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1952 - 1954

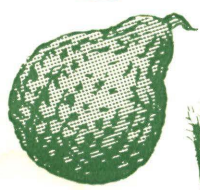
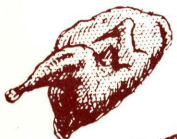
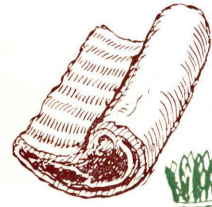
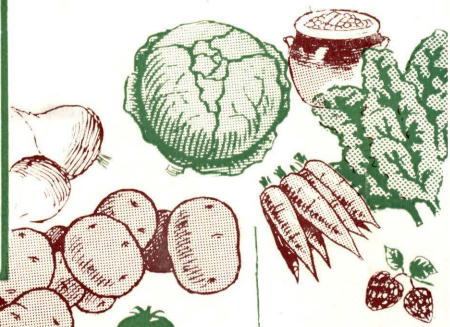
(in four volumes)

VOLUME 1

Biennial Report

MAINE DEPARTMENT OF AGRICULTURE

JULY 1, 1952 TO JUNE 30, 1954





STATE OF MAINE

Biennial Report

OF THE

Commissioner of Agriculture

TO

His Excellency the Governor

AND

Executive Council

July 1, 1952 to June 30, 1954

OFFICE OF THE COMMISSIONER
MAINE DEPARTMENT OF AGRICULTURE
STATE HOUSE
AUGUSTA, MAINE

*To His Excellency, Governor Burton M. Cross, and Executive
Council:*

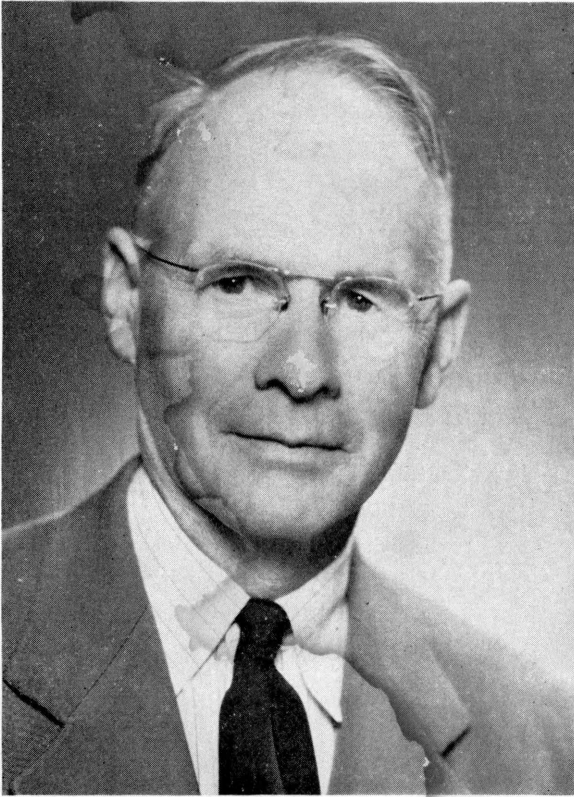
Sirs:

In accordance with the revised statutes, I herewith submit the biennial report of the State Department of Agriculture for the period beginning July 1, 1952, and ending June 30, 1954.

Respectfully yours,

FRED J. NUTTER,

Commissioner



FRED J. NUTTER
Commissioner of Agriculture

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Report of the Commissioner

The 1953 crop year was generally unfavorable for Maine farmers. Heavy supplies of potatoes in northeastern markets resulted in prices far below costs of production. The spring of 1954 found many potato growers in serious financial straits, which was further augmented by a very wet spring, causing delays and unusual expenses in connection with the 1954 spring planting.

Early in the 1953-54 shipping season, our Division of Markets, in conjunction with the Maine Agricultural Extension Service, initiated a campaign to promote better merchandising of Maine potatoes. Twelve washers were installed in Aroostook county and potatoes were washed and packed in consumer-sized packages conforming to grades established by the Maine Department of Agriculture. These new packages were enthusiastically accepted by consumers and it appears that the practices initiated will be greatly expanded in the present marketing season. Maine potato growers and shippers are beginning to realize that production and merchandising go hand in hand and are equally important to insure the success of any industry. Our potato growers were pioneers in initiating modern methods of potato production and I predict that the next few years will see great progress in better merchandising.

Such progress is being achieved with the advice and support of such industry groups as the Maine Potato Tax Committee, and—in a vastly different field of marketing—the Maine Milk Tax Committee. The latter, created in legislation passed by the Ninety-Sixth Legislature, has inaugurated an advertising program to supplement the educational program maintained by the Dairy Council of Maine.

Our potato seed industry has continued to maintain the high standards of previous years. The State Seed Farm at Masardis has proved to be a valuable addition to our foundation seed program. One-half of the \$100,000 loaned by the State has been returned to the State Treasury. In order to safeguard our seed industry, we found it necessary to establish a quarantine against the importation of potatoes from Long Island because of the

presence of Golden Nematode in that area. Every effort must be made to keep these organisms from becoming established in our Maine soils.

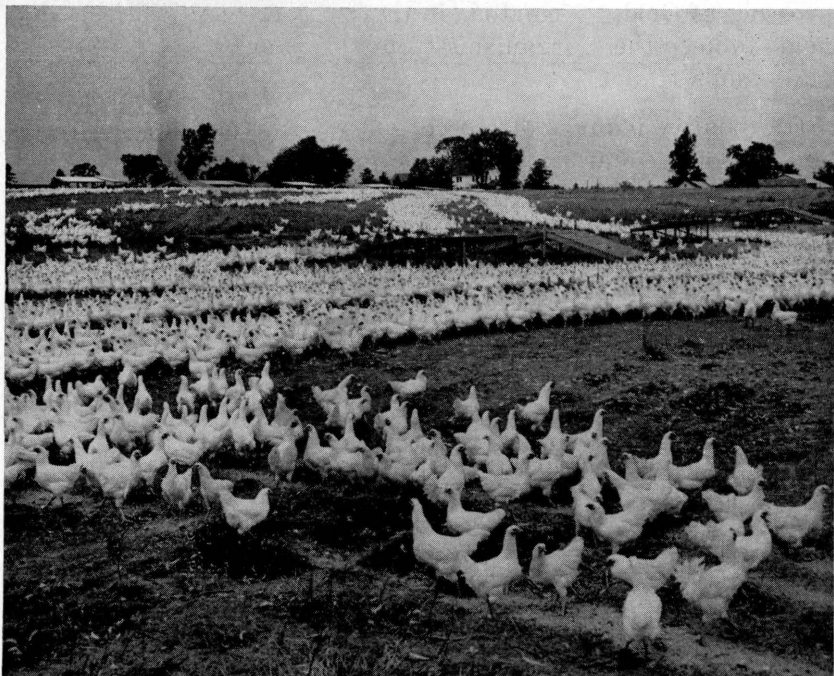
Our poultry industry has become a very important segment of our economy. Maine broilers and roasters have established a high reputation for quality. It appears that we are reaching the place in the development of this industry where production is growing out of balance with merchandising. There is much evidence to prove that Maine poultry can become a premium product in northeastern markets when it is properly graded, packaged, and marketed. Poultry processors have a real challenge to further expand the industry by developing better merchandising methods.

Our Division of Animal Industry has established a fine reputation for controlling diseases in our flocks and herds. We were one of the first states to become federally accredited as free from bovine tuberculosis. Likewise we have lead the nation in the eradication of Brucellosis. The vicious outbreak of vesicular exanthema in our hogs in southern Maine has been eradicated and the state freed from federal quarantine. We are glad to report that all commercial garbage feeders are now cooking the garbage, which should prevent a recurrence of this disease. Fowl bronchitis and other respiratory diseases in our poultry has become a serious problem in our state. We are working closely with the University of Maine and the poultry industry to attempt to solve this problem.

Predatory animals seem to be increasing and more vigorous control measures may be necessary. Bear and fox damage have increased materially, also skunks and raccoons are becoming a serious threat to our sweet corn industry.

The new food laws enacted by the Ninety-Sixth Legislature have proved very helpful in our efforts to protect consumers from injurious and unhealthful food products. We believe that the Bureau of Weights and Measures should be expanded to allow more protection from faulty scales and meters. The rapid increase in the use of bulk milk tanks has added more responsibilities to this Bureau as the tanks must be properly calibrated.

Fred J. Nutter



Maine poultry on a Kennebec county range.

Division of Markets

To the Honorable Fred J. Nutter, Commissioner of Agriculture:

In submitting the report for the Division of Markets for the last two years, I am very pleased to report that we have a group of young, progressive farmers in the potato industry who have watched the consumer demand for their product very closely and as a result have brought modern washing and packaging practices to Maine. At the beginning of the 1953 shipping season there were seven commercial washing and packaging operations in Maine. Before the close of the season the number had doubled.

I would also like to express my appreciation to the Potato Tax Committee for making available a sum of \$10,000 to step up enforcement work on the Potato Branding Law.

The Ninety-Sixth Legislature passed an enabling act so that the potato growers and shippers could petition the Commissioner

of Agriculture for a referendum to vote on a potato marketing agreement or order. In order to invoke an agreement or order it was necessary for two-thirds of the growers voting to vote in the affirmative and this number must also represent two-thirds of the planted acreage in 1952.

In the summer of 1953 a large number of potato growers and shippers requested the Commissioner to hold hearings on a proposed marketing order. As a result of these requests, hearings were advertised and held at Newport and Presque Isle on August 24 and 25. The Presque Isle meeting on the 25th was adjourned to Van Buren in order to give growers in Northern Maine a better opportunity to testify. As a majority of the growers attending these meetings expressed themselves as favorable to a marketing order, Commissioner Nutter requested the Division of Markets to prepare and send out ballots for a referendum. These were sent out on August 28, and producers had until September 10 to fill out and return to the Department of Agriculture in Augusta.

The total number of votes cast was 2,294, 1,574 being favorable and 720 opposed to a marketing order. Well over two-thirds of the producers voting favored a marketing order, however, the referendum failed to qualify for a marketing order due to the fact that there was not a sufficient number of growers voting favorable to represent two-thirds of the 1952 acreage.

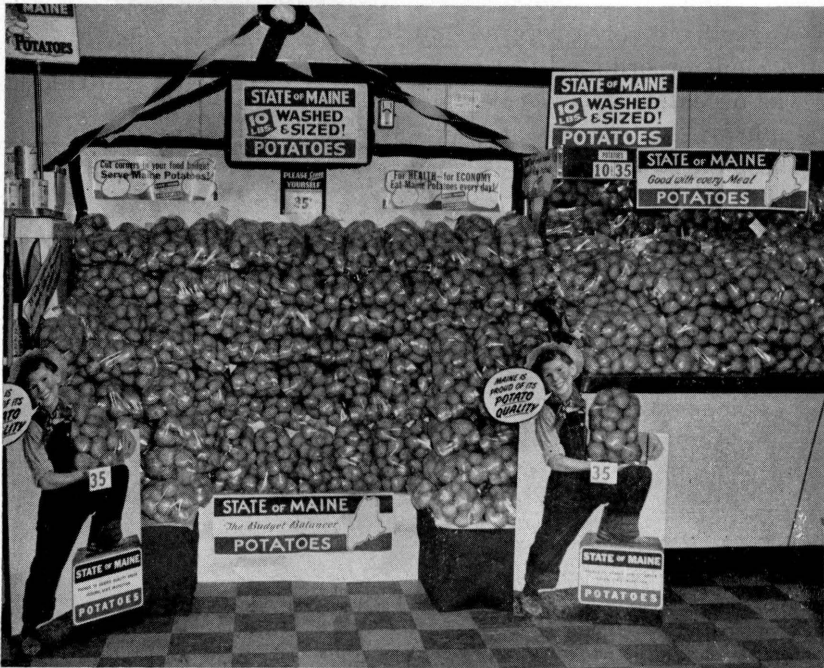
There has been no change in the crop reporting work during the last two years. We have continued to cooperate with C. D. Stevens of the New England Crop Reporting Service in Boston, Massachusetts, and Sam Russell in the Market News Service Office at Presque Isle, Maine.

The following is a more detailed report of the several activities in the Division of Markets by the men who are in direct charge of the marketing and inspection work.

MARKETING SERVICES

By Stanley L. Painter, Asst. Chief

A brief summary of the activities of the marketing branch of the Division of Markets is herewith submitted for the fiscal years July 1, 1952 to June 30, 1954.



The main endeavor of this branch has been for better marketing of Maine's farm products by improved packaging, processing, distribution and promotion.

Limitation of space requires that only a brief summary of the activities be given at this time, but detailed reports may be received on any or all undertakings by contacting this office.

POTATOES

We have continued to work with shippers in marketing of washed and sized potatoes with special emphasis being put on marketing under the State Blue, White and Red Trademark in visual bags.

Area promotions first introduced this new package to the public and made it possible for a continuous supply to be available. The first promotion area was Augusta-Waterville. The second was Portland and vicinity. From these two promotions the surrounding cities and towns benefited.

The above promotions were followed by work in Boston and Springfield, Massachusetts, and new outlets for this package of potatoes were found.

Over five hundred cars of washed potatoes were shipped in 1953-54.

Considerable liaison work was conducted between shippers and bag manufacturers to secure a satisfactory transparent bag for washed potatoes.

A new stock brand under the state trademark has been designed and registered. This brand will be used only for washed potatoes and will make its appearance on the market in the fall of 1954.

Cooperation with the Maine Agricultural Experiment Station on studies of varieties, containers, and shipping conditions has been continued.

In conjunction with the Maine Potato Tax Committee and the Maine Development Commission, we have continued to arrange displays and exhibits of Maine potatoes, demonstrate their proper use, and to promote Maine potatoes in general.

Dealer-service work within the state has been continued in an effort to improve handling and displaying of Maine potatoes.

DRY BEANS

The Department has continued to work closely with the Maine Dry Bean Growers' Association in developing better markets and promotional methods.

Much work has been done in developing practical methods for drying beans at the beanpicking plants and at the farm. This has caused a great saving in preventing loss of beans. It has enabled the farmer to set up at his farm, at a low cost, efficient drying operations.

We have cooperated with the Maine Dry Bean Growers in helping to solve the problems connected with the marketing of dry beans. A sales kit has been devised to aid in promoting the sale of dry beans. This kit has been set up in 800 stores throughout Maine, New Hampshire and Vermont, by both chain stores and independents. It is planned to make this promotional work an annual campaign.

There is now a total of 16 concerns packing dry beans under the Blue, White and Red label.

We have cooperated with the U.S.D.A. in developing a better method for reporting bean acreage and production, thus enabling a better marketing program to be developed.

APPLES

Work with wholesalers and retailers to improve the handling and display has continued.

We have continued studies to improve apple packages to prevent bruising of the fruit. From these studies have come recommendations regarding methods of packaging, types of packages, and display procedures which have increased apple sales.

We are continuing with our crop reporting service which has resulted in a much better crop estimate, thus providing a better foundation for a proper marketing program. Also, a monthly cold storage reporting service has been maintained throughout the storage season.

We have cooperated with the Maine Apple Committee in promoting their National Apple Week, Pie Baking Contest, Maine Apples on Parade, window displays, and many other promotional activities.

POULTRY

Poultry retail and merchandising schools were held in Portland, Lewiston, Bangor and Presque Isle. These schools were very enthusiastically received by poultrymen, wholesalers, and retailers. Modern methods in cutting, packaging, displaying, and pricing were shown. Interest at all the schools was keen and the results have been most gratifying. More schools will be conducted in the immediate future.

The egg-grading, and candling schools were again very successful. Attendance was good and it has been pleasing to note an improvement in several of the students' products after they had attended the school.

Egg candling demonstrations were conducted in markets at Presque Isle, Caribou, Limestone, South Portland, and Lewiston. The purpose of these demonstrations was to better acquaint the consumer with the different grades, egg quality, and the care of eggs in the home. Mrs. Housewife was also informed about the eggs which are packed under the State of Maine Blue, White and Red Trademark, and the care that is taken to insure quality in this carton.

The poultry industry has been expanding very rapidly in Aroostook County as more and more farmers go from an intensified to a more diversified type of agriculture. In some instances growing pains were noted and assistance was rendered. Many producers were visited and each individual's problems discussed thoroughly to help him market a better product. A large cooperative which markets the bulk of Aroostook county eggs under the State of Maine Blue, White and Red Trademark was

also given technical assistance. These visits were followed up by the egg candling demonstrations and the poultry-cutting school. Largely due to all this work, it has been noted that the poultry and egg consumer in Aroostook County is fast becoming more quality conscious.

There has been much work done with the poultry-dressing plants throughout the state to try to improve the quality of individual eviscerated and cut-up poultry. Presently, two plants are identifying their product as Maine Poultry. We are continuing our work along this line as we believe the Maine poultry industry as a whole really benefits from a well-organized and extensive advertising program.



Broiler house at Morrill, housing 90,000 chicks, and frequently called the largest broiler house in the world.

The Division of Markets has continued to promote the sale of State of Maine turkeys and will continue to work towards improving the marketing of Maine turkeys in cooperation with the Maine Turkey Growers Association.

Maine Broiler Day, which has become one of the outstanding poultry promotions in the world today, is an undertaking in which we take a very active part.

An attractive exhibit with Maine hatching eggs and baby chicks as its theme has been maintained at the annual convention of the Northeastern Poultry Producers Council.

The Hatching Egg and Broiler Chick Placement Report has been continued in cooperation with the United States Department of Agriculture, as part of its national program.

CANNED FOODS

Cooperating with the Maine Cannery Association, several demonstrations where Maine canned foods were used in preparing many dishes have been held at various times throughout the state.

The Eastern States Exposition of 1953 was devoted to Maine canned foods, demonstrating the many uses of Maine foods. In conjunction with this exhibit, a recipe booklet was prepared by this branch.

Inspection Services

By Merritt Z. Caldwell, Asst. Chief

CANNERY INSPECTION

During the last two years, we have continued offering State inspection on peas, cucumbers and beans, also Federal-State inspection on corn, to all canneries and processing plants desiring to use this service on the raw product as it is delivered to the plants by the growers.

The canneries and processing plants use this service to determine the grade of the product and it also enables them to put up a more uniform pack.

The canning season of 1952 started in Aroostook County on peas with five inspectors at two freezing plants. The inspectors take samples of each grower's load, run a tenderometer reading to determine the tenderness of the peas, and also check for foreign material.

Soon after the pea inspection gets under way we start on cucumber and bean inspection. The cucumber inspection increased in 1952 with six inspectors at two plants. The inspectors take a representative sample from each grower's load and check each sample for size and grade defects.

During the bean canning season there were fourteen inspectors at thirteen plants or receiving stations. The inspectors take a representative sample from each grower's load and check each sample for size and grade defects.

The last canning crop for the season is corn. There were twenty-two inspectors at twenty factories. The inspector takes a twenty-five or fifty pound sample from each grower's load and

checks each ear of corn in the sample with the thumb test to determine the milk or dough content and also to determine the tenderness and grade defects.

The canning season of 1953 started on peas with eight inspectors at two freezing plants and several pre-cooling stations.

During the cucumber season there were three inspectors at one plant, a decrease of three inspectors and one plant from the 1952 season.

During the bean season there were thirteen inspectors at twelve receiving stations.

During the corn season there were twenty-one inspectors at nineteen factories. During the canning season we have one supervisor for each commodity except corn, on which we have two supervisors.

During the season of 1953 we had one inspector doing experimental grading on broccoli at one of the plants in Aroostook County.

POULTRY INSPECTION

The poultry grading work at the processing plants increased during the 1952-53 season with eight Federal-State licensed resident graders and three bonded plant sanitarians at eight processing plants. The graders' work consists of grading the poultry on the dressing line for U. S. Grades and also to see that the plants meet Federal sanitation requirements. Grade A poultry, and in a few plants the Grade B and C poultry, is identified with the Federal Grade stamp.

The bonded plant sanitarians' duties are to see that the plant meets Federal sanitation requirement at all times, and also to see that the poultry is cooled, cropped, vented and dressed to meet Federal requirements. This poultry is not graded for quality.

During the later part of the 1953-54 season the poultry grading and sanitation work decreased to four graders and two sanitarians at four processing plants. This was due to one plant closing and the other plants cutting down on expenses, stating that the grading or sanitation program was not beneficial to them at the present time.

MAINE POTATO BRANDING LAW

This law is intended to assure that containers are properly branded with the name and address of the person or persons responsible for the grading and packing, and the name of the grade, together with true net contents.

During 1952-53, there were 6,519 inspections made. The inspections consist of carlots, trucks, wholesale establishments and retail stores. There were 189 violations for the season. We had two inspectors during the potato shipping season checking the carlots and trucks. We had three inspectors checking wholesale establishments and retail stores. The same inspectors that checked the retail stores also inspected apples and eggs.

During 1953-54 there were 10,844 inspections made, and 233 violations for the season. We had four inspectors during the potato shipping season checking carlots and trucks. We had two inspectors checking wholesale establishments and retail stores.

MAINE EGG GRADING LAW

This law is intended to assure the consumer of better quality and uniformly-sized eggs.

In 1952-53 there were 4,400 regular inspections. On this total, we had 1,046 violations. Most of the violations were minor.

We have two full-time inspectors on this work. The inspectors make regular inspections at retail stores, roadside stands, farms and wholesale establishments to see that the eggs are properly marked as to size and quality. The inspectors check invoices, display material, newspaper advertisements and radio advertising to see that the law has been properly complied with.

All eggs sold at retail and all egg advertising must state the size and quality.

During the 1953-54 season, 4,063 inspections were made. We had 950 violations, mostly minor. We have received good cooperation from packers, retailers and wholesalers in our inspection work.

MAINE APPLE GRADING LAW

The Apple Grading Law was revised in 1953. The U. S. Grades were made the Maine Official Grades in place of the old Maine grades. All apples sold, offered, exposed or advertised for sale at retail in bulk or in open packages or containers must be plainly and conspicuously marked and identified as to variety and grade.

Inspections were made at retail stores, wholesale establishments, warehouses, packers, roadside stands and trucks by two or three inspectors. During 1952-53, 2,348 inspections were made.

During 1953-54, 2,905 inspections were made, with 215 violations.

MISCELLANEOUS INSPECTIONS

The terminal market inspection has increased the last two years.

This inspection is offered to all wholesalers in our terminal markets, and consists of making condition and quality inspections on fruits and vegetables shipped to the wholesalers, also inspections for the U. S. Army Quartermaster Corps, steamship companies, U. S. Veterans Administration and U. S. Coast Guard.

During the season of 1952-53, 741 inspections were made. During the season of 1953-54, 585 inspections were made. All of the inspections were issued on a Federal Certificate by one inspector licensed by the U. S. Department of Agriculture as a collaborator. We have two more inspectors licensed as collaborators.

During 1952-53 we made 56 egg inspections for the U. S. Veterans Administration and 33 commercial inspections. The inspections were issued on Federal Certificates. We have three inspectors licensed by the U.S.D.A. to inspect eggs.

In 1952-53 we made nine shipping point inspections on apples. In 1953-54, we made 34.

In the last two years the maple syrup producers using the Blue, White and Red Trademark have increased from 17 to 24. The State Department of Agriculture licenses the producers to use the Trademark and the syrup must meet Grade A quality or better. During the maple syrup season, we use one inspector to visit the producers to see that the syrup meets our requirements. The inspector visits each producer at least once during the season.

We have two inspectors licensed by the U. S. Department of Agriculture to inspect dry beans. There are fourteen packers licensed to use the State of Maine Trademark and our inspectors that check the stores purchase beans packed under the Trademark by each packer and bring them to the Augusta office where we grade the beans for quality. In the laboratory we have a moisture meter, scales and a divider, all necessary to grade beans. Any grower or shipper may submit samples of beans for a moisture test and grade analysis for a small fee.

We have approximately 20 producers and wholesalers packing eggs under the State Trademark. Our inspectors check the eggs at the retail stores, and the facilities of producers and

wholesalers to see that the eggs meet the Trademark requirements.

During the 1953-54 season we had one inspector at one of the potato French frying plants inspecting each load of potatoes for quality and condition, specific gravity and sugar content. The latter part of the 1953-54 season we had two inspectors at two plants carrying out this work.

Shipping Point Inspection of Potatoes

By Vernon Palmer, Chief Inspector

Following the high potato prices in Spring of 1952 for the 1951 crop, farmers once more thought they were on the road to prosperity. With this thought in mind, Maine farmers increased their acreage over the 1951 plant of approximately 100,000 acres to 151,000 acres. Although the yield per acre (360 bu.) was somewhat smaller than the preceding year (445 bu.) the production for 1952 was estimated at 52,200,000 bushels as compared with 44,500,000 bushels in 1951.

Fall prices were very good, ranging from \$4.00 in September to \$5.00 in early January 1953. Farmers were reluctant to sell and held, thinking prices would go higher. From the time the merchantable stock-on-hand report came out in January, prices began declining and at the close of the 1952-53 shipping season had dropped to 80 cents per barrel or less.

Starch factories received very few potatoes during the early part of the season but when prices started to decline factories were opened and 13,000 tons of starch were manufactured. In the Spring many potatoes were spread on fields or dumped because of spongy condition and sprouts. These were not suitable for starch.

It is of interest that the Green Mountain potato was the poorest type in history and very few were shipped to market.

It is apparent the 50 lb. sack was most popular, although the 10 lb. and 15 lb. packages held their own. The 5 lb. package again showed an increase and some 25 lb. bag carlots were shipped.

The distribution of this crop was quite limited as compared with the broad distribution the previous year. Generally speaking the bulk of shipments were east of Chicago, a very limited number going into Canada.

Sixty-three inspectors were employed during the season, including four key men and seven office clerks.

On August 25, 1952 the following inspection fees on a cwt. basis became effective:

<i>Truck Fees</i>		<i>100 lb. sacks</i>	
Up to 100 sacks	\$3.00	276 to 450	\$5.50
101 to 125 sacks	3.25	451 to 500	6.00
126 to 150 sacks	3.50	501 to 550	6.50
151 to 175 sacks	3.75	551 to 600	7.00
176 to 200 sacks	4.00	601 to 700	7.50
201 to 225 sacks	4.25	701 to 800	8.00
226 to 250 sacks	4.50	801 to 900	8.50
251 to 275 sacks	4.75	Other type packages such as 50,	
All loads in excess of 275 sacks		25, 15 and 10 lbs. calculated on	
carlot fees will apply.		cwt. basis.	

Inspections made for this season were 25,196 cars; 4,941 trucks; 419 warehouses, totaling 30,556.

Again the Maine farmers were in a bad situation and were advised to cut acreage, but instead planted 156,000 acres for the year 1953, an increase of 3,000 acres over the revised figure of 151,000 acres in 1952. The yield per acre was reported at 370 bushels, or 10 bushels higher than 1952, giving Maine an estimated production of 57,720,000. Prices were around \$1.00 to the farmer in mid-September and increased to around \$1.10 to \$1.15 in mid-November. From this point on until around the middle of March 1954, prices declined to a low of 40 to 60 cents per barrel. On March 29, 1954, starch factories started operating on a Federal government diversion program. Under this program, each factory agreed to pay growers \$1.00 per barrel for all potatoes grading U. S. No. 2 or better, 2 inch minimum, and 40 cents per barrel for Culls. For potatoes meeting the No. 2 requirements, the Federal Government reimbursed the starch manufacturers at the rate of 57¾ cents per barrel from Section 32 funds. Nothing was allowed for Culls.

This program operated until June 30, and 1,388,628 barrels met Specification A (as it was called), and 338,485 barrels of Culls were ground. Twenty-three factories participated in the program. Federal-State potato inspectors were used at all factories.

During this season 88 inspectors were used including starch, 4 key men and 7 office clerks.

Total rail shipments for Maine were 44,683 cars.

Total inspections 22,999; consisting of 17,632 cars, 4,880 trucks and 487 warehouses.

The quality of this crop was very good; weather was ideal during harvest. Top killing was very heavy in Maine. This was to keep down the size and let skins set before digging. The whole crop went in storage in very good condition. It was very noticeable how firm the stock kept late this Spring.

For the first time in Maine, the Russett Burbank potato was grown in a small way (approximately 500 acres) commercially. It is estimated between five and seven thousand acres were planted in Spring of 1954.

During this shipping season around December 1, 1953, all inspections made by Collaborator at Portland for U. S. and Federal-State, were typed at the Caribou office and all records pertaining to this were transferred from the Boston office to Caribou.

Shipping Point Inspection of Grain

By Lewis Watson, Chief Inspector

Due to the light rainfall in the Summer of 1952 and the resulting below average oat crop, the grain branch did a very small volume of business during the 1952-53 season. During this season only 42 "out" inspections of carlots, 6 "in" inspections of oats in bins, and 110 "sample" inspections of oats brought to our laboratory, were made. In addition, we made moisture tests on 197 samples of oats for the Department's Division of Plant Industry, and 57 moisture tests for farmers at harvest time.

At the start of the 1953-54 season, with a much larger crop than in the previous year and oats selling for only 65 cents per bushel in the local markets, most farmers were putting their oats "under loan" to the Commodity Credit Corporation for the Government Support price of 91 cents per bushel. There were 1,169,468 bushels "under loan," as compared to 53,528 bushels for the previous season.

These factors combined gave us the largest volume of business the grain branch has experienced. During the 1953-54 season we issued 141 "out" inspection certificates; 2 "in" inspection certificates and 2,035 "sample" inspection certificates. We also made moisture tests, free of charge, on 128 samples of oats and other grains brought to our laboratory by farmers at harvest time.

It is interesting to note that of the 57 samples of oats taken from farmers' storage bins by the Aroostook County Agricul-

tural Conservation and Stabilization Committee during 1952-53, a very dry season, and presented for inspection only 2% failed to meet their requirements. This figure jumped to 29.3% on approximately 2,000 samples presented during 1953-54, a relatively wet season. Most samples failed because of a moisture content higher than 14.5%.

Carlot reports of oat shipments from various railroads indicate that 138 cars of oats were loaded in Aroostook County during 1952-53 season as compared to 679 cars for 1953-54 season.

CONCLUSION

In conclusion, I think it would be well to mention that Mr. G. Ray Warren was transferred from Maine in the Summer of 1953. Mr. Warren first came to Maine in September, 1927, and had been the Federal Supervisor on shipping point inspection work in Maine since that time. We in the Division of Markets wish him every success in his new assignment. Incidentally, it is my understanding that Ray plans to make Maine his permanent home after his retirement from the Federal Service. The new Federal Supervisor is Mr. M. U. Van Kirk, who has been very helpful this last year in the work of our shipping point inspection.

Another change in personnel was the transfer of Mr. Andrew Watson, who received an advancement by transferring to the Division of Inspection. His place was taken by the promotion of John Underwood, a Marketing Specialist.



Sincerely yours,

GEORGE H. CHICK, *Chief*
Division of Markets

*A new
potato
washer*

Division of Inspection

To the Honorable Fred J. Nutter, Commissioner of Agriculture:

The Division of Inspection has for its purpose mainly the protection of the consumers' health and pocketbook. In doing this, it regulates the manufacture, sale and distribution of many commodities, especially food for human consumption. However, regulation of many other commodities is very important.

This report includes the work of the following:

C. P. Osgood, *Chief of Division*

Andrew E. Watson, *Assistant Chief*

James A. Boyle, *Deputy State Sealer*

Kenneth B. Johnson, *Chief Dairy Inspector*

GENERAL INSPECTION

The adoption by the Legislature of our Uniform Food Law gives us many opportunities which heretofore had not existed, whereby we have been able to give more protection to consumers of food. General inspection of our food processing, distribution and handling establishments, and retail sales outlets, has been stepped up considerably. Inspections of all these places are being made as rapidly as possible, particularly all stores, supermarkets, and the like. These are being systematically covered by one inspector. A considerable portion of such food items as cheese, oleomargarine, flour, sugar, and salt, have been condemned because of becoming contaminated with filth from rodent infestation or the like. About one thousand cases of canned goods which were found to be rusty, swells, or damaged so as to render them unfit for food, have been destroyed. In one case, several thousand pounds of poultry were voluntarily turned over to the rendering company. More attention will be given to all food processing and manufacturing plants as time goes on.

Our food law permits the embargoing and, on court order, destroying of any adulterated or unsafe food or food products, but due to the cooperation we have received in this work, it has not been necessary in any case to resort to the court.

Inspection of bakeries has been carried on and we are now regularly inspecting 200 of these establishments. Much has been accomplished here with the cooperation of the industry, until today we find very few violations.

All manufacturers of frozen dairy products have been licensed and samples of their products submitted to the chemist for analysis. I can report to you that we are getting very good compliance as well as cooperation from all in the industry. This includes about 40 wholesale establishments and over 200 retail establishments, where mostly soft ice cream and ice milk are manufactured for immediate consumption.

Our beverage law was amended by the last Legislature. The statute now permits the manufacture and sale of non-alcoholic carbonated beverages containing artificial non-nutritive sweetening agents, provided permits are obtained from the Commissioner of Agriculture. This change was necessary to permit the sale of dietetic beverages. Several permits have already been issued for the manufacture of artificially sweetened beverages. Another amendment repealed that section of the law which required the registration of all fruit juices. During the last year, cans have been introduced as containers for carbonated beverages. Periodic inspections have been made of all carbonated beverage manufacturers in Maine, and certificates of inspection are required before licenses are issued to out-of-state manufacturers.

SLAUGHTERHOUSES

As a result of your efforts, money was made available for the services of a veterinarian to do meat inspection work. In September, 1953, Dr. Stanford D. Merrill joined our Division. He has been assigned to inspection of poultry slaughtering establishments. Also a considerable amount of his time is spent inspecting poultry in all food channels. As a result of his work, I feel that the quality of poultry has been much improved. He has proved to be of invaluable assistance in inspecting red meat slaughterhouses as well as red meat and meat products. I feel that under his guidance we are moving in the right direction. Although more inspectors are needed in this work to assist him, we are doing a thorough job as far as money and personnel will permit. His work in the poultry slaughterhouses has made it possible for our meat inspection supervisor to spend more time inspecting all meat and meat products at the retail level. He has spent a considerable portion of his time in wholesale houses as well as stores, where, under the authority of our food law, a considerable amount of unwholesome products has been removed from sale and voluntarily destroyed by the owners. I hope that more of this work can be done in the future.

BLUEBERRIES

Resident inspectors have been furnished to all blueberry packers requesting inspection under the provisions of Sec. 196 of Chap. 27, R. S. 44. This has meant an inspector in practically all the plants. Much of the field inspection work has necessarily been curtailed due to inadequate funds. We have cooperated closely in this work with the Federal Food and Drug Administration. I would like to report that the blueberry packers have cooperated very well as a whole with our supervisors and inspectors. More work than usual was done on the Canadian border where any adulterated berries were detected by examination and kept from entering the country. We have also supplied one packer with an inspector in Canada each year to check the quality of the blueberries at the source. The inspection of the processing establishments as well as of the berries is now carried on under our food law. This gives us better control of the finished product. Under the authority of the food law, we did embargo one lot of several hundred cans of berries which were later voluntarily destroyed by the owner.

SHELLFISH

The enforcement of our Maine Shellfish Law has been carried on with the cooperation of the State Department of Sea and Shore Fisheries. Inspections have been made of the establishments of all interstate shippers of shell-stock and shucked clams. Special attention has been given to this in order that the work of this Division might continue to be certified by the U. S. Public Health Service and our inspection work accepted. Several joint surveys have been made in cooperation with the personnel of the U. S. Public Health Service and we are encouraging the changes which they have indicated should be made. Samples of clams have been taken monthly and analyzed by our chemists and bacteriologists. Reports of their findings were made to the U. S. Public Health Service. A considerable number of samples of shellfish have been obtained from retail stores.

SARDINES

Several changes were made in the Maine Sardine Law by the 96th Legislature. These were aimed primarily at improving the inspection service and obtaining a better quality pack. The law was amended to provide that an Assistant Director of Inspection be employed to devote his entire time to sardine inspection work during the packing season. As directed, Andrew E. Wat-

son was appointed to fill this position. The controversial term of "broken fish" was more fully and understandably defined. The law was also amended to increase the assessment paid by packers for support of the sardine inspection work from 2¢ to 3¢ per case.

During the biennium, a resident inspector, insofar as was practicable, was maintained in each plant during the packing season. Samples were collected of all the oil and other packing media purchased by the packers during the packing season, which were submitted for analysis. In addition, samples also were taken of all the oil held over from the 1953 season and submitted for examination prior to its use in 1954.

Careful and rigid enforcement of the inspection laws assures both the producer and consumer that the final product will meet the standards of quality and purity. It also assures interstate shippers compliance with the Federal laws.

Being a member of the sardine quality control committee has afforded Mr. Watson an opportunity to work more closely with the packers in improving the quality of the pack as well as to have a better understanding of the problems of the packers.

It is hoped that the activities of the Division, through its cooperation with factory owners and by its work in the plants, have assisted in improving the quality of Maine sardines packed during the past two seasons.

SEEDS

The previous enactment of the Uniform Seed Law and the re-opening of our laboratory with a seed analyst at the Experiment Station has enabled us to work out a fairly good seed program. It took about one year to acquaint seedsmen with our law but now we are getting very good cooperation. Less seeds have been embargoed during the past year than the previous one and I believe our samples have been in better compliance with the guarantees on the label than in the past. More samples have been drawn for analysis and because of close cooperation with and prompt reporting by our seed analyst, we have been able to require the relabelling of many seeds before they were sold, as well as to take a considerable amount off sale entirely because they could not be relabelled to comply with our law. We have continued to enforce the provisions of our regulations pertaining to lawn seed mixtures. We are the only state I know of that

requires seed labelled as lawn seed to meet certain specifications; that is, if so labelled, the package must contain at least 55% by weight of the pure seed of the recognized lawn or turf producing grasses and white clover. This provision permits the purchaser, if he wishes to spend the extra money, to buy a lawn seed mixture which he may be assured will contain seeds that will build a permanent lawn, and in no way prohibits the sale of packages containing seeds of annual grasses which are labelled grass seed mixtures.

FEEDING STUFFS

During the two years covered by this report, we have registered 1,505 and 1,454 brands of feeding stuffs and have drawn for analysis, 675 and 660 samples. I believe I can report to you that the analyses of these samples of feed indicate that the feed manufacturers have sold and offered for sale feeds which have complied very closely with the guarantees for protein, fat, and fiber. Investigations have revealed that very few feeding stuffs have been offered for sale which were not properly registered. We are trying to draw feed samples only as fast as the chemist can analyze them in a reasonable length of time. By this, it is possible to make a more prompt report to the manufacturer in case of deficiency. Feeds containing drugs are posing a problem for our chemist but he is giving us a complete analysis on these products wherever a reliable analytical method, or one approved by the Association of Official Agricultural Chemists, exists.

FERTILIZER

As in the past we have enforced the fertilizer law and registered or caused to be registered all brands of commercial fertilizers. We have drawn the usual number of samples for analysis. In one or two instances the reports have been disappointing and conferences have been held with these manufacturers. It is my belief that they are now more concerned and have during the past year done a better job of mixing their products. We have received tonnage information from manufacturers of all fertilizer sold in Maine. The total tonnage for 1952-53 was 203,279 tons and for 1953-54, it was 176,195 tons.

ECONOMIC POISONS

All economic poisons offered for sale within the state have been registered during the past two years. With the adoption of the new Uniform Economic Poisons Law, many more products

were required to be registered than under the old fungicide and insecticide act. As indicated in our report two years ago, we have not taken as many samples as in the past for two reasons; first, because the Federal government through its Department of Agriculture registers and samples for analysis practically all products moving in interstate commerce; secondly, because there are no proven methods of analysis adopted by the A.O.A.C. which may be used by the chemist. Not only this, but it takes a great deal of time to analyze these new organic compounds. Efforts are made by the inspectors to collect samples of all materials manufactured and sold only within the state, for these do not come under the jurisdiction of the U. S. Department of Agriculture. The new law is working very well and does afford the public protection in the use of many poisons which were not regulated before. In fact, we have registered 1,358 brands and 1,454 brands as compared to less than 1,000 annually under the old law.

Weights and Measures

The work of Weights and Measures is divided broadly into two main fields; (1) working with, and assisting about 238 local Sealers of Weights and Measures, and (2) work done independently of these local Sealers, principally with the use of our heavy-duty scale testing unit and 100-gallon vehicle tank-testing measure. The statutes now specifically prohibit the local Sealer from testing and sealing any weighing and measuring devices for which he has not the proper equipment approved by this Department.

The heavy-duty scale testing unit was purchased in 1949 and has a gross weight of 24,000 lbs., which includes standard weights on the truck of 13,000 lbs. Previous to the purchase of this truck, it was impossible to accurately check heavy-duty scales. During the past biennium, an effort has been made with the use of this equipment to test all heavy-duty scales in Maine. During the biennium, 475 heavy-duty scales were tested, of which 54 were condemned and ordered repaired. This work has required a considerable amount of traveling from one end of our state to the other and much time, inconvenience, and money have been saved the operators of these scales by our Weights and Measures inspector who has received special training.

Five railroad track scales were tested and sealed for the Maine Central Railroad. The railroad officials were accompanied and their work carefully checked.

The State Police scales throughout the state, as well as their wheel-load testing devices, have been checked periodically at the request of the Chief of the State Highway Police.

As prompt service as possible has been rendered to the State Highway Department, and all heavy-duty scales used to weigh road-building materials under Highway contracts have been tested and sealed; and in some cases, ordered repaired and installed properly.

Lobster gauges, measures, and clam rings submitted to us by the Maine Department of Sea and Shore Fisheries have been tested and sealed.

Special attention was given scales in all dairies and milk receiving stations used for the weighing of milk, when it was found that this work was being neglected by the local Sealers. Some scales were found to be operating inaccurately and were ordered repaired. This work will be given close attention in the future, for there is more than 500,000,000 lbs. of milk being weighed on these scales annually.

As many vehicle tank meters as time and personnel would permit have been tested during the biennium, with our 100-gallon vehicle tank test measure. There were 254 vehicle tank meters tested; 13 of which were condemned and ordered repaired. Many more would have been done, had time been available.

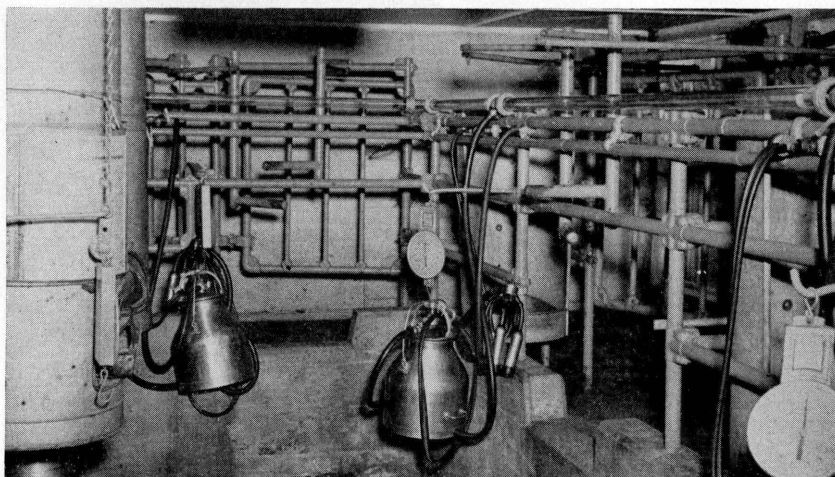
Another phase of this work which is very important, has to do with the re-weighing of pre-package commodities. Due to changes in the merchandising of products, this work becomes more important each year. Now, practically everything which the consumer buys is packaged and marked with the net weight before being offered for sale. A considerable amount of time has been spent in all types of retail establishments in the re-weighing of these pre-packaged commodities to ascertain if the correct weights were being given. Much more work should have been done as is indicated by the results obtained.

Special attention was given for some time to the weight of ice cream in packages. Many packages of this product were checked for correct weights in the food processing establishments as well as in the retail stores.

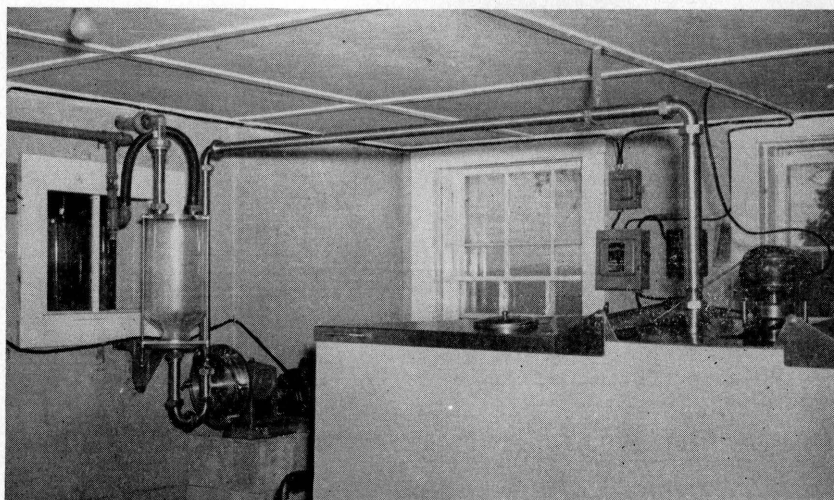
During the past year, paper containers have become quite common for milk. This has given us another added responsibility. Considerable time has been spent in checking the filling machines to see if the right amount of milk is delivered in each package.

Another phase of our work, as indicated before in this report, has to do with cooperating with and giving assistance to 238 local Sealers of Weights and Measures; who are appointed by municipal authority in the cities and towns. It is believed, that with the exception of two cities, these officials receive their entire compensation from small fees for the testing of weighing and measuring devices. This fee apparently does not fully compensate the Sealer for his time and expenses involved. This has made it difficult to find the proper persons who are interested in the work; also for the neglect in carrying out their duties in many instances. The work of these Local Sealers should be properly evaluated and earnest consideration given to filling the gap between the work we are able to do at the state level and that which is being done at the local level. In too many communities there is little or no protection afforded, other than the work done by this Department with our special equipment when complaints are received.

Appropriation for Weights and Measures work in Maine is very meager and investigation reveals that other states of equal or less population have considerable more personnel than Maine. The only specific appropriation is for the salary of the Deputy Sealer. His expenses and the salary of his assistant are taken from regular Division funds. This situation cannot be corrected all at once, but it does seem that request should be made for the addition of another inspector. This would make it possible for us to do more work with our heavy-duty scale testing unit and 100-gallon vehicle tank testing measure.



New combine milker and bulk tank as installed on the farm of Robert Pike at Cornish.



Dairy Branch

Following is a report of the activities of the Dairy Branch for the fiscal years 1952-1953 and 1953-1954.

We have continued to concentrate our efforts on dairies and sampling of milk and cream. This work is being carried out with the same organization and personnel as in the past. Inspectors in this Branch are also active in the enforcement of the frozen dairy products law; making inspections of manufacturing plants and taking samples of mix and the finished product periodically. A new activity is the supervision of bulk tank installations and their calibration. We have continued our check testing and special sample program as in the past.

MILK AND CREAM ANALYSES

Analyses of Milk Samples purchased in 1952-1953 and 1953-1954:

Total number of samples analyzed	1952-1953		1953-1954	
	3,880		3,683	
	<i>Pasteurized</i>	<i>Raw</i>	<i>Pasteurized</i>	<i>Raw</i>
	2,078	1,802	2,082	1,601
	%	%	%	%
<i>Butter Fat</i>				
4% and over	50.91	71.64	48.98	68.96
3.25% to 4%	48.36	26.03	48.75	28.86
Below standard .....	.73	2.33	2.27	2.18
<i>Sediment</i>				
Clean	28.59	21.42	36.02	17.24
Satisfactory	69.63	69.15	62.44	73.76
Unsatisfactory	1.78	9.43	1.54	9.00
<i>Standard Plate Count</i>				
Below 10,000	59.72	49.45	65.71	57.57
10,000 to 25,000	21.13	23.25	18.20	9.68
25,000 to 50,000	3.86	4.50	3.07	3.23
50,000 to 100,000	8.43	9.54	7.25	10.17
100,000 to 200,000	4.72	8.60	3.75	5.70
200,000 to 300,000 .....	.73	1.50	.82	1.74
300,000 to 400,000 .....	.10	.39	.14	.99
400,000 to 500,000 .....	.10	.22		
Over 500,000	1.21	2.55	1.06	10.92

The quality of milk sold in the state, as measured by analyses of samples purchased, indicates that our producers and dealers are doing an excellent job on the whole.

The use of routine laboratory control of the raw and finished product has been a large factor in bringing this about. When intelligent use is made of these results, quality improvement is rapid. As the number of dealers decrease (a decrease of twenty-one from 1953 to 1954) with consequent larger volume per producer, it becomes more essential than ever to utilize some form of routine control.

Bacterial counts on samples of pasteurized milk purchased during the 1953-1954 fiscal year show that 83.9% of these samples fall into the 25,000 bacteria per milliliter or under group as compared to 80.8% for the fiscal year 1952-1953.

Butterfat tests of the samples purchased show a decline in the group containing 4% or over. Pasteurizing plant samples showed approximately 2% less in this group for 1953-1954 than in 1952-1953, while raw milk samples ran about 2.7% less for the same period.

The number of samples containing less than the required amount of total solids has increased somewhat. The majority of these were borderline instances, but it does indicate the necessity of constant checking by all concerned.

Samples of cream from the sources of supply continue to be taken. Due to the fluctuating demand for cream, quality control is more involved than for milk. There is room for improvement in this product, particularly cream brought in from out of state.

Twenty-eight samples of underpasteurized milk and cream were purchased during this two-year period as compared to 19 for the previous two-year period. We have given each of these cases special attention and will continue to investigate all such results. Court action has been preferred in several instances with convictions resulting.

COMPOSITE SAMPLES

We are continuing to test composite samples at those plants receiving milk on a weight and test basis. Approximately 9,700 composite samples have been tested and patrons notified as to results. Dealer cooperation has been excellent in this respect.

In addition approximately 1,350 special samples have been tested at the request of interested persons. Methods of the individual testing are checked as well as the condition of glassware and equipment. Condition and accuracy of samples are very important in this work, and particular attention is paid to the same.

INSPECTIONS

Farm and plant inspections are being carried out on all farms and plants producing and processing milk for sale in the state. We are finding new methods in use on some dairy farms and plants. Some of the installations experienced difficulty at first, but are now handling better milk than previously. These changes in industry have caused our inspection service to change some of

its methods and tests in order to render better service. Several farms and processing plants in the state have been completely remodeled and are very fine examples of the faith these people have in the industry and of their desire to put out better milk more efficiently.

BULK TANKS

There are now 101 bulk cooling tanks in the state that have been installed and calibrated to date and it is expected this figure will increase materially in the near future. The size of these tanks in gallons and the number of that size installed is as follows:

<i>Size of tank</i>	<i>100 gal.</i>	<i>150 gal.</i>	<i>200 gal.</i>	<i>250 gal.</i>	<i>300 gal.</i>
Number of tanks	15	18	14	3	21
<i>Size of tank</i>	<i>360 gal.</i>	<i>400 gal.</i>	<i>500 gal.</i>	<i>600 gal.</i>	<i>700 gal.</i>
Number of tanks	1	19	4	4	2

We have endeavored to assist these tank owners by advising them as to any milk house alterations that may be necessary so that future changes will be held to a minimum. We also have advised producers as to the proper installation and location of the tank.

Calibration of these tanks at the time of installation gives us an excellent opportunity to discuss care of the tank and related factors. Several tanks have been recalibrated with little change resulting. Considerable time is being used to make certain that these installations are being set up properly and that calibration is correct. These tanks are one more step in the evolution of the dairy industry and should help to make dairying more attractive to our young people, besides helping our dairymen to meet outside competition.

CIVIL HEARINGS AND COURT CASES

Several court cases and civil hearings have been held. The latter were satisfactorily concluded without court procedure. As a last resort, two persons were found guilty in municipal courts for selling underpasteurized milk and it was necessary to impose fines.

CONCLUSION

This report is made with the aid of Andrew E. Watson, Assistant Chief; James A. Boyle, Deputy State Sealer; and Kenneth B. Johnson, Chief Dairy Inspector.

Respectfully submitted,

C. P. OSGOOD, *Chief*
Division of Inspection

Division of Animal Industry

To Honorable Fred J. Nutter, Commissioner of Agriculture:

I am herewith submitting the biennial report of the Division of Animal Industry covering the period from July 1, 1952 to June 30, 1954. This report covers the work of the following officials:

Francis G. Buzzell, *Chief of Division*

R. E. Libby, *State Veterinarian*

Samuel F. Dorrance, *Livestock Specialist*

H. T. Covell, *Superintendent Maine Production and Broiler Test*

Dairy cattle numbers have remained quite steady during the past two years, but milk production has increased per cow. This, along with general surpluses of dairy products, has resulted in a trend toward a decrease in the number of dairy farms. By the Spring of 1954 it was difficult in many areas for people new in the dairy business to find a market for their milk. To many small producers a satisfactory market has been and will continue to be a problem. This could be expected when the small and uneven production of many such herds are considered, and will undoubtedly continue into the future as bulk pickup of milk becomes more general.

Veal production in part-time dairy herds, and for many small producers, is a possibility as a fairly satisfactory market for their milk, but will not require as many hours labor as the production of market milk, and the income may be smaller. However, the returns per hour may be as satisfactory. This would allow more hours for other work, either on or off the farm.

The demand for dairy replacements for sale outside the state is not quite as active as it was a few years ago. Lower milk prices, along with lower beef prices, less demand for fresh cows, and general changes within the dairy replacement market areas may see this continue. Conditions have slowed the trade to some extent, as indicated by the export and import reports for the past two years. The export trade is becoming more discriminating and we are limited in the number of choice dairy cows available for this trade.

Beef cattle production has increased during the past two years, and the industry is beginning to assume more importance in

many areas of the state. To date it has been mostly in the growing stages with the most desirable females going back into the herd, or being sold locally to establish new herds. Steers have been sold largely as feeder calves, many to out-of-state buyers. In the near future greater effort will have to be put into beef production with emphasis on roughage and pasture growth, and finishing with enough grain to make a satisfactory grade. This is especially true if they are sold in the kosher markets of southern New England.

Sheep production has been in the limelight for the past two years, as a sideline livestock enterprise, and bids fair to continue profitable for those that will do a good job. Sheep and beef offer a livestock enterprise for the part-time farmer, as well as for the retired person who can get some enjoyment out of living on a farm.

The greatest possibility for expansion of beef cattle and sheep could well be on poultry farms where dairy barns have been converted to broiler houses. Many of these farms have an abundance of poultry manure which could be used to grow pasture and hay for beef and sheep.

Poultry production increases the past two years have been largely in the broiler business, which have brought this agricultural enterprise near the top in money received by Maine farmers. Advancements through breeding, feeding, and management have resulted in volume production, geared to the increased number of processing plants. This has resulted in contract growing where the farmer furnishes the broiler house and labor, with the processor furnishing the heat, feed, chicks, etc. Although this furnishes a steady income for the farmer, the incentive is sometimes lost, and at present, indications are that this may become modified where the producer may receive part of the profit or loss. This would result in a weeding out process which could improve the general quality of the birds produced. Competitive bidding, or an active market for small producers who grow broilers, has become limited in many areas.

VESICULAR EXANTHEMA

Swine and pork production dropped during the past two years, particularly on the family pig basis. This is largely due to an outbreak of vesicular exanthema in Maine and other New England States in January, 1953, and which resulted in a shortage

of available pigs that could be imported, causing a general uncertainty among many who usually raised from one to three pigs.

In January, 1953, the swine disease, known as vesicular exanthema, which is similar to foot and mouth disease, appeared for the first time in Maine, and within two months had been positively diagnosed on 49 farms with 4,768 swine, all of which were feeding raw garbage, or had had direct contact with raw garbage fed hogs. Due to the similarity to foot and mouth disease, it was necessary to place test animals on infected farms to make a positive diagnosis. This required two hogs, two bovines and one horse. The testing took considerable time and personnel which was supplied by the State, and the United States Bureau of Animal Industry. The test animals were supplied by the State. The swine were purchased and the cattle and horses rented for this purpose. The 96th Legislature enacted a garbage cooking law which became effective in May, 1953. The Division made a survey to locate the garbage feeders, which was no small undertaking, because very few cities had a complete garbage collection system working, and many towns had none at all. Summer camps and hotels presented another problem.

The lack of general information on garbage cooking resulted in a cooking demonstration by the Division, with the cooperation of some garbage feeders, and the Southern Maine Hog Producers Association. This was arranged to assist the industry as well as to find some of the answers for the inspectors, that they might be of some assistance to feeders, in addition to policing the program. A shortage of boilers of the type most in demand temporarily slowed up the cooking program, although it was generally in operation in the fall of 1953, after a series of court actions where several were found guilty and fined, or put on probation.

The marketing of hogs in infected counties that were under Federal quarantine, which prohibited shipment of these hogs interstate, except for special processing at a very low price, necessitated a marketing and inspection set-up to prohibit further spread of the disease by recovered pigs from the infected herds. At the close of this biennium, liquidation of all but 41 hogs in 2 herds has been accomplished without any known spread of the disease outside of the 49 previously infected herds.

[Maine was released from Federal quarantine on Oct. 1, 1954.]

The garbage cooking law, although bitterly resented at first by many in the garbage feeding business, will undoubtedly result in an increased number of hogs being fed to a better quality, encourage better management, improve sanitation, be less objectionable to the public in general, and more profitable to the producer.

LIVESTOCK MARKETING

Many areas of the state do not have an efficient marketing system for beef, sheep, lamb and hogs. Many of these animals are eventually killed outside of the state, and are generally priced in relation to the Brighton market, whether slaughtered there or in the state.

Community auctions have not in general brought many new buyers into the state. Therefore, this market has not been greatly broadened, and prices have increased only in ratio to the services rendered. In some areas, pooling of shipments to a central market shows promise of greater returns to the producer, as this has a tendency to cut down the expenses of overhead and travel of buyers, which in many cases is excessive to the volume handled. In areas where pooling or commission shipping is common, consideration must be given to the local market, where returns should equal those received at a terminal market, less shipping expenses.

The disease control programs for the state are supported by the Animal Disease Eradication Branch of the United States Department of Agriculture (formerly the Bureau of Animal Industry), particularly in tuberculosis, Brucellosis, and control and eradication of vesicular exanthema.

As of June 30, 1954 the Federal force consisted of the Veterinarian-in-Charge, Dr. Granville R. Breed, three additional veterinarians, three lay technicians, two vesicular exanthema inspectors, four laboratory technicians, and the office staff. Although these employees have other duties, they are generally available to work under a cooperative program with our Division of Animal Industry.

TUBERCULOSIS

Although Maine became the third state to be accredited for this disease in 1929, experience with it has proven that a continuous check is necessary in order to prohibit the disease from becoming of major importance. The present plan for eradication and control is to area test all the cattle in the state every

three years. At present this seems to be adequate, although many eastern states conduct annual T. B. tests.

Following is a report of T. B. tests conducted during the past two fiscal years ending June 30, 1954:

JULY 1, 1952 TO JUNE 30, 1953

	<i>Herds</i>	<i>Cattle</i>
Tests Conducted by Federal Veterinary Force	1,850	17,688
Tests Conducted at State Expense	6,112	76,562
Tests Conducted at Owners' Expense	756	8,081
Total Number of Tests	8,718	102,331
Total Number of Reactors		115

The unusually large number of T. B. reactors in 1952-53 resulted from a few heavily infected herds where the spread was very rapid. This condition only emphasizes the danger of letting up on control work.

JULY 1, 1953 TO JUNE 30, 1954

	<i>Herds</i>	<i>Cattle</i>
Tests Conducted by Federal Veterinary Force	1,536	11,390
Tests Conducted at State Expense	3,809	48,121
Tests Conducted at Owners' Expense	639	6,742
Total Number of Tests	5,984	66,253
Total Number of Reactors		15

COUNTIES COMPLETED ON AREA TESTS FOR TUBERCULOSIS

JULY 1, 1952 TO JUNE 30, 1953

<i>County</i>	<i>Number of Herds</i>	<i>Number of Cattle</i>	<i>% Cattle Infection</i>	<i>% Herd Infection</i>
Lincoln	657	4,680	.0%	.0%
Penobscot	2,208	24,748	.008	.04
Piscataquis	350	5,972	.0	.0
Somerset	1,392	20,375	.0	.0

JULY 1, 1953 TO JUNE 30, 1954

Cumberland	986	11,101	.018	.2
Hancock	564	2,840	.0	.0
Oxford	1,289	13,748	.0	.0
Waldo	919	10,369	.0	.0
York	1,235	12,645	.0	.0

BRUCELLOSIS

The program for eradication and control of Brucellosis has gone forward in spite of the greatly increased movement of livestock during the past few years. Legislation by the 1951 session of the Legislature, limiting to three years the time a herd could remain under Plan C, was a forward step. The history of the C herds indicates that they are not sound economically, nor from a disease eradication angle. Yet, too many farmers elect to go on this Plan in spite of reduced income from infected cattle and the hazard of contracting undulant fever, either through contact with infected animals, or using infected dairy products. Some C herd producers have lost their milk markets because of maintaining a C herd. The question arises as to whether milk or milk products from cows known to have this disease should be placed on the market even though it is pasteurized.

The Brucellosis Ring test is a test of milk for Brucellosis, and has been used to some extent during the past year and a half. This is done by collecting samples from milk cans at the receiving station or creamery. The test has promise for limited use in spotting infected herds, but does not identify the infected individual or test dry cows, bred heifers or bulls in the herd. Bulk pick-up will limit its use. At the present time it can be used on about 25% of the total number of herds. It has been an aid to control work by making it possible to get milk samples much cheaper and faster than blood samples, thereby spotting possibly infected herds much more quickly than could be done otherwise.

Following is a summary of the Brucellosis control program for the period beginning July 1, 1952 and ending June 30, 1954:

JULY 1, 1952 TO JUNE 30, 1953

	<i>Herds</i>	<i>Cattle</i>
Tests Conducted by Federal Force	9,399	89,275
Tests Conducted at State Expense	2,025	46,749
Tests Conducted at Owners' Expense	1,710	18,372
<hr/>		<hr/>
Total Number of Tests	13,721	154,396
Total Number of Reactors (Not Including "C" Herds)		1,142
Total Number of Vaccinated Reactors Over 36 Months of Age (Included above)		131

JULY 1, 1953 TO JUNE 30, 1954

	<i>Herds</i>	<i>Cattle</i>
Tests Conducted by Federal Veterinary Force	4,034	23,254
Tests Conducted at State Expense	2,116	50,943
Tests Conducted at Owners' Expense	1,918	27,083
Total Number of Tests	7,481	101,280
Total Number of Reactors (Not Including "C" Herds)		1,074
Total Number of Vaccinated Reactors Over 36 Months of Age (Included above)		211

HERDS ON RETEST BY COUNTIES JUNE 30, 1954

Androscoggin	25	Penobscot	28
Aroostook	10	Piscataquis	6
Cumberland	18	Sagadahoc	11
Franklin	15	Somerset	27
Hancock	1	Waldo	21
Kennebec	30	Washington	0
Knox	2	York	12
Lincoln	3	Total 223	
Oxford	14		

Brucellosis Certified Herds as of June 30, 1954—790 Herds 23,240 Cattle

**COUNTIES COMPLETED ON AREA FOR BRUCELLOSIS
JULY 1, 1952—JUNE 30, 1954**

Year Completed	County	Herds	Cattle	% Cattle Infection	% Herd Infection
52-53	Androscoggin	967	11,784	.36%	3.2%
52-53	Hancock	678	2,575	.04%	.15%
52-53	Kennebec	1,722	19,276	.49%	2.73%
52-53	Lincoln	639	4,169	.24%	1.09%
52-53	Penobscot	2,183	20,332	.65%	2.52%
52-53	Piscataquis	447	5,650	.23%	1.6%
52-53	Somerset	1,570	16,475	.35%	2.0%
52-53	Waldo	1,128	8,306	.24%	.89%
53-54	Cumberland	1,294	9,814	.11%	.7%
53-54	*Franklin	861 (218 BRT 643 Blood)	8,812 (4606 BRT 4206 Blood)	.21%	1.04%
53-54	*Knox	502 (98 BRT 404 Blood)	2,625 (1389 BRT 1236 Blood)	.26%	.99%
53-54	*Sagadahoc	308 (71 BRT 237 Blood)	2,759 (1440 BRT 1319 Blood)	.04%	.32%

* Percentages on blood/only in above counties completed with B.R.T. (Brucellosis Ring Test)

SUMMARY BRUCELLA RING TESTS AND BLOOD FOLLOW-UP WORK

JULY 1, 1953—JUNE 30, 1954

BRUCELLA RING TESTS

Patrons	10,269		
Samples	18,012		
Approx. number cattle	192,041		
Negative Herds	9,755	94.99%	
Suspicious Herds	514	5.01%	
+++ Herds	222	2.16%	43.19%
++ Herds	220	2.15%	42.80%
+ Herds	72	0.70%	14.01%

Although not a cure, calfhood vaccination is a valuable aid in the control of Brucellosis, and is encouraged by the Division. Calfhood vaccination should be increased, because it offers a high degree of resistance to the disease, especially through the first three lactations. Vaccinated animals generally bring more money than non-vaccinated ones. Recently, Rhode Island has restricted its imports to vaccinated animals only, and this may be a pattern that eventually will be followed by Connecticut and Massachusetts.

Following is a record of the number of calves vaccinated from the period July 1, 1942 to the closing of the present fiscal year, June 30, 1954:

RECORD OF CALVES VACCINATED

1942—1,795	1949—5,022
1943—2,451	1950—6,966
1944—3,705	1951—7,638
1945—5,319	1952—8,941
1946—5,932	1953—9,839
1947—6,269	1954—9,669
1948—3,971	

Total	77,517
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HOG CHOLERA

The incidence of this disease, though not a serious one to the swine industry, should further decline with proper cooking of garbage, and the use of live virus for vaccination may soon be discontinued in the state.

SCRAPIE

Scrapie, a disease of sheep which has been recently diagnosed for the first time in the United States, has caused considerable concern in the sheep growing areas. This disease has an unusually long incubation period, and at present there are no diagnostic tests. The method of spread of this disease is thought to be through breeding and contamination of feed or pastures. Three small imports of sheep into the state from sources which have lately proved possible sources of infection, have been quarantined for further observation.

MISCELLANEOUS DISEASES

Swine erysipelas, blackleg, Johnin's disease, fowl typhoid, and other miscellaneous diseases not particularly common in the state have not shown any increase during the biennium. However, when reported or suspected, tests have been conducted and proper steps have been taken to eliminate or control the disease.

In the last biennial report, reference was made to a deficiency of Vitamin E which existed principally in Aroostook county. Since that time a fairly effective treatment and preventive has been quite generally used, but the basic reason for the existence of this condition has not been determined.

COMMUNITY AUCTIONS

These sales have at times required one full time inspector. This inspection undoubtedly has been worthwhile from a disease control angle. The number of cattle, hogs and sheep inspected is not available.

Checking fairs for health requirements, as well as for compliance with provisions for stipend payments is a function that has been placed in this Division, and requires the full time of one inspector and part time of another, through the fair season.

INTERSTATE SHIPMENT

The movement of livestock interstate requires the services of one clerk. A permit must accompany all livestock imported into the State of Maine for any purpose. Health certificates are required on all shipments of livestock leaving the state, except for immediate slaughter. At the present time, the movement of slaughter hogs interstate must be approved.

Following are tables indicating the movement of breeding or replacement cattle interstate for the past two fiscal years, by states of origin and destination, respectively, and also a report of the imports and exports each year from 1945 to the beginning of the biennium included in this report:

BREEDING OR REPLACEMENT CATTLE

EXPORTS AND IMPORTS FROM 1945

	<i>Exports</i>	<i>Imports</i>
1945-6	5,011	5,713
1946-7	3,536	6,731
1947-8	5,938	4,157
1948-9	6,121	5,921
1949-50	4,370	3,946
1950-1	5,555	3,567
1951-2	6,036	3,236
1952-3	3,676	882
1953-4	3,436	1,094
Total	43,679	35,247

BREEDING OR REPLACEMENT CATTLE

IMPORTS

	<i>July 1, 1952</i>	<i>July 1, 1953</i>
	<i>to</i>	<i>to</i>
	<i>July 1, 1953</i>	<i>July 1, 1954</i>
Arkansas	3	0
Canada	463	684
Connecticut	28	33
Illinois	0	3
Indiana	0	2
Kansas	1	0
Kentucky	0	1
Maryland	10	7
Massachusetts	120	106
Michigan	0	5
Montana	1	0
Nebraska	15	0
New Hampshire	180	155
New Jersey	3	4
New Mexico	0	1
New York	22	29
Ohio	0	14
Pennsylvania	1	6
Rhode Island	3	7
Vermont	31	21
Virginia	0	5
West Virginia	0	10
Wisconsin	1	1
	882	1,094

EXPORTS

	<i>July 1, 1952</i>	<i>July 1, 1953</i>
	<i>to</i>	<i>to</i>
	<i>July 1, 1953</i>	<i>July 1, 1954</i>
Canada	54	194
Colorado	6	0
Connecticut	1,202	1,292
Kentucky	0	1
Maryland	6	4
Massachusetts	1,764	1,297
Nebraska	15	0
New Hampshire	332	443
New Jersey	0	1
New York	12	7
Ohio	0	31
Pennsylvania	31	72
Puerto Rico	1	0
Rhode Island	58	58
Wisconsin	1	1
Vermont	180	35
Virginia	14	0
	3,676	3,436

LIVESTOCK DEALERS

Livestock dealers were licensed to the number of 447 in the 1952-53 fiscal year, and 403 in 1953-54. This licensing law has contributed to better livestock handling practices.

POULTRY INSPECTION

At the present time there are two plants employing State veterinary inspection on eviscerated poultry, and one more has been approved, primarily for the New York market. This activity is self-supporting, and the following amounts of poultry were inspected during the past two years :

JULY 1, 1952 TO JUNE 30, 1953

Inspected	3,697,761 lbs.	Condemned	8,496 lbs.
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JULY 1, 1953 TO JUNE 30, 1954

Inspected	4,496,231 lbs.	Condemned	19,373 lbs.
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JULY 1, 1952 TO JUNE 30, 1954 ACCUMULATED

Inspected	8,193,992 lbs.	Condemned	27,869 lbs.
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PRODUCTION AND BROILER TEST

This Test, completing its eighth year, has held its outstanding place in the broiler industry. Besides being the oldest in the country, it has maintained its place as a leader in an effort to get needed information for a fast advancing industry. The advanced breeding, growing ability, and quality have been demonstrated through this Test, and today many of the strains and crosses of the future are being given a competitive test to help the breeder determine their real worth. The gains and feed conversion at this Test are being used by many in the broiler industry as a goal to be reached by their producers.

VACCINES AND BIOLOGICS

These products, containing live organisms or viruses, can legally be imported into the state by permit only, issued by the Division of Animal Industry. These laws are difficult to enforce, but compliance has generally been good, and violations that have come to our attention have been dealt with.

The Division has been under considerable pressure in regard to bronchitis vaccine, particularly from out-of-state manufacturers. To date no permits have been issued for this vaccine, except on an experimental basis. Experimental work with these vaccines has been conducted in cooperation with the Animal Pathology Department at the University of Maine, broiler growers, and this Division, and to date no satisfactory vaccine has been found for the broilers under our conditions. Restriction of

the sale of bronchitis vaccine has had the support of the broiler industry, and has undoubtedly saved the industry thousands of dollars that might have been spent for vaccine, and which might have given the industry false security.

Airsac, or chronic respiratory disease, has taken its toll in the broiler industry, along with bronchitis and Newcastle disease. Newcastle disease, however, could have been controlled in itself to a large degree by proper vaccination.

The Production and Broiler Test will in the future be used to assist in a study by the Experiment Station in an effort to solve some of the disease problems of the industry. This study will not affect the general information gained by the Test.

Promotion of Animal Husbandry

BEEF

Cooperation is still continuing with the Aroostook Livestock Association in promoting the county's beef industry. Three feeder calf sales were held in Aroostook during the past two years. These auction sales provide an excellent market to beef men for their calves. The supply and demand is now sufficient to hold two sales each year.

The feeder calf sale held in conjunction with Fryeburg fair offers the Hereford breeders from Central and Southern Maine a similar opportunity. This sale has grown annually.

Assistance has been given to the beef breed associations in holding Field Days and Consignment Sales.

Feeding, management, and supervision of 4-H Baby Beef projects have continued. 4-H steers were shown and sold at the fairs at Presque Isle, Skowhegan, Fryeburg and at Eastern States Exposition.

Numerous educational meetings and demonstrations were held during the biennium. Personal contacts with the breeders and prospective breeders are a much more effective method of obtaining results. Therefore, many farm calls were made to discuss feeding, management and marketing problems.

SHEEP

John A. Smiley, Assistant Animal Husbandry Specialist, supervised the Sheep Productivity Project during the biennium. The purpose of this project was to determine the productivity of

our Maine flocks in terms of pounds of lamb and wool produced per ewe. Twenty flocks were selected, which represented a cross section of the Maine sheep industry.

Statistics show that there is a definite need for making use of one or more of the following practices :

The use of better rams.

Providing better pastures and winter roughages.

Two registered Columbia rams, under our supervision, were crossed on our native sheep to learn if a more productive ewe could be developed. The ewes resulting from this cross sheared an average of two pounds more than the native ewes of the same age. Body weights were about the same. Columbia crossbreds showed more growth and scale. These indications point to an excellent breeding ewe.

The Columbia crossbred market lambs did not finish in quality equal to the native lambs.

Four Montadale rams, under our supervision, were used on two island and two mainland flocks of grade ewes. The favorable comments from the owners of these flocks indicate that the crossbred Montadale lambs are a better market lamb than the crossbred Columbia lamb.

Cooperation was extended to the Maine Sheep Breeders' Association in supporting their annual sheep consignment sale and wool pool.

Assistance also was given the Extension Service in sponsoring the 4-H Market Lamb show and sale at South Paris Fair. This project has proved to be very popular with the youngsters. In 1951 at the first sale at South Paris, 35 lambs were shown and sold. This year approximately 140 market lambs are enrolled for the annual show and sale.

Educational sheep meetings were held over the state each year. Numerous farm calls are made, aiding the breeders in their breeding and management problems.

Much credit is due John A. Smiley, Assistant Animal Husbandry Specialist.

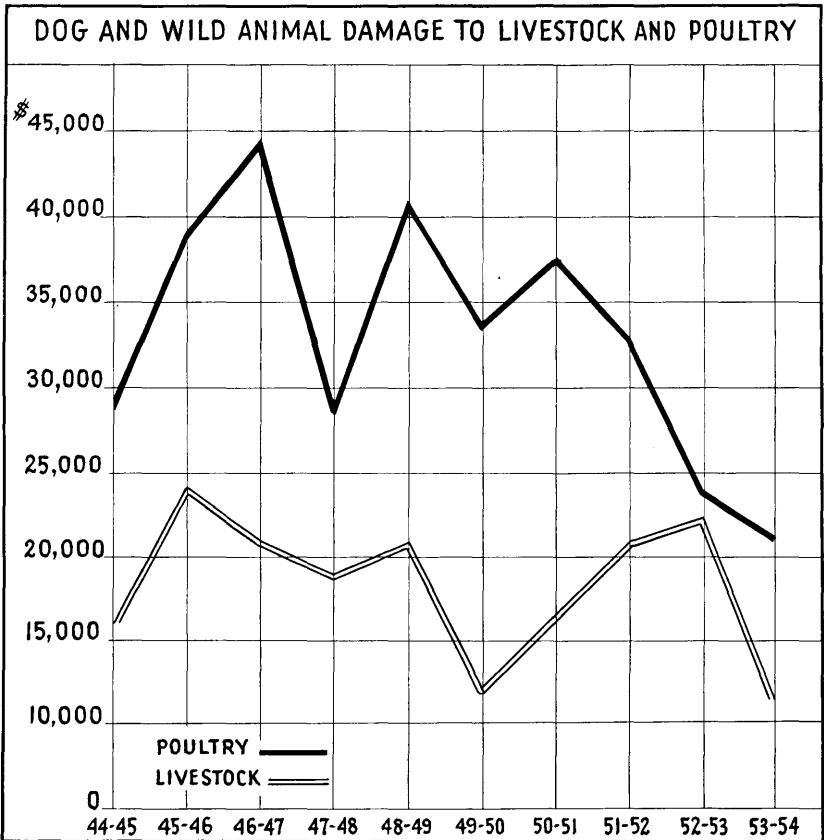
His assistance has made possible an expanded program in beef and sheep husbandry promotion.

Also, with his assistance we have more actively investigated livestock and poultry claims.

POULTRY LICENSES

There were 192 poultry licenses to buy, sell, or transport poultry, issued in 1952-53, and 202 issued in 1953-54.

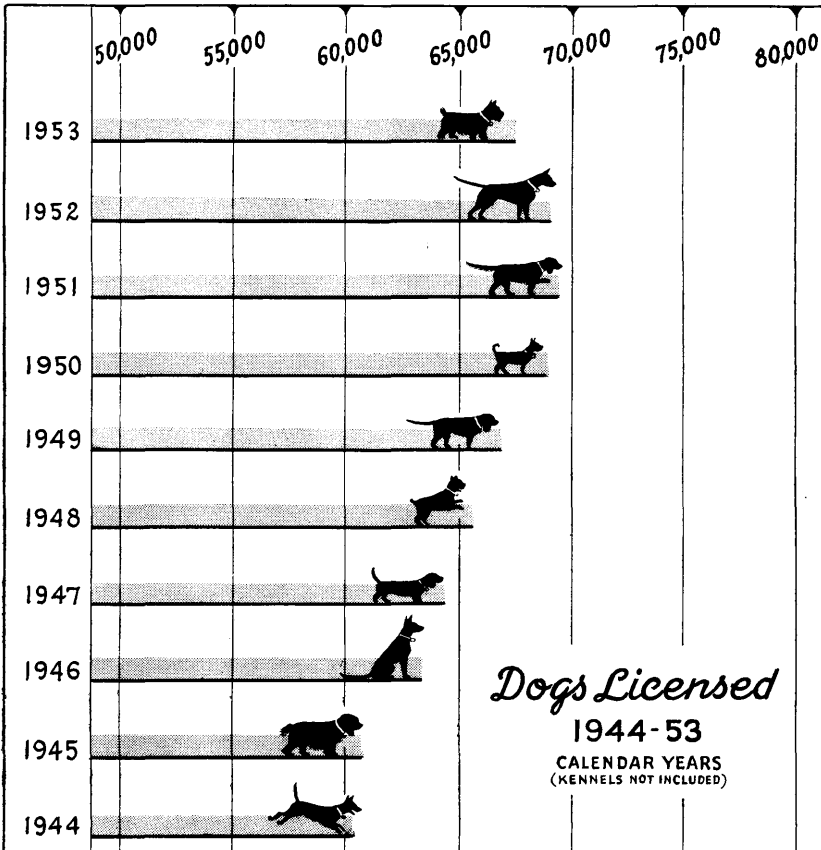
The number of poultry licenses issued remains practically the same from year to year.

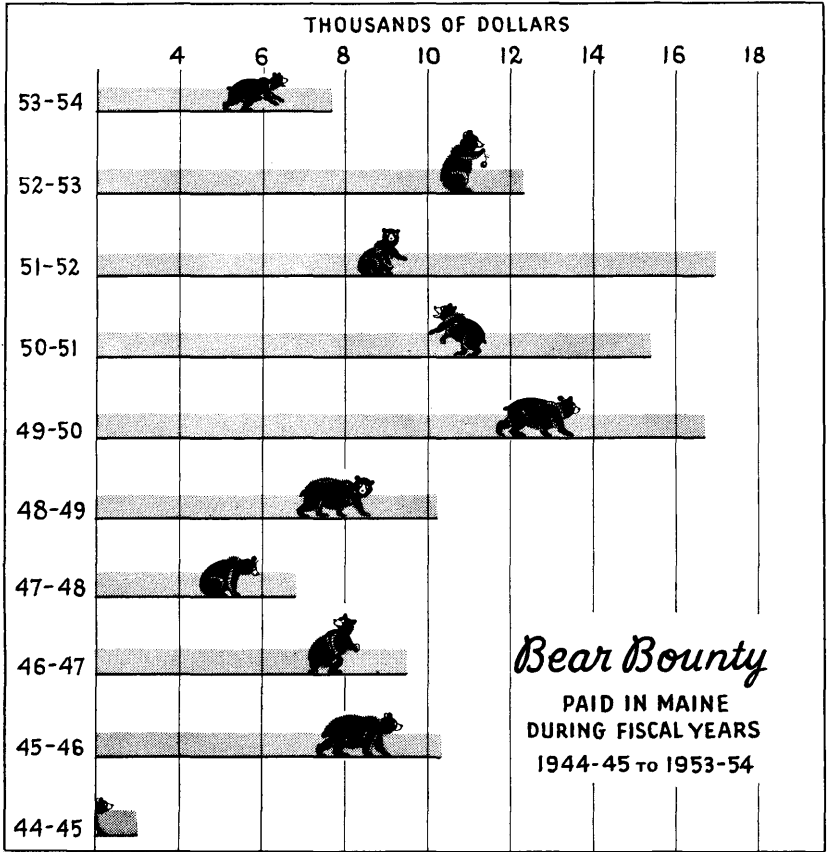


Dog and wild animal damage to livestock and poultry, as shown by this graph, has reached a new low for the past ten years. It is impossible to predict damage of this type. The new low in livestock damage may be attributed to the more natural feed available to bears during the summer season while livestock is on pasture. About 75% of the poultry damage is caused by foxes. Mange has reduced the fox numbers in the past two years considerably and this may account for part of the reduction in poultry damage for the past biennium. Management practices have improved in the poultry business, offering better protection against attacks by predatory animals.

DOG LICENSES

Dog license material is furnished the clerks in 493 towns and cities throughout the state. Our figures show the number and receipts on a calendar basis. There were 454 kennel licenses issued in 1952, and 438 in 1953. The license receipts for 1952 totaled \$92,456.00, and for 1953 totaled \$90,626.00.





I certainly appreciate the continued interest and cooperation of the commissioner, the other Divisions of the Department, and the various outside sources that have contributed to the success of the efforts of the Division of Animal Industry.

FRANCIS G. BUZZELL,
Chief, Division of Animal Industry

Division of Plant Industry

To the Honorable Fred J. Nutter, Commissioner of Agriculture:

The report of the Division of Plant Industry is respectfully submitted. The subheadings will, for the most part, be arranged according to the amount of income.

CERTIFICATION OF SEED

It has been a custom for several years to submit a statistical form to indicate the work carried on by the seed potato certification section of our Division. The following covers the period July 1, 1952 to June 30, 1954.

<i>1952-1953</i>	<i>Acres Entered</i>	<i>Acres Passed</i>	<i>Bu. Cert.</i>	<i>Cwt. Sold</i>
Katahdin	39,790	29,900	11,977,940	1,518,424
Chippewa	1,823	1,580	713,844	181,415
Green Mountain	3,345	2,878	1,131,054	231,092
Irish Cobbler	5,343	4,987	2,139,423	926,593
Sebago	508	412	146,136	56,725
Kennebec	6,198	4,181	1,850,929	219,672
All Others	4,124	3,433	1,424,887	129,619
	61,131	47,371	19,384,213	3,263,540

<i>1953-1954</i>	<i>Acres Entered</i>	<i>Acres Passed</i>	<i>Bu. Cert.</i>	<i>Cwt. Sold</i>
Katahdin	46,484	33,715	14,324,023	1,497,242
Chippewa	2,556	2,053	854,202	190,558
Green Mountain	1,711	1,441	616,925	177,439
Irish Cobbler	6,368	5,817	2,255,639	976,357
Sebago	366	365	142,529	34,735
Kennebec	4,783	3,523	1,568,528	187,698
All Others	4,463	3,211	1,347,951	126,689
	66,731	50,125	21,109,797	3,190,718

In 1952, we started with 61,000 acres and finally passed 47,000. In 1953, we started with 67,000 acres and passed 50,000.

The large number of acres disqualified, about 25 per cent, simply means that many growers left it to the inspectors to determine which acres were worthwhile. It is likely that there may have to be a change in our scale of fees in order to eliminate this 25 per cent from the picture.

The distribution of Maine certified seed has continued to be over a wide area, but the returns to our growers during this biennium have been anything but satisfactory. During most of the time that the 1953 crop was being shipped, the price was under \$1.25 a hundred, F. O. B., which prevented competition but left many of the growers in difficult financial circumstances.

An analysis of the situation by varieties indicates that the Katahdins are still very popular, and the seed sales exceed those of the Cobblers by about 50 per cent. The Green Mountains and Kennebecs have continued to decline in the number of acres entered for inspection. It looks as though the entry for 1954 will be about the same as last year.

The outstanding variety which has created a lot of interest is the Russet Burbank. Last year there were only a hundred acres entered for inspection. During the summer of 1954, there will be about 3,000 acres. The Russet Burbank is a good-quality potato, high yielding, and has been well received in markets in 10 pound, polyethylene bags for table stock.

An analysis of our shipping figures brings to light still further the things that we have been expecting for the past several years. We shipped a total of 7,000 cars out of the 1953 crop. There were 1,400 cars of definite sized potatoes, 600 cars of Size B's, and 800 cars of 1 $\frac{7}{8}$ to 2 $\frac{1}{2}$'s.

We are confronted with a serious problem. With the help of our shippers, however, we expect to find a satisfactory solution. The general program is for the shipper to buy entire crops of certified seed from different growers. The potatoes from 2 $\frac{1}{2}$ " up are shipped as Maine Mediums or Chef's Special. Those from 1 $\frac{1}{2}$ " to 2 $\frac{1}{2}$ " are sold as certified seed. Tags are provided by the Department to properly identify the size which is contracted to deliver. The difficulty of keeping the small certified seed separate from the small table stock is obvious and presents a real problem.

We cannot let this develop further before we do something about it. We could accomplish more if we made a regulation providing that seed and table stock could not be handled through the same house. This would be the easy way out for our Department. On the other hand, it would work a hardship on many growers and take a lot of good potatoes out of circulation.

It looks as though we will have to ask the handlers to sign an agreement with us so that we may know when bulk sales of po-

tatoes eligible for certification take place. We will also ask for a weekly report indicating the actual delivery date.

This Division realizes the tremendous strides that have been made in the packaging for consumer use. We must develop a plan to keep up with the trend toward the use of 10 pound, polyethylene bags. These changes will come gradually and will take place when a situation demands action.

I have pointed out that 80 per cent of our certified seed sales at the moment are regular sizes, $1\frac{7}{8}$ " to $3\frac{1}{4}$ ", and 20 per cent are the so-called sized seed. How fast this will change, I believe, depends on the consumer's acceptance and willingness to pay for a good-grade table potato.

There is to be a vote next month on a marketing agreement. If this vote should be favorable, a large increase may take place in the sale of small size certified seed. This would be helpful to our entire seed program.

POTATO DISEASES

There has been a slight increase in the virus content of our certified seed. The offender is an old one, and one about which we are not too greatly disturbed. I refer to the Mosaics, both the mild and some of the more virulent forms. This means that foundation growers will have to do more tuber-unit planting and roguing.

Two years ago I made the statement that our certified seed was quite free from virus diseases. Frankly, I did not realize that DDT was losing its effect in controlling insects. There are other materials which are coming along, however, and being used more and more. Parathion and Malathon are both very good. The practical solution is that there can be no letting down in a spray program to control insects and Late Blight. Our growers must continue to follow the changes that take place and listen to the recommendations that are made by our Agricultural Experiment Station.

Most of the acreage which fails to pass inspection is rejected because of ring-rot. This disease is present in only small amounts; but, because of the zero tolerance, about 60 per cent of our rejection is on account of this disease.

Certified seed growers have consistently maintained their high yields, and they will continue to do so. It is generally known that the best seed should be planted. The income of the farmer is the factor which influences his thinking in regard to seed.

IN THE TRADE

Both Paul J. Eastman and Everett Westin of this Division have made trips outside the state to determine how well seed was performing. They found the usual situations with one possible exception. The market last Winter was very low at a time when some potatoes were being delivered that were sold earlier at a high price. We had several rejections in one area where the price situation was especially bad, and the potatoes were from one per cent to three per cent out of grade. In a normal year, these cars would have been accepted.

This is just a warning to our shippers here at home that we are marking our potatoes No. 1 and advertising to deliver this grade. We must make every car good or suffer the consequences. As always, the bulk of the shipment is made within a short time, and our inspectors cannot hope to see each car as much as they would like.

There can be no let down in a program of this sort. Everyone concerned with it, this Department, the State Seed Board, the growers, and the shippers must keep everlastingly on the job.

GOLDEN NEMATODE

I want to repeat, the Federal Government and the State of New York have done a good job in controlling the spread of the Golden Nematode on Long Island. In making up their program for this year, the State of New York last December promulgated their Golden Nematode Quarantine No. 9, which put under quarantine all lands within the boundaries of Nassau and Suffolk County, the potato part of Long Island.

The State of Maine's quarantine provided that all lands placed under quarantine by New York become a part of a Maine quarantine. This means that no potatoes can be permitted in the State of Maine this year from Long Island.

New York State buys more certified seed from us than any other state. It is only to protect our seed industry that we are forced to accept this situation, at least for this season.

A conference has been called for August 11 by the Agricultural Research Service in Washington. The entire Golden Nematode situation will be discussed. It may be that those best qualified to make recommendations will decide that washed Long Island potatoes, bagged in paper, cannot possibly spread Golden Nematode. Thus, there may be no need of a quarantine in the future.

Personally, I have a feeling that we have been overlooking the most important source of infection. I refer to the imported foreign plant materials. This Department was represented at a conference in Chicago this last Winter. The subject of appropriation for work on Golden Nematode was discussed, and we were very anxious that the money for work on Golden Nematode be continued.

The coming conference should clarify the atmosphere, and I hope that something will come out of it which will be helpful to us all.

THE STATE SEED POTATO BOARD

The State Seed Potato Board is continuing to grow excellent foundation seed on its Masardis Farm. In 1952, 7,300 barrels were produced and in 1953, 14,500.

A word of explanation is in order because of the low average yield of 72 barrels per acre in 1952. The area in which our farm is located was especially dry for the entire season. The average rainfall for July and August was 1.25 inches per month. At the Fall meeting of the Board this matter was discussed in detail, and it was decided to install irrigation equipment, because a year or two with a yield of this kind could put the farm out of business.

Paul Eastman, Assistant Chief in the Division of Plant Industry, took the lead in investigating the sources of water and the type of irrigation equipment. After surveying the entire situation, bids were put out with the result that on July 1, 1953, the installation was completed, a road cleared to the brook, and a farm pond constructed that holds about a million and a quarter gallons. The total expense of the entire project was about \$20,000. There was not an abundant rainfall in 1953. Water was applied three times at the rate of one inch per acre. It was estimated that this gave at least 30 barrels per acre more than we would have had without the irrigation set-up.

This Spring an excess of water during both May and June has fallen. If this continues, there will be no need of irrigation water this year. It is comforting to know that we have everything ready in case of a dry spell. By purchasing two miles of pipe, good motors, and everything to go with it, we have removed one of the worries with which this farm has been afflicted for a great many years.

We are continuing the general program which we have been following at the farm each summer. The hill selections are made, tests are conducted in the greenhouse at Aroostook Farm, and the most promising selections are maintained by planting the following season. As an example of the program, the following is taken from a report which was made by Mr. Merriam and Mr. Porter at our October, 1953, meeting :

<i>Variety</i>	<i>Year Selected</i>	<i>No. Hill Lots Selected</i>	<i>No. Maintained</i>	<i>Yield Test</i>
Kennebec	1949	500	9	1952-1953
Kennebec	1950	325	14	1953
Kennebec	1951	100	87	1954
Kennebec	1952	25	Will be increased	
Kennebec	1952	Indexed 4,500 Tubers, Only 12 showed X virus		
Katahdin	1949	50	5	1952-1953
Katahdin	1950	50	11	1954
Katahdin	1951	25	15	1954
Katahdin	1952	25	Will be increased	
Katahdin	1952	Indexed 4,100 Tubers, Only 8 showed X virus		

A program similar to the above is carried out with each variety, including Chippewa, Cobbler, Cherokee, Sebago, and Teton. The Pungo and the Mohawk hill lots have been combined. Seedlings Nos. 355-45, 607-67, and 515-2 are being maintained. No. 607-67 was named this Spring and is now called Saco. We have only a few planted on the farm this year, and we will know more about them after digging. It is the only variety that we know of that is immune to X virus, has a high resistance to Late Blight, as well as many other good qualities. It takes time to properly evaluate each new lot so there is not much that can be said at present.

In addition to the above work, there have been yield tests made each year. This Spring there are 110 selections of Kennebecs, 31 Katahdins, 6 Chippewas, 7 Teton, and 2 Sebago. In 1952 the yield of the first lots were the Kennebec variety, producing from 142 barrels per acre to 171 barrels. This indicates the relative importance of yield lots and that of making the final decision on which of the lots will be multiplied so as to become the commercial acres on the farm.

Last Winter there were 90 boxes or about 9,000 tubers selected for indexing and testing in the greenhouse. This was in addition to the samples that were run to check X virus in our main crop.

There is nothing spectacular about the program but it is exacting work. The readings must be correct and must be taken at the right time. The samples must be kept properly isolated.



New irrigation system on the State Seed Potato Farm at Masardis in Aroostook county.



When the four or five acres of selected seed are finally planted in the Spring, there, in that section of our farm, one will find the basis of the entire job. In other words, the technicians get in their best work on the small samples, both in the greenhouse and in the fields.

Mr. Porter, our Program Director, has been waiting for an especially wet year to do a job he has had on his mind. This year has provided him with a golden opportunity. He has already rogued three acres of Irish Cobblers, removing the Mosaic plants which carried the type we have called "Weather Mottling." He believes he can improve this strain of Cobblers on our farm. We are waiting with interest for the results of his work. This was a job that had to be done at about the right time, because a few days later the mottling did not show.

The cost of operating the farm has remained reasonably constant, but we have not been able to show a profit in either of the past two years, the first year because of a small per acre yield, and this year because of the \$20,000 expenditure for irrigation equipment.

We believe sincerely that potato growers appreciate the value of the farm, but can only buy this good seed at a price which will keep the farm operating and at the same time enable them to realize a profit from the sale of their own crop.

After digging next Fall, the Board will decide what type of legislation will insure the farm's continued operation after July 1, 1956.

The total assets as of July 1, 1954 were \$147,851.89. The Seed Board still owes the State \$50,000. The price at which potatoes sell this Fall will be important in planning our future operation.

GYPSY MOTH AND BROWN TAIL MOTH

At the suggestion of Governor Cross, a bill was introduced into the last Legislature, transferring the control of Gypsy and Brown Tail Moth work to the Forestry Department. The transfer took place in August of 1953, previous to which time we had, with the help of the U. S. Department of Agriculture, conducted a spraying job in the town of Cherryfield. This was of real value to the blueberry growers in that area. Working under a co-operative agreement with the same Department, we sprayed Camden State Park and the surrounding area. This had been infested the previous season and appeared to be an area from

which spread might take place, because of the large number of people visiting in the park who were traveling to the eastern part of the state.

In my last report I suggested the transfer to the Forestry Department of this phase of our work, and I believe it to be for the best interests of all that this was accepted.

EUROPEAN CORN BORER

The amount of money received from the Corn Tax Committee has been entirely expended in research work. We believe the Experiment Station has pointed out how this pest can be controlled by a spraying program. The time when the material should be applied is the most important information that can be given out. I am sure that either the Experiment Station or this office will plan in the future to have this information available for the growers of corn. An understanding by the growers of the life history and habits of any of these pests is essential for effective control. Many of the workers have come to believe that only the two generation strain of corn borers is present in Maine. The first of these two generations completes a cycle and starts the second generation. We believe this second generation fails to complete its cycle and does not develop in parts of Maine because of the shortness of the season.

JAPANESE BEETLE

The Japanese Beetle has not become any more of a problem in Maine than it has been for the past several years. In general it is pretty well scattered along the coast as far east as Bar Harbor and inland along a line extending from Waterville to Brewer.

We are concerned because, for the first time, the Federal Quarantine affects us. The requirement now is that corn grown within the Japanese Beetle quarantine area must be inspected before it can be trucked to a corn shop outside the area. This field work will be done by the local Federal inspectors who are working on the Gypsy Moth Quarantine.

SUMMARY

The Maine Department of Agriculture's Quarantine against the Golden Nematode was written to provide that any parts of Long Island placed under quarantine by New York State would automatically become a part of the Maine Quarantine. The whole of Long Island has been placed under quarantine, therefore, no potatoes from that area can come into Maine. The State of New

York is our best customer when it comes to selling certified seed, and the situation is to be regretted.

A conference has been called in Washington on August 11 to discuss this entire program, and it is hoped that something may develop that will be more satisfactory to all concerned than the present set-up.

At the meeting of the Potato Association of America in Madison, Wisconsin, in September of 1953, it was my privilege and honor to be made a life member of the Association, an honor conferred each year on a few workers in Agriculture. I appreciate the honor and want to express my gratitude to all those associated with me who have made this possible.

I attended the Chicago Conference this spring. At this time the appropriations for the Federal Bureau of Plant Quarantine were discussed. This seemed to me to be a very beneficial meeting. Our office was particularly concerned with the Golden Nematode appropriation. We were pleased at the trend of events when the original request of the U. S. Department was reinstated in the 1955 budget.

My assistant, Paul J. Eastman, is working to develop some blank forms that can be used by shippers to help us keep track of sized, certified seed potatoes. We would like to get along without making it mandatory to ship only certified stock through a house.

Mr. Porter's roguing of "Weather Mottling Mosaic" from the Irish Cobbler at the Masardis Farm is a forward step in making that variety a high yielder.

Respectfully submitted,

E. L. NEWDICK,
Chief, Division of Plant Industry

To the Chief, Division of Plant Industry:

Grain Certification

The certification program for seed grain has been continued during the past biennium with no major changes. Participation in this program has fluctuated considerably since its beginning in 1949. In 1951 the entry was 8,300 acres, while for 1954 it is only 3,848 acres. During the past three years, the entry has been fairly consistent at about 4,000 acres.

Even when marketed as certified seed, oats are a poor substitute for potatoes as a cash crop in Maine. However, as long as oats continue to be a surplus crop in Maine, it is advantageous to the farmer to sell certified seed because it returns about 20¢ per bushel premium over feed. The average fee charged for certification is slightly less than one dollar per acre.

OAT CERTIFICATION

<i>Year</i>	<i>Acres Entered</i>	<i>Acres Passed</i>	<i>Number of Growers</i>
1949	1,356	943	53
1950	5,732	4,304	213
1951	8,300	6,190	230
1952	4,100	3,150	130
1953	4,393	3,241	97
1954	3,848	3,400	114

In 1953 most of the oats passing for certified seed were marketed as seed. This has not been true during some seasons. Dealers have been successful in finding markets for Maine Certified Seed oats in Pennsylvania, Ohio, Southern New England, and other states on the eastern seaboard. The quality of seed which was shipped under the blue tag in 1953 should strengthen our position in the markets in the future.

A new oat variety, Clarion, made its appearance in 1953. This variety was produced by the USDA breeding program and increased by the State of Iowa. Plans were made for Iowa to release the variety in 1953; but, because of its susceptibility to Septoria black stem disease, these plans were changed. When Iowa decided against releasing it, the USDA suggested that some state in the East take it over. After much discussion with Doctor Taylor of the Maine Agricultural Experiment Station and others, the Maine Seed Potato Board decided to purchase 400 bushels of the stock seed from Iowa. Eastern States Farmers Exchange took about 300 bushels, which was the remainder of the lot. The Seed Board planted 150 bushels on the Masardis Farm, and the rest of the 400 was resold to farmers. The variety produced satisfactory yields in 1953, and late in the fall a strong demand for this variety developed in the Mid-West. It seems that other varieties grown in the West had been attacked by Race 7 rust, and the yield was rather low. Clarions, however, showed high yields in these areas in test plots. Only a limited amount of this variety was available for shipment from the 1953 crop in Maine.

The seed produced at the Masardis Farm was distributed to farmers in Maine for planting in 1954. This seed, in addition to

the seed saved by farmers who had it in 1953, was sufficient to plant 1,149 acres in 1954, which are entered for certification. Much of this acreage is already under contract to fulfill sales to Mid-Western states. The future of this variety depends upon the disease situation in the West, and the ability of the plant breeders to produce a better variety.

Oat varieties are changing rapidly to keep pace with the development of new races of rust. The Clarion might become quite important for a few years if conditions are favorable.

The Clarion is very similar to Clinton. It has a little stiffer straw than Clinton and about the same type of kernel. In Maine tests, it has out-yielded Clinton by a few bushels in most cases. Maturity is similar to Clinton and straw height about the same. It is apparently susceptible to Septonia black stem, a disease which may cause stem breakage late in the season. This disease has never caused serious losses in Maine, and it remains to be seen whether it will be a problem in this variety.

Dry Bean Program

For several years, the dry bean growers of Maine have been interested in some sort of seed improvement program. At several meetings of the directors of the Maine Dry Bean Growers Association, the subject was discussed, and the suggestion made that the Department of Agriculture start a certification program. After examining the situation and conferring with specialists from the Maine Experiment Station and Extension Service, it was decided that there was little use in starting a certification program unless seed of sufficiently good quality was available to plant seed acreage. Such seed was not available. In order to obtain stock seed, free from disease, it seemed necessary to have some seed produced in the West where the diseases Halo Blight and Anthracnose do not occur. The varieties desired, Yellow Eye and Soldier, were not being grown in the seed producing areas in the West, so it was necessary to find cooperators in California and send seed to them for multiplication.

In December of 1951, an agreement was made with the Eckhart Seed Company, Salinas, California, to plant 400 pounds of Yellow Eye and 200 pounds of Soldier for us. We agreed to buy the production from this acreage at 24¢ per pound for cleaned, hand-picked seed.

The area planted in 1952 was 4 acres of Yellow Eye and 2

acres of Soldier. The production from this acreage was 840 pounds of Yellow Eye and 1,670 pounds of Soldier. This was a very poor yield. Of this production, 340 pounds of Yellow Eye and 1,370 pounds of Soldier were shipped to Maine for planting. The remainder, 500 pounds of Yellow Eye and 300 pounds of Soldier, was left in California for planting in 1953.

At this point there was some question as to whether or not these varieties of beans could be grown economically in California. The 1952 yields were so low that our cooperators seemed hesitant to try them again. It was the opinion of the Commissioner at that time, that we should continue the program if possible and find out once and for all whether such a plan was workable. It was decided that someone should be sent to California to make some personal contacts and try to line up at least another year's planting. I was selected to take this trip, a report of which follows:

The Governor's Council approved the trip at a cost not to exceed \$400.

The first contact made was Eckhart Seed Company at Salinas, which was the company that handled our beans last year. Tuesday was spent with Howard Eckhart discussing the matter and looking over the area. As a result of this discussion, Mr. Eckhart agreed to place one-half of the seed stock we have in storage. This should plant about 6 acres. He plans to place this in the Lompoc area, which is about 200 miles south of Salinas in a different valley. The contract price for cleaned seed would be 24¢ per pound, the same as last year. I agreed to try to place the rest of the seed in another area.

On Wednesday I went to the University of California at Davis. I discussed our problem with Mr. James Harrington, and he referred me to several people. I finally found the right man, Dr. Francis Smith, who has worked on beans for over twenty years in that area. He is very close to seed bean production in California and has been instrumental in setting up this program in many of the areas. He was most interested in my problem and was of great help to me. In his records of variety trials, he had the Yellow Eye variety for two years in the Davis area. The yields were not disappointing at all. The average for 1949 was about 1,400 pounds and for 1951, 1,340 pounds. While this is not high for the area, it is sufficient to make production of this variety practical. On the basis of these records, he told me he

thought we could place acreage with a farmer he knew in Marysville.

On Thursday I met Dr. Smith in Sacramento. We drove to Marysville and called on the farmer, Mr. Otto Speckert. After hearing our story, he agreed to take the seed I had left, 135 pounds of Soldier and 235 pounds of Yellow Eye, and plant it on some of his best land. This amount of seed should plant a little over 6 acres in this area. After making this call, we went to see Mr. Merle Collins, the farm advisor or county agent for Yuba County at Marysville. He also has worked with seed bean production for about twenty-five years and was most interested. He agreed to watch our acreage and report to us on its progress.

In addition to these arrangements, Dr. Smith agreed to put both Soldier and Yellow Eye into his trial plots in different areas this coming year. I am sending him 15 pounds of seed each. He also agreed to start the ball rolling to get these varieties accepted in the California Certified Seed Program of the Crop Improvement Association. He felt that this could be done without too much difficulty. It seems an advisable move to protect against confusion in the future.

Having the bean arrangements quite well taken care of, I decided to take a little side trip on Saturday to the potato area in Bakersfield. This trip was made, and I returned to San Francisco in time to catch my flight to New York and Augusta on Saturday night and Sunday.

Our seed bean plantings in California in 1953 will consist of:

1. Lompoc Area	150 pounds Soldier	2 acres
	250 pounds Yellow Eye	4 acres
2. Marysville	135 pounds Soldier	2 acres
	235 pounds Yellow Eye	4 acres
3. Demonstration	15 pounds Soldier	
Trial Plots	15 pounds Yellow Eye	

This 800 pounds of seed, now at Salinas, was reserved from last year's crop for this year's planting. Of it, 600 pounds represents seed donated by the Association and 200 pounds was purchased from the 1952 crop by the Department.

It is hoped that from the results of this year's trial plantings we can select an area for permanent production. In the future, no doubt, the price can be lowered if an area is found where production is satisfactory. The 24¢ price is necessary at the start to induce growers to try out these varieties, because in some cases varieties are almost a complete failure in some areas.

Each variety of beans seems to have its own particular requirements so far as environment is concerned.

The problem of bacterial diseases is non-existent in the seed producing areas in California. This is true because during the growing season there is usually no rain at all. Moisture for growth of the crop is supplied entirely by irrigation. Growing conditions such as these exist only in the far West. This is the reason why eastern bean growers go to California and Idaho for disease-free seed production.

In 1953 the seed which came from California was planted in Maine. The acreage was inspected several times, and a few observations were made. Very little, if any, disease was found in fields planted from this seed where the isolation was sufficient. One field of Soldier beans, planted with California seed, was inspected three times, and no disease was found. This field, planted by Mr. Obed Millet of Palmyra, was well isolated and on ground where no beans had been grown for several years. The seed produced on this field should be entirely satisfactory for planting this year.

Ultimately, it was hoped that seed produced in Maine from California seed could be certified for planting the next year. With a small, continuous flow of foundation seed from California each year, it would then be possible to carry on a certification program which would be of definite benefit to the growers. In 1954 there will be considerable acreage in Maine planted with California seed. Slightly over a ton of each variety was shipped in. We plan to inspect this acreage during the growing season.

The weather plays an important role in this program. Some years, due to dry weather, almost any seed produces fair yields. Other years, when the season is damp, almost all local seed shows a high disease count and some fields suffer great reductions in yield. Probably nothing would give this seed program a bigger boost than to have a damp season when disease spreads readily. If these conditions prevailed, a real benefit would be shown in favor of the western grown seed.

At the present time, there are about 12 acres each of Soldier and Yellow Eye being grown for us in California. It is hoped that next year the contracting for western production can be handled by a committee of the Bean Growers Association. All contracting to date has been done by the Department of Agriculture, and the growers have purchased the seed from the Depart-

ment. Some funds from the Promotion of Agriculture account have been used to get the project started.

Respectfully submitted,

PAUL J. EASTMAN,

Assistant Chief

Bureau of Horticulture

To Mr. E. L. Newdick, Chief, Division of Plant Industry:

I herewith submit a report of the activities of the Bureau of Horticulture for the period from July 1, 1952 to June 30, 1954. These activities have included the licensing and inspection of growers and dealers in the several types of nursery stock, as defined in the statute, the operation of the Maine Apple Tree Pool, and the licensing and inspection of apiaries, together with providing assistance to, and cooperating with, organizations and individuals engaged in various horticultural enterprises.

NURSERY STOCK

Inspections in this field involve both the premises where nursery stock is grown, under glass and outdoors, and those where it is offered for sale, the intent being to detect the presence of serious insect and disease pests and to see that the stock is handled and displayed under proper conditions. Accordingly it is necessary to call on greenhouse operators, outdoor growers, small fruit growers, flower shops, and various retail outlets merchandising nursery stock in addition to other lines of trade.

NURSERY LICENSES ISSUED

<i>Year</i>	<i>Fee</i>	<i>No Fee</i>	<i>Total</i>
1945	434	184	618
1946	466	177	643
1947	512	199	711
1948	540	157	697
1949	657	121	778
1950	742	157	899
1951	823	150	973
1952	798	157	955
1953	799	163	962
1954 (to 7/1)	717	136	853

The quality of nursery stock (rose bushes, shrubs, fruit trees, evergreens, and perennials) handled by retail stores other than regular florist and nursery outlets has been improving steadily. Our inspections and suggestions to managers have resulted in the shipment of smaller units of stock to the stores with the result that the plants are sold out more quickly, and are less likely to dry out seriously on the counters. In addition we have been able to show the managers when plants have dried beyond a safe point, with the result that many now dispose of unsuitable stock when it reaches an unsalable condition. Consequently the volume of stock requiring condemnation is decreasing. Occasionally, however, a bad lot is intercepted and condemned, as was the case of a shipment of approximately 25,000 Multiflora Rose bushes this past spring; the greater part of the plants on this load were so badly dried out on arrival as to be worthless and the entire load was condemned.

In this period of economic readjustment a vexing problem has developed in the industry, especially among growers and handlers of cut flowers and pot plants. In essence, this problem has developed because of the relatively stationary level of the selling prices of these products which has prevailed over a considerable period of time, in the face of sharply rising costs of labor, materials, transportation and other elements entering into the cost of production.

The producer is attacking this problem largely through the development of more efficient production methods. Consequently considerable interest has been manifested in the installation of various labor saving devices, as for instance automatic heat and ventilation control in greenhouses, automatic watering devices, soil sterilization methods, more efficient insect and disease control materials and methods, and improved plant varieties.

The retailer is following along with an awakened interest in the application to the florist business of progressive methods of merchandising and in the more effective use of the many types of advertising media now available to him.

In both of these situations we have attempted to offer encouragement and assistance in every way possible, and we feel that real progress is being made.

One particular item of interest in the industry meriting mention involves the famous collection of Tuberous Begonias assembled by the late Alfred Heller at Ginn's Point, near Rockland.

This collection was assembled by Mr. Heller as a hobby into which he put a great deal of time and study; its accomplishment was made possible through contact with Begonia specialists in many parts of the world. Following Mr. Heller's death the collection was purchased by Walter E. Morse, Jr. of Rockland, and the special greenhouse housing it was moved to the site of Silsby's Greenhouses, operated by Mr. Morse. A visit to this outstanding collection during the blooming season reveals the breathtaking beauty available in the many flower types and colours included in this branch of the Begonia family, and is an event no one interested in horticulture should miss.

SMALL FRUIT PLANT INSPECTIONS

The certification of strawberry plants continues to make up a considerable part of our inspection work, although the number of applicants for certification has dropped off somewhat, as shown in the following compilation:

LICENSED STRAWBERRY PLANT GROWERS

<i>Year</i>	<i>Inspections</i>	<i>Disqualified*</i>	<i>Certified and Licensed</i>	<i>Total Acreage</i>
1946		12	41	37%
1947		11	73	38¼
1948		3	90	40¼
1949		4	92	65⅞
1950	190	11	110	104
1951	161	20	113	151
1952	169	22	125	142½
1953	131	14	88	79 2/3
1954 (to 7/1)	91	8	85	74¼

* Red Stele root disease, Cyclamen Mite, and Winter injury are the major reasons for disqualification.

Since the Red Stele root disease and the Cyclamen Mite continue to be the major problems in strawberry plant production, two inspections, one in the early season and one in the Fall, are made on each plot insofar as possible. The Red Stele disease has declined somewhat in importance as resistant varieties are becoming more generally planted. Mild mite infestations have been effectively controlled by thorough roguing of infested plants; in more severe infestations the use of methyl bromide fumigation has been required.

A new development in the strawberry industry appears to be imminent with the recent development by the USDA of a practical method of producing plants free from virus diseases. Foundation stocks of a few varieties have already been developed under their program and the plants were first available to the public in the Spring of 1954. As this virus-free stock becomes more

widely used there is every reason to believe that considerable increases in production may be expected, and the familiar "running out" of varieties will be checked.

There has been some question as to why there are not available more sources of locally-grown certified raspberry plants. The major problem in producing certifiable raspberry plants has for many years been the prevalence of raspberry virus diseases throughout this area. The problem is intensified by the widespread growth of wild raspberries, practically all stock of which is virus-infected. In addition, the control of virus in a planting depends upon constant observation and the immediate and complete removal and destruction of all plants showing virus symptoms. Since most plantings in the state are grown primarily for fruit production, and since fruit production would be considerably curtailed by the continual roguing which effective virus-control demands, most growers feel that the effort is not worthwhile and prefer to maintain their plantings for fruit production alone.

MAINE APPLE TREE POOL

The Maine Apple Tree Pool is a service of long standing to the commercial orchardists of Maine. The Pool is a cooperative buying project in which orders from individuals are assembled and combined into a bulk order. The Department then supervises the selection, purchase, and delivery of the trees. Fruit growers, by means of the Pool, are given the advantage of obtaining top-grade planting stock at a substantial saving in price, with the additional benefit of quick delivery from the nurseries at the proper time for planting. Shipment of the trees into Maine is made by truck directly from the nurseries at a designated time, materially reducing the length of time the trees are in transit. Another advantage to growers was demonstrated in the 1954 Pool, when due to planting conditions in other fruit growing sections, certain popular varieties were becoming scarce in the Spring and the price for them was increasing; because of advance reservations and price arrangements, however, it was possible to fill all orders for these varieties, and at no increase in price.

The following tables are included to show the quantities and kinds of fruit trees which have made up the Pool orders during the past five years, with the orders for apple trees listed by predominating varieties. This analysis illustrates the approximate

variety trend in apple tree plantings which has prevailed during the past twenty years. The total number of apple trees purchased, 30,393, represents a quantity sufficient to set approximately 600 acres of land at the average planting rate of 50 to 55 trees per acre.

FRUIT TREES INCLUDED IN POOL ORDERS

	1950		1951		1952		1953		1954		5 yr. Total
	(70 Orders)	(70 Orders)	(70 Orders)	(70 Orders)	(65 Orders)	(75 Orders)	(80 Orders)	(80 Orders)	(80 Orders)		
	1 yr.	2 yr.	1 yr.	2 yr.	1 yr.	2 yr.	1 yr.	2 yr.	1 yr.	2 yr.	
Apple	3548	2936	2747	2963	2378	1444	4066	3458	3448	3405	30,393
Pear	38	165	60	163	149	160	140	184	118	112	1,289
Sweet Cherry	14	17	17	17	35	38	33	48	8	50	277
Sour Cherry	45	22	41	87	63	146	113	153	87	146	903
Plum	22	79	70	126	73	113	91	165	20	96	855
Peach	773	—	454	—	576	—	507	—	428	—	2,738
Total (by Age)	4440	3219	3389	3356	3274	1901	4950	4008	4109	3809	
Total Order	7,659		6,745		5,175		8,958		7,918		
Total number of Fruit Trees Purchased in past 5 years											36,455

APPLES

	1950		1951		1952		1953		1954		5 yr. Total										
	1 yr.	2 yr.	1 yr.	2 yr.	1 yr.	2 yr.	1 yr.	2 yr.	1 yr.	2 yr.											
McIntosh	1913	1191	886	764	898	488	1861	1601	1314	1195	12,111										
Cortland	679	840	282	205	257	114	731	474	375	439	4,396										
Yellow Delicious	288	104	974	468	363	74	264	387	617	519	3,957										
Red Delicious	204	228	204	402	221	335	558	409	594	563	3,718										
Early McIntosh	125	43	35	355	114	145	134	160	186	27	1,324										
Northern Spy	74	243	79	204	85	97	113	129	227	56	1,307										
All Other Varieties	265	287	287	565	541	191	405	298	135	606	3,580										
(Approximately 35 Varieties Represented)	3548		2936		2747		2963		2378		1444		4066		3458		3448		3405		
Total Apple Trees	6,484		5,710		3,822		7,524		6,853												
Total number of Apple Trees Purchased in past 5 years											30,393										

APIARY INSPECTION

Reginald B. Swan of Brewer has continued to render an outstanding service to the beekeepers of Maine in his capacity as state bee inspector. As has been the practice since the reinstatement of the bee inspection work in 1950, it has been deemed advisable in planning his inspection program to pay particular attention to those areas where diseases have been known to exist. As a consequence, during the past two years several serious disease situations have effectively been cleaned up.

The diseases American Foulbrood, and more recently, European Foulbrood, both having disastrous effect on bee larvae, offer the most serious threats to the industry. By careful management coupled with the use of preventive antibiotic drugs losses from these diseases can be greatly reduced, and it is through the

dissemination of information in this regard, particularly among beekeepers with small holdings, that Mr. Swan is able to provide one of his most beneficial services.

Following his work on disease control and prevention, emphasis is next placed on answering calls from beekeepers encountering other problems with their bees. In carrying out these efforts regular inspection calls are made in the neighbourhood so as to cover as much ground as possible during the relatively short period during the summer when hive inspections can effectively be made. The results of these inspections, and the number of beekeepers registering with the Department, are shown in the table below. It should be noted that the disease percentage figures may not reflect the true picture since, as stated before, inspections have been centered on areas where trouble is known to exist. It will also be noted that no inspections are recorded for the period in 1954 up to June 30; this is accounted for by the extensive periods of rainfall occurring during the late Spring, which made the disturbance of hives inadvisable.

Because of the very important part the work of the honeybee plays in pollinating many agricultural crops, it would appear to be very helpful if regional inspectors could be put into the field, thus permitting more complete coverage of the beekeepers of the state each year. However, with the funds currently available it has been felt that the employment of a single inspector would accomplish the most useful results, since his assistance to the industry would thus be available throughout the season.

In addition to his inspection work, Mr. Swan also maintains contact with the industry through close cooperation with the state and regional beekeepers associations and with other activities aimed at the promotion of the industry.

LICENSES AND INSPECTIONS

<i>Year</i>	<i>Licenses Issued</i>	<i>Colonies Reported</i>	<i>Inspections</i>	<i>Colonies Inspected</i>	<i>Colonies Diseased</i>	<i>Bee Yards Involved</i>
1950	549	3,594	287	1,765	3.3%	10.0%
1951	594	4,065	292	2,198	1.8%	6.5%
1952	551	3,875	294	2,707	2.5%	12.9%
1953	642	4,450	243	1,583	3.4%	12.8%
1954 (to 7/1)	410	2,699	—	—	—	—

MISCELLANY

In addition to the foregoing activities considerable effort has been devoted to cooperation with the several organizations in the state having horticultural interests, to answering requests

for information from individuals in the office and by field calls, to the delivery of talks to organizations and by radio in the interest of horticulture, and serving as horticultural judge at many fairs and flower shows.

The Maine State Florists' Association represents the commercial floriculturists of the state. It sponsors two instructional meetings and a summer gathering each year, all of which draw considerable numbers of Maine florists and greenhouse operators as well as many members of the trade from neighbouring states. Well attended meetings are held in Lewiston in January, in conjunction with the annual Agricultural Trades Show, and in the Spring at the University of Maine at which are provided lectures and demonstrations relative to current developments and problems in both the growing and retailing sections of the industry. At the Lewiston meeting a colourful flower show is presented, demonstrating to the public a wide range of ideas for the use and enjoyment of flowers, particularly for home and personal use. I have worked closely with this association and have served it for several years as secretary-treasurer.

A particular service by the Bureau to those engaged in commercial floriculture is the preparation and distribution to Maine plantmen of "The Maine Leaf," a monthly newsletter. This publication, containing items of current interest in industry problems, notices and accounts of meetings, news items relating to members of the industry, and other material designed to keep its readers posted on happenings in the field, is now in its eleventh year.

The Maine Pomological Society, representing the fruit growing industry, has a fine record of accomplishments in assisting fruit growers in keeping abreast of new and improved developments in the production and handling of the crop and in sponsoring effective sales promotional programs. I have been a member ex officio of its executive committee and have planned and constructed its displays annually at the Agricultural Trades Show.

The Maine Gladiolus Society is an energetic organization of over four hundred commercial and amateur gladiolus growers, the highlight of whose season is its annual exhibition held in late August. This exhibition is the largest flower show staged in the state and always creates a great deal of interest both within the state and among gladiolus growers in other sections. Currently there is much activity in the group in the development of new

varieties through the production of seedlings. Each summer several special meetings are held for the purpose of displaying and evaluating the most promising of the seedlings produced. I have cooperated with this group in all of its projects.

For the Garden Club Federation of Maine, a statewide organization of 65 local garden clubs and over 3500 individual members, I have served as chairman of horticulture and have aided the organization in other ways, as in helping to set up program material for Federation meetings, speaking to individual clubs and judging at flower shows.

A relatively new organization interested in horticulture is the Maine Division of the Women's National Farm and Garden Association, a group devoted to the promotion of better understanding between rural and urban women and one of whose chief purposes is the stimulation of the study of horticulture by women both off and on the farm. I have served on its directing Council as chairman of horticulture.

In addition, the Bureau is called upon many times during the year to supply lectures and other informational material on various horticultural subjects on the radio and to Granges, Extension groups and service clubs, as well as to those organizations already noted. Also, during the Fair and flower show seasons many requests to judge horticultural materials and exhibits are received. Information on a wide variety of questions relative to horticulture and related subjects is supplied to individuals upon request, in some cases by mail and telephone and in others by field calls. Other requests involve suggestions for landscape developments for private and public properties; a notable case this past year was a request from the Limestone Air Base for information relative to planting suggestions in connection with its extensive housing and service facilities.

In conclusion I wish to acknowledge my sincere appreciation to Albion Goodwin for his assistance and cooperation in performing the duties of the Bureau, to Professor Roger Clapp of the Department of Horticulture of the University of Maine for his help in many activities and particularly for his assistance in field and greenhouse inspections during the summer months, and to you for the benefit of your guidance and counsel in matters pertaining to the operation of the Bureau.

Respectfully submitted,

EDWARD D. JOHNSON,
State Horticulturist

MAINE CASH FARM INCOME

Calendar Years

	1952	1953
Dairy products	\$ 32,265,000	\$ 33,134,000
Eggs	29,118,000	32,536,000
Broilers	23,647,000	27,447,000
Chickens	8,157,000	8,967,000
Cattle and calves	6,745,000	5,670,000
Hogs	1,747,000	1,614,000
Turkeys	1,782,000	1,611,000
Other	1,545,000	1,874,000
LIVESTOCK AND PRODUCTS	\$105,006,000	\$112,853,000
Potatoes	\$ 86,262,000	\$ 38,404,000
Hay	2,475,000	1,870,000
Oats	1,316,000	1,496,000
Dry beans	971,000	930,000
Lettuce	578,000	664,000
Other crops	3,116,000	4,173,000
Apples	2,163,000	2,730,000
Strawberries	747,000	544,000
Other fruit	1,525,000	1,661,000
Forest (from farm lands)	7,636,000	7,205,000
Greenhouse and nursery	2,860,000	2,900,000
CROPS	\$109,649,000	\$ 62,577,000
TOTAL	\$214,655,000	\$175,430,000

Statistics from U.S.D.A. Agricultural Marketing Service.