

# MAINE STATE LEGISLATURE

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1948-50

(In three volumes)

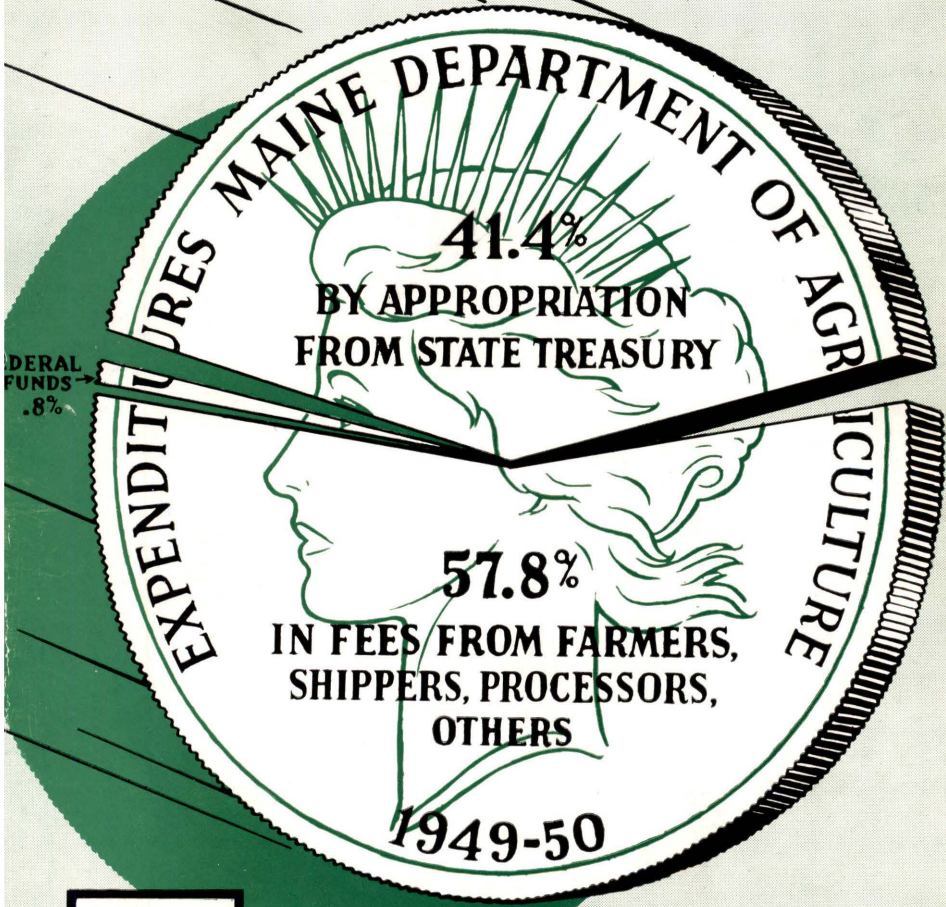
VOLUME I

# MAINE

## DEPARTMENT OF AGRICULTURE

### *Biennial Report*

2



FEDERAL FUNDS  
1.8%



JULY 1, 1948 - JUNE 30, 1950



STATE OF MAINE

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BIENNIAL REPORT

OF THE

Commissioner of Agriculture

TO

His Excellency the Governor

AND

Executive Council

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July 1, 1948 to June 30, 1950

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

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*To His Excellency, Governor Frederick G. Payne, 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, 1948, and ending June 30, 1950.

Respectfully yours,

A. K. GARDNER,  
*Commissioner*



A. K. GARDNER

*Commissioner*

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## Organization of the Department

The following material on the activities of our Division of Plant Industry is a companion to the article in our report of two years ago dealing with the Department's Division of Inspection. It is planned to include similar material relative to our other operating Divisions in subsequent biennial reports.

☛ The Division of Plant Industry has nine different sources of income, has 35 permanent personnel and seasonal help, at different times of the year, totaling about 70 people. The functions of the Division are



certification of seed potatoes, certification of seed oats, foundation seed roguing service, insect control, bee colony inspection, certification of soil conservation accounts, operation of a bureau of horticulture and the Maine Seed Board Farm.

**Certification of Seed Potatoes** — The purpose of this function is to make available a supply of good certified seed to customers in twenty-three states. Inspectors go into the field and check the growing plants to determine the amount of disease present. The standards are rather high, and if there is more than the amount stated in the regulations, the field is rejected for seed. Three inspections are needed during the growing season followed by additional inspection of the potatoes at the time of grading and shipment. The service is not compulsory, simply offered to any growers who care to use it, and is paid for by those who do use it. Plant and tuber diseases are the basis of determining the quality of seed. Sixteen permanent inspectors, plus ten seasonal, are employed.

**Certification of Seed Oats** — This is a new project established in the Spring of 1949 in response to grower demand. One field and one bin inspection, in addition to a car-lot inspection at the time of loading, is furnished. The standards were established after several weeks of study, and are nearly the same as the recommendations made by the International Crop Improvement Association. It is necessary for the inspector to check the growing plants about the first of August and determine whether or not the grain is sufficiently free from smut and noxious weeds to meet the standards. After harvest, a bin sample is taken. This must meet the requirements of the shipping grade, plus the standards established by the United States Grain Inspection Service. This means that a grain inspector will have to be trained and stationed where he will be available to answer all calls. One permanent employee and four seasonal inspectors are required.

**Foundation Seed Roguing Service** — Inspectors make two or three visits to each foundation plot to remove diseased plants, their tubers and seed pieces. These men are trained especially for this type of work and have a keen eye for diseases. The Service is available to Foundation Growers only, on application. By this means, it is possible to have extra good seed to sell or to multiply for sale to certified growers. Sixteen seasonal inspectors are used.

**Insect Control** — By statute, the Division is charged with work on the browntail moth, gypsy moth, Japanese beetle, satin moth, greenhead fly and the European corn borer. Inspectors locate infestations by field scouting.

For example, in the case of the Japanese beetle, the information is obtained by setting out and tending traps which attract the insect. After an inspector once has the information as to where the colonies are located, their size, etc., he makes recommendations for action.

The town authorities are generally notified as to the situation in their area and, if necessary, a commercial cooperative spray program is set up for the town. The arrangements for the work, plus the inspection of the job at the time that it is being done, is part of the inspector's job.

Among other duties of inspectors on insect control is work with the Federal agencies in releasing parasite material, making recoveries of the same, and the study and reporting of area defoliation — another method of determining presence of insect populations.

One full time inspector helps in maintaining the gypsy moth quarantine and certifies lumber, quarried stone, railroad ties, and similar material which has to be shipped out of state.

The Division is now furnishing some help on European corn borer work, especially in making surveys to aid the Maine Agricultural Experiment Station. It administers a commodity tax which is now being expended for research by the Experiment Station.

Two permanent and eight seasonal inspectors are employed on Insect Control.

Bee Disease Control — The object of the Division's inspection work on bees is to determine whether or not the hives are free from disease, particularly American or European foul brood. The last Legislature provided for a tax of 10¢ a colony (minimum \$1.00) and set up a small appropriation. Owners of bees are required to register with the Department. Present funds make it possible to use one inspector three months of the year.

Soil Conservation — The Division of Plant Industry certifies accounts and approves budget requests of the State Committee on Soil Conservation.

Bureau of Horticulture — The Bureau is charged with the licensing of all nursery stock handlers in the state, and the inspection of nursery stock grown, sold, and shipped into the state. Nursery stock, according to Maine law, includes all types of ornamental plant material; cut flowers, grown outdoors or in greenhouses, together with fruit trees and plants. Inspections of stock and premises are made where nursery stock is grown and wherever it is offered for sale; the latter includes nurseries, greenhouses, gardens, stores, itinerant trucks and roadside stands.

Nursery stock is checked not only for the presence of injurious insects and infectious diseases, but also for condition as it may be adversely affected, for instance, by drying, extremes of temperatures, and by other improper methods of handling. Among diseases and insects currently of concern are virus diseases of several crops including gladiolus, carnations, strawberries and raspberries, the Red Stele root disease of strawberries, the Gladiolus Thrips, and Mites of several species. In cases where stock is found for any reason to be unfit for sale it may be condemned and destroyed, or if salvageable remedial measures are recommended.

A Bureau service to Maine orchardists is the operation of the Maine Apple Tree Pool. Fruit trees are purchased for the growers upon order, giving them the price advantage of group buying; trees of superior quality are obtained by careful examination and inspection at the nurseries where they are grown.

The Bureau is also called upon to assist and advise persons and groups engaged in horticultural activities. This involves considerable correspondence, numerous field calls and lectures, and cooperation with various organizations including the Maine State Florists' Association, the Maine Pomological Society, the Garden Club Federation of Maine, the Maine Gladiolus Society, the Grange, Farm Bureaus, fairs and, others. The Bureau also cooperates with the Federal Bureau of Entomology and Plant Quarantine in matters pertaining to nursery inspections.

The work of the Bureau of Horticulture is carried out by the State Horticulturist, an assistant, and two additional part-time seasonal inspectors.

Maine Seed Potato Board — The State-owned seed farm in the town of Masardis is being operated under the direction of the Seed Potato Board. The chief of the Division of Plant Industry is secretary of the Board and administrative agent. The farm's purpose is the production of super-seed free from ring-rot for Foundation growers. The program has gone beyond this and, in cooperation with the Experiment Station, all of the varieties now on the farm are either latent free or have been inoculated so that only a mild form of latent is present.

Work with new varieties is being carried on and the farm has made many thousands of bushels of the new Kennebec variety available to growers. It is a self-sustaining project with \$82,000 worth of land, buildings and equipment. There are 217 acres of tillable land.



*Inspecting Maine Turkeys for the Blue, White and Red State Trademark. See Pages 18, 22.*

*A field of oats entered in Maine's new certified seed oat program. See Page 61.*



## Report of the Commissioner

Maine farm income has been at a high level during the last two years, yet the over-all view of our agriculture has been far from happy. We have had very dry summers, bringing financial loss to many farmers and the continued threat of fire to all. Our potato men have been confronted with unfair competition from Canada, which, accompanied by curtailment of our tablestock potato acreage, has worked very real hardships in the northern part of our state.

As a Department, we have done everything possible to aid Maine farmers to make progress despite such inflexible conditions.

On the better side, Maine's program to eradicate Brucellosis (Bang's Disease) has now brought official recognition of progress. The reduction of infection in all counties of the state is sufficient to give Maine standing as a modified accredited area at the beginning of the 1950-52 biennium. A chart showing step-by-step progress in our area testing program is included in the report of our Division of Animal Industry.

Several Maine agricultural industry groups have made significant contributions to progress during this biennium. Men from our broiler industry have joined together to inaugurate at Belfast the annual "Maine Broiler Day." This is in fact a day and a half of information and good eating, designed to give eastern agriculture a better concept of the Maine broiler industry, and to give to anyone who can come to Belfast a sample of the finest broilers, barbecued to perfection.

The same industry has cooperated with us and other State agencies in the operation of the Maine Broiler and Production Test, already a much-copied yardstick for the gauging of old and new broiler strains. The Maine Development Commission last winter made funds available for the construction of a new Test building at Monmouth. This further increases the value of our yardstick, making possible additional data on feed consumption.

In the latter part of the biennium, an industry committee was formed to assist in promotion of the beef raising industry. Opportunities for beef production in Maine appear to have been expanded

by curtailment of our potato acreage. There is real, increasing interest throughout the state.

The Department has been pleased to cooperate in the new annual Dairy Day celebration initiated in the Lewiston-Auburn area by Ralph Whittum. Both observances to date have required a tremendous amount of work by Mr. Whittum and his assistants. There has been great public and industry interest.

During the time when our potatomen have been most handicapped by national policies, our seed men have cooperated individually and through the Maine Seed Potato Board in increasing the new Kennebec potato — a potato of real promise with many good growing characteristics. This may not be the ultimate potato for Maine but it is a good sturdy plant, maturing early, and has a fairly high dry matter content. Yield is good and the Kennebec appears superior to current varieties. The chief of our Division of Plant Industry is secretary of the Maine Seed Potato Board and the administrator of its program.

The Division of Plant Industry has instigated an oat certification service, which, according to present indications, will be used extensively during the 1950-52 biennium. The price situation is somewhat different in this commodity than it has been in the past, as prices are likely to be relatively high as long as the Secretary of Agriculture supports the price nationally. There seems to be an increased demand for both seed and feed in this area. The New England Crop Reporting Service expects our 1950 production to be about four million bushels.

Study of current needs in our Division of Inspection indicate the desirability of changes in laws regulating the distribution of agricultural seeds. A similar situation exists in our authority to control new poisons used on the farm and in the home.

The report of the Deputy State Sealer of Weights and Measures describes utilization of our new mobile vehicle scale testing unit. Purchase of this equipment, which has been badly needed in the state, was possible within current Department funds.

Additional work has been placed upon our Division of Markets through greater demands upon the Federal-State Shipping Point Inspection Service. This matter is dealt with in detail in the report of the Division.

Several routine functions of the Department have been improved in this biennium. Among recent changes is expansion of our market news reporting service. Effective with the beginning of the 1950-52 biennium, radio stations and newspapers will cooperate in the free daily use of market information collected by our Division of Markets. The cost, in man-hours and travel, of Department radio programs has been reduced through the purchase of inexpensive recording equipment, which has also been utilized to produce a sound film on the Maine broiler industry, which was televised at Boston.

A. M. G. Soule, veteran chief of our Division of Inspection, retired on February 6, 1950, after State service of 42 years and 9½ months. His long record as a law enforcement official included distinguished service to both farmers and consumers. His principal duty was the protection of the consumer from contaminated or adulterated foods and drugs.

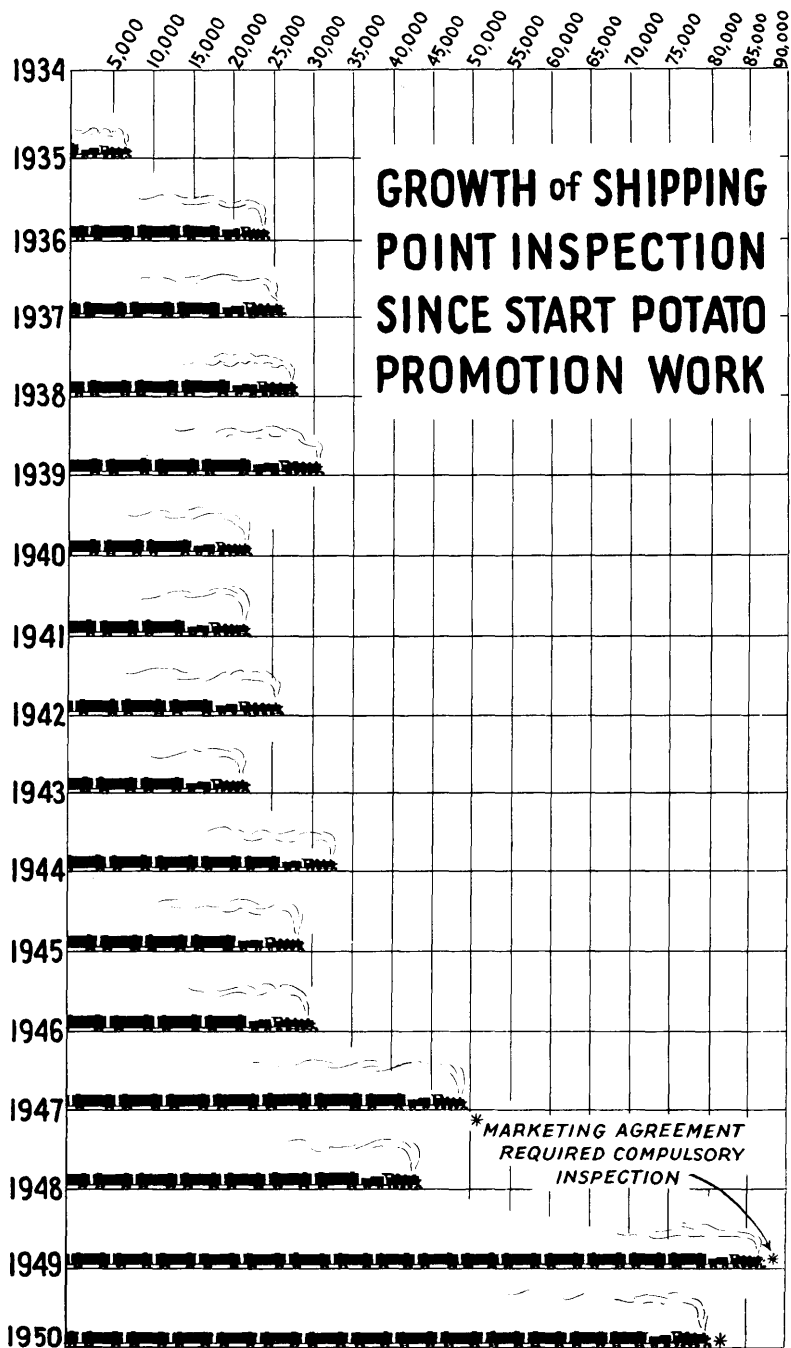
This report includes a paper prepared by Mr. Soule for delivery at a testimonial dinner given him by fellow workers at the time of his retirement. It is largely a history of the Maine Department of Agriculture, in which his life was spent.

At the time of his retirement, Mr. Soule was a member of the Executive Committee of the Fertilizer Control Officials Association of the United States. He is a past president of two national organizations, the Association of Food and Drug Officials and the Association of American Feed Control Officials.

Clayton P. Osgood of Hallowell, who for twenty-five years had been the Department's chief dairy inspector, working in our Division of Animal Industry, was selected to succeed Mr. Soule. Kenneth B. Johnson of Perry, a dairy inspector since 1934, was promoted to replace Mr. Osgood.

A. K. GARDNER,  
*Commissioner*

STATE OF MAINE





## Division of Markets

*To the Hon. A. K. Gardner, Commissioner of Agriculture:*

One of the most significant changes affecting agriculture during the period from July 1, 1948 to June 30, 1950 is the policy of the present U. S. Secretary of Agriculture in making a political issue of the price support program. As long as the present policy continues of using the support program to attract votes rather than administer it for the benefit of agriculture and the people, our producers are bound to be the ones to suffer.

Realizing that there is little that the Division of Markets can do on the above situation, we have devoted our time and effort the last two years to stepping up our work in marketing to aid any and all groups in finding outlets for their produce. We have devoted considerable time to promoting better grading and merchandising practices. One of the outstanding developments during the past two years has been in our poultry processing plants. This industry is still in its infancy, although it has made remarkable strides in grading its merchandise in the short length of time it has been operating. At the present time the Division of Markets has five resident graders stationed in poultry processing plants.

These plants are shipping a substantial amount of poultry into our Eastern markets, officially graded to meet the rigid requirements of the United States poultry grades. Although many of these plants are still expanding, the operators have devoted considerable time to improve their existing facilities so that today some of our plants compare very favorably with processing plants in areas which have been established for a long period of time. Along with the development of processing plants, has been the improvement of our broilers so that at the present time Maine broilers are commanding a premium in the New York market.

The shipping season of 1948-49 was the first year that Maine had a Potato Marketing Agreement, which required that all potatoes marketed, with the exception of certified seed and small lots of 1500 pounds or less, had to be inspected by personnel from the Division of Markets. The same Marketing Agreement was in effect this last shipping season, 1949-50, and I believe that personnel under the

supervision of G. Ray Warren, Federal Supervisor; Vernon Palmer, Chief Potato Inspector, and Supervisor Cedric Porter, should be especially commended for the way this work has been carried out.

### **Personnel**

It is fortunate for the Division that it has been somewhat easier to hire competent help during the past two years. In 1948, Merritt Z. Caldwell was promoted to Assistant Chief of the Division in Charge of Inspection Work, and with the introduction of the Marketing Agreement we established positions for seven supervising inspectors. This seemed advisable due to the increased work load resulting from the adoption of the Marketing Agreement by the growers and shippers of potatoes. The only other major change was the coming of Andrew E. Watson as Marketing Specialist, to take the place of Leroy C. Brown, who resigned.

### **Marketing**

A brief summary of the activities of the marketing branch of the Division of Markets is herewith submitted for the fiscal years July 1, 1948 to June 30, 1950.

The marketing branch of the Division has for the past two years endeavored to assist all the various agencies concerned with the marketing, packaging, processing, and distribution of Maine farm products, to improve the present methods and to increase the demand and distribution of the many commodities produced in Maine.

It has often proved advantageous to combine our funds and efforts with the other agricultural agencies in the state, the U. S. Department of Agriculture, and many other organizations whose interests might be concerned with one or more phases of the marketing procedure of some farm commodities.

Because of limited space, it is impossible to report in detail the procedure and results of each endeavor, but detailed reports may be secured on any or all undertakings by contacting this office.

#### *Potatoes*

By combining our efforts with those of the Maine Agricultural Experiment Station, the U. S. Department of Agriculture, the Departments of Agriculture of the Northeastern States, the potato

industry, and many trade outlets, we have been able to study the quality of potatoes at the various steps in the marketing procedure (from storage houses to retail outlets), consumer preference as to sized and unsized potatoes, washed and unwashed potatoes, and also the deterioration and physical breakdown of potatoes in transit. From these studies it has been possible to make recommendations that have improved the quality of potatoes offered to the consumer.

A new grade of potatoes known as the Maine Green Mountain Baker was promulgated by the Department. The specifications for the grade are the same as for the U. S. Consumer Grade A Large, except for size, which is 3 to 3½ inches, and that this grade can only be sold under the Maine Blue, White and Red Trademark.

With the assistance of the Potato Tax Committee and the Maine Agricultural Experiment Station, trial sales of washed, wrapped, and boxed Green Mountain Bakers was made. From this test it was found that the Green Mountain potato as a variety was most acceptable to the trade in almost any type of container, but that the variation in size of the potatoes in any one container was too great. In no case should potatoes vary in size more than one-half inch, and preferably, only one-quarter inch. In brief, if Maine potatoes were packaged in closer size ranges, they would be more acceptable to the consumers and meet greater acceptance on the markets.

### *Dry Beans*

Maine for many years has been a producer of dry beans. With the greater percentage of the beans produced being sold to the canners for processing, the remaining beans were sold in bulk through wholesale and retail outlets.

Due to the progressive sales methods used by other bean producing areas and the advent of cellophane bags and self-service stores, Maine has been having more and more difficulty in disposing of the bean crop, resulting in a slow decrease in the acreage planted each year.

In March, 1949, a group of bean growers, buyers, and canners met at the Department's office to arrive at a solution for their problem. Following this meeting a very careful analysis of the bean industry was made, considering the methods used in growing, harvesting, selling, and other factors related to the industry in Maine.

Following this survey, a representative group from the bean industry, with a member of the State Department of Agriculture, visited other bean growing sections of the country to study their methods

of operation hoping that new ideas or methods could be found and adapted to Maine conditions.

The survey committee found that many of our methods were very antiquated and costly. It was very evident from this visit to other areas that if Maine were to remain in the bean business on a competitive basis, new methods and equipment must be adopted.

In addition to this, many of the varieties grown in Maine were either unknown or met with little favor on many markets; thus requiring a change of varieties grown to meet market demands outside the state.

Grades and standards for dry beans produced in Maine were formulated. The United States standards were adopted. It was necessary to formulate such standards to take advantage of the State Blue, White and Red Trademark as an identifying mark, and of the State's advertising of its farm products.

A large and modern threshing machine was purchased on a cooperative basis to thresh not only the owners' beans, but also to do custom threshing. Bean cleaning and grading equipment was installed by the state's only bean elevator. The greatest handicap in making the equipment available was the lack of electrical power.

The different companies intending to package beans bought new equipment such as a bagging machine, sealers, scales, etc.

An organization to further the bean industry, known as the Maine Dry Bean Growers Association, has been formed. Through the efforts of this organization, an advertising and promotional committee supported by voluntary contributions from the industry has been formed to work with this Department.

### *Apples*

In July, 1949, a crop reporting service was undertaken at the request of the fruit growers, as many felt the published figures were inaccurate. Practically all of the commercial apple growers of Maine were contacted to obtain the information (those contacted produced 82 per cent of the 1948 crop). Additional information as to storage facilities and disposition of the crop were obtained.

From information collected, over 80% of the 1948 crop was sold for fresh fruit consumption and less than one-third of the crop was sold to out-of-state buyers. The importance of Maine markets and the need of a quality marketing program was emphasized to the growers by the data obtained.

An active participation with package manufacturers, transportation agencies, and fruit packers was maintained to develop and produce both a consumer and a gift package that would place in the hands of the consumer apples free from bruises. One consumer package which we had an active part in designing was so well accepted by the buying public that more than 75,000 of the packages, or better than 6,000 bushels of fruit, were disposed of in less than two months.

To further improve the quality of apples purchased by the consumer, a store-service survey was undertaken. The purpose was to determine the type of store-service program which would be most effective. It was determined that growers would benefit by better packaging and more strict laws as to grading and marking of fruit, not only at wholesale and retail levels, but also in newspaper and radio advertising. As time permitted, store-service work on potatoes and other farm products was maintained, attempting to improve the handling methods and to encourage better sales displays.

It was further determined that store-service work should be maintained by the dealers servicing the different retail outlets. Any store-service work undertaken by the Department should be directly in conjunction with the suppliers of retail outlets.

### *Poultry*

Studies were conducted to determine some of the problems in connection with plant sizing and grading of eggs delivered nest-run to an egg dealer. Unless mechanical counting equipment was available to determine the number of different sizes in each lot, nest-run buying was impractical. The advantage to the egg buyer was to eliminate off-grade eggs, but it meant a financial loss to producers when eggs were bought on case weight. Indications are that with proper equipment eggs could be sized, cleaned, and graded for less than one cent per dozen by the receiver.

The number of producers and packers using the Blue, White and Red label has continually increased, resulting from demonstrations in retail stores and fairs which have increased the demand for eggs packaged under this label. To further improve the quality of eggs sold in Maine and to help packers meet the requirements of the fresh egg law, egg grading schools have been conducted the last two falls to instruct candling room operators and producers in the proper methods of grading eggs.

The marketing branch aided the poultry industry in the establishment of official Maine grades and standards for dressed poultry. Prior to the promulgation of these grades each poultry dressing plant was grading by its own standards, with very little uniformity existing between individual dressing establishments. It is pleasing to note that four of the plants have already contracted with the Division of Markets for continuous inspection of their dressed birds, and that one plant is tagging the birds with the Blue, White and Red Trade-mark. There are other plants that show an interest in this service and it is quite probable that before another two years or less this work will be further expanded.

The Division of Markets cooperated with the Maine Turkey Growers Association in the development of new Blue, White and Red tags. We also cooperated with the Maine Turkey Growers Association in helping to secure newspaper publicity, and window and counter posters. It is pleasing to note that the turkeys bearing the State Trademark brought an average of five cents per pound over other native birds.

We have accomplished a revision of the Blue, White and Red Hatching Egg Program. New provisions have however not been placed in effect and some producers are shipping under the old label.

#### *Miscellaneous*

Very active cooperation has been maintained with the Maine Apple Committee in promoting their Apple Harvest, Pie Baking Contest, Maine Apples on Parade, window displays, and many other promotional activities. We also assisted the Lewiston-Auburn Kiwanis apple sales campaign.

We have assisted in promotion of the Chicken-of-Tomorrow Contest and Maine Broiler Day. In addition we have maintained exhibits at NEPPCO and many fairs throughout Maine.

We have worked closely with the Potato Tax Committee in their endeavors to promote potatoes. Assistance has been given various retail outlets in displaying and merchandising Maine potatoes. In conjunction with P.M.A., assistance was given in publicizing the packaging of consumer grades of Maine potatoes and in their acceptance on the Washington, D. C., retail market.

#### **Inspection Services**

Since the writing of the last biennial report, the potato industry has undergone many changes. With a planting of 193,000 acres, 1948

showed an increase in acreage over the 1947 plant. This produced an estimated yield of 73,340,000 bushels which at that time was an all time high of 380 bushels per acre.

Harvesting started about its usual time with favorable weather for the entire harvest season, with all potatoes going into storage in very good condition.

With market conditions as they were, the demand for commercial shipments of potatoes was light and continued so practically all through the marketing of this crop. The Government was again supporting the price at 90 per cent of parity, which left Uncle Sam the heaviest purchaser, in order to take care of the surplus.

During the Fall's digging operations, storage facilities were not adequate, and many carloads of field run potatoes were loaded, generally in box cars, and purchased by the Commodity Credit Corporation and shipped principally to Philadelphia for manufacture of alcohol, or flour. Many were shipped throughout New England as livestock feed.

On November 15, 1948, a Marketing Agreement and Order was voted in by the industry. The purpose of this was to have a more orderly marketing. A committee of five growers and three dealers was chosen to draw up regulations governing the handling of this large crop. The size regulation was set from  $2\frac{1}{4}$  inches minimum to 4 inch maximum. This gave the consuming public a well graded and well sized potato, and the strippings, as they were called, went for livestock feed or to starch factories.

With the adoption of a Marketing Agreement and Order, compulsory inspection at shipping point was required on all potatoes shipped either interstate or intrastate. To handle all this field work required 160 men, including six key men and two Federal Supervisors. This being the first year of compulsory inspection, fifty-five new men had to be employed, many of them completely trained.

The office personnel at Caribou was increased to twenty-seven girls.

On account of the size regulations under the Marketing Agreement ( $2\frac{1}{4}$  to 4 inches), "Super Spud" shipments dropped far below previous years. For the first time in history, consumer grades were used in Maine, which helped a great deal in putting a quality pack on the market. (In brief, the consumer grade was U. S. Grade A medium to large,  $2\frac{1}{4}$  to 4 inches with not more than 5% total defects and fairly clean). With the introduction of this grade and the number of cars shipped, it appeared to have possibilities of taking the place of "Super Spuds."

Trucking operations continued to grow and were the heaviest in Maine's history. The greater part of our truck movement was throughout New England, although a few went into Philadelphia, New York, and Baltimore, while an occasional truck went south to Florida and west to Chicago.

The government purchases were 36,561 cars, averaging 50,000 lbs. or more per car. Government export of this crop was 1,039 cars, going to Canada, Greece and Germany.

Another drastic cut in acreage was made in 1949. A total of 149,000 acres were planted, which produced 67,050,000 bushels, an average of 450 bu. per acre — an all time high for Maine. Support to the farmers still continued but only at 60% of parity. Movement of this crop was very slow at the beginning of the season. The purchase by the government this year totalled 18,013,755 hundredweight, including Starch, Stockfeed, Institutions, Processing, Export, School Lunch, Welfare, Farm Disposition for Livestock, and Disposal. Twenty-two starch factories operated at full capacity, grinding a total of 6,166,679 hundredweight.

The truck movement again increased. Carlot shipments on the Consumer Grade A, medium to large basis, was 1,032 cars, an increase of three times that of 1948. "Super Spud" shipments were only 444 cars and 70 trucks for the season 1949-50.

During late Winter many bins of field run potatoes and some of the strip stock began to deteriorate. Purchases were made by the government on a percentage basis, and sold back to the farmer at one cent per hundredweight to be used to spread on fields for fertilizer or as livestock feed on the farm.

In 1949-50, 9,057 cars were exported to foreign countries by C.C.C. The Marketing Agreement was in effect again. During the Fall's shipments, the size was 2 to 4 inches. Later in January, the size was changed to 2¼ inch minimum to 3¾ inch maximum.

To handle this work required practically the same number of inspectors and office personnel as that of 1948-49 season. The following is a breakdown of inspections made by the Federal-State Inspection Service the past two seasons.

	<i>Cars</i>	<i>Trucks</i>	<i>Warehouses</i>	<i>Disposal</i>	<i>Process</i>	<i>Total</i>
1948-49	57,626	8,073	3,559		19,375	88,633
1949-50	44,333	10,384	5,774	5,923	12,982	80,364

The last two years have seen continued expansion by the Birds-Eye Snyder Corporation. Their most recent addition was the modern processing plant built at Caribou for freezing french fried potatoes



and potato whipp. The Maxson Processing Plant at Washburn, Maine, continued to use a considerable volume of potatoes in processing french fries and potato puffs.

### *Cannery Inspection*

We have continued offering inspection service to all canneries and processing plants desiring to use this service and since July 1, 1948, the inspection work has increased.

During the summer of 1948-49, there were four inspectors at two pea processing plants, two men at two blueberry plants doing experimental grading, ten men at nine bean plants or receiving stations, twenty-eight men at twenty-four corn factories, and three supervisors.

In the season of 1949-50, we had two men doing experimental work on blueberries in Washington and Knox counties in cooperation with the Federal Department of Agriculture. From the experimental grading which we did during the last two seasons, the Federal Department established standards for processing and canning.

We used five men on cucumber inspections at one plant and its receiving station, four men on pea inspection at two plants in Aroostook county, fourteen men on bean inspection at eleven bean plants and thirty-three men on corn inspection at twenty-four corn plants, in the last year of this biennium.

### *Miscellaneous*

During the last two years, we have offered condition inspection work to wholesalers in all our terminal markets. This work consisted of making condition inspections on fruits and vegetables shipped in from other states. We also offered Federal-State inspection on eggs, poultry, butter and cheese.

In 1948-49, forty-seven fruit and vegetable inspections were made for the Quartermaster Corps and ship lines. Fifty inspections were made on fruits and vegetables in 1949-50, mostly for the Quartermaster Corps.

In 1948-49 there were twenty-six re-inspections on eggs and in 1949-50 there were twenty-four re-inspections, mostly for the Veterans Administration in Togus.

In 1948-49 we made two shipping point inspections on apples. In 1949-50 sixty-six shipping point inspections were made on apples. Most of this inspection was on purchases by the Government.

In the last two years, we have had eleven maple syrup producers using the Blue, White and Red Trademark to identify their syrup.

The Department of Agriculture insists that all syrup so identified with the State Trademark must meet Grade A or better quality. For about four weeks each season, we use one inspector who goes around to the producers and sees that the syrup meets our requirements for the Trademark. We have had very good cooperation with the producers and found them very cooperative in complying with our regulations.

In the Spring of 1950, we made a trip to the northern part of Somerset county, where the Canadians hire the maple orchards from two large lumber companies. They have 157 camps scattered along the border for twenty-four miles and put out 500,000 buckets to produce 60,000 gallons of syrup. At the end of the season, the syrup is hauled in barrels to Morrisette Siding and graded by the buyers. Practically all of this syrup goes to Vermont. We made a colored movie of a few maple syrup camps and the process that they go through to collect sap and make the syrup. The film will be shown at the maple syrup meetings around the state this coming winter.

In the Winter of 1949, we had one dressing plant which requested a resident grader to grade all the birds. Now we have four plants using five resident poultry graders licensed by the U. S. Department of Agriculture. The inspector's work consists of grading all the birds which are put through the plant, and of seeing that the plants meet Federal sanitation requirements. All the Grade A poultry is identified with a Federal stamp.

In 1949-50, we had one apple packing plant using a resident grader.

In 1949, we sent two men to Boston to train on dry bean inspection. These men are licensed by the Federal Department of Agriculture. We have a number of bean packers using the State of Maine Blue, White and Red Trademark, and the inspectors checking around at the stores picked up packages of beans packed under the Trademark and brought them to the laboratory to be checked for grade. The laboratory has a moisture meter, scales and a divider, and any grower or shipper may submit samples of beans for moisture test and grade analysis.

At Thanksgiving and Christmas time in 1948, we had eight turkey growers tagging their birds under the Trademark. We used two inspectors, who inspected 2,746 birds in the season of 1948-49. In 1949 we had twelve growers tagging birds under the State Trademark. At Thanksgiving and Christmas time we inspected 2,334 birds. The producer pays a fee of 3¢ a tag and, under this program, the producer

is able to get a premium for the birds with Blue, White and Red tags. Only Grade A birds carry the State of Maine Trademark.

In the season of 1948-49, with the cooperation of the Division of Plant Industry, we used two inspectors to check wholesale houses to see if any of the potatoes coming into the state were from the Golden Nematode infested area from Long Island. Invoices were checked to determine whether potatoes were from stations located in the infested area.

#### *Egg Law Enforcement*

Our egg inspection work has been continued for the past two years. In 1948-49 there were 4,804 regular inspections at stores, retail outlets and wholesale establishments. The number of men used in this work varied from one to four inspectors. For a short period in the summer, we used extra personnel to check roadside stands, stores, summer resorts and wholesale houses to see that eggs were properly marked with the size and quality. In August, 1949, the new Egg Law went into effect requiring all containers to be marked with the proper size and grade, such as: Grade A, B, C, and ungraded. In 1949-50, we used three full-time men and they made, up to June 30, 1950, 5,817 egg inspections at stores, retail outlets and wholesale establishments.

#### *Potato Branding Law*

On August 6, 1949, the Potato Branding Law was transferred to our Division and we had two men checking carlots and trucks to see that potatoes were properly branded. The same three men who checked eggs at stores and wholesale houses also checked the potatoes to see that they were properly branded at the stores before going out to the consumers. From August 6, 1949 to June 30, 1950, 4,645 inspections were made.

#### *Apple Grading Law*

On August 6, 1949, the Apple Grading Law was transferred to this Division. The Apple Law requires that all packers must have their name, address, variety, grade, volume and size marked on the closed container. All apples sold at retail in bulk or in closed packages must have the grade stated. The same three inspectors who checked eggs and potatoes also checked the apples at retail outlets, wholesale establishments, and packing houses. From August 6, 1949 to June 30 1950, 2,477 inspections were made on apples.

We also have approximately forty egg producers and wholesalers packing eggs under the Blue, White and Red Trademark. We have received good cooperation from the retailers and wholesalers in our efforts to enforce egg, potato and apple branding laws. Last year, we found it necessary to have only one court case on eggs, no court cases on apples and only a very few court cases on potatoes.

### **Crop and Market Reports**

The Division has continued its cooperative agreement with the U. S. D. A. in issuing monthly crop reports on our major farm commodities under the direct supervision of C. D. Stevens, head of the New England Crop Reporting Service.

We also cooperate with the U. S. Department of Agriculture in carrying on the Market News Service, Presque Isle, under the direct supervision of Sam Russell.

The Division of Markets has continued publishing the weekly *Market Report and Exchange List* and during the last year Andrew E. Watson has spent considerable time and study to improve our present *Report*, which is to be revised effective July 1, 1950.

Miscellaneous reports published by the Division include the annual Blueberry Report, which gives a summary of the blueberries canned, frozen, and shipped fresh, as well as the price paid producers. We issue a monthly Cold Storage Report on apples from October to April of each year.

### **Miscellaneous**

The Division of Markets has continued to cooperate with the Maine Broadcasting System and the New England Radio News Service.

We continue to cooperate with Granges and other farm groups and organizations in furnishing speakers.

The past two years has seen continuation of very cordial relations with the U. S. D. A., Maine Agricultural Experiment Station, Maine Extension Service, and other agricultural agencies within the state.

The Division of Markets has continued to set up exhibits for Eastern States Exposition at West Springfield, Mass., the last two years, as well as arranging exhibits for several of our local agricultural fairs and for poultry shows outside the state.

This report is the cooperative effort of the Chief of the Division; Stanley L. Painter, Assistant in charge of Marketing; Merritt Z. Caldwell, Assistant in charge of Inspection; and Vernon Palmer, Chief Potato Inspector.

Respectfully submitted,

GEORGE H. CHICK,

*Chief, Division of Markets*

## Division of Inspection

*To Hon. A. K. Gardner, Commissioner of Agriculture:*

On February 6, 1950, A. M. G. Soule, Chief of the Division of Inspection, retired from State service, after serving 42 years, 9½ months. This report covers the period from July 1, 1948, to June 30, 1950, and is, therefore, largely a report of the work supervised by Mr. Soule, and very few changes have been made in the functions of this Division. Most of the work of this Division is purely regulatory, consisting in the registration of different products as well as the licensing of food processing and packing establishments.

The Potato Branding Law, so called, having to do with the inspection of potatoes, was transferred to the Division of Markets on July 1, 1949.

### Seed Inspection

In 1949, 125 samples of seed were collected and in 1950, 170 samples were collected. These were analyzed for purity and germination, and in all instances where a seed was found to be below standard, the distributors have been notified. I have studied carefully our present seed law. In my opinion it is very antiquated and should be thoroughly revised or replaced by a new law which will afford us a greater opportunity to protect the users of agricultural seeds. A uniform seed law, so-called, such as has been adopted by many other states, is recommended.

### Feeding Stuffs

All brands of feeding stuffs have been registered, and hearings have been arranged thus effecting registration of all unregistered feeds found offered for sale by our inspectors. In 1949, 1186 brands were registered and in 1950, 1233 brands were registered. Samples of all brands have been collected and caused to be analyzed. In a few instances manufacturers have been given the opportunity of hearings to explain certain deficiencies in their feed. One registration has been revoked. In that case we found that the feed in question contained an ingredient which might render it injurious to the health of livestock.

### **Fertilizer**

Fertilizer inspections have continued as in the past with 242 brands registered in 1949 and 267 brands registered in 1950, and in all cases, samples have been collected for analysis. Our inspector has reported all unregistered brands of fertilizer, and a number of hearings have been arranged, resulting in the registration of these brands. Additional funds have been made available for fertilizer inspections. The passage of a law, in 1949, provided a tonnage tax on the sales of fertilizer and our fertilizer law was amended increasing the registration fees of all brands. It is hoped that the additional revenue will make it possible to collect more samples of fertilizer for analysis than has been possible in the past. It is intended to use all the money received from the tonnage tax and from registration fees on the inspection of the product.

### **Fungicides and Insecticides**

All brands of fungicides and insecticides have been registered, as required by law, with 935 brands registered for 1949 and 949 brands registered for 1950. In the case of unregistered brands, hearings have been arranged. Seventy-seven samples were collected in 1949 for analysis, and 124 in 1950. A careful study reveals that this part of our law needs to be carefully reviewed and probably revised, not only to regulate the sale of fungicides and insecticides but also "rodenticides" and "herbicides." The law does not require sufficient labeling of the product, including directions for proper use, antidotes, and a statement as to whether or not it is highly toxic to man. Authority should be given to require the distinctive coloring or discoloring of the common poisons known as lead arsenate, calcium arsenate and other arsenate compounds. These changes are particularly needed to protect the users of the new types of poisons which are being sold. The adoption of an Economic Poisons Law similar to that of other New England and nearby states is worthy of consideration.

### **Shellfish Control**

The program of inspection of shellfish has been carried on in conjunction with the U. S. Public Health Service and the Maine Department of Sea and Shore Fisheries. All interstate shucking houses have been certified and inspected, and samples of shellfish have been analyzed, which permits interstate movement under certification of the U. S. Public Health Service. Without this certification, shellfish

cannot be shipped out of the state. In cooperation with the Commissioner of Sea and Shore Fisheries, several clam areas have been reopened for the taking of clams. One inspector is spending all his time on this program and has the assistance of a part-time man in the western part of the state. Several surveys have been completed during the past two years. In this work, 835 samples of sea water and clams have been analyzed. In addition to the inspection of clams, quahogs and mussels for interstate shipment, careful attention is given to the handling of clams sold within the state, although the change in the law makes it no longer necessary for persons doing intrastate business to have their shucking houses certified. This, I might add, has made the control of intrastate business more of a problem.

### **Sardines**

Three million, two hundred thousand, eight hundred and eleven cases of sardines were packed during the season of 1948 and 2,969,931 cases during the season of 1949.

The inspection and regulation of the packing of sardines is an important function in this Division. A resident inspector is employed in each of the 48 factories throughout the packing season. He makes careful examination of all fish on arrival and supervises the processing and packing of the fish. Samples of all lots of oil are collected for analysis.

A new regulation is in effect, with the 1950 season, which requires that in all quarter size key or keyless cans, packed with eight fish or more, the heads of all fish shall be removed by cutting. This, I believe, has greatly improved the appearance of the pack.

A constant check is made of the sanitary conditions in the factory. I think it is evident in all factories that there is a definite trend toward better sanitary conditions and more attention is being given to the proper handling and packing of the fish.

The industry supports this inspection service through an assessment of 2¢ per case and an annual license fee of \$50.

### **Blueberries**

There were 21 blueberry factories licensed in 1948 and 18 licensed in 1949. We provide continuous inspection in each factory throughout the packing season, for those who request service. A considerable amount of work is also done each year on field inspection, which involves a careful check of the efficiency of dusting operations. With

the intelligent and proper use of dusting materials, the problems of maggot (*Rhagoletis Pomonella*) control seems no longer to be a serious problem of the blueberry growers.

### **Slaughterhouse Inspection**

All slaughtering establishments are required by law to be licensed. Two-hundred-seventy licenses were issued for 1949 and 278 for 1950. Two full-time inspectors are assigned to the making of periodic inspections of these establishments.

A decided improvement is being shown yearly in the sanitary conditions of these slaughterhouses. Several hearings have been held when apparent violations have occurred. These have resulted in better compliance with our laws and regulations and one license has been revoked.

Many poultry slaughterhouses are in operation at the present time and require a considerable amount of supervision. This is a growing industry. Many of the slaughterhouse operators are now eviscerating, as well as slaughtering, birds which adds to our problem of inspection.

### **Beverage Inspection**

Eighty-four licenses to manufacture non-alcoholic beverages were issued for the year 1949, 85 for the year 1950. All bottling plants have been inspected regularly and samples of their products collected and caused to be analyzed. Several hearings have been held where the product has been found to be adulterated.

In cooperation with other New England states, considerable amount of time has been spent in the preparation of standards to be established for noncarbonated beverages. There is need of this being done because of the different products being offered for sale. Without definite standards established for these products, little protection can be given the consumer who uses the product, or the manufacturers who wish to sell a good product and properly label it in accordance with its contents.

### **Food Inspection**

The inspection of all food manufacturing establishments takes up a considerable amount of time from this Division.

One inspector is now spending most of his time on bakeries and I believe these inspections, as well as being of some service to the bakers in the state, will in many instances, greatly improve the products.



Special attention is being given to rodent and insect infestation in the flour and other ingredients used. The inspectors are strongly emphasizing the importance of a thorough cleaning of all equipment coming in contact with the product. Approximately 100 bakeries throughout the state have been inspected. Eighty samples of bread were analyzed in 1949 and 59 samples in 1950, to ascertain if the product had been properly enriched with thiamine, riboflavin and niacin, as required by law. Hearings have been arranged when it was found that the product did not comply with the standards as established by statute.

During the past several months, 77 samples of ice cream have been purchased and caused to be analyzed. With few exceptions, these have complied with the standards as established by regulation. I believe that the industry recognizes with me, that for the protection of the public and to enable the industry to continue selling a high quality and nutritious food, we should establish more definite standards for all types of frozen dairy foods.

More samples of ground meat have been purchased for analysis recently, due to apparent violations of our food law. Many hearings have been held, resulting in the payment of fines by the manufacturers. It will be necessary to pay close attention to this product in the future.

Many inspections have been made of stores, meat markets and other retail outlets to ascertain if the food is being handled under proper sanitary conditions. Most stores, I might add, have been found to be operating their establishments in a clean and sanitary manner, thereby affording proper protection against contamination. As many of these inspections have been made as our limited force permits.

A registered pharmacist in this Division makes periodic inspections of drug stores and prescription counters. Several samples of drugs have been collected and hearings arranged, in cases of adulteration. This inspector cooperates fully with the resident inspector of the U. S. Food and Drug Administration in Maine.

The results of analysis of all the above mentioned commodities may be found in the Official Inspections Bulletin issued annually by the Maine Experiment Station.

I wish to take this opportunity to say that your help and consideration of the problems of this Division has been very much appreciated.

Respectfully submitted,

CLAYTON P. OSGOOD

*Chief, Division of Inspection*

# Weights and Measures

*To Hon. A. K. Gardner, Commissioner of Agriculture:*

I respectfully submit the report of the State Bureau of Weights and Measures covering the work performed for the period from July 1, 1948, to June 30, 1950.

In November, 1949, we secured the delivery of a large capacity scale testing unit.

This equipment, designed to test vehicle scales of 20 ton and more, consists of a Ford V8 truck chassis with 145 horsepower engine, dual rear wheels and air brakes.

The body and weight handling equipment was furnished by Gar-Wood Inc., Boston, Massachusetts. It consists of a diamond tread steel body, a structural steel frame supported by steel supports. A dual winch is mounted in the front of the body with controls at the rear of the cab. There are two power take-offs operated by the truck motor through the transmission. Only two controls are required to operate the weights. One lever raises and lowers them, the other moves them in and out of the truck. The speed of operation is governed by an auxiliary accelerator and the winches may be operated at a high speed or a very low speed as required. The load is carried by a four wheel trolley traveling on an I beam running lengthwise of the truck.

Our testing equipment consists of ten 1,000 pound weights and two 500 pound weights. These weights were furnished by the Howe Scale Company, Rutland, Vermont, and are sealed to a Class C tolerance, or within one ounce on 1,000 pounds, and one-half ounce on 500 pounds. We also have thirty 50 pound weights for testing smaller scales. With our new equipment we are able to handle three 1,000 pound weights at one time.

## State Police Scales

Early in December we tested the State Police scales at Wells, also the State scales at Brunswick, Gray, and the new State Highway Department scales recently installed at Mattawamkeag. This scale is a modern four-section motor truck scale, fifty ton (100,000 pounds) capacity, with a fifty foot platform. It was found to be well installed and in excellent weighing condition.

After completion of these tests the Vehicle Scale Testing Unit was placed in the garage until Spring, as it was not considered advisable to operate this equipment during Winter on account of stormy weather and hazardous highway conditions.

A short time after the scale at Mattawamkeag was put in operation we received complaints from several sources that it was not weighing accurately. These complaints were based on weighings made on other scales and also it was stated that trucks did not weigh the same on the scales with identical loads.

At the request of Chief McCabe of the State Police these complaints were investigated. The scale was retested and found to be accurate.

In the case of one truck found 1,100 pounds overweight, it appeared that the driver had weighed his truck empty and loaded 2,000 fifteen pound bags of potatoes, assuming his net weight to be 30,000 pounds. A check of a similar lot of potatoes showed the gross weight to average  $15\frac{1}{2}$  pounds to the bag.

Reweighing of two loaded trucks showed that after weighing their trucks empty on the scales and receiving their weights, that they had changed tractors (haulers) and that there was 600 pounds difference in the weight of the tractors.

We have not received any more complaints since that time on these scales.

### **Weight at Canneries**

The new large capacity truck scale testing unit has been used at canneries and viners in the state to check the scales used to pay the farmers for their produce. Several outmoded or broken-down scales were condemned and ordered repaired. Some instances were found of overloading equipment and by weighings not being performed in accordance with practices prescribed by the Department. One example was a can filled with loose material to use on the tip of the weigh beam of the scale to increase the capacity of the scale 10,000 pounds. This was a ten ton wagon scale and should not have been used for auto-truck weighing for more than 60% of its capacity. At one canning plant the scale showed an error that the superintendent stated would have caused them a loss of \$100 a day if it had not been corrected before they started operating. Inspection of a large scale used to buy old iron and metal disclosed weights being used of which the value was double that marked on the weights. This scale was condemned. The total number of vehicle scales tested was 113. Thirty-four of these were ordered repaired. Fifty-nine platform scales were tested and five

ordered repaired. Errors were from 1,000 pounds underweight to 270 pounds overweight.

Cooperating with the State Police and Highway Department, all Wheel Load Scales or Loadometers were tested. The conditions found in such equipment were in general satisfactory. Where devices were found in need of replacement or repairs the necessary attention was given in accordance with our recommendations.

### **Vehicle Tank Truck Meters**

A great deal of time has been devoted to the testing of Vehicle Tank Truck Meters. Four hundred and six of these devices were tested; 35 were found to be in error and condemned for repairs. Adjustments were made to 67 devices found to contain minor inaccuracies, in order to permit them in service. Mechanical devices will naturally get out of order from time to time, and errors found in deliveries are more frequently due to this cause than to premeditated practices on the part of the dealers.

### **Sardine Boats**

The 1949 Legislature enacted a law requiring the State Sealer or his duly authorized agent to measure and seal the holds of all boats transporting herring for processing. William C. Richards of Thomaston, a draftsman, was appointed special agent to do this work.

Shortly after the effective date of the new law, August 6, Mr. Richards and I contacted the various sardine factories and boat owners to arrange for the measuring and sealing of their boats. Visits were made to all the canneries in Washington county, also at Belfast, Bath, Rockland, Portland and South Portland. We also called on individual boat owners along the coast.

Some delay was experienced at the start of this project, as it was at the busy time, the factories were working day and night packing sardines, and the boat captains did not wish to lose any time while the fish were running.

It requires about twelve to fourteen hours to measure and mark each boat. A total of 90 boats have been measured and sealed. These boats vary in capacity from 20 hogsheads to 123 hogsheads. They are required to be marked in five hogshead divisions, cut three-eighths of an inch deep in the hold of each boat. Mr. Richards is now engaged in measuring boats of Canadian registry which operate in Canadian waters but bring their fish to American factories.

The following covers statistics of the work done by the local sealers of weights and measures. In the interests of brevity we have departed

somewhat from the method of compiling the statistics formerly employed, but have on file in the Department a more comprehensive report, which is available to any interested citizen.

**Fiscal Year 1948-49**

	<i>Tested</i>	<i>Condemned</i>
Scales	9,772	120
Weights	3,448	52
Dry Measures	54	2
Liquid Measures	1,026	10
Yard Sticks	205	16
Gasoline Pumps	4,659	68
Milk Jars	890	
Kerosene and Oil Pumps	769	8
Molasses Pumps	73	
Taxi Meters	173	2
Measuregraphs	65	
Vehicle Tanks	486	14
Oil Meters	18	3
Meters	55	1
Vehicle Meters	10	1
TOTAL	21,703	297

**Fiscal Year 1949-50**

	<i>Tested</i>	<i>Condemned</i>
Scales	6,218	108
Weights	1,921	40
Dry Measures	16	
Liquid Measures	485	1
Yard Sticks	192	19
Gasoline Pumps	3,210	46
Milk Jars	786	
Kerosene and Oil Pumps	520	4
Molasses Pump	68	
Taxi Meters	334	1
Measuregraphs	52	
Vehicle Tanks	394	4
Truck Meters	31	
Loading Meters	53	2
Slot Machines	4	2
TOTAL	14,275	225

During this period 260 visits were made to the various cities and towns. At that time the weights and measures of the local sealers were tested.

In addition to the above I have called on a number of Town Managers and Selectmen and have been able in several towns to have them purchase needed equipment so that the local sealers could do their work more efficiently.

The following recommendations are submitted for consideration:

While there has been some recent legislation, the majority of the weights and measures laws are of relatively long standing and some date back as far as 1821. I believe that a revision of these laws is necessary to bring them up to date and to eliminate provisions which are outmoded. If we can bring about a correction of the major defects in the weights and measures organization as now set up, we can place weights and measures supervision in Maine upon a satisfactorily sound basis.

Weights and measures regulatory work is highly specialized and for this work to be carried on efficiently and economically, it is required that the officials involved become expert in their field by study, training and experience. Such officials should devote full time to weights and measures duties. In a small jurisdiction, such as a town, the compensation which can be provided for the weights and measures officer is so small that suitable personnel cannot be attracted to such positions, and the amount of weights and measures activity performed by a town official is so small that the incumbent is not stimulated to any serious interest in the technical aspects of his work.

I wish to thank you for the assistance and cooperation given me during the past two years.

Respectfully submitted,

JAMES A. BOYLE

*Deputy State Sealer*



*Maine's new  
vehicle truck  
scale testing  
unit.*

## **Division of Animal Industry**

*To the Honorable A. K. Gardner, Commissioner of Agriculture:*

Herewith is respectfully submitted the report of the Division of Animal Industry covering the fiscal years July 1, 1948, to June 30, 1950.

The cattle population in Maine has remained at practically the same figure during the past two years, yet the number of farms with cattle has been reduced. In many areas the pattern is becoming established of large herds becoming larger and small ones smaller, with hundreds of one and two cow lots passing out of the picture. This trend has undoubtedly been accelerated to some extent by drought during the past few years.

### **Grass**

In spite of all the various agencies and work done to promote this crop, it is apparently, on the majority of farms, the forgotten crop except for the annual late harvest. The potential still exists for expanding livestock production in Maine, which could result in greatly improved economic conditions in many areas. The reasons for slow development are many and varied, but apparently much of it is due to lack of knowledge and courage to undertake livestock and dairy farming—many having lost sight of the value of grass and hay when marketed through good quality livestock. Present trends of shorter working days and longer weekends have not been conducive to encouraging livestock development, which often takes full time weeks and therefore is not as attractive as some other types of farming. However, cash crop growers are facing curtailed acreages and the problem of full time employment for self and hired help. An increase in livestock is about the only way this can be achieved. A further appreciation of grass, better management of both grass and livestock, and the idea that these can be profitably marketed in Maine, will do much for the economic position in rural Maine.

### **Poultry Production**

Although it has passed through a period of low prices, poultry

production is at a high level and is still growing. Broiler production is at a high level, as is hatching egg production, particularly of breeds and crosses suitable for broiler production. As for the fryer markets, where many of Maine's meat birds go, they have found a ready sale even during the recent recession in poultry meat prices. This undoubtedly has been due to the quality of the product offered.

### **Sheep**

Interest in sheep is increasing, and this industry could well be expanded in many areas. Although bears and dogs are blamed by many for the present low numbers, fencing, lack of close supervision at lambing time and limited knowledge along management lines, undoubtedly account for greater losses than is generally admitted.

### **Hogs**

Maine still continues to import feeder pigs in the Spring, mostly for family use. This condition will undoubtedly increase if we enter another war. This business offers possibilities in several areas and undoubtedly could result in the distribution of better stock than is usually received from garbage feeding plants outside of the state. The use of bacon type hogs is gaining in popularity and undoubtedly will continue.

### **Horses**

Draft horses are becoming a thing of the past on most farms. However, in some counties they have not been replaced by other types of livestock. Saddle horse interest is at an all-time high with most interest centered around cities. Light harness horse production shows a slight increase.

### **Bovine Tuberculosis**

The program of testing all of the counties in the state once in three years for tuberculosis, the importance of which was illustrated a few years ago by the finding of several highly infected herds, is showing favorable results. However, in a few counties we are behind schedule, due primarily to the inability to employ local practitioners for this work, and the Federal force not being able to supply veterinarians.



If the present force is maintained, we should be able to get back on schedule.

### **Bang's Disease**

The Brucellosis program, even though we have worked with very little help from the U. S. Bureau in the field some years in the past, has shown more progress than was generally expected. This fact was borne out when second area tests were conducted in Androscoggin, Cumberland, Kennebec, Oxford and York counties. They became modified accredited areas. Even though we have been through a period of about four years between area tests, this progress was made through continual retesting of infected herds and the removal of reactors.

The changes in the program inaugurated by the last Legislature, effective July 1, 1950, will undoubtedly make it necessary for us to area test much oftener than we have in the past. Experience indicates that we should area test once every two years. It will also be necessary to do a better job of retesting of infected herds, because if farmers are removing reactors without indemnity they will expect to have their herds tested more often than we have been able to do, and rightly so. It is believed that with completion of the area testing of modified accredited counties, the accreditation of which has run out due to lack of area tests, we will soon become the third state in the country to be declared a modified accredited area.

The newly developed ring test for Brucellosis indicates the possibility of use in our program to detect infected herds.

### **Mastitis**

Mastitis in this state today is probably the No. 1 disease problem amongst our dairy cattle. Considerable work is being done in some states under a definite program and it appears that we have information enough available so that this disease can be reduced in our herds here. We should assist in formulating and carrying out a program for its control and eradication.

### **Maine Production and Broiler Test**

The Maine Production and Broiler Test is now operating in its fourth year, and this plan of operation is being copied by other States

which are establishing broiler tests, as well as by the Meat Breeding Committee of the National Poultry Improvement Plan. This would indicate that the Test is established on a sound foundation. Due to expansion in the Broiler Test, it has become necessary to eliminate the Fair Sample Test.

Realizing that the future of commercial poultry meat production hinges upon the ability of the industry to make continued improvement in efficiency of production and quality of product, and seeing the opportunity to assist this fast developing industry in Maine, the Maine Development Commission made funds available to enlarge our Department's Broiler Test. It is now possible for us to get more much needed information, particularly regarding the amount of grain required to produce a pound of meat in the various entries.

The Maine Broiler Test is much more than a broiler growing contest, as it measures not only the quality of the dressed birds themselves but yields information on characteristics which determine cost, gross weight, feathering, livability, egg laying ability, and hatchability of the parent stock — items contributing greatly to the success of the broiler industry.

The new broiler house, constructed in the fall of 1949, with the funds mentioned above, is 220 feet long, 18 feet wide, and is divided into 40 pens, approximately 5 x 15 feet, with a central heating plant and a grain storage room in the middle. On the two hatches which have been raised in this building, where grain consumption studies can be made in addition to giving the birds a more equal chance than was possible under the previous setup, the interest throughout the poultry areas of the country has been greatly increased. This is evidenced by the number of inquiries for reports and other information pertaining to the test, received not only from most of the states in this country, but from Canada and foreign countries as well. It is gratifying to note the general improvement in egg production, conformation, feathering and other characteristics, which many of the participants have been able to make in their birds during the past four years. These general advantages have in many cases been due to the Broiler Test, where it has been possible for them to see how their birds have compared with others when given the same care and treatment. The Test will over a period of years assist the poultrymen to as great an extent in meat production as does the standard egg laying test in egg production

The Division of Animal Industry, as well as other Divisions of the Department of Agriculture, has cooperated with the Maine Poultry Improvement Association in celebrating the annual Broiler Day at Belfast, Maine. Plans are already made for the third annual event, which will take place soon after the close of this biennium.

The first two Broiler Days have been marked successes, particularly to the industry, in that they have aroused considerable interest from outside of the state, and bring many men influential in the industry into Maine where they can see and appreciate at first hand the quality of this growing industry.

### **Conclusion**

I wish to take this opportunity to express my appreciation to you, Commissioner Gardner, for the advice and cooperation given me during this biennium, and to the other divisions of the Department of Agriculture for their continued cooperation and help. I also wish to thank the other State Departments, the University of Maine, and all others who have cooperated with us in carrying out the assignments of the Division of Animal Industry.

Respectfully submitted,

FRANCIS G. BUZZELL,  
*Chief, Division of Animal Industry*

## **Animal Husbandry Specialist**

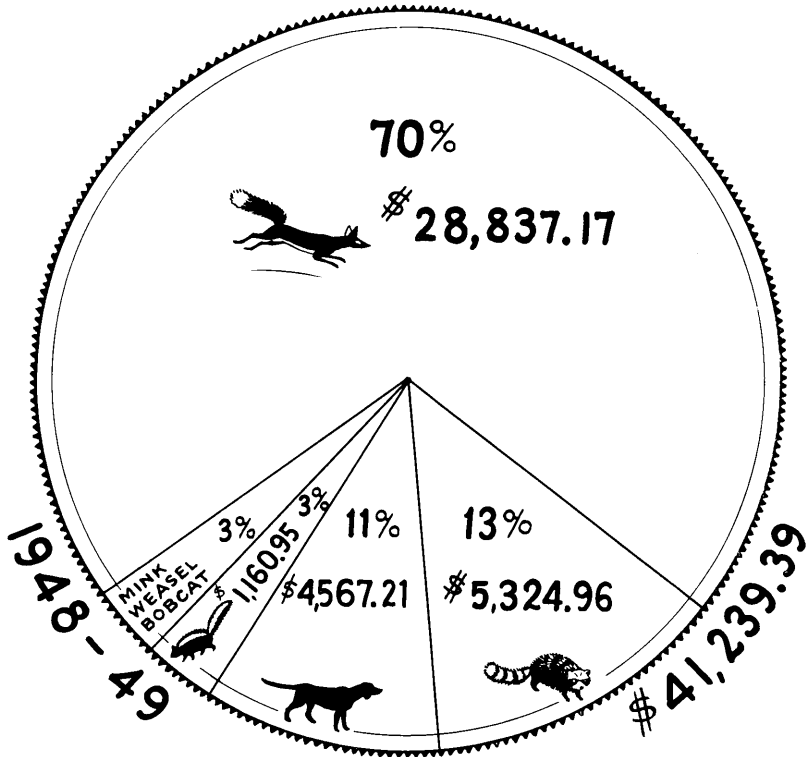
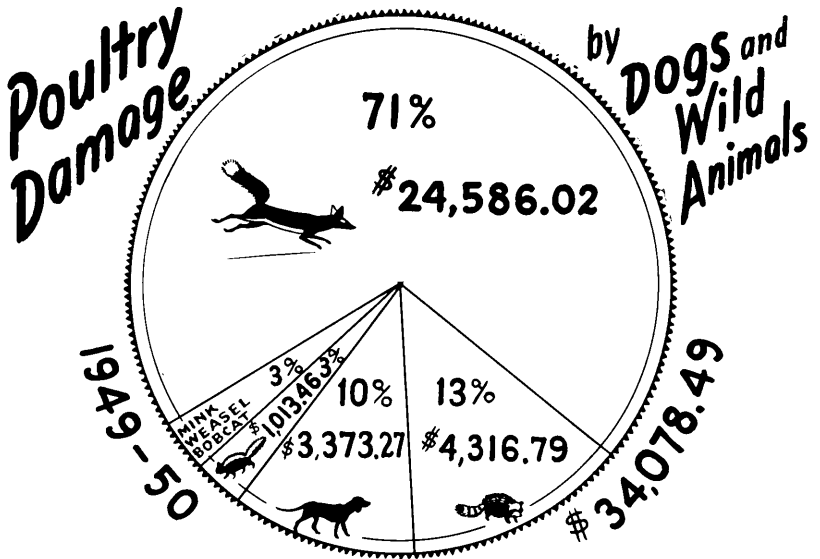
*To Francis G. Buzzell, Chief, Division of Animal Industry:*

A brief summary of the activities of the Animal Husbandry Specialist is herewith submitted for the fiscal years July 1, 1948, to June 30, 1950.

### **Promotion of Animal Husbandry**

The promotion of animal husbandry during the biennium has been confined for the most part to beef cattle and sheep.

Beef cattle production in the state is definitely on the increase, particularly in Aroostook county. A number of new herds of both registered and commercial cattle have been started in this area, the largest importation being 106 head of commercial Hereford heifers that went into central Aroostook. This shipment was the start of six new commercial herds.



Aside from assistance in setting up new herds, there were several practical demonstrations given in management practices. Cooperation was extended to the Maine Hereford Breeders' Association and the Maine Shorthorn Breeders' Association in holding Field Days and consignment sales. Feeding and management supervision of 4-H baby beef projects has continued. In 1949 there were 158 4-H steers fed and sold at auction, which is an all-time high. Ten steers sent to the Eastern States Exposition made a very creditable showing in 1948 and 1949.

### **Sheep**

The sheep population, rapidly decreasing in the past, now shows some encouraging improvement due to the increased interest and to the start of new small flocks. Much assistance has been given the sheep breeders in the form of meetings and demonstrations. The annual shearing school has been continued because of its popularity. Cooperation has been extended to the Maine Sheep Breeders' Association in the operation of its wool pool. Prices netted by breeders consigning to this pool have been much more favorable than if sold locally. Over 15,000 pounds were consigned to the pool this year, which is double the amount consigned in 1949.

### **Dog Licensing**

The licensing of dogs shows an all time high. The dogs licensed, including those covered by kennels, numbered 70,197 in 1949, with an income of \$92,316. The past fiscal year ended with an unexpended balance of \$16,566 which will be paid to the cities, towns, and plantations in proportion to the amount each paid the state treasurer, providing the Governor and Council deem it expedient.

### **Poultry Licensing**

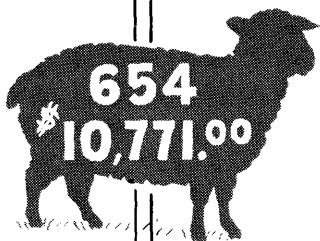
There has been no material change in the issuing of poultry licenses, and no complaints received during the biennium for dishonest practices. There were 180 licenses issued 1948-49, and 207 in 1949-50.

### **Claims for Livestock and Poultry**

Damage to poultry by dogs and wild animals still continues at a high rate, foxes being responsible for nearly 80% of the poultry claims paid.

# DOMESTIC ANIMALS KILLED BY BEARS

1948-49



1949-50

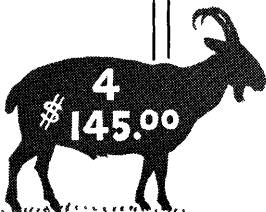
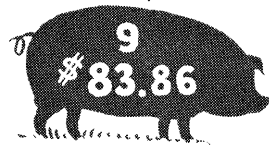
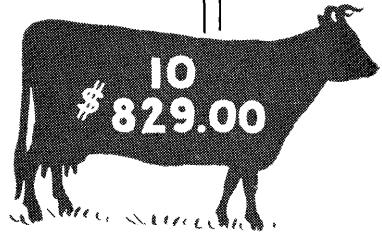
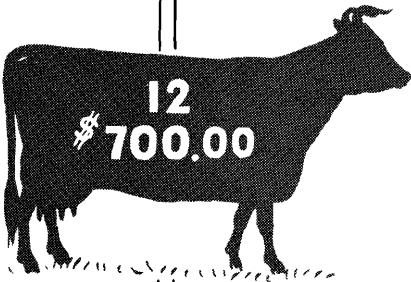
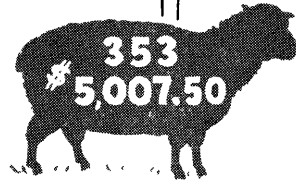


# DOMESTIC ANIMALS KILLED BY DOGS

1948-49



1949-50



The damage to livestock dropped considerably the second year of the biennium because of a sharp decrease in sheep killings by dogs. Bear damage to livestock still remains high.

During the summer months a considerable number of livestock and poultry claims have to be personally investigated before final settlement can be made.

### **Bear Bounty**

Bear bounties have increased tremendously the past two years with a total of 672 — \$10,080 paid in 1948-49, and total of 1,089 — \$16,335 paid in 1949-50.

I wish to take this opportunity to thank you and the Commissioner for your advice and assistance in my work, also the other members of our Department for their splendid spirit of cooperation.

Respectfully submitted,

SAMUEL F. DORRANCE,  
*Animal Husbandry Specialist*

## **State Veterinarian**

*To Francis G. Buzzell, Chief, Division of Animal Industry:*

The following is a report of the activities assigned to me relating to livestock disease control during the fiscal years July 1, 1948 to June 30, 1950:

### **Tuberculosis**

All sixteen counties are still listed as modified accredited tuberculosis-free areas, which means that all the cattle in each county have been tested and found to have less than one-half of 1% infection. All herds in which reactors are found are quarantined until the herd



passes three clean tests 60 to 90 days apart. The source of infection is practically all from animals which have been introduced into the herd. It is planned to area test each county every three years.

### **Brucellosis**

The percentage of infection has been greatly reduced in the past two years, both in farmers' and dealers' herds, due to the increase in the Federal force, which includes the employment of four lay technicians, as well as more veterinarians. We have been able to do more area work in the past two years than any two previous years. Every county in the state has been accredited, which means an infection of less than 1% in cattle and less than 5% in herds. Knox and Lincoln counties are being tested at the close of this biennium for reaccreditation, which brings the state up-to-date. The local practicing veterinarians have done a good job in retesting infected herds in their respective localities.

Under the plan, effective July 1, 1950, whereby indemnities will be eliminated from the Bang's disease program with the exception of officially vaccinated animals, it will be necessary to do area work faster and retest infected herds oftener than we were able to do before this last year, if we are to maintain control of this disease and keep it at its present low rate of infection. It will also entail more policing, as well as a continuation of the educational program to impress livestock farmers with the importance of removing reactors even though they take all the financial loss.

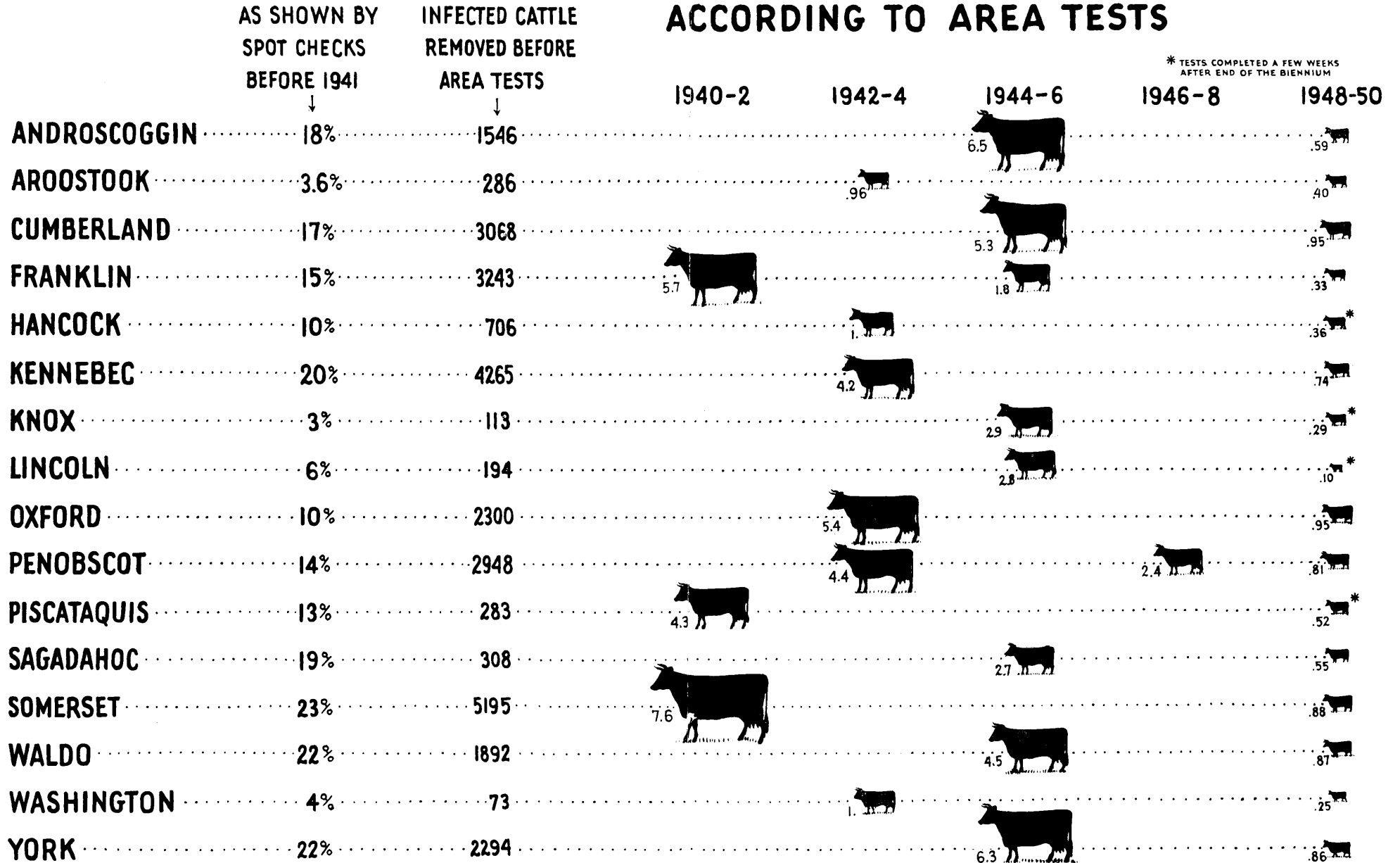
Although the work in the field on the joint tuberculosis and Brucellosis programs with the United States Bureau of Animal Industry has not been balanced, the Bureau has made up part of its deficiency by furnishing the personnel at the Bang's disease laboratory. Their field force was increased when regulations were changed allowing lay technicians to take official Bang's disease tests in late Spring of 1949.

The dealers' bill which was passed at the last session of Legislature, licensing livestock dealers, and requiring that all cattle be tested within 30 days, has helped in cutting down the percentage of infection.

Calfhood vaccination has been carried on quite extensively and has helped to slow down the spread in infected herds, although it cannot be considered a cure-all.

# PERCENT BRUCELLOSIS INFECTION IN MAINE

## ACCORDING TO AREA TESTS



\* TESTS COMPLETED A FEW WEEKS AFTER END OF THE BIENNIUM



Analysis of disease control work in the field still shows the State to be carrying the bulk of the testing for tuberculosis. Although we are a modified accredited state for tuberculosis, we are behind schedule in our efforts to do area work in each county once in three years.

The following tables indicate the progress of disease control work relative to Brucellosis and tuberculosis for the two years ending June 30, 1950:

### Classification of Brucellosis Tests

July 1, 1948 — June 30, 1949	<i>Herds</i>	<i>Cattle</i>
Bureau Veterinarians	3,615	29,114
State Expense	4,943	69,456
Owners' Expense	1,944	22,193
	<hr/>	<hr/>
Total	10,502	120,763
July 1, 1949 to June 30, 1950	<i>Herds</i>	<i>Cattle</i>
Bureau Veterinarians	13,444	90,060
State Expense	4,852	77,819
Owners' Expense	1,440	13,727
	<hr/>	<hr/>
Total	19,736	181,606

### Classification of Tuberculosis Tests

July 1, 1948 to June 30, 1949	<i>Herds</i>	<i>Cattle</i>
Bureau Veterinarians	23	222
State Expense	7,561	76,693
Owners' Expense	1,245	14,870
	<hr/>	<hr/>
Total	8,829	91,785
July 1, 1949 to June 30, 1950	<i>Herds</i>	<i>Cattle</i>
Bureau Veterinarians	7	216
State Expense	5,466	56,355
Owners' Expense	966	7,616
	<hr/>	<hr/>
Total	6,493	64,187

The total number of herds on the retest list June 30, 1950, is 845, this including previously infected herds which had not passed a 90

day clean retest, herds containing natural suspects, and "C" Herds. This number is the smallest since the beginning of the program.

Brucellosis in swine is not a very serious problem, although we did encounter quite a severe outbreak within the past year.

*Johne's Disease* (or paratuberculosis)

Up to the close of this biennium, only a few isolated cases reported.

*Equine Encephalomyelitis*

No cases reported in the past two years.

*Pneumoencephalitis* (or Newcastle Disease)

This disease in poultry is now being controlled very satisfactorily with vaccine, and is no longer much of a problem.

*Bronchitis in Poultry*

Bronchitis control is handled very well by the Animal Pathologist at the University of Maine.

*Rabies*

No cases of rabies in dogs have been reported in Maine since 1934.

*Hog Cholera*

This disease appears to be on the decrease. At least, there is no increase in the number of reported cases.

*Swine Erysipelas*

This disease also appears to be on the decrease, as indicated by the number of cases reported.

*X Disease*

No cases reported.

*Glanders*

No cases reported during the past two years, and in fact not for several years previous.

*Swamp Fever*

No cases reported, although we had several cases close to us two years ago.

In bringing this report to a close, I wish to express my appreciation for the advice, consideration and cooperation given me by you. I also wish to thank Commissioner Gardner, the other Divisions, the United States Bureau of Animal Industry, practicing veterinarians, the University of Maine and all others who contributed to the success of the livestock program.

Respectfully submitted,

R. E. LIBBY

*State Veterinarian*

## Chief Dairy Inspector

*To Francis G. Buzzell, Chief of the Division of Animal Industry:*

I submit herewith, a report of the activities of the Dairy Division for the two year period, July 1, 1948 to June 30, 1950. Clayton Osgood, Chief Dairy Inspector for twenty-five years, was promoted to Chief of the Division of Inspection, early in 1950. While Mr. Osgood was Chief Dairy Inspector, it was my privilege to act as his assistant for some time, and it is with no small degree of satisfaction to be able to sincerely say that the dairy industry and the people of Maine owe him a great deal for the quality of their milk supply, as well as the sanitary conditions under which it is produced and handled.

The routine work of this Division has been carried on for the past two years with the same number of men as in the previous two year period, except that we have had no one operating the quality control laboratory here in Augusta for approximately two years, and for the past six months we have been a man short in the field.

We have maintained the district method with the inspector in each district responsible for his section. This seems to be working out very well. Some readjustment in territories for inspectors is being considered in order to maintain efficient service.

### Milk and Cream Analyses

About the same number of milk and cream samples was submitted for official analysis at the Maine Agricultural Experiment Station as had been done for the previous two year period, although there has been a decrease in the number of samples taken for the 1949-1950 period, due to a continued decrease in the number of licensed dealers and the lack of a man in one district. The number of cream samples has decreased as it is thought more good could be accomplished as a whole by taking more samples from major sources of supply and less from minor sources, which often is the same cream jobbed out.

Butterfat tests in milk are somewhat higher than in years past due to a return of competitive conditions in the different markets. This is more evident in the analyses of pasteurizing plant samples. Analyses of the samples purchased in 1948-1950 show that fifty-five percent of

the samples contained four percent or over of butter fat as compared to forty-one percent in 1946-1948. As to bacterial content, sixty-three percent of all pasteurized samples of milk in 1948-1950 period fell into the 25,000 bacteria per milliliter or under group, whereas in the preceding two years, but fifty-one percent fell into this group.

Milk analyses indicate that we have shown a continued improvement in the bacterial content of the milk. I believe that this is due in no small part to quality consciousness on the part of our dealers. Many of them are carrying on their own quality program with Methylene Blue or Resazurin testing. Some have engaged the service of out-of-state laboratories, and consider the results well worth the money spent. Some form of quality control is necessary if low bacterial count milk is to be routinely obtained. The quality of cream is not showing the same steady improvement as milk due to erratic supply. Local cream supplies are good but in short season, imported cream does not as a rule have comparable quality.

Only seven samples of underpasteurized milk were purchased during this two-year period. An immediate inspection was made of the plant to ascertain the cause of the under pasteurized sample. Particular attention is being paid to coli organisms in pasteurized milk and cream and the dealers are doing everything possible to eliminate this organism in their product.

### **Composite Sampling**

One of the most important parts of the work of this Division has to do with checking weigh tanks to determine if the milk is being properly mixed before samples are taken. It follows that if a representative sample is not secured from the weigh tank the resultant test, no matter how carefully carried out, will not be accurate, thus subjecting the producer or dealer to false conclusions which can only result in one or the other losing money. New weigh tanks and improved dumping facilities have been installed in some plants. In cases where it was not practical to make these changes at present, hand stirring of the milk is done. There still does not seem to be any way in which dump tanks can be manufactured which will guarantee a thorough job of mixing milk.

We have one man who is spending a substantial part of his time on this work, checking weigh tanks and testing producer composite samples. Many composite samples were tested before the plant operator tested them and payment made on these tests. Approximately

eight thousand composite samples have been checked during the past two-year period. Cooperation received from dealers in this respect has been most gratifying.

Quite a few examinations for butter fat testers' licenses have been given, indicating that more dealers are buying on a weight and test basis than formerly. Methods of testing and condition of testing apparatus have been thoroughly checked in all plants buying on a weight and test basis to insure that proper testing procedures are carried out. We feel that this is of more importance than the actual testing of the samples, as it has been our experience that testers made few mistakes.

### **Quality Control Laboratory**

Notwithstanding the fact that more dealers are installing and using quality control equipment, there are many smaller dealers, as well as producers, who would like a check on their work. At present, this work in the laboratory here in Augusta has been temporarily discontinued. We feel that reopening this laboratory here in Augusta or at some other location, would very definitely assist dealers in locating trouble not easily detected without proper laboratory facilities. It would not appear feasible to operate this laboratory for routine work, but to supplement work done by dealers and producers. With such a laboratory, it would appear that a saving could be made on mileage, time and worry, by being able to pinpoint the trouble and spend time where it was needed.

### **Farm Inspection**

Compliance with uniform rules and regulations governing the producing and handling of milk and cream as promulgated by the Commissioner of Agriculture continues to be gratifying. I do not know of anyone who has complied with these rules and regulations who has been denied a license to sell milk within the state or to ship milk out of the state. All Maine producers and producer dealers have been inspected one or more times during the past year. Our system of issuing licenses has been changed so that substantial compliance with rules and regulations as determined by inspection is accomplished before a license is issued.

### **State Type and Production Show**

The State Type and Production Show has been held at the Windsor fairgrounds for the past two years. It has drawn a good attendance and much interest is evidenced by the quality and number of cattle exhibited.



### Court Cases and Civil Hearings

Several civil hearings have been held which were satisfactorily settled without going into court. Court cases have been very few, indicating that those held in other years have had a wholesome effect.

In conclusion, I would like to express my appreciation to you and Commissioner Gardner for your assistance and counsel during the past six months.

Respectfully,

K. B. JOHNSON

*Chief Dairy Inspector*

### ANALYSES OF MILK SAMPLES IN 1948-49 AND 1949-50

	<i>Pasteurized</i>		<i>Raw</i>	
	1948-49	1949-50	1948-49	1949-50
Number of samples analysed	1,645	1,560	2,533	1,949
<i>Sediment</i>				
Clean	18.05%	22.44%	7.15%	9.90%
Satisfactory	70.28%	67.63%	67.39%	61.52%
Unsatisfactory	11.67%	9.93%	25.46%	28.58%
<i>Standard Plate Count</i>				
Below 10,000	31.96%	44.69%	30.44%	35.04%
10,000 to 25,000	24.13%	25.96%	22.43%	26.42%
25,000 to 50,000	6.32%	3.91%	5.25%	4.82%
50,000 to 100,000	15.74%	13.24%	14.73%	12.21%
100,000 to 200,000	13.79%	8.43%	12.72%	11.60%
200,000 to 300,000	3.27%	1.47%	5.22%	3.75%
300,000 to 400,000	1.34%	.64%	1.90%	.92%
400,000 to 500,000	.72%	.06%	1.50%	.10%
Over 500,000	2.73%	1.60%	5.81%	5.14%
<i>Butter Fat</i>				
4% and over	50.15%	60.83%	72.40%	74.65%
3.25% to 4%	48.81%	38.97%	25.39%	23.40%
Below standard	1.04%	.20%	2.21%	1.95%
Total number of samples analysed	1948-49, 4,178	1949-50, 3,509		

*Home of the Maine Egg Laying Test and the Maine Production and Broiler Test, Monmouth. The new Broiler Test building, at right, was completed in December, 1949. See next Page, also Page 38.*



# Maine Egg Laying Test

*To Francis G. Buzzell, Supervisor, Maine Egg Laying Test:*

A report of the activities of the Maine Egg Laying Test for the fiscal year July 1, 1948 to June 30, 1950 is herewith submitted:

The Maine Standard Egg Laying Test is now in its twentieth year. During this period of time we have seen a great increase in egg production in the country. Although egg laying tests have not bred the birds, they have furnished a testing standard which has undoubtedly played a large part in the development of the various breeds. While only a small percentage of the entries at the Egg Laying Test here is from Maine, yet much of this same out-of-state breeding stock is used upon the Maine farms, and our poultrymen have indirectly obtained the benefit derived through these tests.

In spite of the fact that the ventilation in the present building is not adequate, and its inside walls are in bad condition, we have been able to make some very good records, as evidenced by the fact that as of June 30, 1950, we lead all other egg laying tests in egg production for New Hampshire with an entry of birds entered by Arnold Whitaker of New Hampshire, and this pen is third in the current year nationally, all breeds competing. We have also completed a world's record with cross breeds in an entry of sex-linked birds from Hall Brothers of Connecticut. The entering of cross breeds is a deviation from the original intention of these egg laying tests, yet they have been one of the stepping stones to higher production.

During 1948-49, we had an outbreak of Newcastle disease at the Egg Laying Test which hurt the production, although in the present Test year we have a creditable showing.

There were forty-five entries in the 1948-49 Test, forty-three in the 1949-50 Test, and four entries in the 1948-49 Fair Sample Test.

## Maine Production and Broiler Test

We had sixteen entries in the 1948-49 year which were made up of thirteen from Maine, two from New Hampshire and one from Massa-

chusetts. The selection of flocks outside the state was made upon their reputation in trade. Although a winner was not picked, the Maine flocks satisfactorily stood the Test. The entries as a whole showed a marked increase in feathering ability at 14 weeks, over the previous Test. There are twenty entries in the 1949-50 Test Year, which closes in September, comprised of twelve from Maine, four from New Hampshire, three from Massachusetts and one from Connecticut.

A large number of people interested in the Test, from both within and outside of the state, have called at the plant to check results and to observe the plan of operation.

We were unfortunate to have an outbreak of Newcastle disease amongst one lot in 1948-49.

The building of the new broiler house makes it possible to obtain feed consumption figures, which we were not able to do under our previous setup.

The increase in the number of entries in the Broiler Test after the building of the new house, made it necessary to eliminate the Fair Sample Test. This Test was of interest to many Maine breeders, but undoubtedly the change from this Test to the Broiler Test will be to the advantage of the industry.

We are very grateful as in the past for the sincere interest and cooperation received from you as well as from Commissioner Gardner and other members of the Department, the contestants, the Extension Service, the University of Maine, the Maine Experiment Station, and all others who have been of assistance to the success of the Maine Egg Laying Test and the Maine Production and Broiler Test. We would like to have anyone who is interested feel free to contact us at any time that we may be of assistance.

Respectfully submitted,

HENRY T. COVELL, *Supt.*  
*Maine Egg Laying Test*

## Division of Plant Industry

*To the Honorable A. K. Gardner, Commissioner of Agriculture:*

The report of the work of the Division of Plant Industry is hereby submitted. The program has to do with certification of seed potatoes, seed oats, insect control work and nursery inspection, general horticulture, bee inspection, the foundation seed program, and work with the State Seed Potato Board.

### Certification of Seed

The following table indicates the volume of work in seed potato certification which has been done between July 1, 1948, and June 30, 1950:

	<i>Acres Entered</i>	<i>Acres Passed</i>	<i>Bu. Cert.</i>	<i>Cwt. Sold</i>
1948-49				
Katahdin	38,731	28,854	11,955,216	1,073,151
Chippewa	11,782	6,356	2,777,681	166,172
Green Mountain	8,556	7,225	3,039,919	396,049
Irish Cobbler	7,027	6,126	2,510,128	908,284
Sebago	2,873	2,479	991,700	91,614
Mohawk	389	263	94,201	17,755
All Others	713	646	257,422	57,485
	<hr/> 70,071	<hr/> 51,950	<hr/> 21,626,267	<hr/> 2,710,510
1949-50				
Katahdin	35,171	27,513	14,245,924	1,261,931
Chippewa	10,110	8,748	4,525,865	186,648
Green Mountain	4,988	4,532	2,202,673	323,523
Irish Cobbler	3,351	3,122	1,473,654	644,889
Sebago	1,259	1,046	485,906	89,964
Mohawk	506	407	180,976	12,440
All Others	800	526	256,497	71,686
	<hr/> 56,185	<hr/> 45,894	<hr/> 23,371,493	<hr/> 2,591,081

The above table can be compared with a similar table which has been a part of our annual report for several years. It should provide a quick analysis of the certified seed business. The acreage entered has varied somewhat each year, and it would almost seem as though it had followed the price trend. In spite of this, however, the total yield of certified seed has increased each year until in 1949, with the lowest acreage passing that we have had for several years, we produced the largest crop of certified seed that Maine ever grew. The average yield for the entire 46,000 acres was 508 bushels per acre.

This is due, no doubt, to the exceptionally high quality seed used, plus the use of more seed and fertilizer per acre. This is good farm practice. No one can criticize a producer for seeking to grow as many potatoes as possible on an acre.

In direct contrast to this situation, our sales have been going down consistently since our peak year of 1947-48. In one year we moved nearly 10,000 cars, while this past year it was somewhat less than 5,500 carloads. The quality of our product is extremely high. Our readings have been low in the Florida test but the Canadian competition has been very difficult to meet. We are trying by every means possible to get some of this certified business back, but the price factor is very important. We have lowered the size of our certified seed grade so that our standard pack runs from 1 7/8 inches to 3 1/4 inches. This new size has been well received by the trade, and will result, we hope, in cutting down somewhat the number of different sizes which have been ordered. The advent of the seed cutting machine has resulted in requests for several different sizes, and in order to make sales, we have permitted packing to suit the customer.

The potato industry as a whole is operating under a marketing agreement which provides for the shipment of potatoes sized 2 1/4 inches to 3 3/4 inches. The certified grower has some advantage in that he can get rid of the smaller potatoes for seed. In general, there is a move on the part of certified growers to ship smaller seed and plan to pack a uniform peck bag for the tablestock trade.

The price differential between tablestock and certified seed is practically non-existent. The certified grower may get 10 or 15 cents a hundred more, but he does have the advantage of getting rid of some of his potatoes that could not be handled if they were not certified seed. As long as the Canadian situation remains as it is, the future of the certified seed potato industry in Maine is not very bright, and in order for us to recover some of the markets that we have lost, something has got to happen which I cannot see at the present time. The tremendous decrease in Irish Cobbler sales can be traced to the competitive area, and the Katahdin variety is the one that leads the list at the present time.

### **The Potato Diseases**

The general disease situation in potatoes is very good. There was a slight increase in virus in 1949 crops due, no doubt, to the fact that we had a higher peach aphid population than we had for the two or three years previous. The general thinking is that DDT per-

haps is not doing as well as an insecticide as it did the first two or three years it was available. No doubt there will be another insecticide brought out to take its place, and we need such material very badly. In 1950, there will be some parathion used in spite of the fact that extreme caution is necessary because it is a deadly poison.

There will be about 2,000 acres of the new Kennebec variety grown in Maine this year. Like many introductions, this potato has some weaknesses. It has some spindle tuber and the symptoms are not plain throughout the season. This makes roguing very difficult, and until someone develops a lot without any spindle, we will have the job of cleaning them up still ahead of us. It is not difficult to keep the spindle tuber at a low point by means of tuber unit planting and roguing, but it is agreed by the authorities that we probably never can clean up the variety by this method. We are not sure, but it would seem that the Kennebec also has a weakness for verticillium wilt. We had a few lots which showed this trouble quite badly last year, and we are watching them during this present season to see what is going to happen. The transmission by seed piece and also by contact with soil organisms are probably the two important sources of infection.

The Kennebec is a good variety and should be given every chance in the world before it is condemned, and I want to repeat that it takes at least ten years to properly evaluate a new introduction. Florida test gives a good indication of the amount of spindle present, but this is not sufficient in a foundation seed program. I believe the Kennebec will be a great potato for the so-called peck packer, because it is shallow-eyed and of good color. There may be some disappointments in type, but as far as I am concerned, type is a difficult problem in any variety and is largely a matter of individual farms or a seasonal condition. We have several good foundation growers who will be of great help to us in getting this particular variety into its proper position.

Since our last report, Doctor Reiner Bonde of the Experiment Station has arranged for some cooperative work on black leg with John Campbell of the New Jersey station. The report has not been made in detail but some very interesting things are coming to light, one of them being that seed from Maine was showing no more black leg than that from any other source. The final answer will probably be that the poor handling of the seed by the grower in New Jersey, plus local weather conditions, had more to do with the occurrence of black leg than the man who grew the seed in Maine.

### Southern Trips

Our Department has always felt that it is good business to keep in contact with the receivers of certified seed in the southern market. Commissioner Gardner has been especially interested in this phase of our work and has made extra money available to us attempting to stem the tide of Canadian competition. In other words, there are many angles to this certified seed business. We find upon visiting these different areas that there are changes going on from year to year in the dealers, the people with whom our shippers do business.

In the fall of 1948, Wendell Sharp, one of our top-notch inspectors, was employed by the Maine Development Commission to make a ten weeks' trip throughout the buying areas. Mr. Sharp went to Hastings, Florida, and worked his way north. When he returned, his report indicated that he called on a large number of folks who handle seed potatoes. His report on some areas leads us to believe they are going out of potatoes and into some other crop. This is good information in that it is no use to put advertising money where folks are going out of business. Canadian potatoes were selling in Florida at \$1 to \$1.15 per 100 pound bag less than the delivered price of Maine seed. This was true pretty much all the way up the coast north to New Jersey, where the differential was 35 or 40 cents. Mr. Sharp's report also commented on complaints regarding the large size of our seed, and this had a distinct bearing on the new regulations which we promulgated in 1949. As our representative came north, he found that more Maine seed was being used.

We always have run into a few complaints about poorly graded cars but this is a matter requiring only that our individual shippers work a little closer with their local inspectors during the rush period.

In May and June of 1949, Horace Wilson, another one of our good inspectors, made a trip into New York, New Jersey, Pennsylvania, and West Virginia checking on the plants that were growing from the seed which we had shipped. Mr. Wilson did the thing that we think is so very important in that he called on farmers and talked about the growing crops with them. While the local dealer does the financing and has the final say, it is helpful if the farmer expresses a preference for Maine seed. While the business is still in the hands of the dealer, the financial position of the farmer in all areas is better than ever. This means that he is more apt to get the seed that he wants. It is apparent that seed in general from all sources is much better than it has been in previous years. The competition from other areas

is very keen, and this means that Maine will have to watch the variety situation to see what potatoes the different states want, and must put up a package which will look good on arrival.

Paul J. Eastman, assistant chief of the Division, traveled the seed consuming areas along the eastern seaboard from Florida to New Jersey from November 26, 1949, to February 6, 1950. This was a good will tour providing an opportunity for our representative to talk over current seed problems with interested people in southern markets. He contacted seed buyers, state officials, extension workers, and farmers.

In most seed-consuming areas south of Norfolk, Virginia, Maine seed potatoes were priced out of the market. Low cost boat transportation had filled these markets with "Foundation," "Foundation A," and Certified seed from Prince Edward Island, which was being offered at prices far below Maine's delivered price. In Florida and the Carolinas, a difference of \$1 per 100 pound bag was common. It was hard to talk quality against a price situation such as this. Some areas were still buying a portion of their seed from Maine, and many buyers stated that they would like to be able to buy from Maine if the price was more competitive.

North of Norfolk the situation was much brighter for Maine. Growers in Virginia and New Jersey had bought a large portion of their seed from Maine. Much of it had been delivered and was in very good condition. New Jersey growers were pleased with the new size regulations. These growers want small potatoes for seed and will buy where such seed is available.

In New Jersey, some Wisconsin seed had been used and reportedly has out-yielded seed from Maine. That seed from Wisconsin was from the Stark Farms, where a lot of selection work has been done with the Chippewa and Katahdin varieties. From all reports, some of these strains are very high yielding and practically free from disease.

Some complaints were again heard concerning black leg. In spite of scientific reports to the contrary, many farmers and seed buyers still believe that black leg is, to a large extent, seed borne. Many also feel that Maine seed carries more infection than seed from other areas. There seems to be no answer to this problem which will hold in all cases. It does seem safe to say that the handling of the seed just prior to planting is an important factor in the control of black leg.

With Maine seed being compared directly with seed from other states and Canada, it is increasingly important that Maine growers and shippers cooperate to do the best possible job.



### Oat Certification

With Maine's allotted potato acreage decreasing each year, the need for supplementary cash crops has become more serious. Many farmers have believed that a certified seed program for oats would be helpful to the agriculture of the state. In the Spring of 1949, such a program was initiated.

The Clinton, Ajax and Maine 340 varieties were accepted for certification. Requirements for the certification of oats were concerned primarily with varietal purity and freedom from weed seeds and other small grains. Seed treatment of the oats controlled smut satisfactorily, and other diseases were not a problem.

The statistics for the first year's operation of the program were as follows:

Number of farmers who entered oats	53
Acres entered	1356
Acres passing field inspection	943
Bushels passing final inspection	28600
Bushels sold outside state	3500
Samples of oats analyzed for purity and germination by Maine Agricultural Experiment Station	74

The results of the purity and germination tests the first season were very favorable, and most of the lots had high test weight and good color. Weed seeds presented the most serious problem, but with better cleaning equipment being introduced, this trouble should be less serious.

The program was quite successful in 1949, and judging from the amount of interest shown on the part of farmers, it should improve considerably in 1950. The entry for the 1950 program is 5600 acres. The same varieties were accepted in 1950, with Clinton 59 and Clinton 11 selections taking over some of the straight Clinton acreage.

In June, 1950, Mr. Eastman took a trip to New Jersey, Pennsylvania, Ohio, and New York to study other certification programs for small grains and to investigate possible outlets for Maine certified seed oats. Details of the program were discussed with other state officials, and some helpful information was obtained. The shipment of seed oats from Maine to other states in bulk was discussed. This can be done under the interstate certification system, which has been in operation the past two years. Out of state buyers prefer to buy in bulk and do their own cleaning and processing. Under this plan, the bulk oats are shipped in a sealed car and the receiving state furnishes inspection at receiving point. The oats are processed and sampled

and, if they are satisfactory, they are sold under either an interstate tag or the tag from the producing state.

It appears that the certified oats program may provide some additional outlets for Maine oats as well as making better seed available to Maine farmers at lower cost, thereby improving the quality of the oat crop.

### **Golden Nematode**

The Commissioner of Agriculture has not seen fit to remove the quarantine which prevents the importation of Irish potatoes from Nassau County, Long Island, New York. We still regret the necessity of this quarantine, but our responsibility in the seed potato industry imposes this duty on us. The nematode is a soil infecting organism of foreign origin which attacks the roots of potatoes. It has never been found anywhere in the United States except in Nassau County. The bringing in of foreign plants leaves an opening at all times for the introduction of pests.

During the last two years the Bureau of Entomology and Plant Quarantine, under the direction of Harry L. Smith, has taken hundreds of soil samples in Maine, and so far the results have been negative. Maine has been tested each year since 1944. In the fall of 1949, 8,800 samples were analyzed, checked and processed by technicians from the Bureau. In addition to these samples, 1,500 were collected during the winter months by shipping point inspectors and assembled by Everett Westin of this Division for storage at Aroostook Farm. These samples have all been processed and no evidence of the nematode found. We are grateful to the Experiment Station for their cooperation in permitting the technical work to be done in the greenhouse at Presque Isle. We are grateful to the farmers, shippers, and all persons concerned who cooperated in any way with Mr. Smith in this work.

### **Ring Rot**

If I did not mention ring rot, I think I would not be doing my duty because it is still a disease with which we are very much concerned. There are seasons when it is easy to locate in the field, and apparently 1949 was one of them. There has been no particular increase or decrease in the amount of ring rot in our work for the past few years. Our farmers all know ring rot, are all concerned about it, try to purchase seed that is free, and this is the reason that we probably do not hear any more about this particular trouble. There will be years in which there will be some trouble but for the most part, we do not

hear much about it. A variety which carries a high degree of resistance is available for use if necessary, and no doubt the experiment station will develop a better one. I refer to the Teton.

### **Florida Test**

The Florida test, which has been conducted for so many years by the Maine Agricultural Experiment Station, continues to be popular. The cost of operation has been extremely high, due to the high land rental which the station has to pay. Handling the samples in the gas chamber, plus the freight, plus labor, make this a costly project. There has been a decrease in the number of samples because the Department found it possible to remove Chippewas from a compulsory test list. This means several hundred less samples, and it is very possible that the station may have to advance the fee in order to get the job done.

### **State Seed Potato Board**

Since our last report, the Board has grown two crops on the Masardis farm. In 1948 the crop was light because of excessive drought. At one time we went five weeks without any water at all. Our average yield was very low, and in addition, we did some top killing. We dug about 10,000 barrels of potatoes of which 2,000 were Kennebecs.

We completed our new potato house at Squa Pan in 1948, building it somewhat larger than we originally planned. It cost the Board about \$31,000. Eighteen thousand barrels can be stored easily, 20,000 in an emergency.

The Seed Board thinking in 1948 was that we devote our efforts towards getting the Kennebec cleaned up and into the hands of our Foundation growers as quickly as we could. The 17 acres that we grew were Florida tested, and the potatoes were put out where the Board thought they would do the most good. The results were disappointing, in that the spindle tuber counts were very high in the 1949 crop. This was a great disappointment to everyone concerned because Maine needed a potato to replace the Mountain as soon as it could be made available.

In spite of our disappointment, it seemed best to increase the acreage of this variety on our Farm and in 1949 we had 56 acres. This was one of the best growing years that we had ever seen. The water came as though it were ordered and in the Fall we had grown 17,500 barrels of potatoes of all varieties, including about 9,000 barrels of Kennebecs.

Again the Florida test showed that we were not making progress in trying to rogue spindle tuber from this variety. To make it look a little more difficult, we had also raised our standards for Foundation Seed to one-half of one percent total virus, and this left us with only a few Foundation Kennebecs. In view of the terrific demand for the variety and with Foundation growers having their choice, the Board raised the spindle tuber percentage to one and sold all of these within the state. The balance was sold to the Certified Seed growers for planting a crop that might or might not certify.

The situation at present is that there is planted on the Seed Board Farm about 35 acres of Kennebecs. The commercial acreage is running slightly over one percent spindle, and while the Board has not established a program for next year, it would almost seem as though they will have to use some of the smaller lots of Kennebecs which are free from spindle, and drop back to a smaller acreage.

We have learned a lot from our observations on the Farm. It is our belief that our acreage is too high to do a job with a new variety on which we have had no previous information and have to do all the pioneer work ourselves. Secondly, we think we could have grown mostly Katahdins, done a very fine job keeping the disease content low, and offered them to the Foundation growers free from ring rot and with a low latent count. This was the original thought in purchasing a farm.

The Kennebec was taken on, as I have pointed out, in an attempt to do a big job quickly for our industry, and we did not quite make the grade. The Kennebec is still a fine potato, and just as soon as the Seed Board or someone else gets a start with a few that are entirely free from spindle tuber, the importance of this variety will manifest itself.

The Board has held several meetings the past two years. It has never lost sight of the object for which it was established. The physical property of the Farm has been continuously improved as well as building up the soil and removing many large rocks. The buildings are in a good state of repair. The Farm machinery is nearly all new, and the financial position of the Board is sound. There are 86 acres of potatoes on the Farm this current season.

The new potato house, while not all that could be desired because of some water in the cellar, is keeping the potatoes in excellent condition. Our shrink has been light and because of the quality of the potatoes, we can sell large ones and small ones, as well as pickouts. Our sales show only a 5% shrinkage.

The Board was not established to interfere with the Foundation seed business, and we will continue to grow for the Foundation people as our first consideration. Incidentally, the so-called Foundation Seed Program which is conducted under the direction of the Seed Board, has entered for inspection this year about 450 acres. These are a group of men who for the most part are very much interested in the growing of Foundation Seed and who are contributing a lot toward the industry.

The Foundation Program is not at present paying its way. It costs us proportionally more to service the smaller growers than those who have five acres or more, yet we have tried to keep this from being reflected too strongly in our fees. The reason for this is that these smaller growers have an unusually good opportunity to produce fine seed, provided we do not make our program too costly on an acre basis.

Both the roguing here in Maine and the operations of the test plot in Florida are expensive, and it is likely that we will have to hold some meetings this winter to discuss costs with our foundation growers.

We do not think there is anyone to blame for the confusion that exists now in the Kennebec situation. There has been an honest attempt on the part of the Seed Board and the growers, who also had some Kennebecs, to get this variety into production fast so that Maine might benefit. We both failed to do as good a job as we had hoped, but no one can criticize us for trying. It is only those who sit back and do nothing that really ask for criticism. We are encouraged because we hear of a good lot in the hands of one of our farmer growers. While we would like to be the first one to bring out the spindle tuber-free Kennebecs, if someone else does it, we will be the first to extend congratulations and do anything we can to increase the amount of this type of seed available.

The Board is growing some small lots of tuber index new seedlings and trying to keep in a position to be helpful to the industry as a whole. The Board members are all large seed growers, and have made no charge for their services. Neither have they charged expenses for attending any of the meetings and all have attended faithfully. As Secretary of the Board, I have tried to get them to send in expense accounts to cover mileage and board, but I have not received any as yet.

### **Insect Control**

This section of our report will have to do with gypsy and brown-tail moth work and the Japanese beetle, European corn borer and

greenhead fly. Sometimes we are called upon to do additional work in cooperation with federal people such as the distribution of parasites or collecting specimens for purposes of study. The report of our assistants will necessarily be condensed and only the most important parts printed.

A study of all reports and publications for the past three years as well as observations made by our field men, indicate that the gypsy and brown-tail moths have been at a very low point in population. While these two pests are giving us a rest, there are some others that are becoming more important because of the damage which they are doing. I refer particularly to the elm leaf beetle. It is a strange situation, but when we were doing a lot of cooperative spray work because of the gypsy moth, the same spray helped to control the elm leaf beetle. Now that the spray program is not as extensive, it is likely that the elm leaf beetle will continue to do more damage unless the native parasites get in some good work before long. There are more town officials and more people in the various towns interested in insect control work than ever before. There is more interest in the spray programs, both with the mist blower and by airplane. The flying companies are doing the work at a very reasonable price, and where it is only necessary to get on about a pound of DDT per acre, the job is really worthwhile. It is my belief that cities like Augusta, Hallowell and Gardiner, in a compact area where there are thousands of elm trees of inestimable value, should unite and do a spray job every other year. There are times when it could be deferred until the third year. Any odd years, available funds should be spent for tree pruning and re-setting. I lack the ability to describe a tree, but from a practical angle, I have worked with them a great many years and know that they are worth many more dollars than we are spending on them now.

We have worked with about 30 towns this year either in a cooperative spray program or doing control work ourselves, and I know of no single program that pays a better dividend than a well supervised spray program. We have worked entirely through the commercial spray people, and while we could do it cheaper with state owned machines, the volume of work which we do is not sufficient to recommend the acquiring of several machines and the setting up of an organization.

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

The following is a report of work done from July 1, 1949, to June

30, 1950. During July and August 1949, a survey was carried on to determine the amount of gypsy, brown tail moth and elm leaf beetle defoliation within the state. Seventy-seven towns were surveyed with no gypsy moth defoliation showing above 10%.

Fifty towns showed from 10% to 100% elm leaf beetle defoliation. Town and city officials were later contacted and advised of prevailing conditions. Methods of control were recommended. Brown tail moth defoliation was found in three towns. These were later treated with DDT.

During September and part of October a European Corn Borer survey was carried on in eleven counties to determine the degree of Corn Borer infestation. This survey was at the request of the U.S.D.A. and reports were sent to the U.S.D.A. Corn Borer Laboratory at Toledo, Ohio.

During the Fall and Winter of 1949-50 a gypsy and brown tail moth survey was carried on in 160 towns within the most heavily infested area. Town, city, and association officials were contacted, advised as to prevailing conditions and advice was given as to methods of control that should be carried out.

During the Spring of 1950, a general spray program was carried on. Seven mist blower spray machines were used to carry out this program. These were hired from commercial tree companies within the state.

This spray program was carried on in the most heavily infested area from the New Hampshire State line as far east as Old Town and north as far as Farmington.

Respectfully submitted,

N. R. TRAFTON,

*Field Agent*

### **European Corn Borer**

The money that has been received by the Department from the corn borer tax has been assigned to the Maine Agricultural Experiment Station for research and survey work. This has been done with the advice of the Corn Borer Committee of the Maine Cannery Association. Dr. John Hawkins of the Station has been in charge of the work and I think he has done enough now so that he knows what material to use, when it should be applied, and in general, the research program is approaching a climax. This is a much more satisfactory condition than we were working under before we had this information. We were trying to enforce a compulsory plowing act which was not very popular.

We were able to assign Everett Tuttle to work with Dr. Hawkins on the survey. Horace Wilson also helped for about two weeks. Both of these men had had some experience, and we will offer to work on the Fall survey for a month if we can be helpful.

The quarantine against the importation of corn into Maine has been removed. It was maintained for several years and provided the delaying tactics needed to study and completely evaluate the entire problem.

### **Greenhead Fly**

In our last annual report we carried in detail the report of Everett Tuttle, who did work for us in 1948, probably the first and most comprehensive work of this kind which was ever done in Maine. This work was continued in 1949 and the report follows:

Continuing the work on the greenhead fly nuisance this year, detailed study was made of larval concentrations. Larval tests were made before and after the new larvae hatched out of eggs laid this year. The number of larvae hatched from this year's eggs was far greater than from the earlier set of tests, but in both sets of tests the results were the same. The results indicate that the larvae are concentrated largely in an area between the low high tide, and the high high tide. The results were as follows:

First set of tests between June 28 and July 15: In area wet by tide daily only one larvae could be found in any square yard plot examined and many yielded none. In area wet by tide less frequently (flood tide), as many as six larvae were collected from a square yard plot.

The second set of tests between July 22 and August 2: In area wet daily by tide a maximum number of four larvae could be collected. An area wet only by flood tide yielded as many as twelve in a yard square plot.

The reasons why larvae are less numerous early in the season are probably twofold. First, there is a high fatality rate over the winter season due to exposure, falling prey to other animals, and lack of food. Second, there is, without doubt, a cumulative effect from the spray of insecticide used on the salt marsh last year for control of greenhead flies.

The larvae in the second set of tests were found beneath thatch piles more often than not. A search for eggs and pupae in thatch piles turned up nothing.

Many tests were made with a cage to obtain eggs, but to no avail.

Daily counts were kept the same as last year. The chart shows



that the flies emerged beginning about July 1, and reached a peak about July 27. They began to decline until August 8 when their activities as a serious annoyance ceased. Counts were kept until the 17th of August when it was very difficult to find one fly.

One spray of 12.5% DDT cut with fuel oil was laid one pound to the acre. One hundred and fifty acres were sprayed on the 19th of July. Bad weather for greenheads on the previous week enabled the delaying of the spray. No appreciable rise in production was noted until August 6; two days later the production dropped again.

Airborne Sprayers, Inc., did the flying and used Resitox as the spray material.

It is believed that even better results can be obtained with a more effective material and over a smaller area of marsh. It is possible that only the area of heavy larval concentration, if sprayed alone, could give adequate control of greenhead flies.

This year larvae were kept alive successfully. Six by one test tubes filled one-third full of marsh sod and kept damp with sea water were used as containers for the larvae. The tubes were kept cool in a jar partly filled with sea water, and were covered to prevent escape; air vents were provided. They obtained nutriment from the sod and the water and from frequent additions to the container of other larvae, both of the same species and of other species. They would attack by biting into the hide of the victim, and then boring inside its body to feed on the internals. When satisfied they would withdraw and leave the empty hide. Larvae have been alive some five weeks and seem to be healthy. No pupation has been observed although attempts have been made to encourage the need for metamorphosis.

It is the opinion of this investigator that adequate control can be maintained through a yearly application of one spray to be applied on a date somewhere between the tenth and the twenty-fourth of July, this date to be determined by daily trap counts of the rate of emergence between these dates.

Much work is yet to be done to complete the life cycle, and to obtain a more effective and economical insecticide with longer residual properties.

Investigation was made of spraying operations carried on at Prouts Neck, Maine, for greenhead fly and mosquito control. It was learned from Harrison Hoblitzelle, chairman of the committee for mosquito control at Prouts Neck, that two sprayings had been done. The LeHarve Airborne Sprayers of Philadelphia sprayed 400 acres with 7% DDT in an aqueous solution, one-half pound to the acre, on July

7 and August 2, at a cost of 98¢ per acre. If a kerosene solution had been used it would have cost \$1.35 an acre. No control for greenhead flies was obtained. And, although good control of mosquitoes was obtained in July, control in August was only mediocre.

There is a brackish pond in the vicinity, believed by residents to be the breeding area, that is quite thick with marsh grass but does not, upon superficial examination, seem to be a breeding area of greenhead flies. It is not affected by tides, but is instead a stagnant pool. Four small streams emptying into the ocean at Prouts Neck are lined along their shores with salt marsh grass, which is the logical breeding area of the greenhead fly.

Respectfully submitted,

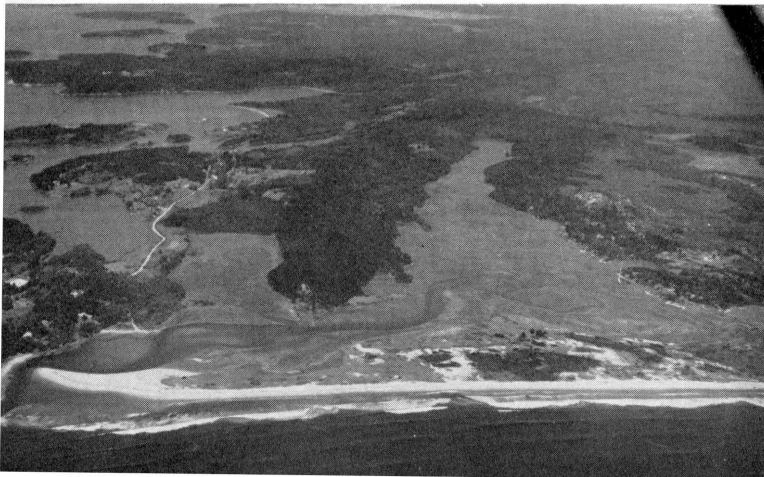
EVERETT L. TUTTLE

It will be noted that Mr. Tuttle got fine control of the greenhead fly at Small Point in 1949 with only one spraying. It seems almost like wishful thinking to believe that this can be continued. At the time of writing this report in July, 1950, the current season's spraying has been done and we are anxiously checking the results. The material is being paid for by the summer residents, and technical advice is being furnished by our office. We have been asked to assist in a similar project at Goose Rock near Biddeford and at one other place on the coast. It would be a great thing for the coastal vacation people if we could develop what we are doing to a point where general information could be of value. I am very much encouraged and hope that at the end of this season we will have additional information which will be helpful.

Respectfully submitted,

E. L. NEWDICK,

*Chief, Division of Plant Industry*



*Small Point Beach  
where — mostly in  
the small marsh at  
left center — green-  
head fly surveys have  
been conducted.*

## Bureau of Horticulture

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

The Bureau of Horticulture has been engaged in the following activities during the period from July 1, 1948 to June 30, 1950.

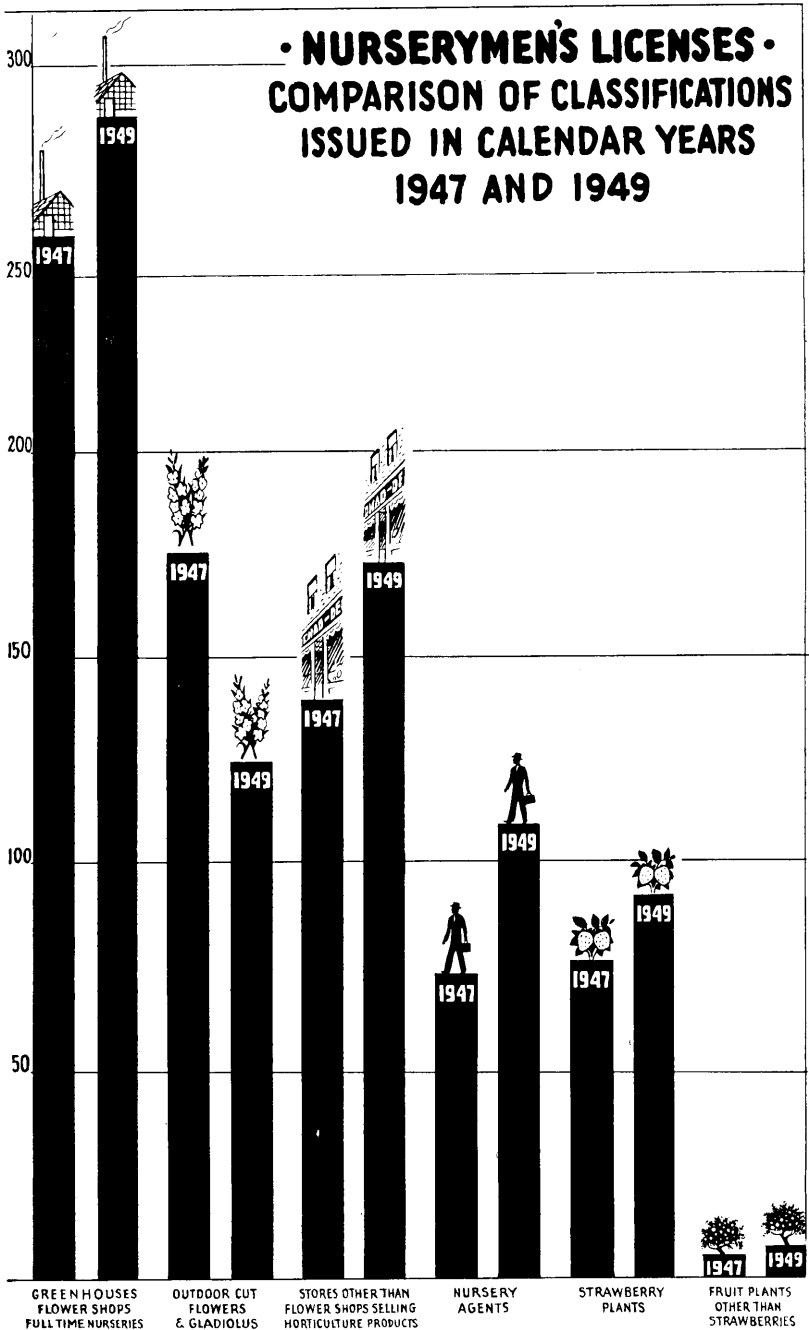
The Bureau is responsible, as directed by statute, for the licensing of plant handlers and for the inspection and certification of nursery stock grown and offered for sale in the state and, as well, for that shipped into the state from outside sources. Since the law provides broad definition of the term "nursery stock," these inspections apply to all ornamental and fruit plants grown for sale both in greenhouses and outside. Inspections are made in the field, in greenhouses, in flower shops and stores, and in other locations where nursery stock of any kind is maintained and offered for sale. The stock is examined for the presence of insects and diseases and for condition. The accompanying charts indicate the number of licenses issued and the types of business represented.

### Nursery Licenses Issued

<i>Year</i>	<i>Fee</i>	<i>No Fee</i>	<i>Total</i>
1942	509	197	706
1943	461	223	684
1944	442	190	632
1945	434	184	618
1946	466	177	643
1947	512	199	711
1948	540	157	697
1949	657	121	778
1950 (to 7/1)	678	125	803

### Strawberries

Requests have increased materially for the inspection and certification of strawberry plantings, the acreage represented having more than doubled in the past two years. The Red Stele root disease has been practically eliminated from plantings grown for certification. It is evident that the disease is still present in Maine, however, from an examination of fruiting beds in localities affected by the outbreaks of 1945. Weather conditions during the past four years have not been such as to favour the active spread of the disease, and the incidence has become so low that there is a tendency among growers



in certain localities where serious damage occurred earlier to return to susceptible varieties. All growers have been warned of the possibility of further trouble from this disease when we again experience weather conditions resulting in long periods of cold wet soil. Particularly is this danger present when susceptible varieties are grown in heavy soil or in areas where the soil drainage is poor. Recommendations have been made to grow varieties which are resistant to the disease, one of which, Sparkle, has proven to give generally excellent results, both as to quality of fruit and quantity of production.

Virus diseases recently have been developing in strawberry plantings and threaten to cause considerable loss of production if neglected. Investigational work has not as yet reached a point where definite control measures can be determined; likewise there is only a limited amount of knowledge concerning the behaviour and symptoms of these disorders. Until more is learned, plant growers are being instructed to remove from their beds all abnormal-appearing and off-type plants, and growers producing the fruit are urged to do the same. By this means serious effects from the virus disorders can be held to a minimum until more objective means of control can be developed.

#### Licensed Strawberry Growers

<i>Year</i>	<i>Applications</i>	<i>Disqualified</i>	<i>Certified</i>	<i>Total Acreage</i>
1944	30	—	30	—
1946	53	12	41	37 3/8
1947	84	11	73	38 1/4
1948	93	3	90	40 1/4
1949	96	4	92	65 7/8
1950 (to 7/1)	116	6	110	99 7/8

An item of interest in regard to the importation of nursery stock from foreign countries is contained in a revision of the Federal Plant Quarantine No. 37, which became effective on January 1, 1949. Aimed at the suppression of virus diseases, and other diseases and insects which might not be apparent at the time of inspection upon entry, the new regulation provides for the detention of certain types of plants under a system of post-entry quarantine. Such plants are kept under observation for two growing seasons, after which their release from quarantine is authorized if no latent infection or insect infestation appears in the meantime. Persons desiring to import plants under this regulation are required to sign an agreement before

the plants are released to them, not to sell or otherwise disseminate the material under restriction until permission is granted them to do so by the Federal Bureau of Entomology and Plant Quarantine.

The State Bureau of Horticulture is cooperating with U. S. agencies by taking responsibility for the preliminary inspections of material being grown under this post-entry regulation.

### **Bee Diseases**

Upon the request of the Maine Beekeepers' Association and because of increasing loss of bees through disease, with resulting loss of pollinating service to certain agricultural crops, the 94th Maine Legislature revised the law pertaining to the bee industry, providing an appropriation whereby the work of apiary inspection could be resumed. The same revision also provides for the licensing of beekeepers, the fees collected for which are to be used in connection with inspection work. The section of the act pertaining to the license stipulates that all beekeepers shall notify the Commissioner of Agriculture of the number of colonies of bees in the hive in their ownership on May 15 of each year, at the same time depositing a fee based on the number of colonies owned at that time. This requirement went into effect in the spring of 1950. As of July 1, 443 beekeepers had reported the ownership of 3,004 colonies of bees and had deposited fees amounting to \$529.80.

Reginald B. Swan of Brewer, a beekeeper of many years' experience and with large holdings of bees, was named bee inspector and commenced his work in late May, 1950. The aim in the inspection work of this present season is to obtain as clear a picture as possible of the condition of the bee industry in the state as a whole. With this information at hand it is hoped that in the future additional inspectors may be appointed to work on a sectional basis.

On the strength of Mr. Swan's initial work, it would seem that there is great need for educational work, particularly among those maintaining small numbers of colonies of bees. The nature of bee diseases, of which American Foulbrood is causing most concern, is such that proper management of the bees is of utmost importance in disease control. It is evident that many of the smaller beekeepers are not familiar with precautions which must be observed, and with beneficial procedures which must be followed, in order to avoid damage to their own bees and to avoid the danger of the spread of disease to colonies of others. It is also evident that much of the value to be gained from the inspection service lies in the dissemination of infor-

mation relative to the proper management of bees, with improved pollinating service to fruits and other crops resulting.

### **Apple Tree Pool**

The Apple Tree Pool has been conducted annually as a service to Maine fruit growers. The object of the Pool is to obtain the best possible planting stock, combined with the price advantage to be gained from group buying. An innovation in the handling of the trees over former years has been the direct truck delivery of the stock from the nursery. Convenient unloading points have been designated in different fruit growing sections at which the growers pick up their orders. Besides a considerable saving in packing and delivery costs this practice has resulted in much greater speed in delivery and the trees have consequently arrived in the growers' hands in better condition. In some cases trees have been planted within 48 hours after leaving the nursery. Growers with apple storage facilities have been generous in their cooperation by offering the use of their storages for unloading stations. Such locations make it possible to hold under suitable conditions orders which for any reason are not picked up immediately by the purchaser.

A total of 7,663 fruit trees were ordered by 70 growers through the Pool in 1950, a figure somewhat under the average of 8,813 trees purchased each year during the past seventeen years. This total probably reflects unsettled conditions in the fruit market. In comparison, the total order in 1949, by 84 growers, amounted to 10,117 trees.

The apple variety trend which has been apparent in recent years has continued. In 1949, out of a total of 8,056 apples trees ordered, there were 4,504 McIntosh, 1,616 Cortland, 521 Red Delicious, 279 Yellow Delicious, and 564 Northern Spy; in 1950, out of a total of 6,484 apple trees, there were 3,104 McIntosh, 1,519 Cortland, 432 Red Delicious, 392 Yellow Delicious, and 317 Northern Spy. There continues to be divided opinion on the question of planting one-year old or two-year old trees; in 1949, 3,654 one-year old and 4,402 two-year old trees were ordered, while in 1950 the figures were 3,548 one-year olds and 2,936 two-year olds.

### **Cooperation with Societies**

We have cooperated with the Maine Pomological Society and the Maine Apple Committee in their meetings and activities. Displays of apples have been designed and set up in connection with

various promotional programs, including the annual Apple Annie selections at the Agricultural Trades Show in Lewiston and the Maine Apples for Aroostook campaigns in Aroostook County.

The period covered by this report has been a relatively good one in the florist and nursery industry. Increasing interest in gardens, and new home construction, as well as awakening desire to use flowers more commonly in the home, has been responsible for a steady demand for ornamental Horticultural products. One problem of the industry, not necessarily confined to Maine, is the need for a much more vigorous program of merchandising. The florists' business is of such a nature that until recently attention to this factor was not of too great importance. Improved methods of production and increased competition from other lines have changed the picture, making it imperative that the florist direct his thinking toward a much more active merchandising program.

A new venture in the industry appeared in August, 1948, when a greenhouse on Bailey Island was opened for the purpose of growing hybrid orchid seedlings. This is a highly specialized procedure, requiring very close attention and carefully controlled conditions. The Bailey Island site was chosen because of excellent light and atmospheric conditions, both necessary for the successful handling of these plants.

The Maine State Florists' Association has had a successful period, increasing considerably in membership and in meeting attendance. Especially well attended have been the meetings held in connection with the Agricultural Trades Show in January in Lewiston, the spring meetings in Orono, and the annual meetings in August, not only by Maine florists but also by interested members of the industry from other states. Flower shows and demonstrations of decided merit have been staged at the Lewiston meetings, with enthusiastic response from the public. The greater enjoyment of flowers in the home, and their more general use in daily life, has been the theme of these displays. The Bureau has encouraged and assisted the activities of the Association at all times, and I have served it in the capacity of secretary-treasurer.

Other services to the industry include the publication and distribution to all members of the "Maine Leaf," now in its seventh year. This is a monthly newsletter which reports new and informative items concerning the business, activities of horticultural groups and organizations, and other matters of interest. One feature of its publication is the attention it has drawn to the industry from interests outside of the state. I would like again to express my indebtedness to Pro-



fessor Roger Clapp of the Department of Horticulture of the University of Maine for his continued assistance in the preparation of material for this publication.

Another horticultural group with whom we work closely is the Maine Gladiolus Society, comprising gladiolus enthusiasts in both amateur and commercial fields. The major event in the calendar of this society is the annual Exhibition in August. Held in Winslow and Waterville for a number of years, the Exhibition was moved to the Armory in Lewiston in 1949, for greater numbers of entries and larger attendance resulted in the need for more space. The Society publishes a well-prepared yearbook for which I have been glad to supply articles concerning gladiolus culture.

It has been a pleasure to cooperate with the Garden Club Federation of Maine because of the fine work that organization is doing along the lines of horticulture, conservation, and other related fields. It has been a privilege to serve the Federation as chairman of horticulture and to assist in other activities. One of these, the Garden Day at Farm and Home Week at the University of Maine, has developed into one of the very popular features of that program, attracting an attendance approaching one thousand people. I have also been a member of the general committee concerned with one of the very commendable projects of the Federation whereby patients in the veterans' hospitals are provided with flowers each week by visiting groups of Garden Club members. Flowers used in this work are obtained from members' gardens, hospital greenhouses, and by generous contributions from florists. The gratitude displayed by the patients, and the appreciation of hospital staff members, well demonstrates the worth of this project.

There has been a decided increase in interest in home gardens during the past few years, involving both vegetables and ornamentals. Many calls come from various organizations — Granges, service clubs and others — for lecture discussions on various phases of horticultural study. An interesting commentary here is that a large number of these lectures develop into forum discussions during which actual problems introduced by the audience can be explained. The helpfulness of this type of program is two-fold; individual problems can be solved, and trends become apparent which can lead to the general dissemination of useful information. Subjects requested vary from the care of house plants, the selection of materials for flower arrangements and other decorations, soil management in the small garden, plant insect and disease control, designing and maintaining tree and shrub plantings,

to the development of community planting projects. Individual calls in the field are made when possible, and considerable correspondence is written on similar questions.

Plans are made each year for the flower beds on the State House grounds, at the request of the Superintendent of Buildings, and supervision of the planting has been provided. The selection of plants and varieties used in these beds has been designed to familiarize people with the better bedding annuals, particularly those which will bloom freely over a long period of time and demand relatively little care.

Albion Goodwin, whose aid has been most helpful in carrying out the duties of the Bureau, was elevated to the position of Assistant Horticulturist on September 19, 1949. His promotion was well-merited; I wish here to congratulate him and to express my appreciation for his continued support in the field of horticulture.

Your sympathetic and willing guidance in problems concerning the work of the Bureau has been greatly appreciated. Please accept my sincere thanks.

Respectfully submitted,

EDWARD D. JOHNSON, *State Horticulturist*

*The 1949 outing of the Maine State Florists Association, at Boothbay Harbor.*



## The Maine Department of Agriculture



*A. M. G. Soule, who retired on February 6, 1950, after 42 years and 9½ months with the Maine Department of Agriculture.*

By A. M. G. SOULE

Any record of the past, designed to be a history of the Maine Department of Agriculture, would be incomplete and lacking in detail, if mention was not made of the events, of both individual effort and legislative action, in the interest of Maine agriculture that took place before 1901, when the Maine Department of Agriculture was created by the Seventieth Legislature.

Therefore, a brief story of this effort and action for the promotion of agriculture in Maine, is here attempted.

It is indeed significant, and to a degree interesting to note that the legislative action for the promotion of agriculture in Maine antedates the birth of the State itself by at least thirteen years.

The first of this story of associated effort was in 1787, when a number of individuals on the Kennebec River associated themselves together under the name of the Kennebec Agricultural Society. Maine agriculture, and the farmers of Maine, are probably indebted to Benjamin Vaughan and his brother, Charles Vaughan, for the earliest

impulse given to agricultural improvement in the State of Maine. These brothers, Vaughan by name, were Englishmen by birth, possessed of ample fortune, and took great pleasure in agriculture and horticulture, particularly the latter. Their mother was Sarah Hallowell of Boston, daughter of one of the proprietors of the Kennebec Purchase for whom the City of Hallowell was named.

Charles Vaughan, the son of Samuel Vaughan, a London merchant, came to Hallowell in 1791, and in that year and in 1792, made the first importations of cattle, seeds, trees, and tools from England. He was followed to Maine by Doctor Benjamin Vaughan, in 1797. Doctor Vaughan, who was a graduate of Cambridge, also was graduated as a physician from Edinburgh University. He had been a member of Parliament, was a personal friend of Benjamin Franklin and John Jay, had served as Secretary to Lord Shelbourn, the Prime Minister of England. When the treaty between the colonies and England was completed, Doctor Vaughan was sent as the Royal Messenger to Paris, bearing recognition of American independence. These were the men who, together with other individuals on the Kennebec River, were instrumental in founding, in 1787, the Kennebec Agricultural Society. In 1807, this society was incorporated by the Massachusetts Legislature, the earliest legislature action in behalf of Maine agriculture.

No exhibitions were held under the auspices of this society, but they had frequent meetings, and papers contributed by members were considered for consultation and discussion. *The Massachusetts Agricultural Repository* has many papers from this society in its columns which bear abundant evidence of the industry and ability of its members. This publication, now old and yellow, is in the Bowdoin College Library at Brunswick.

In 1818, and again through the good offices of Benjamin and Charles Vaughan, who by that time had been joined by Major Elijah Wood, the Maine Agricultural Society was formed, and by 1820, sufficient means had been accumulated to authorize an exhibition and the giving of premiums. It was held at Hallowell, in 1821.

Citizens of Winthrop, lead by Major Wood, then formed the Winthrop Agricultural Society, and this became a very active and efficient association, and soon spread into adjoining towns. They held annual shows and assigned tasks, which were topics or questions for discussion. This society continued active until 1832 when at one of the meetings it was resolved that they would merge themselves with the county society and petition the legislature for a charter and for funds.

A comment made at that time, by Major Wood, reminds us definitely that there is nothing new under the sun. In contemplation of his activity, in behalf of agriculture, he relates that he "took lodgings in Augusta with the determination of approaching the legislature that was then assembled, and to worry them into some effectual action for the promotion of agriculture in Maine," and it is further related as a matter of history, more than tradition, that incidents of this campaign would make quite a humorous and exciting chapter in the history of agricultural effort.

Major Wood entered upon his mission with a zeal becoming the importance of the end sought. He showed himself to be ingenious in answering objections, and he was untiring in his efforts to stir up the members, apparently well disposed but uninterested.

Largely through Major Wood's effort, the law of 1832 was framed and passed. From this statute authorizing societies, passed 118 years ago, parts of the present law are based providing for a stipend dependent upon the premiums and exhibitions offered by a society. Perhaps section four of this agricultural act will be interesting, remembering that Maine was only 12 years old, when it was passed.

"Every society, availing itself of the benefit of this chapter, shall, at their discretion, annually and publicly, offer premiums for introducing or improving any breed of useful cattle or animals, or any tools or implements of husbandry or manufacture; introducing, raising or preserving any valuable trees, shrubs or plants; or in any way, encouraging or advancing any of the branches or departments of agriculture, horticulture, or manufactures; and no such society, by their by-laws, shall confine such premiums to their own members, but shall bestow them on any person residing within the limits of such society, who shall produce their best specimens."

Other than the legislation passed in 1832, nothing was attempted in the way of encouraging agriculture, except in Kennebec county, and this county was the center of interest and effort prior to 1832. But the efforts to secure legislative action in behalf of this course seemed to have aroused public attention throughout the entire state, and during the session of the same legislature which passed this law, three other societies besides the Kennebec were incorporated. They were: Cumberland, Washington, and East Somerset. The Kennebec Agricultural Society was already an organized body and, given impetus under the new law, began work. An exhibition held in the Fall of 1832, was highly successful. At that time it was resolved that they

should have some official publication through which they could communicate with each other. In 1833, Doctor Ezekiel Holmes of Winthrop commenced editing the *Kennebec Farmer*, which title was soon after changed to the *Maine Farmer*, and Doctor Holmes was its editor for thirty years.

Doctor Ezekiel Holmes was born in 1801, graduated from Brown University in 1821, and was given the degree of M.D. from Bowdoin in 1824. He was principal of Gardiner Lyceum and professor of natural science at Waterville College, now Colby. With Professor Hamblen, he discovered the famous tourmaline mines at Paris, he brought the first pure bred short-horns in the State and founded the famous breed of dairy cattle known as "Winthrop Jerseys." It can probably be very properly said that Doctor Holmes, along with the Vaughans and Goodale and Wood can be considered as the founders, or fathers of the Maine Department of Agriculture.

From 1832 to 1856, there were 26 agricultural societies incorporated in Maine, and the act of 1832 remained in force without any material amendments for a period of 20 years. This law, though defective in some ways, was a very important step in the advance of agriculture but it would have accomplished much more had the provisions been complied with in regard to printing and the distribution of public documents. Under this law, the several agricultural societies annually made returns to the Secretary of State. He, in turn, submitted them to the legislature, and the legislature referred them to the joint standing committee on agriculture. But not in any single instance does it appear that any article embracing the substance of these reports was published, nor does it appear that they were returned to the secretary's office for safekeeping, and thus for 20 years the one great object sought in the payment of bounty to several societies and the diffusion of information failed in accomplishment.

Thus, the first efforts in the interest of agriculture, for securing and disseminating agricultural information, found shape in the foundation of societies and the holding of cattle shows which were widened in their scope when agricultural products and manufactures were added to the animal exhibitions. The name "cattle shows" gave place to "fairs," with a broader meaning than the term implies.

It was evident, however, that a better state of things was wanting, and in 1852, the legislature passed an act establishing a Board of Agriculture. There is evidence that this act was not what its friends desired, and in order to secure passage, the original bill was so amended and so cut that its value was considerably impaired. This act seemed

to bestow little power beyond that of assembling annually for discussion.

The secretary received the sum of \$100 for the preparation of all matters that came before the board and for superintending publication of the same. The board met in Augusta in January, 1853. At this meeting there was found to be a great difference of opinion among the members on most of the topics introduced, as well as upon the means to be used to gain the purposes sought. In January, 1854, the board met again. It was during this session that the leading matter of consideration was the means to be used to foster agricultural aids. The board held its third annual session in 1855. A large share of the members were new, but by this time the law under which the board had existed had come to be well understood and its defects fully apparent.

In January, 1856, the executive committee of the state society met as provided by law, composed in part of members elected by the county society, and they were especially elected for the purpose of using their influence to secure the repeal of the obnoxious statute. They had under consideration not one, but three bills. One of the items of interest was the objection made to allowing horticultural societies to share in the bounty of the state on the ground that no practical good thus resulted to agricultural interest. A part of this discussion is now in evidence, and it is most interesting to note the arguments pro and con, as to where improvements in agriculture mainly originated. "Is it not in the garden, rather than in the field, by experiments of horticulturists on a small scale?" One example that was cited, is the trial and proof of a new vegetable. A prominent agriculturist said, "Let the history of the potato answer; this indispensable vegetable was discovered and introduced into Europe in the Year of Our Lord, 1585, and for more than 150 years after Sir Walter Raleigh planted the potato in his garden, the culture of this vegetable was confined to the garden. It was not until AD 1752 that it was first grown as a field crop in Scotland."

The discussion continued as follows: "Multiplied instances might be adduced to show beyond all doubt that the labors, experiments, and researches of the horticulturist are at once available and often invaluable to the agriculturist. In fact, the two pursuits are as intimately connected as the blossom and the fruit."

Finally, an act that amended Chapter 187 of the laws of 1855 was passed and approved in March, 1856, and in the same year, 1856,

acts were passed more fully prescribing the power and duty of agricultural societies, and a much more satisfactory statute governing the Board of Agriculture and agricultural societies was realized.

At first, the membership of the Board of Agriculture consisted of one person from each society that represented the whole or a division of a county. That meant twenty-six members on the Board from the time of its origin, its membership to consist of only one person from each county, and from those counties where there was more than one regularly organized society, the members were chosen from each society in turn. In 1859 a report was printed by a committee appointed by the Governor on pleuro-pneumonia in livestock and by the laws of 1862, Chapter 132, a Cattle Commission, also appointed by the Governor, ordered their reports to be printed. This was the beginning of legislation to exercise State supervision over animal industry.

In the period of 1860 to 1864, the worth of the agricultural societies and the Board of Agriculture came to be very definitely realized. The 37th Congress established a National Department of Agriculture, passing "an act donating lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanical arts." Dr. Holmes worked unceasingly for the acceptance of the grant and was responsible for certain resolutions regarding the installation of the college. The records of the Maine Board of Agriculture for the years 1863, 1864, and 1865, relate how Dr. Holmes and other earnest, determined men worked to the end of fostering and encouraging a college of agriculture, and opposed the selfish interests of the other educational institutions already established in Maine.

How gratifying it must have been to those pioneers when in September, 1868, the college was opened and their dream became a reality. Unfortunately, Dr. Holmes, who had been so earnest and active and for years had recommended that a school of agriculture be established, had gone to his reward and could not have the pleasure of seeing the fruits of his labors harvested.

After the establishment of the Agricultural College, the law required that the winter sessions of the Board of Agriculture should be held at some point near Orono so that students of that institution could attend. In 1870 an act was passed by the Legislature empowering the Governor of the State to appoint five members of the Board of Agriculture, also giving the right of representation to the State Agricultural Societies. In 1873, the State Pomological Society was given membership and similar rights were given to the Maine Poultry Association in 1875 and to the Maine Dairymen's Association and the



State Jersey Cattle Association in 1878. In 1880 probably the most important change was made in the law that created a Board of Agriculture. This act reduced the membership of the Board to one member from each county, two from the State College, and provided funds for holding Farmers' Institutes. The summer meetings were discontinued, and the energies of the Board of Agriculture were devoted to holding Institutes in every county in the State.

From 1832 to the time of his death, Dr. Holmes reported the doings of the various Agricultural Societies. Evidently no reports of the Board of Agriculture were published until S. L. Goodale made the first report of the Board in 1856, and from 1857 to 1872 Mr. Goodale acted as secretary to the Board. He was succeeded in 1872 by Samuel Boardman who served until 1878. For some reason evidently not explained in any records, no report of the Board was made for the year 1879. Samuel Boardman was succeeded in 1880 by Z. A. Gilbert, who served from 1880 to 1891. At that time B. Walker McKeen was elected secretary of the board and served from 1892 until 1901.

Thus, from 1832 up to 1901, the effort in behalf of agriculture was carried on by Agricultural Societies, and by the Board of Agriculture. Then in the Legislature of 1901, on February 8, Senator Weeks of Somerset introduced the following order:

Ordered: "The house concurring, that the committee on agriculture be and hereby is authorized to make a complete investigation into the management of the office of the Board of Agriculture as conducted by the secretary; and present to this legislature a complete and itemized account of the result of said investigation."

On March 8, 1901, the Committee of Agriculture represented that they had attended to the work so ordered, and made the report. This is in evidence in detail on Page 451 of the Legislative Record for 1901 for March 8. The final summary of their investigation and their recommendations are given here:

"This investigation compels your committee to say that, in their belief, the Board of Agriculture as at present established, is not for the best interests of agriculture in the State; and they believe it should be supplanted by an agricultural department whose executive officer shall be elected by the Legislature with a fixed salary, a fixed allowance for expenses, and a fixed appropriation for its work. And to this end, unanimously recommend the accompanying bill, and that the same should pass."

The Legislature accepted the report and the recommendations of the Committee on Agriculture and passed an act which was approved

March 19, 1901. This act created a State Department of Agriculture, "for the improvement of agriculture and the advancement of the interests of husbandry" and authorized that a Commissioner of Agriculture should be elected biennially by the Legislature in joint convention, and that he should be given an annual salary of \$1,500 and with expenses not to exceed \$500.

This act, as passed, was to take effect January 1, 1902, except as to that part relating to the election of the Commissioner, which took effect on the approval of the act; and in the dying days of the Legislature of 1901, on March 21, 1901, Augustus W. Gilman of Foxcroft was elected Commissioner of Agriculture of the State of Maine. Mr. Gilman was authorized to take office in January, 1902. Then and there, the Department of Agriculture succeeded the Board of Agriculture.

In January, 1902, Augustus W. Gilman of Foxcroft, and his clerk stenographer, Rena Winslow of St. Albans, occupied the office assigned them on the second floor in the old State House and began their work for the "improvement of agriculture and the interests of husbandry," duties that had been assigned them by the statute. They were then the Department of Agriculture.

Commissioner Gilman served from 1902 to 1911, when there was an entire change in personnel of the State Government. Frederick Plaisted of Augusta was elected Governor and John P. Buckley of Portland was elected Commissioner of Agriculture. Commissioner Buckley served two years, 1911 and 1912.

In 1913, the Republicans returned to power, and John A. Roberts of Norway was elected Commissioner, serving two years, 1913 and 1914 when he was displaced, the Democrats again coming into power, and William T. Guptill of Topsham was elected Commissioner.

Commissioner Guptill served two years, 1915 and 1916. Commissioner Guptill had served under the former Commissioner Buckley as State Dairy Instructor.

Again in 1916, the Republicans returned to power, and John A. Roberts was returned to office. Commissioner Roberts served for the years 1917, 1918, 1919 and until February of 1920, when his service was terminated by his death.

For the remainder of 1920, the affairs of the department were administered by Deputy Commissioner E. E. Philbrook of Portland.

The Legislature of 1921 elected Frank P. Washburn commissioner, and he was elected successively for five four-year terms; serving longer by twelve years than any of his predecessors, either Commissioners or Secretaries. In 1941 Commissioner Washburn was succeeded by

Carl R. Smith of Exeter who served from 1941 until his resignation as of July 31, 1945.

Commissioner Smith was succeeded by A. K. Gardner of Orono who took up his duties as Commissioner on August 1, 1945. For ready reference, the terms of service and reports of various Commissioners are given here:

A. W. Gilman, 1902 to 1910  
John P. Buckley, 1911 and 1912  
John A. Roberts, 1913 and 1914  
Wm. T. Guptill, 1915 and 1916  
John A. Roberts, 1917 to Feb. 1920  
E. E. Philbrook, Feb. 1920 to 1921  
Frank P. Washburn, 1921 to 1941  
Carl R. Smith, Jan., 1941 to July 31, 1945  
Albert K. Gardner, Aug. 1, 1945 —

Now to trace briefly the growth of the Department from Commissioner Gilman to Commissioner Gardner.

In Mr. Gilman's first report, made in 1902, he stated, "We regard the step taken by the Maine Dairymen's Association on December 5, 1902, in relation to a dairy instructor as one of special importance." The step referred to was a resolve stating that "the welfare of the dairy interests of Maine requires the appointment of a dairy instructor." However, a dairy instructor was not appointed at that time as no appropriation was made.

Farmers' Institutes were held in every county as the law directed, and the report states that the Institutes were largely advanced by speakers from Maine.

The legislature of 1903 amended several of the laws relating to agriculture, including an act to regulate the sale and analysis of feeding stuffs, an act to provide protection of trees and shrubs from injurious insects, and a resolve appropriating the sum of \$3,000 each for the years 1903 and 1904 to employ a dairy expert and suitable assistants; it also revised and amended the law pertaining to county and local agricultural societies and made an appropriation for them. As a result of the \$3,000 appropriation, S. C. Thompson of Winterport was employed. He began his work in May and continued until November when he was sent to a dairy school in Madison, Wisconsin, for a three-months course, and upon his return took up his duties as state dairy instructor, the Dairy Bureau, which later became the Division of Animal Industry, or a part of it, thus being created.

In the Spring of 1904, a new menace to orchard and forest interests in the form of that dangerous pest, the brown tail moth, made its appearance at a pear orchard in Kittery, and when the matter was presented to the Governor and Council, authority was given to the Commissioner to use such means for the destruction of the pest as the emergency seemed to demand. The services of G. A. Thompson of New Hampshire, were secured, and a campaign against the pest was organized. In 1905, Edson F. Hitchins was added to the Department force as state entomologist, the Legislature having passed an act calling for inspection by a competent entomologist. Here, was the beginning of the Bureau of Entomology, later to become the Division of Plant Industry.

The Legislature of 1905 appropriated \$10,000; \$5,000 for 1905 and \$5,000 for 1906. Then, in keeping with history and tradition that pestilence and plague never come in single visitations, the United States scouts found the gypsy moth in Maine in 1906. This discovery resulted in an additional appropriation made by the Legislature of 1907 of \$60,000; \$30,000 for 1907 and \$30,000 for 1908, the largest sum appropriated for the Department up to that time. A special field agent was added to the Department force and several inspectors. The Legislature of 1909 ordered that there should be appropriated \$35,000 annually and authorized it as a carrying account. In 1908, the moth work was assigned to E. E. Philbrook as special field agent.

E. S. Thompson, who had been in the employ of the department as assistant dairy instructor during the later part of 1907, still continued to act in that capacity during the first two months of 1908. He then left for Washington to accept a position with the Dairy Division of the U. S. Department of Agriculture and was succeeded by Doctor Leon S. Merrill of Solon.

The Legislature of 1909 imposed upon the Commissioner of Agriculture the duty of investigating the dairy products of the state and required the registration with the Department of all dealers in milk. This act became law July 3, and P. F. Skofield was employed as an agent of the Department. The dairy instructor, Dr. Merrill, resigned on September 31, 1910. He was succeeded by R. W. Redman.

Thus the administration started under Commissioner Gilman with a Department consisting of himself and one stenographer had, when Commissioner Buckley came into office, expanded to a Department which employed a dairy instructor, a dairy inspector, an entomologist, a seed improvement agent, a special field agent, and an extra stenographer for moth work.

With Mr. Buckley's coming to office, all these positions were retained and Albert K. Gardner of Rockland was appointed state horticulturist and took office May 15, 1911. Also during Mr. Buckley's administration, two significant and important changes, imposed by acts of the Legislature, added to the duties of the Commissioner of Agriculture. A livestock sanitary commissioner, appointed by the Governor, was added to the Department May 1, 1911. Also during Commissioner Buckley's administration, the work of adjusting the weights and measures of the state was added to the Department by an act of the 1911 Legislature. This important move changed the authority and obligation of testing weights and measures all over the State of Maine from the office of the State Treasurer to that of the Commissioner of Agriculture. The Legislature, however, did not make an appropriation for this work, but on an order of the Governor and Council for \$2,000, a set of standards was purchased, sent to Washington, compared with the U. S. Bureau of Standards, and some work accomplished even without an appropriation.

During Commissioner Roberts' first administration, covering 1913 and 1914, several additions were made to the duties of Commissioner. The Legislature of 1913 passed the Apple Packing and Grading Law. The same Legislature also appropriated \$3,000 to be expended under the direction of the Commissioner of Agriculture to study the limits and cost of marketing farm products and purchasing supplies. It was also provided by this act that the Commissioner should, in conjunction with the Farmers' Union of Maine, have authority to employ experts, and under this resolve C. E. Embree of Bangor was employed. This in a way was the beginning of what later was the Bureau of Markets. Also the Legislature of 1913 made an appropriation carrying out the proposals of the act made by the Legislature of 1911 providing for the adjusting of weights and measures. Under this appropriation, Levi S. Pennell of Portland was appointed deputy sealer, and the actual work of testing scales and weights and measures in the various towns was begun. In the second year of Mr. Roberts' administration, 1914, the powdery scab on potatoes was discovered in Aroostook county. The state horticulturist had charge of the work, and about 80 inspectors were employed.

During Mr. Roberts' administration, by a mandate of the 1913 Legislature, the authority for the enforcement of all inspection laws was transferred from the director of the Maine Agricultural Experiment Station at Orono to the Commissioner of Agriculture. This included the Food and Drug laws and the laws governing commercial

feeding stuffs, insecticides and fungicides, that it had been the duty of the Director of the Experiment Station to enforce. It also included the fertilizer control laws which had been enforced in Orono for 32 years beginning in 1885, two years prior to the establishment of the Experiment Station. I was appointed chief deputy, and thus the Division of Inspection was begun.

Commissioner Guptill took office in January, 1915 and selected nearly a new force. No new duties were added by legislative action, Commissioner Guptill's administration was marked with particular activity in the enforcement of the fertilizer law and considerable activity in enforcing the weights and measures laws under the efficient administration of Edgar A. Russ, Deputy Sealer of Weights and Measures.

During Commissioner Robert's second administration, 1917 to 1920, the Legislature changed the tenure of office of the Commissioner of Agriculture from two to four years, but this statute did not take effect until January, 1919. At that time Mr. Roberts was elected Commissioner of Agriculture for a four-year term, the first to be so favored. Unfortunately he was not privileged to serve the whole of this period as he died in office in February, 1920. The same Legislature in 1917 also granted to the Commissioner of Agriculture the authority to appoint a deputy commissioner, and E. E. Philbrook of Portland, who had served as field agent, was appointed to that office by Commissioner Roberts. In Mr. Roberts' second administration he was authorized by Chapter 64 of the Public Laws of 1919 to group various bureaus that had existed in the Department, and five Divisions were formed. There were the Division of Administration, the Division of Plant Industry, the Division of Animal Industry, the Division of Markets and the Division of Inspection. In 1920 the European corn borer was found in Eliot, Maine. Its coming had been expected and quarantines had already been established in 1918-1919.

During Commissioner Washburn's long administration the personnel of the Department was increased considerably on account of the various new duties charged to the Commissioner of Agriculture by the Legislatures from 1921 to 1941. In Commissioner Washburn's administration, as a result of the act of the Legislature of 1921, the fiscal year, as ending June 30 was established, and provided that each State Department should, on the 30th day of June, 1922, submit a report for the preceding 18 months. The report made by Commissioner Washburn was the first of this character and accordingly, covered a period from January 1, 1921 to June 30, 1921, and one for

the full fiscal year, July 1, 1921 to June 30, 1922. This report included statistics of Agricultural Societies and a report of the Maine State Pomological Society, and these reports were published in the Commissioner's report until 1928-1930. In that report, the minutes of the State Pomological Society and the State Dairymen's Association were given only in skeleton form, but in the report for 1932 to 1934, the reports of the Associations were entirely eliminated and have been omitted in all subsequent reports. The Legislature of 1921 passed an act abolishing the office of Livestock Sanitary Commissioner and transferred the duties of the said office to the Commissioner of Agriculture. This was a significant change as some sort of supervision of livestock had been maintained by other agencies from 1859.

On July 9, 1921 Herbert Tucker assumed the duties of Chief of the Division of Animal Industry.

Also by the Public Laws of 1921, Chapter 44, Shipping Point Inspection was authorized.

The Legislature of 1923 added to the duties of the Commissioner of Agriculture by the enactment of the Cooperative Marketing Act and amended the Seed Potato Certification law and made amendments to the Farm Loan Act.

In 1925 an appropriation of \$10,000 was made for the study and control of the blueberry fly, an insect that has seriously threatened the quality of that important fruit. Benefiting by this appropriation it was possible to increase activity in the field control, and in 1926 fourteen blueberry canneries received full time inspection. The Legislature of 1925, as an adjunct to the Food Law, ordered that manufacturers of soft drinks and all non-alcoholic beverages should be licensed and made the Commissioner of Agriculture executive of the law.

After exhibiting for several years in the Eastern States Exposition at Springfield, Massachusetts, first in the Machinery Hall and then in the Industrial Arts Building, the State of Maine building was dedicated in 1925, and the Department of Agriculture made its first exhibit there.

The Legislature of 1927 imposed new duties by requiring the Commissioner of Agriculture to certify and accredit the quality of shellfish shipped from Maine.

The Legislature of 1929 ordered that all sardine factories should be licensed and the packing of sardines supervised by the Commissioner of Agriculture.

In 1930 the Maine Egg Laying Contest was started, supervised by the Division of Animal Industry. Then the licensing of poultry dealers began.

In 1934 the Potato Branding Law was passed and assigned to the Commissioner for enforcement.

Commissioner Smith's administration was marked by increased activity in all lines. The 90th Legislature provided for a \$450,000 Agricultural Bond Issue to carry on the Bang's Disease Program and, cooperating with the U. S. Bureau of Animal Industry, the Department made great strides in the improvement of dairy herds. A new Bang's Disease Laboratory was installed and equipped. The Maine poultrymen were given an opportunity to carry on official breeding work at the Maine Egg Laying Test at Monmouth. The 90th Legislature in the special session of 1941 transferred the policing of Agricultural Fairs from the Department of Agriculture to the office of State Police. Also in 1941 a change was made in the Branding Law and an optional privilege given to shippers of selling potatoes in packages without brand. The enforcement of the statute was transferred from the Division of Markets to the Division of Inspection.

The 91st Legislature in 1943 passed a law known as "an act relating to slaughter houses." The Commissioner of Agriculture, named chief executive in the law, assigned the duty of enforcement to the Division of Inspection. In 1943 there were 172 slaughter house licenses issued.

In 1943 a re-survey was made of the areas on the coast of Maine where clams are found. This survey was made on the recommendation of the U. S. Public Health Service and the survey was conducted in cooperation with that agency. As a result 58 areas were closed to clam digging.

During Commissioner Smith's administration two new tablestock brands of potatoes known as "Super-Spuds" and "Chef's Special" were set up within the Division of Markets.

As it has been already stated, Commissioner Smith's administration ended July 31, 1945 and the administration of Commissioner Gardner began August 1, 1945. The Maine Department of Agriculture, that in 1902 consisted of two, now has grown to a working force of three hundred persons. The statement is ventured that the gypsy and the browntail moth, the European corn borer, the powdery scab, the fungus disease in herring, the blueberry fruit fly, the various potato diseases, and bovine tuberculosis and Bang's Disease have all contributed to the growth of this Department.

*(From a talk given by A. M. G. Soule upon his retirement.)*