer Work Exchange saw B.C. paired with Prince Edward Island and the Interprovincial 4-H Exchange allowed 4-H'ers to visit every other province in Canada. There was also participation in the Western Provinces 4-H Seminar, the B.C. - Oregon Exchange, the Western Provinces 4-H Judging Seminar and the National 4-H Conference in Washington, D.C.

During 1979, the 4-H community raised money for the B.C. 4-H Foundation. A cooperative fund-raising drive with the Canadian 4-H Foundation resulted in the raising of $50,000 in cash and pledges. The B.C. 4-H Foundation co-sponsored the first Intermediate 4-H Seminar, "Foundation One". For the first time, 4-H members 13 and 14 years of age were able to participate in a major provincial 4-H event.

The Provincial 4-H Demonstration contest, designed to teach public speaking and demonstration skills, was held separately from the Pacific National Exhibition for the first time in 1979.

The Farm Safety Program was carried on in part of the Peace River area in the spring of 1979. This program of safety awareness involved the visiting of farms and the posting of danger area signs by 4-H members.

In 1979, the first National 4-H Leaders' Conference was held in Toronto with five leaders from each province participating. The conference was sponsored by the Canadian 4-H Foundation.

Youth Development Branch Program Participation Statistics

		1979	1978	1977	1976	1975
4-H Programs	- members	3,620	3,576	3,943	4,305	4,428
	- clubs	254	262	267	271	284
	- leaders	825	776	819	840	843
Farm Vacations	- number of guests	623	500	400	350	280
	- vacation days	3,175	2,480	2,125	1,750	1,395
I.A.E.A.	- trainees to B.C.	33	40	43	41	—
	- trainees from B.C.	11	11	12	6	—

The B.C. 4-H Executive Council continued to develop as the policy-making body for 4-H in the province.

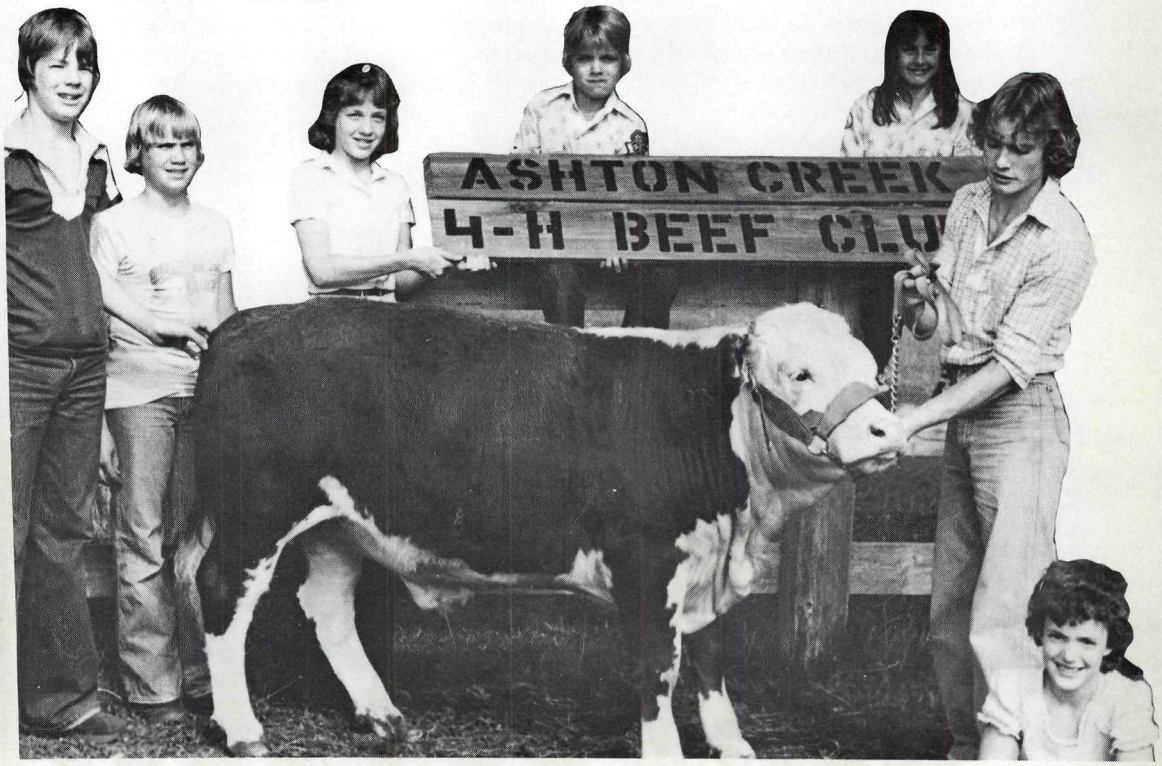
Farm Vacation Program

In 1979, over 600 people took vacations on British Columbia farms and ranches. Vacations averaged five days for a total of 3,175 vacation days taken. A list of farm vacation hosts was prepared and distributed. In addition to providing urban people with a unique holiday, this program also provides farmers and ranchers with an additional source of revenue.

International Agricultural Exchange Association Program

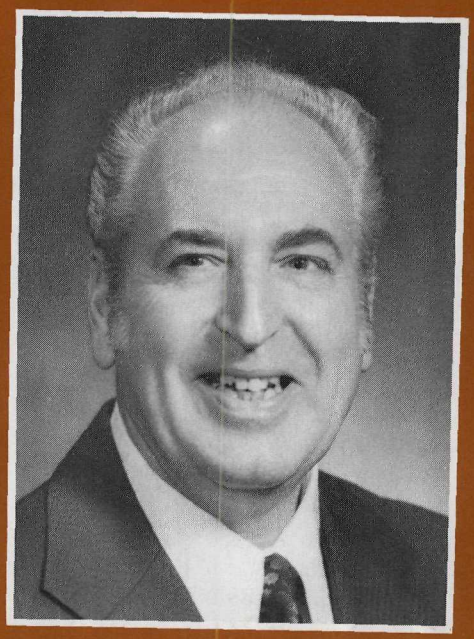
Over 15 countries participate in this program through which the participants live and work with farm families in order to learn about the agriculture and lifestyle of their hosts.

In 1979, 33 trainees from Australia, New Zealand and European countries were hosted on British Columbia farms. Eleven young people from British Columbia travelled to Australia and New Zealand in the fall of 1979 to start a six-month program there. The Youth Development Branch coordinates the selection of trainees and hosts for the I.A.E.A. program in British Columbia.



This steer was raised by the Ashton Creek 4-H Beef Club as a fund raising project for the B.C. 4-H Foundation.

Production Services



R.L. WILKINSON
Director, Production Services

Apiculture

The Apiculture Branch provides specialist services and advice to the honey industry, fruit and seed growers and government personnel. Its work covers three main areas: extension, regulation and research.

The total honey crop during 1979 was 2,556 metric tonnes (5,633,491 lb.), an increase of 560 tonnes (1,235,491 lb.) over the 1978 crop.

Active beekeepers in the province numbered 5,258, a moderate increase over 1978. Indications are that the numbers of beekeepers and hives are levelling off after the dramatic increases of the early to mid-seventies.

Wholesale and retail prices for honey continued to improve. Prices for British Columbia honey are expected to hold their own and, depending on world prices, may improve.

Total value of the honey crop was $4,403,691; beeswax, $228,852; and pollen, $144,000, for a total of $4,776,543. It is generally considered that the value of honey-bees as pollinators is at least 15 times the value of the honey crop.

For the fourth year, honey producers in British Columbia were given assistance to compensate for hive damage by bears and subsequent loss of crop.

This assistance was provided under the "Beeyard-Bear Protection Incentive Program". Financial assistance was provided in the form of grants to honey producers to assist in the construction of bear-proof electric fences or other satisfactory protective devices.

In spite of protective devices, beekeepers experienced a loss of $71,500 from bear predation.

There was a sharp decrease in the incidence of American foulbrood disease, down from 3.43 per cent of colonies inspected in 1978 to 1.38 per cent in 1979. All other bee diseases were down, with the exception of European foulbrood. This disease had been confined to the Fraser Valley and Peace River areas. However, for the first time, infected hives were found on Vancouver Island and in the southern interior valleys of B.C..

British Columbia beekeepers continued to provide a valuable pollination service to fruit growers through the offices of the Okanagan Valley Pollination Association and the Fraser Valley Pollinator's Association. Nine thousand hives were rented to growers at an average cost of $19.37 per hive.

The second year of a three-year D.A.T.E. project, "Bee Breeding and Honeybee Stock Improvement" was completed. This important project is intended to develop breeding stock from which honey producers can produce desirable queens for good wintering, increased honey production and gentleness. It will also provide a reservoir of honeybee breeding stock which will be free of African/Brazilian hybrid genes.

A recent report of the discovery of a very dangerous mite, *Varroa jacobsoni*, in Maryland, U.S.A. provides further evidence of the need for an isolated honeybee sanctuary area in British Columbia.

Inspecting a colony of honeybees under treatment for control of Chalkbrood, a serious fungus disease of honeybees.

A total of 475 queens from our Italian and Carniolan stock was selected and distributed to cooperating British Columbia producers for evaluation.

A total of 150 hives was overwintered in a controlled atmosphere building at Cloverdale. This building is being used to overwinter hives of various sizes from four-frame nuclei to twenty-frame standard hives. Breeding stock from New Zealand has been introduced into four-frame nuclei as early as February. This is a record for early queen introduction.

Honeybee tissue and pollen were diagnosed for the presence of heavy metals and, in one area, radon gas. In some areas, higher than normal concentrations of heavy metals were found in both tissue and pollen.

For the sixth consecutive year, experimental apiaries were located at interior fireweed areas of British Columbia. Bear protective devices were tested and honey production recorded. It is possible to protect apiaries from bear predation by means of electric fences and specially designed pallets on which the hives are placed and covered with chain link fencing.

Honey production from fireweed continued to offer exciting possibilities for increased production. In many areas it averaged over 90.7 kg (200 lb.) per hive.

Other project work included the study of methods of controlling Chalkbrood disease in honeybees, pollination of blueberries, strawberries, raspberries, sweet cherries and pears, fumigation of diseased beehive equipment, comparison of consumption of stores by colonies overwintered under indoor and outdoor conditions, scale hive records of honey production, blooming dates of honey plants and an investigation into bee-poisoning by nectar from Timber Milk Vetch.

Using the leafcutter bee on a five-acre field of alfalfa near Kelowna, a total of 136.5 kg (300 lb.) of clean seed per acre was produced.

Dr. Cam Jay of the University of Manitoba worked with Apiculture Branch staff on a study of honeybee pollination activities in sweet cherry and pear orchards in Kelowna.

A member of the Apiculture Branch continued to chair a national committee of the Canadian Honey Council and the Canadian Association of Professional Apiculturists. This committee acts in an advisory capacity to the federal Health of Animals Branch and is concerned with importation of disease-free honeybee stock into Canada.

Feeding medicated syrup to honeybee colonies being used in an experiment to control Chalkbrood, a serious fungus disease of honeybees.

Development and Extension

The Development and Extension Branch is the primary delivery system for extending knowledge to B.C. agricultural producers on crop and livestock production, farm business management and marketing. Extension of knowledge is undertaken on a planned basis, at both the regional and district levels. The branch has 18 district offices, each of which has a district agriculturist and support staff to provide extension services to producers.

Extension Programs

In 1979, modern extension methods were used to identify needs upon which effective extension programs were developed. Regional extension programs were coordinated and conducted by commodity core extension committees consisting of representatives of various ministry of agriculture branches with an interest in the community. Commodity core committees have been established to direct extension programs for the dairy, swine and forage commodities.

District extension programs were planned and developed to serve the unique needs of farmers in each district. In district and regional extension programs, demonstration plots, field days, seminars, workshops, district newsletters, radio and television were used. Specific on-farm advice was provided to more than 3,500 individual producers. About 20,000 farmers were counselled in the branch's district offices.

Forage crop extension programs received the highest allocation of extension time. Forage crop production and utilization was recognized as the key to successful livestock production in terms of pasture, range and stored forages. Extension programs focused on all aspects of forage management including soil fertility, varieties, harvesting, storing and utilization.

Alfalfa production received primary emphasis as opportunities existed to expand production of this crop. The identification of Verticillium wilt disease in many stands of alfalfa throughout the province indicated the need for development of resistant strains through research and the testing of foreign varieties.

District Agriculturists work directly with farmers in crop planning, financial planning and management.

Range and pasture extension activities were conducted, in some cases, in association with coordinated resource management planning of rangelands. Annual meetings of community pasture user groups featured presentations on pasture management. The community pasture extension project on Sunset Prairie demonstrated methods of pasture renovation, livestock rotational grazing systems, pasture forage variety and fertility trials and brush control. Other extension activities associated with field crops included participation on weed control committees, soil erosion committees, Provincial Seed Fair, interpretation of soil analysis results and advice on control of weeds, insects and diseases.

Livestock extension programs were directed mainly towards dairy, beef, sheep and swine producers. The dairy and swine extension core committees were particularly active during the year. The committees conducted programs on dairy business management seminars, dairy and forage short courses, manure handling field days and a swine producer seminar.

Workshops on beef management were held in a number of districts during which nutrition, breeding and animal health were discussed. A seminar on beef marketing was held in the Peace River area. A series of workshops on financial management for beef producers was presented throughout the province. These were initiated by the B.C. Cattlemen's Association in cooperation with field staff of the Development and Extension Branch.

A number of new swine production units commenced operation in 1979. Increased interest in swine production resulted in many inquiries to district offices. The district office in Chilliwack was particularly busy in providing assistance to new and expanding producers to help them conform to the green zone by-law implemented by Chilliwack Municipality. Staff gave advice on siting, manure disposal, management and marketing.

Livestock Improvement

Record of Performance programs for beef, sheep and swine continued as important tools for livestock improvement. Weighings were supervised, with assistance as required from brand inspectors. Emphasis was placed on interpretation and use of performance data for improving basic herds.

The Demonstration of Agricultural Technology and Economics (DATE) program, through which the Fraser Red Brood Cow Development Project was undertaken, continued to progress. All Fraser Red heifers born in 1978 were bred to Simmental bulls. Twenty-five head of pregnancy tested animals were sold to an Armstrong rancher who will record data on performance of calves born to Fraser Red cows. This will be a test of the ranging capacity of the Fraser Red strain.

Farm Business Management

The branch interpreted Canfarm annual reports for producers enrolled in the program. Extension meetings were conducted in cooperation with the Farm Economics Branch on estate planning, tax management and other financial topics.

Steadily increasing costs of production made producers realize their need to understand and use sound economic principles. Two related projects involving the branch were undertaken in cooperation with the Farm Economics Branch and the B.C. Cattlemen's Association. These projects were the cattlemen's financial management course and the mobile farm management clinic. Both projects proved to be successful and stimulated interest among producers who wished to enhance their skills in financial management. As a result of experience and support received in these projects, a three-year ARDSA funded project was initiated in 1979 to provide financial management training to producers of all major commodities. Twenty-four courses were conducted with five separate commodity groups during the fall and winter of 1979-80.

Resource Liaison Activities

The branch continued to assume greater responsibilities in inter-agency resource planning, both at headquarters and in the field. Many ministries and agencies have policies, programs and projects which affect the agricultural land resource and agricultural activity in the province. To safeguard agriculture, field staff of the branch represented the ministry on seven regional resource management committees, nine

problem wildlife management committees and 27 regional district technical committees. The branch was involved in land use planning activities including establishment of provincial forests, range improvement plans, coordinated resource management plans (range), crown land plans and official regional and settlement plans. Referrals from the Agricultural Land Commission were directed to field staff, via the property management branch, for comment on the impact that exclusions or inclusions to the agricultural land reserve would have on agriculture.

Green Zone Program

The green zone committee was established in January, 1977, and consists of representatives of the ministries of Agriculture and Municipal Affairs, Agricultural Land Commission and the B.C. Federation of Agriculture. The purpose of the green zone program is to resolve agriculture/urban conflicts and to aid in the removal of unnecessary by-law restrictions on agricultural land within the agricultural land reserve.

The approach taken by the committee was to develop model by-laws by farm commodity and to present them to local governments for adoption. Model by-laws for swine and feedlots were developed in 1979. The by-laws contain sections on physical separation distances between livestock users and neighbours. They also specify other performance criteria such as ventilation, manure storage capacity and, in some cases, aeration, animal density and surface material. By adhering to such criteria, the livestock producer is assured the opportunity to conduct his operation without offence to neighbours. These criteria are accompanied by the same requirement for distance separation applied to encroachment by rural residents and other neighbouring users.

The program had wide exposure in the province, sometimes against a background of intense community prejudice. Model by-laws have been adopted or are being adopted by three municipalities, and nine regional districts have been introduced to the green zone concept. The concept is quite innovative and requires considerable exposure before adoption can be expected.

Range and pasture extension activities including animal health were conducted in the coordinated resource management planning of rangeland. (Photo by Sid Klassen.)

Fort Nelson Development

Fort Nelson agricultural development and extension work was guided by the Fort Nelson field advisory committee consisting of BCMA and Agriculture Canada representatives. During 1979, the Fort Nelson Agricultural Association was formed to serve as a local advisory group to the extension committee. Branch staff undertook numerous extension activities: a field day to demonstrate land clearing techniques, land development and drainage; preparation of a bulletin and slide-tape presentation with special application to the region; establishment of a demonstration plot to test the forage and cereal potential of the area; establishment of experimental plots to test forage seed production in regular seeding and in drill strips; and establishment of a rod-row fertility trial.

During 1979, the Agricultural Land Commission reviewed the Fort Nelson agricultural land reserve, the resource analysis branch conducted a soil survey to develop agriculture and forestry capability maps and the land management branch developed a proposal for 55 rural subdivisions and 10 market garden leases. One lot (1684) was reserved especially for agricultural development and extension work.

Farm Economics

The Farm Economics Branch provides assistance to farm managers, commodity groups, farm organizations and Ministry of Agriculture staff who request guidance on farm business planning and organization, financial management, farm records and business analysis systems, economic analysis of production costs and proposed development projects. To accomplish its objectives, the branch publishes booklets and factsheets on selected topics, conducts economic studies and surveys, provides instructors for short courses and workshops, provides leadership in the delivery of farm record systems and advanced farm planning techniques and offers individual client counselling in the economic and business management area. The branch also is responsible for all data processing activities of the Ministry of Agriculture.

During 1979, the following activities were carried out to assist farm managers and their advisors in the area of farm business planning:

1. The *Mobile Farm Management Clinic* (funded by ARDSA), organized in 1978, delivered eight 4-day farm financial managment courses to 80 beef producers in several areas of the province, using a mobile classroom facility.
2. The *Farm Financial Management Training Project* (funded by ARDSA) was organized to build on the success of the Mobile Farm Management Clinic Project. The new project will deliver three levels of four-day financial management courses to various commodity groups on a province-wide basis over the next three years. The project is managed by a committee representing the University of British Columbia, the B.C. Ministry of Agriculture, ARDSA and the British Columbia Federation of Agriculture.
3. A test of the use of *micro computers* in farm business management analysis and advisory work commenced in 1979 and will continue in 1980. This project tests the available micro computers and software to determine their appropriateness for farm business management work.
4. A publication entitled "Wills for B.C. Farmers" was compiled to provide guidance to farm business managers and their advisors on the topic of wills in the agricultural sector.
5. The publications "Taxation and the B.C. Farmer - Layman's Guide" and "Taxation and the B.C. Farmer - Advisor's Guide" were updated to reflect changes in taxation legislation that occurred in 1979.
6. Twenty-three issues of the "Farm Business Management Factsheet" on current topics were researched, compiled and released.
7. A machinery planning package entitled "Farm Machinery - Financial Planning" was finalized and released. This package consists of five worksheets to assist the farm manager with the financial analysis and planning of his farm machinery decisions.
8. A survey of private farm leases was organized to determine the economic cost and business management practices that are used by farm managers in lease situations. A total of 369 private lease situations was documented through this survey.

Farm management specialists prepare financial management programs to assist farmers in their operational planning.

The branch offered the Canfarm records system to farm managers in British Columbia. This system provides farm managers with financial and physical records that can be analyzed to determine management and production strategies or can be used for tax purposes, arrangement of financing, setting up of business agreements and for estate planning purposes.

During 1979 the federal government transferred its responsibilities for the Canfarm program to a new farmer-owned cooperative - Canfarm Co-operative Services Ltd. The transfer of federal responsibilities

resulted in a substantial increase in fees to farmers for the Canfarm records system, and a drop in enrolment on the Canfarm program in 1979.

The number of farms using farm records systems offered by the B.C. Ministry of Agriculture for the past three years is summarized in Table 1. For 1979, this enrolment reflects the Canfarm program only.

The branch continued to gather farm input (factor) cost data from suppliers on a monthly

Table 1: Comparison of 1977, 1978 and 1979 Farm Record System Enrolment by Agricultural Reporting Area

Agricultural Reporting Area	Enrolment		
	1977	1978	1979
Vancouver Island	33	24	24
Mainland	99	96	61
Okanagan	71	77	55
Kootenay	29	33	22
Thompson	19	23	16
Cariboo	28	33	28
Skeena	51	51	37
Omineca	75	80	56
Peace River	61	48	24
Total	466	465	323

Table 2: Published Reports of Producers' Consensus Costs and Returns

CDS No.	Title	District
198	Pollination and Honey Production (update and revision)	Southern Interior
200	200-Hive Apiary (update and revision)	Peace River
201	1500-Hive Apiary (update and revision)	Peace River
218	Uplands Timothy - Clover and Wetland Reed Canary Grass	Williams Lake
220	Dairy Replacment Heifers	Cowichan Valley
221	Dairy Replacement Heifers	Fraser Valley
225	Alfalfa and Grass Hay	Oliver
227	Summerfallow, Rapeseed, Wheat, Barley and Creeping Red Fescue Seed	North Peace River
228	Summerfallow, Rapeseed, Barley, Wheat, Alfalfa and Creeping Red Fescue Seed	South Peace River
229	Summerfallow, Alsike Clover, Rapeseed, Barley and Oats	South Peace River
230	500-Hive Apiary	Vancouver Island
232	Mushroom Production	Fraser Valley
233	Lettuce, Cabbage and Carrot Production	Fraser Valley
234	Onions, Lettuce, Cabbage and Carrot Production	Fraser Valley

basis. During 1979, this information was collected on approximately 60 input items for the mainland agriculture reporting region. An analysis of the data was distributed to 90 potential users and a positive response was received. Work was initiated on the computer system required to analyze the survey data so that the project can be expanded to other agriculture reporting areas.

The branch responded to requests to carry out feasibility studies on proposed drainage and irrigation projects in the Fraser Valley.

The branch was asked to carry out benefit-cost analysis on several proposed projects. Projects where benefit-cost analysis was completed or is ongoing include:

1. a proposed drainage and irrigation scheme for the Nicomekl-Serpentine area
2. a proposed irrigation project in the Cowichan area
3. a proposed drainage and irrigation scheme in the East Delta area
4. a proposed drainage and irrigation project for the Burroughs Ditch area
5. a proposed drainage and irrigation project in the Crescent Slough area
6. the proposed Steveston drainage and irrigation project
7. the proposed drainage project in the East Chilliwack area
8. the proposed drainage and irrigation project in the East Richmond area

The branch continued to liaise with the B.C. Systems Corporation and coordinate the development and use of computer systems within the Ministry of Agriculture. During 1979, a number of data processing projects were transferred to the B.C. Systems Corporation. These projects were upgraded to B.C. Systems Corporation's standards, documented, implemented and put in a production situation. In addition, several projects were proposed and feasibility studies conducted on them.

The major projects that involved computer data processing include:

1. Dairy Herd Improvement Analysis Program (Livestock Branch)
2. Interest Reimbursement Program (Agricultural Credit Branch)
3. Feed Analysis Program (Livestock Branch)
4. 4-H Statistics Program (Youth Development Branch)
5. British Columbia Farm Business Analysis Branch (Farm Economics Branch)
6. Green Zone Project (Development and Extension Branch and Engineering Branch)
7. Animal Pathology Program (Veterinary Branch)
8. Consensus Data Studies Project (Farm Economics Branch)
9. Agricultural Input Cost Survey (Farm Economics Branch)
10. Egg Production Forecasting Project (Poultry Branch)
11. Soil Statistics Project (Soils Branch)
12. Brands Registration Project (Veterinary Branch)
13. Market Information Project (Marketing Branch)
14. Lease Survey Project (Farm Economics Branch)
15. Crop Insurance Data Base (Crop Insurance Branch)
16. Intercensus Statistics Project (Policy Development and Planning Service)
17. Farm Expenses and Receipts (Policy Development and Planning Service)

The branch upgraded the data-capturing equipment at the dairy laboratory and the soils laboratory. Computer terminals were placed in a number of district offices, the Marketing Services Branch and the headquarters unit to provide better access to computer systems for ministry staff.

The Farm Economics Branch has a member on the Interprovincial Committee on Supply Management and Quota Values and is represented on the Management Committee to the Federal/Provincial Feed Freight Assistance Adjustment Fund Agreement.

During 1979, the branch represented the B.C. Ministry of Agriculture on several regional and national committees relating to the work area. The branch participated in meetings of the Expert Committee on Farm Management Services, the Canada Committee on Socio-Economic Services, the British Columbia Farm Business Management Advisory Committee, the Western Farm Management Extension Committee and a number of Regional Extension Core Committees.

Field Crops

The principal function of the Field Crops Branch is to increase the skills of producers in field crop production and management, range management and weed control by conducting applied research and extension programs. The branch also administers the Weed Control Act.

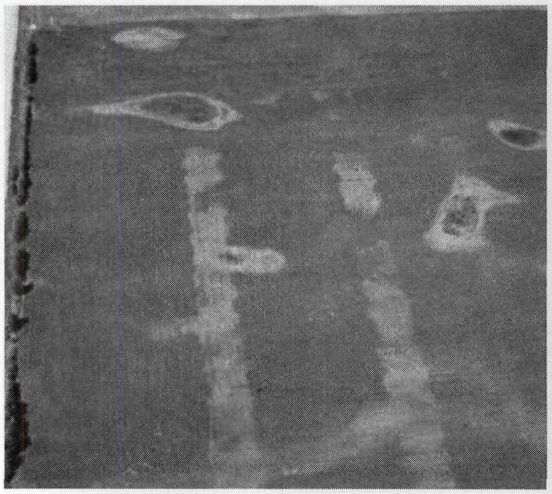
In general, production of most field crops was good as a result of warm dry weather in most areas and exceptionally good harvesting conditions during 1979. However, unirrigated crops in most Interior areas were below normal in yields. The condition of ranges was fairly good due to only moderate rainfall. There was inadequate rainfall during the autumn which could be detrimental to 1980 range conditions. Yields of cereal crops in the Peace River region were above average because of good moisture conditions.

Forage Crop Production

According to Statistics Canada, total provincial production was estimated at 1.9 million tons of hay equivalent from 650,000 acres, which is similar to 1978 hay production. Prices of B.C. produced hay ranged from $60 to $100 per ton depending upon the source and quality.

Numerous fertilizer and variety trials of alfalfa and grass varieties were carried out during the year. A typical example was the lime demonstration on alfalfa fields near Dawson Creek. Limed areas yielded 2.2 tons of hay per acre compared to 1.0 ton per acre on the no-lime check strips. Other forage crop trials included the demonstration of new alfalfa varieties in the Interior, establishment of replicated variety trials of orchardgrass and perennial ryegrass varieties at Ladner and Sumas, establishment of a forage mixture demonstration at Fort Nelson, etc.

A new disease of alfalfa, verticillium wilt, was identified. Verticillium wilt is a fungus disease formerly believed to be established only in Europe. However, it was identified on samples of alfalfa submitted from the Keremeos and Creston areas. It was found that the disease was established on one-third of the fields sampled as far north as Quesnel although it had not yet spread to the Central or Peace River areas. Research was planned in conjunction with the Creston substation of the Agriculture Canada Research Station at Lethbridge, Alberta.



Field Crop specialists carried out numerous fertility trials including this lime demonstration trial on alfalfa near Dawson Creek. Limed areas yielded double that of non-limed areas (lighter coloured vertical strips in aerial photo).

Silage Corn Production

Good growing conditions resulted in high yields in most corn producing areas. Planted acreage increased slightly to nearly 24,000 acres with an average yield of 20 tons green weight per acre.

The branch conducted numerous regional corn trials throughout the province in an effort to study techniques to improve dry matter content. Recommendations issued annually by the B.C. Corn Committee have assisted growers in the selection of hybrids suited for their locations.

Cereal and Oilseed Production

Production of oats and barley continued to decline while rapeseed acreage increased dramatically to 270,371 acres, up 51 per cent from 1978. Virtually all of the rapeseed was grown in the Peace River area. Rapeseed yields, however, were not as high as anticipated, at 15.3 bushels per acre, due to disease and insect infestations.

Grain prices were considerably stronger in 1979 which could result in a swing back to grain production and a corresponding decrease in rapeseed production in 1980.

The branch conducted a large number of variety and fertilizer trials throughout the province. The remote sensing project LACIE

(Large Area Crop Inventory Experiment) was continued in the Dawson Creek area in conjunction with the Canadian Centre for Remote Sensing, Ottawa. This project involves the use of a satellite to photograph large land areas and thus determine crop varieties and acreage over a specific area.

On a province-wide basis, estimated 1979 acreage and yields of cereals and oilseeds were as follows:

NAME	ACRES	YIELD
1. Springwheat	80,000	37.5 bushels/acre
2. Oats	50,000	66.0 bushels/acre
3. Barley	130,000	46.2 bushels/acre
4. Rye	10,000	33.0 bushels/acre
5. Rapeseed	270,400	15.3 bushels/acre

The Canadian Seed Growers Association reported that there were approximately 1,900 inspected acres of cereals and oilseeds produced specifically for seed.

Numerous cereal variety and fertilizer trials were conducted throughout the province to determine the best use of specific varieties in certain areas.

Forage Seed Production

There was a substantial increase in acreage of creeping red fescue to 24,985 acres from 9,500 acres the previous year. For the first time, acreage in B.C. exceeded that of Alberta. The accurate determination of this acreage would not have been possible without using remote sensing techniques. Prices also improved substantially to 60¢ per pound in 1979.

Production of creeping red fescue seed ranked number one at about 7.5 million pounds followed by alsike clover at 1.3 million pounds and timothy at 1.2 million pounds. Yields ranged from 250 to 300 pounds per acre in most cases. Total acreage of forage seed increased to 41,633 acres compared to 36,100 acres in 1978. Pedigreed seed acreage nearly doubled to 8,911 acres in 1979. B.C. now ranks fourth among Canadian provinces in pedigreed forage seed production.

Branch staff were instrumental in the establishment of large scale alfalfa seed projects using the leafcutter bee for pollination. The branch also assisted in establishing a forage seed evaluation nursery at Ladner. The nursery consisted of some 75 species and varieties.

Range Development

Branch staff were heavily involved in coordinated resource management plans in conjunction with other resource agencies. At year end, there were 68 such plans either under way or completed throughout the province. The plans are funded through the ARDSA program.

Improvement of range under the plans involved reseeding to hardy grass varieties. A seeding established at Afton showed that adjacent native range produced 157 pounds per acre of grass while plots seeded to crested wheatgrass produced 522 pounds per acre. When 100 pounds of nitrogen fertilizer per acre were added to the reseeded areas, production rose dramatically to 1,087 pounds of grass per acre.

Many other trials and improvement projects were carried out on rangeland sites around the province.

Potatoes

Branch statistics indicate that total commercial potato acreage in B.C. dropped slightly to 9,565 acres in 1979 from 9,700 in 1978. Statistics Canada reported average yields of 12.5 tons per acre although this varied depending on the variety. Although competition from Washington and Idaho was keen, B.C. growers captured about 65 per cent of the local market compared to 57 per cent in 1978. 1979 prices were similar to those prevailing in 1978.

British Columbia's Pemberton and Cariboo areas are unique in Canada in producing virus-free seed potatoes. Agriculture Canada reported that about 1,300 acres of seed potatoes were grown by 62 farmers. During the year, seed potato sales for the 1978 crop totalled 6,293 tons, 1,595 of which were exported.

Branch staff supervised the construction of four greenhouses on the farms of four cooperators for the purpose of initiating grower production of their own pre-elite virus-free cuttings from mother plants. The branch also assisted growers in the Golden Nematode area of Saanich on Vancouver Island by introducing the resistant Hudson potato variety.

Weed Control

Administration of weed control programs continued to be a major activity of the

branch. The ministry continued its program of assistance to regional district and municipal weed control programs. During 1979, ministry grants of $368,000 generated more than $750,000 in expenditures on 24 locally planned and coordinated weed control projects. Two major weed control projects covered in part by this program were the knapweed containment program and the thistle control programs (Canada and sow thistle) throughout the province. Knapweed covers an estimated 90,000 acres mainly in the Kamloops southern interior region although infestations are known in other areas. In conjunction with Agriculture Canada and the Ministry of Forests, branch staff assisted in the dissemination of biological control agents, including a seedeating fly larvae, to over 70 sites covering all of the major knapweed infestations. Mapping of knapweed infestations also continued.

Many other weed control demonstrations were also carried out on pastures, range, grass seed crops, corn, alfalfa, potatoes, strawberries, blueberries, cranberries, peas and beans as well as demonstrations on brush control.

Branch staff also conducted a large scale "zero till" demonstration on a 40 acre site near Dawson Creek. The demonstration involved herbicides and a specially designed zero-till drill which eliminates all tillage and thus reduces weed problems.

Horticulture

Tree fruits and grapes suffered from winter damage in the Southern Okanagan and vegetables suffered somewhat from the hot, dry summer. However, in the main, 1979 was a good year for horticultural crops, with the Horticulture Branch staff continuing to maintain a leadership role in the development of the industry.

Several new techniques for the production of horticultural crops were developed on producers' farms with assistance from ARDSA grants.

Nutritional levels for various crops were monitored through the use of the tissue testing service. The need to extend the vegetable season earlier and later in the year was actively studied by the vegetable specialists.

Branch staff worked with grower groups to develop new water management schemes for horticultural crops.

Tree Fruits

APPLES

The unfavourable winter had little effect on the overall apple crop despite the occasional loss of trees in the Southern Okanagan. The final provincial crop figure (estimated) was 321,358,000 lb. compared with 331,652,000 lb. produced in 1978.

The marketing situation at the end of 1979 showed a nine per cent improvement over 1978. The biggest movement was in Red Delicious which sold briskly at increased prices. Movement of the Spartan variety was behind the market objectives at the end of the year, McIntosh moved at normal pace and Golden Delicious was improved from 1978.

Export shipments to the Pacific Rim countries were ahead of last year, with total offshore sales up by 23 per cent from the previous year.

PEARS

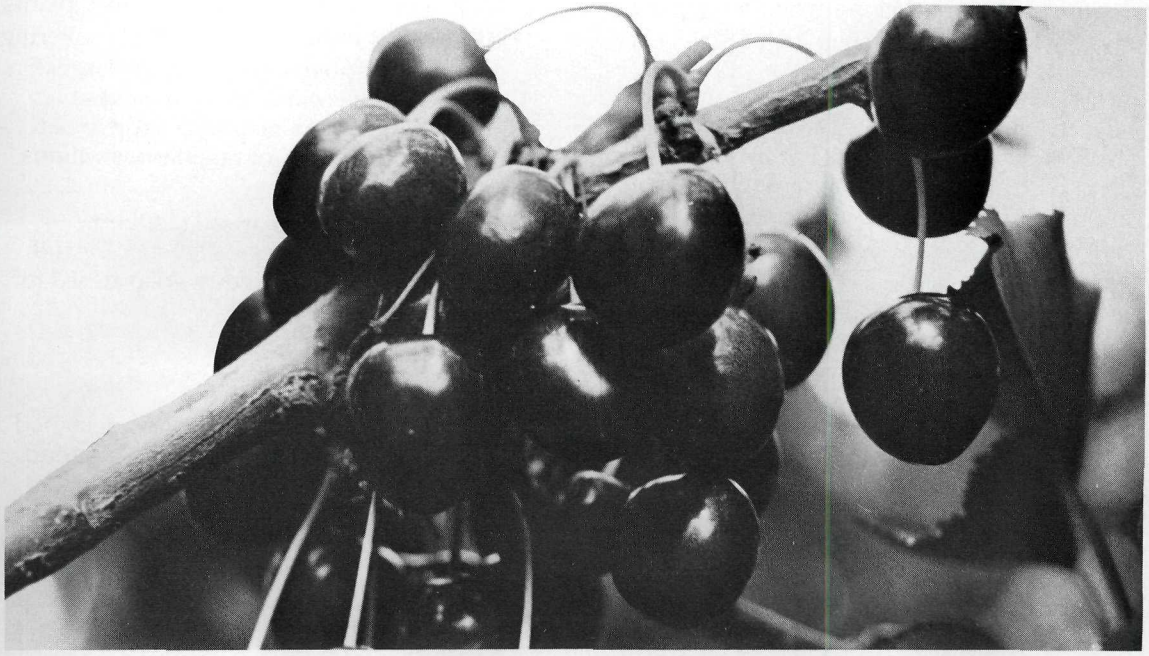
The winter freeze plus moisture stress induced by hot, dry weather reduced the pear crop to an estimated 33,500,000 lb. in 1979 from 41,000,000 lb. in 1978.

In addition, many growers had difficulty controlling pear psylla while others removed smaller pear blocks they felt were unprofitable.

The 1979 Anjou pear crop was down 23.5 per cent from 1978. Pit was a serious factor in reducing the crop; also, the set was lighter. There was a good market demand for this relatively small crop and prices were increased to extend the shipping period.

APRICOTS

The dry, warm summer gave apricot producers their best season in a decade. Fruit



The market for cannery sweet cherries increased in 1979 with canneries accepting 3,000 tons, the largest amount on record.

quality was excellent and there was no recurrence of the brown rot situation which had prevailed in 1978. Volume has stabilized at the 5 - 6 million pound range.

There was a strong demand for fruit to be processed into nectars. Processed apricots earned $971,601 for the pool, and the fresh portion, $278,288.

SWEET CHERRIES

The 1979 crop was estimated at 18,485,000 lb. compared to 15,633,000 lb. in 1978.

The number of trees infested with little cherry disease dropped to 109 trees but there were several new sites of infection, including one in the Oyama area.

A hitherto little-known insect, the "two generation" leafroller appeared in large numbers in cannery cherries, causing concern to shippers and canners. Producers were warned of the possible re-appearance of this insect in 1980.

The market for cannery sweet cherries increased in 1979 with canners accepting 3,000 tons, the largest amount on record.

Fresh market claims, down substantially from the previous year, amounted to $125,000. With a larger supply of cherries in the major producing areas, the industry was fortunate to return an average price of 31¢ per lb. for all cherries including culls, about the same as the 1978 return.

SOUR CHERRIES

Provincial production in 1979 was estimated at 1,636,000 lb. compared to 1,908,000 lb. the previous year. Returns have been excellent due to low supplies from Michigan, where winter freeze-outs have occurred several years in a row.

PEACHES

The winter of 1978/79 dealt a severe blow to peach producers in the Oliver-Osoyoos area. About seven per cent of the total number of Okanagan-Similkameen peach trees were killed and more injured. The provincial crop for 1979 was estimated at 17,573,000 lb. compared to 30,053,000 lb. in 1978.

Due to buoyant sales in all categories (local sales, agency sales and cannery), prices were expected to show a further increase in 1979.

It is expected that winter-killed orchards will be replanted to peaches as soon as nursery trees are available.

NECTARINES

Due to the winter freeze, nectarine production was down. Prices for the crop, which is sold locally, were very good. There is interest in planting more trees if nursery stock is available. If a suitable variety could be found that would stand commercial shipment, a market exists through wholesale

channels. This market is currently supplied entirely by U.S. fruits.

PRUNES

Prices in 1979 were higher than in 1978. The Okanagan prune crop is in a declining trend with some blocks being removed in favour of apples. Few prune trees are being planted.

PLUMS

Plums continue to be a minor crop with most, or all, of the product sold locally. Japanese plums suffered from the severe winter but European plums were largely undamaged.

GRAPES

Extremely low temperatures at the end of December 1978 caused severe injury to vineyards, especially in the South Okanagan. Of a total 3,235 acres of grapes, it was estimated that 429 acres of vines were killed by the 1978/79 winter.

Total production dropped to 10,437 tons in 1979 from the all-time high of 18,404 tons produced in 1978.

It will be several years before the high production levels of 1978 are again seen, resulting in inadequate supplies of grapes to B.C. wineries.

The economics of grape production was being studied at year-end. Some land belonging to grape growers has been left idle until a better judgement of future prospects can be made.

Berry Crops

Berry yields in 1979 were variable due in part to some winter damage but probably more to planting on marginal berry land. Land in the berry growing areas has become expensive and there has been a tendency for growers to seek lower priced land that frequently is poorly drained and has a texture unsuitable for berry production. This is particularly true for raspberries.

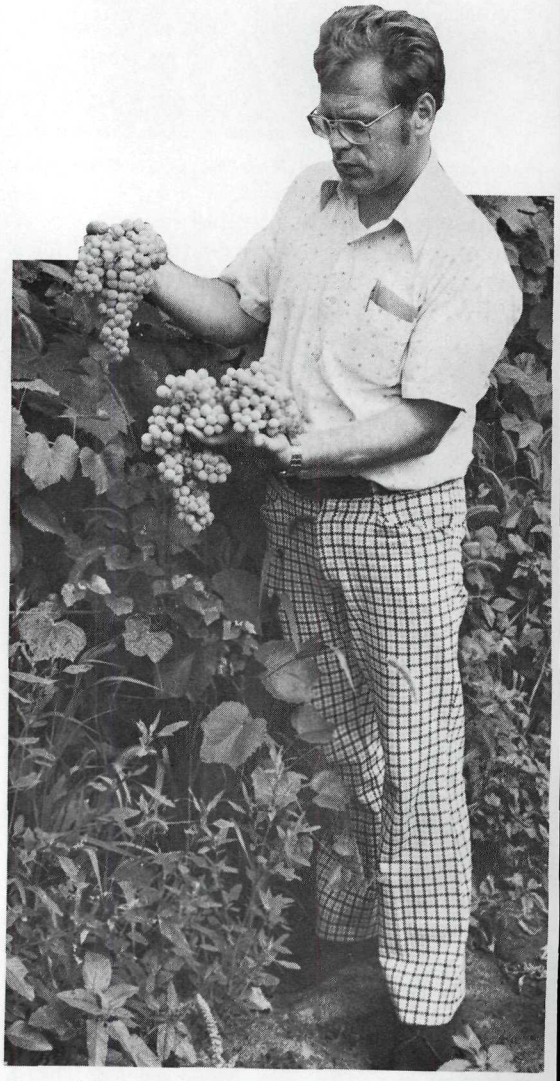
The price for processing strawberries was 45.5¢ per lb. which was 11¢ per lb. over the price paid in 1976, 1977 and 1978. Off-farm and U-pick sales ranged from 50¢ to 80¢ per lb.

Strawberry acreage has increased to 1660 in 1979 from 330 in 1975.

Over 11 million certified strawberry plants were imported into B.C. in 1979.

The 1979 raspberry crop was the largest in 12 years and was expected to have the highest value of any raspberry crop to date. A total of 14,457,000 lb. of raspberries was harvested.

There were 11 mechanical raspberry harvesters in the Fraser Valley in 1979 and many additional machines were ordered for 1980.



Extremely low temperatures at the end of December 1978 caused severe injury to over 400 acres of grapevines, mostly in the south Okanagan area.

A "raspberry market" established in the Abbotsford area by the B.C. Raspberry Growers Association proved successful.

The blueberry crop was very good; final production figures were expected to establish a record. Returns to the grower were down from the previous year. Holdings of frozen berries remained high and blueberry acreage continued to increase.

The cranberry crop was normal. There was a shortage of fresh cranberries for the retail trade; some expansion of the industry is expected.

Loganberries, once grown on over 400 acres on Vancouver Island, have now declined to under 10 acres. The cost of production is high and the crop is weather sensitive. The remaining acres cater to the fresh berry trade.

Vegetables

Dry, sunny weather contributed to excellent vegetable production in 1979. Vegetable crops were planted early, matured early and carried on well into the fall, depending on seeding dates.

Water management schemes were being developed by the various levels of government in cooperation with grower groups. This water supply will assist the growth and quality of most vegetable crops.

The Interior Vegetable Marketing Board attempted to establish more orderly marketing of Interior vegetables and was considering amalgamation with the Coast Board.

Summer vegetables were decontrolled by the Interior Vegetable Marketing Board in 1979 and were expected to remain so. A Summer Vegetable Growers Association was formed by growers to lend more order to the industry.

The British Columbia Asparagus Growers Association and the B.C. Ministry of Agriculture organized activities to encourage asparagus production in the province.

Asparagus quality was average, while prices were excellent. Demand for fresh asparagus remained firm and 35 per cent of the crop was sold locally. This concerned processors who would have preferred a greater share of the crop. It is expected that 1980 will see 200 acres of new plantings in the Okanagan area.

Special assistance was provided to new, large-scale vegetable growers in the Interior - Udy's Sunnymede Farm in Lillooet and Fritzels' operation at Salmon Arm.

Peas, beans and corn came under Farm Income Assurance in 1979.

Labour unrest continued to plague the process vegetable industry in the Fraser Valley. Due to a strike at York Farms, no peas were planted, only half the corn acreage was seeded and no spring rhubarb was packed. A prolonged strike at B.C. Ice made it difficult for processors to find freezer storage space and one large processor handled only a small volume of cole crops.

A D.A.T.E. project demonstrated that, if the soil pH could be raised with lime to pH7, clubroot could be controlled.

Overproduction of cauliflower in the Fraser Valley was a serious problem despite marketing board controls. Inexperienced growers did not judge harvest maturity correctly and large tonnages of cauliflower did not make No. 1 grade. A cello-pak line was in operation by September 1 and, initially, the commodity was well received by the wholesalers. However, as quality started to decline, wholesalers turned to imported cauliflowers.

The 1979 celery crop was of good quality. There were two short-supply periods during the growing season, indicating a need for better planning on the part of the growers. Acreage was up as new growers imported plants from California. Central packing, which includes final trimming, washing and grading at the sales agency, continued to prove beneficial to both growers and consumers. Further expansion in celery production was expected, especially for sales to the prairies.

Lettuce had a good growing season in 1979 and quality was better than average. However, trucking to prairie markets continued to be a major problem. Expansion of the crop was expected to be limited.

The cabbage crop was normal, but more and better storage facilities were required to enable late cabbage to be harvested and placed in storage. Sales could then be spread over a longer period of time.

Sweet corn acreage in the Interior increased dramatically to 734 acres in 1979 from 534 acres the previous year. The crop was good and most was marketed in an orderly manner, although some acreage of

mid-season corn was not harvested because growers failed to arrange in advance for the marketing of their crop. An increase in the amount of hydro-cooled crop contributed to better marketing.

The quality of the onion crop was excellent in all areas. Bulbs were firm and dried well but the hot, dry weather reduced size slightly.

Tomato acreage in the Okanagan remained constant at 240 acres. Quality and production were excellent due to exceptionally favourable growing conditions.

There was a slight increase in the acreage of watermelon, cantaloupe, eggplant and garlic in the Okanagan and Chinese vegetables at the Coast. However, acreages of these vegetables were still small.

Mushrooms

Mushroom production for 1979 hit a record of about 14 million pounds. Sales of fresh mushrooms to both local and prairie markets remained strong. Sales of canned mushrooms to both local and prairie markets are expected to increase as a new cannery opened by the Mushroom Growers Cooperative moves into full production. The cooperative negotiated the purchase of the "Money" label from the Money Canning Company and all canning of local mushrooms is now under the control of the cooperative. This is expected to ensure a more stable supply of local canned mushrooms and replace sales of Asian imports.

Greenhouse Crops

The high cost of energy and of construction and replacement materials continued to be constraints to growers of greenhouse crops. Despite these problems, the greenhouse industry increased its production area in 1979; the area devoted to flower crops increased more than that for vegetable crops.

Roses showed an increase, and freesias and gerberas gained in popularity. Cut flower production of chrysanthemums and carnations continued to decline, while the growers of foliage plants found an improved market for their crops.

During 1979, a majority of the producers of long English cucumbers changed from cropping in soil to cropping in sawdust. Although numerous problems plagued this changeover, growers were satisfied with the new cropping system and were looking forward to better crops in 1980.

Tomato yields increased as growers improved their management practices. In trials, the new hybrid Dutch varieties consistently outyielded the standard variety Vendor.

Vegetable growers employed biological control methods for whitefly and two-spotted mites on a large scale in 1979.

Interest was shown in the culture of other vegetables such as green peppers, eggplants, lettuce and cauliflower.

The loss of the manager of the Western Greenhouse Growers Cooperative Association created mid-season marketing problems. A new manager was appointed in December.

Nursery Crops

The nursery industry continued to expand during 1979, with sales estimated to reach $22,364,000 for the year, an increase of 12 per cent over 1978. Strong sales during both spring and fall shipping seasons resulted from a strong demand from eastern Canada for hardy nursery stock. Approximately 37 per cent of the B.C. production was exported from B.C., mostly to the prairie provinces. Sales to the U.S. increased again during 1979 due partly to the devalued Canadian dollar and partly to a shortage of nursery stock in the U.S. Thuja occidentalis "smaragd" was by far the most popular species for export.

A shortage of locally propagated nursery stock persisted in British Columbia. Liners still were imported from Holland and the U.S. Certified juniper liners, conifer seedlings and grafted ornamentals were in short supply. Two tissue culture laboratories were established during 1979 to mass produce woody ornamental liners.

Two new machines for harvesting balled and burlapped field grown nursery stock were tried. One was in operation at six nurseries for trial before commercial production of the digger, which increases a field stock grower's efficiency.

Container production of nursery stock continued to expand at a faster rate than field production. Nutrition and weed control remained the two major problems with container culture.

Gypsy moth, an extremely destructive pest in eastern Canada and U.S. appeared in B.C. during 1978 for the first time. An environmentally controversial control program was carried out in spring 1979 in the infested Kitsilano area. Fall trapping for the adult moths indicated 100 per cent control had been achieved.

Markets for B.C. grown nursery stock were expected to continue to expand, especially in eastern Canada. A "B.C. Home Grown" campaign was launched to encourage purchase of B.C. grown nursery stock over imported stock. Few growers were applying "B.C. Home Grown" labels to plants, as so much B.C. stock is shipped out of the province and most growers could sell more than they can supply.

There was an increase in the amount of nursery stock being sold from one wholesale grower to another, i.e. small growers to large growers, especially for out-of-province sales. This enabled small growers to specialize in one or two species, making an economic farm unit of a small acreage.

Allotment Gardens

The allotment garden program remained relatively stable.

The turnover continued to be high and many plotholders who did not intend renewing for the following year simply abandoned their plots and left them in an untidy condition.

Part of the Kenneth-Agnes site in Victoria was closed and the plotholders relocated. The new Richmond site progressed favourably and some good plots were developed.

Livestock

The Livestock Branch assists producers in improving the quality and performance of their livestock. Specialist staff provide advice on a personal basis and conduct extension programs specifically for livestock producers throughout the province.

Beef

Beef cattle prices entered the year on a gradual increase and continued rising to buoyant levels at year-end. The B.C. Livestock Marketing Co-operative reported a price of $583.41 per head for all cattle sold up to October 31, compared with a $413 average for the previous year. This compared to prices of $216 and $176 for 1977 and 1976 respectively. As of December 15, 1979, the beef kill in British Columbia was down 16.1 per cent from the year before. The Canadian average decrease was 13 per cent for the same period.

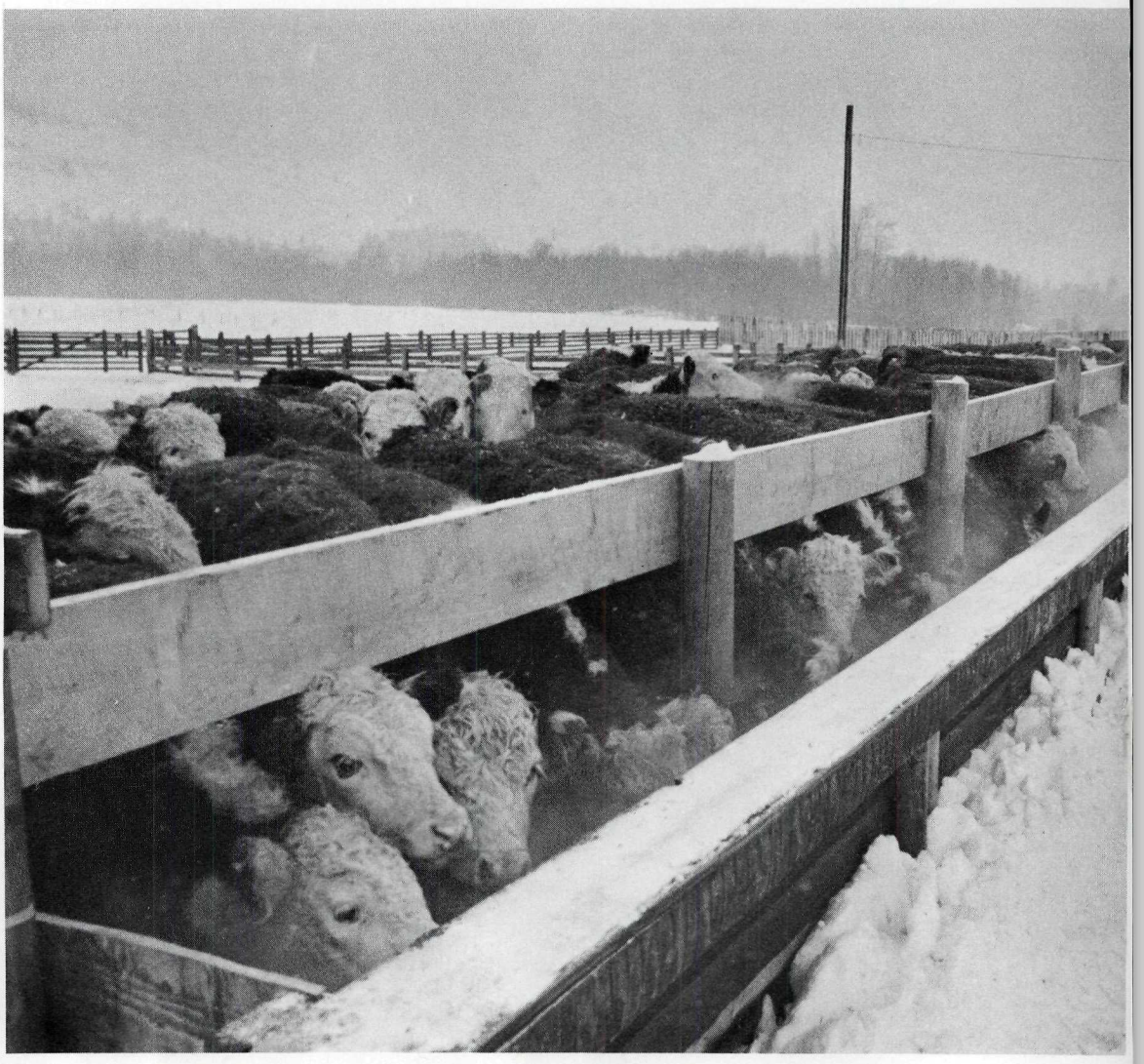
The Beef Industry Study Committee, organized in 1977, was expecting to release its study early in 1980. The development of a proposed beef feeding operation in the Kamloops area was thwarted in 1979 by a jurisdictional dispute pertaining to zoning and land use.

The Beef Cattle Industry Commodity Organization dealt largely with consolidating the position of the industry in the province. It expressed strong reaction to the proposed plan of the Ministry of Environment to reintroduce elk into areas of the province where they have been historically recorded but do not exist at the present time. The Fish and Wildlife Branch sought the reaction of the Ministry of Agriculture to another private proposal to develop an elk ranching operation.

A Beef Feeding and Management Guide was developed and distributed to industry representatives during the year.

B.C. cattlemen asked the ministry to provide a performance test program adapted to the needs of commercial cattlemen.

Modification and expansion of the beef cattle test station continued. It is expected the station will increase its capacity to 200 bulls from 130 bulls before the start of the 1980-81 year.



The industry continues to strive for retaining a larger number of feeder cattle for finishing in British Columbia feedlots.

Swine

The swine industry continued to grow in a manner similar to that experienced in the previous year. Hog slaughter in B.C. to mid December 1979 was up by 45 per cent over previous year levels, with weekly shipment of 3,705 animals during November and 4,077 during the first three weeks of December, 1979. Average weighted price for 100 index hogs in B.C. was $64.35/cwt, compared with $67.51 for 1978.

The ARDSA funded Swine Industry Study was completed late in the year. While the study indicated an encouraging future for the industry, it also highlighted some of the problems the swine industry will face before reaching the goal of 500,000 B.C.-produced hogs by the end of 1984. Among these will be the need for a breeding program in the province to assure a supply of healthy, efficient breeding stock. The report also gave strong support to the continued need for a stabilization program relative to B.C. production costs and the need for an industry steering committee to assist in future development of the industry. The report envisaged the need for a new slaughtering facility based on a large increase in B.C. hog production. If estimated 1980 and 1981 production of over 200,000 hogs per year

becomes a reality, such a facility will be essential.

The Record of Performance program continued to expand with 14 producers and two institutional farms on test at year end. While hog grading percentage above the 105 market index level in B.C. at 37.6 of total was 7 per cent higher than the Canadian average, data gathered under the R.O.P. program indicated many B.C. producers could profitably reduce their days-to-market weight through use of better selection procedures.

The government sponsored a successful National Swine Record of Performance Advisory Committee meeting in July at Victoria.

Sheep

Prices for good quality live weight lambs were in the $75 to $85/cwt range early in the year but dropped to $65 to $75/cwt by December - similar levels to one year earlier.

There were 5,429 sheep sold at the October 13 Kamloops sale sponsored by the B.C. Sheep Producers Co-operative. Average price for ewe lambs was $58.88 per head. Market lambs averaged $.64/lb. while feeders were $.70/lb. Older ewes and a few rams averaged $43.02 per head. The sale indicated some important weaknesses within the B.C. sheep industry. The Sheep and Wool Commission and the ministry will continue to examine these weaknesses in the hope of improving the marketing structure.

The provincial Sheep Record of Performance Advisory Committee continued to examine alternatives for development of central test station facilities in the province, including the use of private facilities.

The government sponsored a National Sheep Record of Performance Advisory Committee meeting in May at Victoria.

Solution of the increasing problem of predation by dogs and indigenous predators continued to be sought as a requirement for development of the sheep industry in the province. The Municipal Act lacks certain powers to allow regional districts to develop strong and effective by-laws. Partial remedy to this was being sought by an amendment to the Domestic Animal Protection Act.

Goats

Funds provided by the ministry helped the B.C. Goat Breeders Association to develop a stronger financial base through increased membership. B.C. goat producers were offered a milk recording program through the combined efforts of the ministry's Dairy Branch and the Canadian Goat Breeders Association.

Dairy Herd Improvement

Total herds on test on the Dairy Herd Improvement Program remained consistent at 525. Twenty-four herds left the program and 23 new herds enrolled for a net decrease of one herd, which represented an increase of 1,474 cows over the previous year. Herd size increased by an average of 2.9 animals, bringing year-end averages to 64.3 cows per herd. Actual average production was 6,650 kg of milk and 240 kg of fat, up 71 and 3 kg respectively from the previous year. Ten herds equalled or exceeded 8,385 kg of milk and 273 kg of fat. Five of these were from Vancouver Island and five from the Lower Mainland.

Due to increased experience of B.C. Systems Corporation personnel and extraordinary efforts from ministry staff, data processing problems were much reduced during the year. Some of the more costly changes to accommodate recommendations of the Canadian Milk Recording Board had not been implemented by year end.

A survey of dairy producers in the province was conducted by branch personnel to determine use and perception of present and proposed recording services. Assistance in data analysis was provided by the Farm Economics Branch. In addition to a 25 per cent sample of enrollees in the program, contacts were also made with producers no longer enrolled as well as those who had never joined a testing program. The purpose of the study was to modify or implement an improved Dairy Herd Improvement Program.

Use of the field analysis service of the Soil, Feed and Tissue Testing Laboratory continued with an increasing number of producers requesting ration formulation rather than analysis only.

Poultry

The Poultry Branch implements programs and policies designed to provide a specialist extension service to all aspects of the poultry and egg industry in the province. It assists producers with production problems and helps them in developing more modern and efficient production units. The branch provides advice on government programs and new techniques and disseminates information on research applicable to poultry operations. The branch also consults with and acts as a liaison between producers, marketing boards, national agencies and other industry associations.

The Poultry Branch staff includes specialists in all aspects of production and diseases of poultry. The fields of specialty include chicken broiler and hatching egg production; egg production; turkey, rabbit, waterfowl and game bird production; and poultry health. The specialists are located at the poultry test station in Abbotsford and the branch head is located at the ministry offices in Victoria.

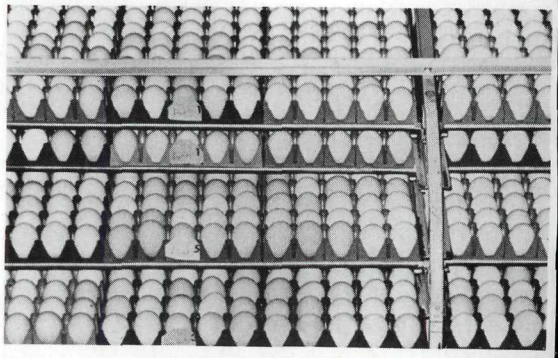
Staff members at the poultry test station and farm at Abbotsford conduct a broad range of demonstration and applied research projects for broilers, layers, turkeys and rabbits. Some of the facilities at the station underwent renovations in 1979 in order to bring the facilities closer to commercial conditions. Projects were conducted to demonstrate the genetic potential of strains that were most suitable in the area for egg, broiler and turkey production.

Other projects completed included trials on roaster production to compare alternative strains and methods of feeding and management. Roaster producers in the province have been experiencing many problems associated with the present strain of bird. Trial results indicated that other strains, although slower growing, are superior in terms of mortality and 'grade out'. Tests were also conducted on the use of different types of management in turkey production and the performance comparison of different strains of turkey broilers.

Management and comparative studies were conducted on the performance of laying hens grown at different cage densities and the performance of cage-reared layers compared with that of floor-reared layers. Another project compared the performance of laying hens raised using 'short light periods'. Results indicated that use of 'short light periods' did not affect the performance of laying hens and, in fact, saved energy costs. The information gathered from these studies and projects were rapidly disseminated to the industry. The staff organized and conducted various short courses and conferences. The 1979 B.C. Poultry Industry Conference was a very successful conference and featured speakers from across North America.

The projects conducted at the poultry test station provided considerable information for producers at little cost to government. In the 12 month period December 1, 1978 to November 30, 1979, a revenue of $100,227 was generated at the test station from the sale of poultry products (about $40,000 in excess of normal operating expenses).

Disease problems and poultry health continued to be factors in poultry production. This problem is compounded by the concentration of poultry in the Lower Mainland. The Poultry Branch and the poultry veterinarian worked closely with the veterinary laboratory and practising veterinarians in monitoring disease levels and establishing control programs. A survey to monitor the status of salmonella contamination in multiplier breeder flocks was conducted early in the year, and the results indicated the absolute need for an effective hatching egg supply policy in the province. This policy has already been introduced to the hatcheries and hatching egg producers in B.C.



The Poultry Branch facilities at Abbotsford contain incubators for broiler hatching eggs on which tests are conducted to determine more effective growth and management techniques.

During 1979, the poultry industry in B.C. was stunned by the news that polychlorinated biphenyls had been introduced into local feeds by contaminated tallow imported from the United States. The federal government did extensive testing of feeds, birds and eggs and fortunately no large scale contamination in poultry products or eggs was found. However, contaminated feed was destroyed, as were some flocks of pheasants that had PCB levels beyond acceptable levels.

Waterfowl, game bird and rabbit production continued to attract considerable interest. Efforts continued to be made to develop a viable duck and game bird industry. A small waterfowl hatchery was built in Yarrow, and pheasant production was estimated at over 50,000. However, the lack of adequate processing facilities for these commodities hampered further development of these industries. There are plans to develop a processing facility in the Lower Mainland in the near future.

A much needed poultry processing plant in the Interior of B.C. began operation at Armstrong in April, 1979. This plant (Colonial Farms) was processing fryers, fowl and some turkeys for the fresh market in the Interior. Live produce was being supplied by producers in the region, with some product being imported from the Lower Fraser Valley. Market prospects appeared excellent, and plans were under way to enlarge the facilities.

The rabbit industry started to show a steady growth, although many production problems still plagued the commercial rabbit producer. A survey of the market potential of rabbit meat, conducted through an ARDSA grant, indicated that increased market potential exists for rabbit meat. However, more production information is needed, and the branch hopes to initiate more research into rabbit production by utilizing the facilities at the poultry test station.

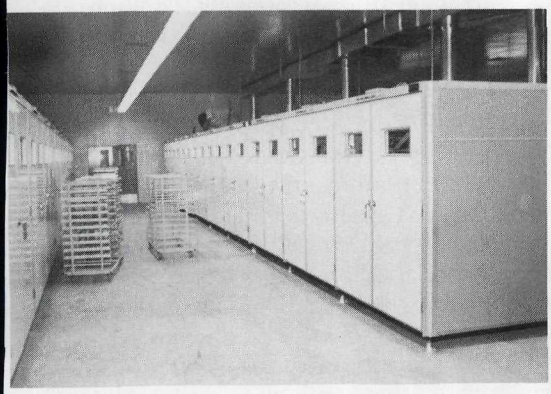
Industry

The poultry industry over the past few years has developed provincial and national commodity boards and agencies. Both the Canadian Turkey and Egg Marketing Agencies, which regulate the marketing and production of turkeys and eggs nationally, have been functioning for a number of years. A national Chicken Broiler Marketing Agency has also been established, together with the import level of both live and dressed chicken from the United States. However, the Chicken Broiler Agency has not been fully operational, as certain issues regarding provincial allocation of quotas haven't been resolved. It is hoped that these issues will be resolved this year.

Market Situation:

During 1979, the prices to producers of all poultry products remained favourable, although operating and feed costs continued to rise. There was concern over the market returns for hatching egg producers and this segment of the industry applied for the Farm Income Assurance Program.

The demand for eggs in British Columbia increased. Egg prices, as established by the CEMA cost of production formula, increased during the year. The weighted average price for all grades in B.C. was 73.3¢ per dozen on January 6, 1979 and 78.9¢ per dozen on December 1,1979. Large and extra large eggs experienced six price increases, followed by a



Incubators such as these are commonplace in many B.C. hatcheries.

Chicks hatching after 21 days in incubator.

decrease on December 10, 1979. Small egg grades experienced price fluctuations and ended the year 2¢ below that at the beginning of the year. There was a small surplus of Grade 'A' small eggs throughout the year, and medium grades were in surplus supply during May, June and September. These surplus eggs moved to the breaking trade, although the egg product stations experienced shortages of eggs. Large and extra large eggs were in heavy demand, and eggs were imported from Manitoba and the United States to augment the local supply of eggs. The weighted average price was 75.5¢ per dozen for the cumulative 52 week period; this compares to a cumulative weighted average price of 69.5¢ per dozen for 1978. The number of layers in B.C. increased throughout the year due to increases in national CEMA quota allocations. B.C. bird allocation at January 1, 1979 was 2,500,458 layers. There were three increases through the year: in March, an increase of 3.6 per cent; in April, an increase of 2.3 per cent; and, in December, a further increase of 3 per cent. These increases brought the quota allocation at the end of 1979 to 2,729,524 layers in B.C. This was the greatest number of layers in B.C. since the Egg Marketing Board came into effect. The total B.C. egg production in 1979 was 52,660,004 dozen eggs. This compared to a total egg production of 53,136,925 dozen eggs in 1978. With the increase in the number of layers in 1979, egg production in 1980 is anticipated to be higher.

Fowl marketings to processing plants were extremely difficult during the summer months. This was aggravated by the increased volume of broilers being marketed at the same time. The Egg Marketing Board now handles all bookings for spent fowl and directs product to the processing plants. The paying price to producers for spent fowl was increased to 5¢ per pound in January. However, when trucking, handling and condemnation costs were discounted, the average net return to the producer was approximately 10¢ per bird shipped.

The turkey industry in British Columbia was buoyant in 1979. Storage stocks as of January 1,1979 were well below those of a year earlier. Accompanied by low inventory and high red meat prices, turkey sales were very good. Unfortunately, with the huge increase of chicken broiler marketings, sales of all poultry products slowed and storage stocks increased. The turkey industry in British Columbia maintained sales, and storage stocks were expected to be at about the previous year's levels. However, there was a buildup of turkey storage stocks in the rest of the country; these turkeys could be dumped on the local market any time.

Production of turkeys in 1979 was approximately 21 per cent above 1978 levels. This increase could have been greater except for the shortage of hatching eggs and poults. Prices increased 5½¢ per pound of all classes of turkeys. Price increases are determined by a cost of production formula, and the increase in feed and poult prices was the main reason for increased production costs. These price increases are also influenced by the price and volume of product offered from sources outside the province. Retail prices increased by approximately 4¢ per pound over 1978 prices. The average weighted price for all classes of turkey was 56.1¢ per pound. The weighted average price for each class of turkey was 55.7¢ per pound for turkeys under 12 pounds; 57.8¢ per pound for 12 to 20 pounds; and 55.5¢ a pound for 20 pounds and over.

The significant increase in broiler production that began in 1978 continued at nearly a 30 per cent increase until mid 1979. Afterward, there was a gradual slowing down in placements of broiler chicks so that the annual increase was approximately 15 per cent. Broiler meat was expected to show a 20 per cent increase for the year, resulting in a substantial increase in storage stocks. In fact, storage stocks at year end were at an historical high.

In 1979, a total of 29.2 million head of broiler chickens was processed in B.C., and the cumulative eviscerated weight of this product was approximately 88.7 million pounds. This total included all classes and weights of broiler meat and exceeded 1978 marketings of broiler meat by 15.8 million pounds. 1978 marketings of broiler meat exceeded 1977 marketings by approximately 11.7 million pounds eviscerated weight. In terms of live weight, over 115 million pounds of broilers were shipped from B.C. farms in 1979. The Canadian Chicken Marketing Agency has established and allocated 92 million pounds (eviscerated weight) of national quota to B.C. for 1980 broiler production; this would include roaster marketings of 6.9 million pounds. However,

the B.C. Broiler Marketing Board had not yet accepted this allocation, and further discussions with the agency were scheduled for early 1980.

The average weighted price for regular broilers was 40.33 cents and juniors 41.58 for 1979. This compared to 38.0 cents and 39.2 cents respectively for the previous year. The ratio of marketings of different classes of chickens were juniors 41 per cent, regulars 53 per cent, roasters 4 per cent and cornish 2 per cent. Production costs increased in 1979, led by cost increases in feed, chicks and interest rates. The B.C. Broiler Marketing Board changed the allocation of quota from a square foot basis to a per pound basis. Another major change in quota allocation policy by the B.C. Broiler Board allows the transfer of quota with or without the sale of the farm unit.

For the first six months of 1979, there was a shortage of hatching eggs. However, after October, 1979, the egg supply situation reversed itself and broiler hatching eggs were in surplus production.