

MAINE STATE LEGISLATURE

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MAINE PUBLIC DOCUMENTS

July 1, 1934 - June 30, 1936

Agriculture of Maine

TWENTY-SEVENTH REPORT

OF THE

Commissioner of Agriculture

OF THE

STATE OF MAINE

July 1, 1934 to July 1, 1936

MAR 15 1938



Up-to-date Protection from Disease. Dusting a Maine Potato Field.

175918

DEPARTMENT OF AGRICULTURE

*To His Excellency, Louis J. Brann, Governor of Maine,
and Council:*

In compliance with the provisions of Chapter 39, Section 11, of the Agricultural Code of our State, I present the following brief report of the activities of the Maine Department of Agriculture, for the biennial period July 1, 1934 to July 1, 1936.

It is a pleasure to acknowledge in this opening paragraph of transmittal, the unfailing courtesy and consideration accorded my Department by your Excellency and the Council in every activity in which it has been engaged. I recognize also, the loyal service rendered you and the State by the men and women under my direction. The State has no more faithful servants.

Respectfully submitted,

F. P. WASHBURN,
Commissioner.

Augusta, Maine, July 1, 1936.

MAINE DEPARTMENT OF AGRICULTURE

Commissioner
Deputy Commissioner

F. P. Washburn, Perry
Vacant

Staff

<i>Chief, Division of Inspection</i>	A. M. G. Soule, Augusta
<i>Chief, Division of Plant Industry</i>	E. L. Newdick, Augusta
<i>Chief, Division of Animal Industry,</i>	H. M. Tucker, Yarmouth
<i>Chief, Division of Markets</i>	C. M. White, Augusta
<i>Assistant, Division of Markets,</i>	George H. Chick, Monmouth
<i>Dairy Inspector</i>	Clayton P. Osgood, Fryeburg
<i>Assistant Dairy Inspector</i>	Kenneth Johnson, Perry
<i>Sheep Specialist</i>	C. H. Crawford, Dexter
<i>Horticulturist</i>	Stanley L. Painter, Orono
<i>Assistant Horticulturist</i>	Edward D. Johnson, Monmouth
<i>Deputy Sealer of Weights and Measures</i>	Gardner K. Heath, Augusta
<i>Field Agent, Gypsy Moth Work,</i>	M. H. McIntire, So. Berwick
<i>Field Agent, Seed Certification</i>	C. A. Stetson, Caribou

Chief Clerk

Dorothy M. Lippincott

Augusta

Clerks and Stenographers

Grace E. Casey	Augusta
Margaret Cole	West Gardiner
Nettie Cox	Strong
Rhea W. Goodwin	Calais
Doris C. Hutchings	Litchfield
Madeline E. Quinn	Hallowell
M. Ethel Quinn	Hallowell
Frances B. Sanborn	Augusta
Alicia K. Smith	Augusta
Geneva H. Williams	Augusta

Activities of the Department of Agriculture 1935-1936

Following the custom of the past decade, the Report of the State Department of Agriculture, for this period, is brief. For this we offer no apology. Unless such a document can be made thoroughly comprehensive, covering the methods employed and results obtained, in every branch of our service, with a full discussion of the problems confronting our farmers, and of our efforts to aid in their solution; it had best be confined to a mere statement of the facts disclosed in the record of work performed. Obviously, with the funds at our disposal for printing and distribution, such extensive and complete reports as were rendered twenty and thirty years ago, by Commissioners and Secretaries of Agriculture, are now out of the question. Demands upon our office appropriations for information, advice and assistance, are too many and too constant, to allow any considerable part of such appropriations to go into reports of past activities which are, after all, only ancient history by the time they reach our farms.

Records of our principal Divisions and Bureaus are found on the following pages and the Heads of such Divisions and Bureaus will cheerfully supply further details to any interested persons.

For the Division of Administration we herewith supply some figures which seem important:

Number of Agricultural Societies receiving State Aid, 1934,	30
Number of Agricultural Societies receiving State Aid, 1935,	31
Total attendance reported by such Societies, 1934.....	233,070
Total attendance reported by such Societies, 1935.....	263,008
Number of Agricultural and other meetings attended by Dept. Members, 1934.....	448
Number of Agricultural and other meetings attended by Dept. Members, 1935.....	460
Attendance at such meetings, 1934.....	27,514
Attendance at such meetings, 1935.....	28,050
Total Appropriations by the State for the Department of Agriculture, 1934	\$160,751
Total Appropriations by the State for the Department of Agriculture, 1935	206,751

It will be noted that the already long list of duties assigned by Statute to the Department of Agriculture of our State, is extended materially with each session of the Legislature. In this respect, 1933 and 1935, have been no exceptions. Our organization has been directed to take over the administration of the Potato Branding Law, and to assist the Milk Control Board in its labors and the Development Commission in starting an advertising program for Maine Farm Products. Our men and office facilities are gladly placed at the call of these agencies because the work they are doing must result in great benefits to Maine dairying and farming as a whole.

We trust that the next Legislature will definitely determine and adjust some questions of Constitutionality which have arisen in the operation of the Potato Branding, Milk Control and Corn Borer Laws. Certainly some amendments in the existing Statute covering the distribution of stipends to Agricultural Societies must be made if agriculture is to be truly served by these organizations. As at present expended, it is doubtful if the farming industry of the State receives a maximum benefit. Certain Societies now participating in the distribution of State funds, are probably not making any sincere effort to earn their stipend, while the coming of many Town and Grange fairs, with really educational programs, into the picture, re-opens the question of whether or not this class of exhibitors is not entitled to recognition.

Finally there is crying need of a revision of the Salary list of the Department of Agriculture: Not with the object of materially increasing its sum total, but of equalizing compensations allowed employees of equal ability, performing the same or similar work. The present list is the result of years of expedients and temporizing. Men and women are, in some cases, receiving only 65% of the pay allowed to others of similar qualifications and duties. Only a sincere devotion to duty and their superiors can hold workers to their full efficiency under such a system, and then not for always. The salary adjustment plan suggested by the last Legislature would have, if put into effect, strongly sustained the morale and efficiency of our organization.

Straws in the Wind

By F. P. WASHBURN, *Commissioner*

In no branch of human endeavor is it possible to show continued progress unless we keep abreast of the times. We must observe the swaying of the straws that show which way the wind is blowing. We must follow trends; take advantage of new methods or up to date applications of old ones.

Agriculture is not immune to this law. There is more to making a living on a farm than just planting and harvesting a crop.

In Maine we have been wise enough to keep in the van in nearly every proven advancement in the age-old occupation of husbandry.

We are employing machinery to plant, cultivate, and harvest our crops that is far more economical, speedy, and efficient than that used by even our immediate ancestors.

We have made great advances in improving the quality of our products; by using better seed or breeding stock; by using new and better fertilizing agents.

We have bettered our products and increased our yields by constantly experimenting until we have found the ideal seed or the ideal stock for the climatic and soil conditions peculiar to Maine.

We are observing wise grading laws in several branches of agriculture which not only protect the buying public, but protect ourselves as well by building up a reputation for products of the highest quality.

In not all of the foregoing have we attained perfection. We have, however, made remarkable strides which attest to the high degree of intelligence of Maine agriculturists and their adaptability to changing conditions.

In the last report I advanced the thought that a prime requisite of our future agricultural success is advertising; in telling the people of the country of the excellence of Maine products.

There was a time in the past when the advertising of any

product may have been debatable from an economic standpoint, that, is, whether or not the returns justified the expense.

At present, however, advertising is an indispensable accessory in the merchandising of any product. America, and the world in general, is "advertising conscious." Advertising follows us twenty-four hours of every day. We are awakened in the morning by an advertised alarm clock. We arise from an advertised mattress to make our morning ablutions with advertised soap, dental cream, toothbrushes and razors. We don advertised clothes and sit down to a meal of advertised fruit juices and breakfast foods. We read a morning paper in which news and advertisements are about equally divided. We may, perhaps, turn on an advertised radio to get a weather report which comes to us with the compliments of some advertiser.

In our daily work we use advertised machinery. After the day's work is over if we drive to a grange meeting, a church affair, or to the movies, we do so in an advertised car.

In spite of ourselves we have become instilled with the theory that the best products are those that are advertised. We have come to realize that those who advertise have too much at stake to sell us inferior products.

I believe that the foregoing is applicable to Maine agricultural and seafood products. I believe that the time has come when we can no longer allow our products to remain anonymous.

I believe that instead of selling our goods as just potatoes, corn, blueberries, beans, peas, seafoods, and so forth, we should sell them as Maine potatoes, Maine corn, Maine seafoods.

Fortunately, Maine and Maine people are held in high regard throughout the nation. The friendliness of Maine people; their sincerity and straightforwardness have given the State an enviable reputation.

On this foundation, buttressed by the high quality of Maine products, we can advertise, secure in the knowledge that such advertising would be successful.

We know, by the small amount of advertising which we

were able to do last year, that the public at large is ready, even eager, to secure Maine foods.

Using part of the \$25,000 allotted by the last Legislature for agricultural advertising, we purchased time on the radio program of a nationally-known food commentator in New York City. On the air this lady stressed the desirability of purchasing Maine foods to such good advantage that 22,000 women wrote to her asking where Maine foods could be purchased and asking for a copy of the Maine cook-book, "Delicious Maine Foods." Large merchandising concerns, both wholesale and retail, co-operated in the campaign by sponsoring Maine "food weeks," making window displays of Maine products, and in other ways helping to make the project successful.

As a test of the reception which Maine goods would receive if properly advertised, it proved successful beyond our greatest expectations. It proved that there is a market of almost inconceivable vastness awaiting high quality, well advertised, and properly marked and packaged food products.

We did find, however, that our foodstuffs are going into the markets of the country without proper identification. It was impossible for many housewives who inquired for Maine products as the result of our advertising, to tell whether or not she was getting the genuine article.

We have been trying during the last few months to counteract this unhappy condition. It has been proposed, and we think that the idea is a good one, to have every Maine product worthy of the name, carry a tag or label that will easily identify it. The design under consideration now is simple and should be effective. It consists of a tag or label marked off into three bars of different color. The top bar is blue, the next white, and the third red. Written on the blue bar are the words: State of Maine. On the white bar appears the name of the grower or packer, his address, his private brand name, and any other information he thinks desirable. On the last color bar will be printed the name of the product such as corn, potatoes, or lobsters.

If this means of identification is adopted, everything going outside the State will be uniformly marked. Labels

can be pasted onto cans, tags can be attached to potato bags, containers bearing the label can be used for potatoes, eggs and other products. Lobsters can be tagged with a special tag developed for the purpose.

Thus, by employing this standard color scheme, the housewife can tell at a glance whether or not she is getting genuine Maine products. She will be able to buy a peck of potatoes, a dozen of eggs, a can of peas, a box of blueberries, a can of sardines, a lobster, all bearing a label or tag of the same design which will be her guarantee of quality.

It is obvious, however, that this marking of Maine products will be useless unless it is backed by a strong advertising campaign advising housewives to look for the label at her favorite store and to buy only goods so marked.

We must, somehow, raise the money which will be necessary for such advertising. I think that it can be done, at least in part, by the various associations of growers and packers in the State if we could work out a satisfactory agreement whereby a small fraction of the selling price of each case or package of goods would be set aside for advertising. No money raised by apple growers, for instance, would be used to advertise anything but apples. Thus each branch of agriculture would advertise only its own product. Each, however, would benefit from the advertising done by other branches because of the similarity of identification.

Already several meetings of growers and packers have been held during which an enthusiastic reception was given the idea. Both the Department of Agriculture and the Maine Development Commission pledged to do everything in their power to co-operate in telling the people of the country that Maine raises the best foodstuffs in the world.

Using methods somewhat similar, California growers have proven what united effort will do in marketing food products. We can do the same, and better, here in Maine.

I firmly believe that by availing ourselves of modern advertising that a new era will be opened up to Maine farmers and fishermen—an era of prosperity so far superior to anything that has gone before that there will be no comparison.

Report of Division of Animal Industry

To Hon. Frank P. Washburn, Commissioner of Agriculture:

I herewith present my report of this Division covering the two-year period July 1, 1934 to July 1, 1936, and a short detailed report of the work accomplished during this time, together with a forecast of the needs of this Division for the work that will be demanded of it in the future.

The reports of Clayton P. Osgood, Dairy Inspector, and Charles H. Crawford, Sheep Specialist, are appended.

Bovine Tuberculosis

There has been no change in the methods employed in the control and eradication of this disease. The State and Federal Bureau co-operate in the test work and also in the payment of indemnities. It will be seen by referring to the listed summary in this report that there was a slight increase in the percentage of disease found in the year 1934-35. This was on account of the re-testing of areas that were originally quite heavily infected. During the fiscal year closing July 1, 1936, the lowest percentage of this disease ever recorded in Maine, or in fact, in any dairy State in the Union, is shown—namely—thirteen hundredths of one per cent (0.13%). The policy of testing county areas 100% is being followed as time will permit. This prevents any serious development of this disease in any area. During the past two years all the cattle in Kennebec, Androscoggin, Cumberland and Penobscot Counties have been tuberculin tested, while practically all the cattle in York and Somerset Counties have also been tested, and Franklin County is next in line. The cost of bovine tuberculosis control is now very small. Deducting the salvage returns on reactors the past year from the indemnities paid leaves a net cost for reactors of \$2,831.91. Of course, this does not include other expenses incidental to the test.

Glanders

Quite a few suspected cases have been reported to this office during the past two years. In every case, when these symptoms have in any way indicated a possibility of this disease, the animal has been examined and tested by a competent veterinarian, but in no case has the presence of the disease been confirmed.

Hog Cholera

There have been several small outbreaks of this disease reported; and in all new cases this Division has furnished the serum necessary to immunize the remaining hogs on the premises. This disease is not increasing in Maine.

Bang's Disease

Figures giving details of this work are included in my itemized report. It will be seen that this work is developing very rapidly in spite of the fact that there has been no State money of late, with which to pay indemnities, and since May 15, 1936, signers of the Federal agreement for the agglutination test have been required to sign also a statement that they will wait for the State's portion of the indemnity until additional funds are appropriated for this purpose. It is very unfortunate that this condition has arisen, as cattle owners have had to bear the money losses caused by this disease for many years, and these losses have been far greater than was ever caused by tuberculosis.

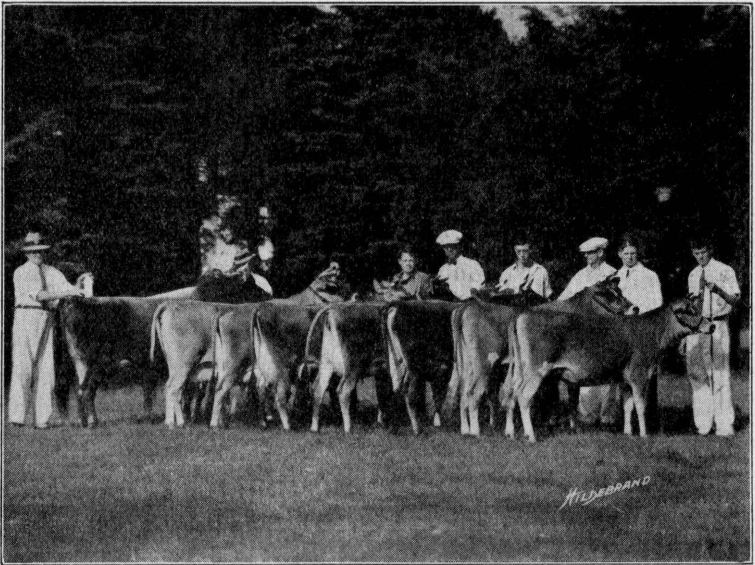
Many farmers have been trying to combat this disease without success. Many have tried vaccination by local veterinarians. Some of these herds have shown apparent benefit while others, even when the best vaccine was applied by veterinarians with a reputation beyond reproach, showed results far from satisfactory, and even if premature births ceased, if the herd was required to be tested in compliance with a local health ordinance for milk supply, as is now demanded in some places, or if the owner was required to test for interstate shipment, he would be out of luck, as his

herd would, without doubt, show a percentage of positive reactors. The Federal Bureau is working, and has worked for many years, to develop a vaccine to be used in calfhood that will immunize, and at the same time will not be violent enough to prevent the calf in its growth and development, throwing off the organism. But this must be done at an early age so the heifer will be able to eliminate all the Bang's organism before she matures to breeding age. Research work conducted for many years by the most expert veterinarians in the Federal Bureau shows beyond any doubt that the vaccination of mature animals, or those approaching breeding age, is so uncertain that any beneficial results are questioned. Personally, I am hoping a vaccine can be developed that will immunize so this disease can be controlled without the slaughter of so many animals; but this means was found the only effective way of combatting tuberculosis, and thus far, it appears to be the only means of getting rid of Bang's. It may be true that a certain percentage of reactors to Bang's disease may not be spreaders after a time, but when, and how much cannot be determined with this disease any more than in tuberculosis, and one thing is certain—the slaughter of reactors and the thorough cleaning and disinfecting of the stable will eliminate the disease, and when an owner has made up his mind to have a clean herd he is interested in the quickest means possible to gain that end.

Cattle owners are thoroughly aroused over the need of bringing this disease under control. Both from an economic and a public health standpoint it is extremely important, and it is hoped this situation will be brought so forcibly to the attention of the next Legislature that a suitable appropriation will be made to continue this work without requiring cattle owners to wait a year for their State indemnity.

The Federal Bureau has been most generous in co-operating with the State in this work. The salary and expenses of all veterinarians engaged in drawing blood samples in the field, also a veterinary laboratory expert testing blood samples at the State Laboratory, are all paid by the Bureau, and in the matter of indemnities, instead of a 50-50 division

the Bureau pays the maximum which has now been increased to \$25.00 on a grade, before the State pays, so that with the cheaper class of cattle it sometimes occurs that the salvage and Federal indemnity cover the full appraisal.



Maine Dairy Cattle Step Out for High Honors at Eastern States Exposition.

Maine Egg Laying Contest

Since the contest was started six years ago it has been supervised by this Division of the Department. The records made during this period have compared very favorably with the records of any other egg laying contest in the country. In our 1931-32 contest we made a new world's record for a pen of ten Rhode Island Reds in an official contest. In fifty-one weeks this pen laid 2,832 eggs scoring 2,907 points. In the 1933-34 contest a Rhode Island Red hen laid 323 eggs,

scoring 349 points in fifty-one weeks. This was high production hen for all breeds in all contests in the country for that year. This hen also established a record for continuous laying by commencing a cycle on December 9, 1933, and completing it June 26, or 200 days without a skip. Both the pen and the individual hen mentioned were owned by George B. Treadwell of Spencer, Mass.

In our 1933-34 contest we made another world's record for Rhode Island Reds. A pen owned by Lord Brothers of Kezar Falls, Maine, laid 2,851 eggs, scoring 3.009 points, and in the same year a pen of Light Brahmas owned by Mrs. M. M. Clark of Readfield, Maine, made a world's record for that breed by laying 1,780 eggs, scoring 1,900 points in fifty-one weeks.

Our standing in the year 1934-35 in competition with all other standard contests in the country was as follows: first high pen in White Plymouth Rock pens, second high on Rhode Island Reds, fourth high on White Leghorns, and eighth high on Barred Plymouth Rocks. That year thirty pullets qualified for the 300 point list.

In our present year a hen has just completed a cycle of 214 days continuous laying, this hen owned by Philip E. Steele & Son of Biddeford, Maine, which is the longest cycle of any of the Maine contests.

The objects of the Maine egg laying contest are:

1. To improve the average production of the purebred commercial hen by encouraging interest in selection and breeding.
2. To give all poultrymen an opportunity to have their birds officially trapnested.

3. To afford a testing station where poultrymen may compare the strain of birds they have bred and developed with those bred and developed by other breeders.
4. To make possible better breeding through the return of birds with official records of production, to their owners.
5. To interest all poultrymen and the public, in better care and higher production, by publishing the records of this contest at frequent intervals.
6. To accumulate valuable data on egg production performance records, which, when studied carefully, may aid in the development of a more efficient program of selection and breeding.

Poultry Killed by Dogs and Wild Animals

Poultry claims continue to come to this office in increasing numbers, due—no doubt—to two causes—first, the increase of foxes and poultry killing dogs, and second, to the fact that an increased number of poultrymen have learned that the State is paying for poultry killed in this manner.

The increasing number of foxes is becoming a very serious problem. During the fiscal year ending June 30, 1933 the State paid \$4,457.41 for 5,294 birds killed, or 84 cents each. The next year it cost the State \$5,979.95 for 8,604 birds killed, or an average of 69½ cents per bird. The next year, ending June 30, 1935, 13,731 head of poultry, including some turkeys, geese and ducks were paid for by the State, for which \$9,328.49 was paid, or an average of 68 cents per bird. A breakdown of these figures shows the following:

Foxes killed	10,298 birds costing the State	\$7,191.70
Dogs killed	1,783 birds costing the State	1,189.45
Skunks killed	829 birds costing the State	509.06
Raccoons killed	598 birds costing the State	339.64
Other animals killed	223 birds costing the State	98.64

During the last fiscal year, closing June 30, 1936, 19,738 head of poultry costing the State \$14,884.81 were killed, tabulated as follows:

Foxes killed	13,861 birds costing the State	\$11,106.10
Dogs killed	2,853 birds costing the State	2,421.20
Skunks killed	822 birds costing the State	478.21
Raccoons killed	569 birds costing the State	462.06
Weasels killed	1,267 birds costing the State	292.27
Mink killed	366 birds costing the State	124.97

Average price per bird as above was 75 cents. The reason for the individual price being higher this year is because of the fact that foxes have killed a much larger number of mature pullets than usual.

May I seriously ask if the protection of foxes in this State is worth more than eleven thousand dollars to the State, or to all interested persons in the State. To me it looks like a very expensive hobby, and a bounty instead of protection would seem to be a far more sensible procedure. One has only to note the increase each year in the number of poultry killed by foxes to get my viewpoint.

Licensing Poultry Dealers

This law, while not sufficient to make an honest poultry dealer out of a dishonest one, does furnish a means of protection, and the dishonest ones are more cautious than formerly because they know this Division does not hesitate to revoke a license when the poultry owner can show that he has been victimized. If the owner would be more

careful to ascertain the number and weight of his birds before offering them for sale, he would be in position to know if he is getting a square deal. If a poultry owner can show that he has been cheated in any way, paid by worthless check, or a sales slip not left with him by the buyer, he should take the matter up with this Division, giving full details. One hundred and sixty-eight poultry licenses were issued during the fiscal year 1935-36.

The following tabulation shows the activities of this division regarding the livestock sanitary work for the two years included in this report.

July 1, 1934 to July 1, 1935

	<i>Cattle</i>	<i>Reactors</i>
Tested by cooperative men and accredited veterinarians	73,818	200
Tested for interstate shipment.....	11,071	8
Percentage of reacting cattle.....		.24%
Amount paid for reacting cattle.....		\$7,447.60
Amount received and turned into Treasury for salvage.....		3,472.78
Number of cattle brought in on permit from other States and Canada		409
Number of cattle permits issued		139
Number of horses brought in on permit.....		3,132
Number of horse permits issued		175
Number of swine brought in on permit.....		1,780
Number of swine permits issued		664
Number of cattle tested for Bang's disease—Cooperative tests		13,053
Number of cattle reacted—Cooperative tests		1,551
Percentage of reactors—Cooperative tests		12%
Number of cattle tested for Bang's disease—Private tests		5,435
Number of Cattle reacted—Private tests		427
Percentage of reactors—Private tests		8%

July 1, 1935 to July 1, 1936

	<i>Cattle</i>	<i>Reactors</i>
Tested by cooperative men and accredited veterinarians	74,217	105
Tested for interstate shipment.....	10,898	2
Percentage of reacting cattle.....		.13%
Amount paid for reacting cattle.....		\$4,976.56
Amount received and turned into Treasury for salvage.....		2,144.65
Number of cattle brought in on permit from other States and Canada		884
Number of cattle permits issued		125
Number of horses brought in on permit.....		1,782
Number of horse permits issued		134
Number of swine brought in on permit.....		2,776
Number of swine permits issued		970
Number of cattle tested for Bang's disease—Cooperative tests		29,240
Number of cattle reacted—Cooperative tests		2,069
Percentage of reactors—Cooperative tests		7%
Number of cattle tested for Bang's disease—Private tests		2,918
Number of cattle reacted—Private tests		289
Percentage of reactors—Private tests		10%

Respectfully submitted,

H. M. TUCKER,
Chief, Division of Animal Industry.

To H. M. Tucker, Chief of the Division of Animal Industry:

I herewith submit a summary of the work as carried on by the Bureau of Dairy Inspection for the past two years, July 1, 1934 to July 1, 1936.

The regular routine work of collecting samples from dealers, wagons and trucks and inspection of dairies has been carried on much the same as usual, for I believe this to be the most important function of this Bureau. More atten-

tion to this line of work is evidenced by the fact that over six thousand samples were collected during the last two years in comparison with three thousand nine hundred for the previous two year period. There has also been a corresponding increase in the number of dairy inspections made by inspectors from this Bureau.

The following table shows the results of the analyses of the samples purchased during the past two years.

	1934-1935		1935-1936	
Total number of samples.....	2554		3548	
Butter Fat 4% and over.....	1782	69.9%	2052	57.8%
3.25% to 4%.....	625	24.4%	1321	37.3%
Below standard	147	5.7%	175	4.9%
Sediment Clean	167	6.6%	492	13.9%
Very slight	1047	41. %	1486	41.9%
Dirty	366	14.3%	533	15. %
Bacteria Below 10,000.....	632	24.8%	860	24.3%
10,000- 25,000.....	506	19.9%	734	20.9%
25,000- 50,000.....	403	15.7%	562	15.8%
50,000-100,000.....	290	11.4%	495	14. %
100,000-200,000.....	217	8.5%	314	8.9%
200,000-300,000.....	146	5.7%	150	4.3%
300,000-400,000.....	66	2.5%	96	2.3%
400,000-500,000.....	34	1.4%	58	1.6%
Over 500,000.....	260	10.1%	279	7.9%

I believe it is worthy of note that of the six thousand one hundred and two samples collected during the past two years, three thousand six hundred and ninety-seven or sixty and five-tenths percent of them contained less than 50,000 bacteria per c. c. which is equivalent to Grade A standards in a number of states.

More stress has been placed on the quality of cream during the past two years, and a considerable number of samples have been collected and analyzed. The results of these analyses have not been very gratifying. The quality of the cream on the market does not seem to compare favor-

ably with the milk, although I do think that the quality of the cream here in Maine compares favorably with that in other states. I hope that time will permit us to do more quality work on cream during the next two years and that a decided improvement will be attained.

The milk bonding law under which we operated for two years was found unconstitutional by the Maine Law Court in July, 1935. We were able to function under this law to the advantage and help of a great many dairymen. I regret very much that this work could not have been continued.

A report of our work for the past two years would not be complete without mentioning the time and energy which my assistants have put forth in connection with the Milk Control Board. All possible help has been extended to this Board in stabilizing prices for milk and cream in the controlled areas of the State. I believe that we have been of considerable service to the dairymen in this work and that it has been well worth while.

As much time as possible has been given to check-testing patrons' composite samples in creameries for butter fat. In addition to this, considerable work has been done on the quality of patrons' milk by using the Methylene Blue test, as well as testing for sediment.

I wish to express my appreciation for the help and cooperation received from the members of this Department during the past two years.

Respectfully submitted,

C. P. OSGOOD,
State Dairy Inspector.

H. M. Tucker,
Chief, Division Animal Industry:

I herewith submit my biennial report for the fiscal years 1934-1936.

During the past two years the sheep population in Maine has been materially reduced for various causes. The general depression shortened the farm income until many were

forced to cash up on everything possible, and, because sheep will always sell at fair prices they usually, are the first to go. The general discussion on shorter working hours is reflected in farm work as well as other lines and many farmers are attempting to follow along by neglecting many small jobs such as repairing fences, providing a water supply in dry times, and providing ample grazing at all times, all of which are necessary with any livestock, for production and contentment.

While parasitic conditions among sheep still prevail it is much less pronounced than in the past because of many personal demonstrations of the latest and most effective methods of eradication. Where de-worming demonstrations are given invitations are given to all sheep owners and in this way much ground is covered each time. Explanations of symptoms are described and shown everyone present, enabling them in many cases to diagnose their own troubles and apply the treatment, which is also demonstrated.

In many cases the farmers follow up with systematic treatments and the result is evidenced by the greatly improved condition of both sheep and lambs, which also is reflected in both quantity and quality of wool and lambs.

A better breeding program has been conducted, resulting in fewer scrub rams being used, and better lambs which, together with more healthy sheep, has greatly increased the per capita income over past years. The average liveweight of lambs for 1936 has increased approximately seven pounds per head, and records show that wool has stepped up about one quarter pound per head, both together, increasing the sheep's income approximately 62c per head.

This improved income can still be increased by following up the plan of de-worming the ewes at least twice a year, and more careful selection of good type of blooded rams.

Another method of increasing the sheep income is by cutting the hay earlier than at present and raising more turnips and oats, which are the complete ration, meeting all requirements for feed.

Many farmers having sold their flocks have now dis-

covered their mistake and are trying to replace them, only to learn that very few desirable ewes are for sale and those at much higher prices than they received when selling. While this condition naturally retards buying by many there still remains a demand far beyond the supply.

In an attempt to supply this demand a plan was worked up in which the Department of Agriculture, while not actually buying and selling, offered to obtain all information possible as to the sources of supply and prices existing in some of the drouth sections of the Central West. This plan was broadcast by radio and published in the press, resulting in several hundred inquiries from those wishing to purchase.

While the plan was all the Department felt justified in doing it fell short of the expected results because of the great distance between buyers and sellers. The total results to date were 555 sheep shipped from Montana to Central Maine, one car sold to four buyers in less than two hours, and, the other car being split up into many small flocks of from four to twenty-five each.

While inquiries are still being received from those wishing to buy, because of the increasing prices at the source of supply, further shipments for this year are not expected.

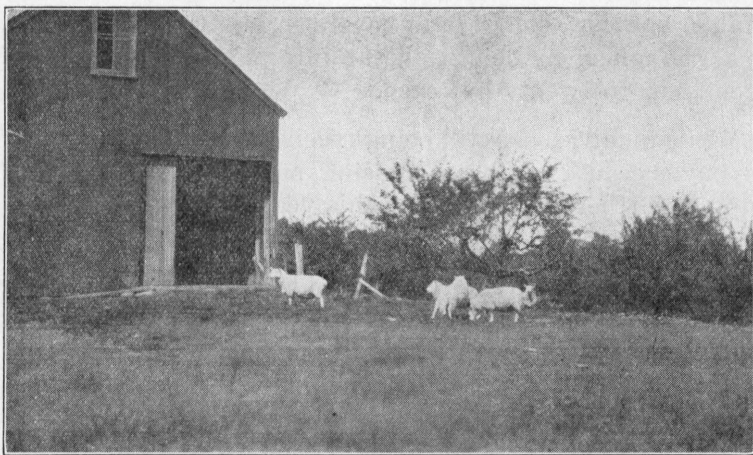
While many farmers have realized fully 100% profit on the investment from their flocks and conditions indicate that the present level of prices will continue for another year or more, or until the world-wide sheep population, which at present is 10% below normal and in the United States 4% below, is brought up to average requirements.

To offset all the advantages gained by sheep men there are two dangerous and destructive elements that are constantly and surely driving sheep out of Maine faster than any and all others and faster than work done by the Department of Agriculture and all individuals combined, can replace them. In more densely populated sections dogs are destroying both sheep and lambs by the thousand each year, and hundreds more are destroyed by bears in sections bordering our forests.

In the absence of a general bounty on bears they are increasing rapidly and appearing in many towns where they have not been seen in years. Killings by them are rapidly increasing until many farmers are being driven out of the business and thus deprived of a large part of the family income with no substitute therefor.

Personal assistance has been given to farmers and town officials in adjusting dog and bear damage in over two hundred cases during the past year, while many other requests have been denied because of lack of time.

Assistance should be given in making adjustments in all cases of large killings, many of which destroy from 50% to 100% of the entire flocks, leaving the farmers discouraged, disgusted, and in need of encouragement and assistance from the State.



Only a Few of These Money Earners Left.

Many feel that as the farmers are paid by the State for all sheep killed and found, they should feel satisfied, but hundreds of sheep killed by dogs and bears are never found and are not paid for. Also frequently many days time are lost in hunting for evidence. And much expense is incurred in looking for and buying sheep for replacement.

Following is a true record of killings by both dogs and bears during the fiscal years July 1, 1934 to July 1, 1936:

SHEEP AND OTHER DOMESTIC ANIMALS PAID FOR, FISCAL YEAR 1934-35

	No.		No.	
Sheep and lambs killed and injured by <i>dogs</i> , 2,287	\$10,447.82	<i>Bears</i> , 495	\$2,396.00	
Heifers killed and injured by <i>dogs</i>	8 114.50	<i>Bears</i> , 2	50.00	
Cows killed and injured by <i>dogs</i>	9 347.50	<i>Bears</i> ,		
Calves killed and injured by <i>dogs</i>	6 44.00	<i>Bears</i> , 1	20.00	
Pigs killed and injured by <i>dogs</i>	9 50.00			
Bulls killed and injured by <i>dogs</i>	1 30.00			
Goats killed and injured by <i>dogs</i>	1 15.00			
	<u>\$11,048.82</u>		<u>\$2,466.00</u>	
Total amount paid for sheep and lambs.....			\$12,843.82	
Total amount paid for heifers, cows, calves, pigs, bulls, goats			<u>671.00</u>	
			<u>\$13,514.82</u>	

SHEEP AND OTHER DOMESTIC ANIMALS PAID FOR, FISCAL YEAR 1935-36

	No.		No.	
Sheep and lambs killed and injured by <i>dogs</i> , 1,795	\$9,063.50	<i>Bears</i> , 1,480	\$7,239.30	
Heifers killed and injured by <i>dogs</i>	10 175.00	<i>Bears</i> , 3	80.00	
Cows killed and injured by <i>dogs</i>	22 849.00	<i>Bears</i> , 3	185.00	
Calves killed and injured by <i>dogs</i>	1 20.00	<i>Bears</i> , 2	20.00	
Pigs killed and injured by <i>dogs</i>	7 48.00	<i>Bears</i> , 2	37.50	
Steers killed and injured by <i>dogs</i>	1 25.00			
Horses killed by.....		<i>Bears</i> , 1	60.00	
	<u>\$10,180.50</u>		<u>\$7,621.80</u>	
Total amount paid for sheep and lambs.....			\$16,302.80	
Total amount paid for heifers, cows, calves, pigs, steers, horses			<u>1,499.50</u>	
			<u>\$17,802.30</u>	

Respectfully submitted,

C. H. CRAWFORD,
State Sheep Specialist.

Biennial Report, Division of Plant Industry

Hon. Frank P. Washburn, Commissioner of Agriculture:

The following is a summary of the activities of the Division of Plant Industry, covering the period from July 1, 1934 to July 1, 1936.

Seed Certification

	Entered A.	Passed A.	Bu. Certified	Bu. Sold
1934-35 Mountains.....	8,046½	6,622¼	2,569,336	810,920
Cobblers	8,705	7,435½	2,684,396	1,669,016
Sp. Rose.....	1,361¾	1,249	487,110	252,029½
All Others.....	783¼	700	262,500	105,704½
Total	18,896½	16,006¾	6,003,342	2,837,670
1935-36 Mountains.....	8,989	7,184	2,271,581	730,138¾
Cobblers	13,974	10,806	2,932,748	1,634,644
Sp. Rose.....	1,327	1,066¾	335,358	169,545
All Others.....	1,620	1,108¼	334,101	90,640
Total	25,910	20,165	5,873,789	2,624,968

An analysis of the figures covering Seed Certification work for the two-year period just passed will show that with one exception the largest entry in the twenty years of seed certification work was made during this period. Both years the total sales were the largest that we had ever made. The season of 1934 was an exceptionally good growing season and the average yield was very high. The opposite was true in 1935 when we had low yields but exceptionally fine seed in size and quality.

In order that we may indicate the progress that has been made in our work we now have seed from two foundation stock growers where the count this year ran from 9 to 15 mild mosaic plants per acre. We think this is exceptionally good and have made an extra effort to keep this seed in the

State. The work has been carried on with very little additional help during the inspection period and one extra man during shipping time. The volume of business has made it possible to do the work at a low cost to the grower. During the past season the charge was 60c per acre for the field inspection work and 1¾c per bbl. for the shipping inspection. We wish to take this opportunity to express the belief that our inspectors have done their work well and faithfully and wish some provision could be made for giving them a slight increase in pay as compensation for their efforts. The job is entirely supported by fees and we do not believe the grower would object to a raise. The success or failure of the project depends entirely upon these men.

An analysis of the sale of seed shows that there is yet a lot of advertising and contact work to be done. The work of Mr. Scribner in the South last winter under the guidance of the Development Commission must have had some good results. These things are hard to measure. The reports which I received in the South last June while doing field inspection work make me believe that the contact method is the one that counts. There is work to be done especially in Florida where the Bliss situation has not been analyzed except that we have some information from commercial people but we do not know the details of the problem. In our judgment our best opportunity to increase sales is in the territory that we are now serving. We recognize a small opportunity in other states but for the most part our present territory is the best.

Experiences in our work are many and varied and are occasioned principally by visits from folks from other states interested in Maine certification. During both years we have spent some time showing officials and commercial men through many fields during the growing season. We believe that the basis of our work lies in the very detailed study of the growing plants and we are sorry to say that this must be done within a very brief period of from five to seven weeks, if correct information is to be gathered.

Looking to the future we hope that more of our men will do tuber unit planting. We believe that this is the solution

to many of the difficulties of the certified seed grower. We would not be fair to our problem as a whole, if we did not mention that rhizoctonia and blackleg are still outstanding problems and there must be more work done before we can hope to attain perfection.

Insect Control

This Division is concerned with Gypsy and Brown-tail Moth control, and Japanese Beetle work.

Trapping work has been carried on the past two seasons in twenty-four cities and towns covering a sufficient area to give us very definite information regarding the Japanese Beetle situation. As indicated in our report of two years ago we do not believe that the Japanese Beetle is of commercial importance in Maine and, therefore, will discontinue trapping work after 1936. A rather outstanding colony has been located in the city of Brewer and steps will be taken to do some work in this particular spot, but outside of this one place there does not seem to be any infestation worthy of comment. We have been unable to clean up the small colony in Waterville but there does not seem to be any increase in numbers from season to season. We will continue to watch very definitely the work of the Japanese Beetle in our neighboring states and if in the future it becomes necessary to do trapping work again we will adopt it as part of our program.

With our limited funds we have not been able to do any work at all on the Brown-tail Moth excepting in an advisory and educational capacity. Last year the United States Department of Agriculture, through the Bureau of Entomology, set up a W. P. A. project for Maine and we were glad to assume the responsibility for administering this project. Work started in September and has continued since. We had in the neighborhood of 600 men when the job was at its peak last spring. Federal supervisors were used and we believe a reasonably good job was done. The Brown-tail Moth webs were cut in practically every infested town. In addition to this many thousands of old apple trees which

were regarded as favored plant food, were destroyed. Most of the men were laid off in May, and we do not know whether the work will be continued another season. We hope that it will, because if it is not, the towns which are charged with the responsibility of removing the nests will have to spend some money doing this work. More than 1,260,000 webs were removed, which, we believe, was a big help. The reason that the Brown-tail is so important is because of the bodily discomfort which comes from contact with this insect.

With the Gypsy Moth the story is a little different. The only work that we have been able to do is to help in some isolated spots where the situation was almost unbearable. For three years now, the Gypsy Moth has shown a decided increase and while we have been hoping for the peak of the cycle, it apparently has not arrived. We are getting more complaints from our citizens regarding this pest than ever before. Undoubtedly this is one of our outstanding pests and appears to have reached the status of a native. Just what we have to fear from the Gypsy Moth in the future remains a problem.

There are four C. C. C. Camps in southwestern Maine working under the direction of the State Forest Commissioner. These men have painted a great many million egg clusters within a twenty-five mile area of their camp. This has, no doubt, been a big help but it is impossible even with a crew of this size to do any work in the woodland and when the deep snow comes, of course the efficiency of painting egg clusters is reduced to a minimum. This Department is grateful for the help which the C. C. C. Camps have been giving. Each year the three spraying machines belonging to the Department are used under cooperative agreement with about fifteen towns. This is the outstanding type of control work that should be done, but it is expensive in that the equipment must remain idle most of the year.

A very definite program looking to the control of the European Corn Borer has been carried on for the past two seasons. We have had the cooperation of the Federal authorities, the corn growers, and everyone interested in the industry. We are now asking the Extension Service to

assist by giving fall plowing demonstrations and we believe that much good can come from this sort of thing. We have reasons to believe that the infestation has been cut down from 1934 to the spring of 1936 due, no doubt, to the very effective cleanup work carried on by the corn growers. This is a problem that can be solved only by cooperation and if the spirit which has been shown so far can be continued we do not believe that there will be any grave danger from this insect for a great many years. This fact must be known however; Department inspectors have to call on between twelve and thirteen thousand people each year in order to secure the cooperation mentioned. It requires time and money. We have indicated that the heavy infestations have been cut down, but we are obliged to report that the area in which we find mild infestations has been increased. The problem is not with those who are interested in canning corn, but with the small gardener and the field corn men whose interests are not the same as those of the canner. This should be a campaign of education in which every man should do his part and we make an appeal to our citizens from this angle. The appropriation to do European Corn Borer work is not sufficient and at the present time we are spending funds from our Division of Plant Industry which very properly can be used on other insect work.

Other Activities

In addition to the regular duties assigned to our members many calls have been answered for lectures before different organizations. Other assignments are judging at fairs, the State Dairy and Seed Show, State Soil Conservation Committee, Federal W. P. A. No. O. P. 1-102, radio talks and numerous other small items.

I wish to express my thanks to the members of the Division for their loyal support and also to you for the many times you have helped in formulating the proper policy for us. Our relations with all agricultural agencies in the State are extremely pleasant and there are none to whom we cannot go for help and expect to get it. We appreciate this

fact and in turn pledge our support to them at any time when opportunity presents itself.

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

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

I herewith submit my report for the Bureau of Horticulture covering the period from July 1, 1934 to July 1, 1936.

We cooperated with the Extension Service and the Farm Bureau in encouraging planting of young orchards. The annual Apple Tree Pool which has been conducted for the past ten years, purchased for the fruit growers in 1934, 19,000 trees. In the year 1935 we purchased 9,000 trees. The 1934 Pool was financed in part by the Farm Lands Loan Commission which issued two-year non-interest bearing notes to the growers to assist them in planting and purchasing the trees. Without this loan the fruit growers would have been unable to purchase any such number. The Pool would have been considerably larger had it been possible to secure trees of good quality, but due to the scarcity of first-class trees about 40% of the orders were cancelled.

The Western Maine Fruit Growers Convention was conducted in Auburn in February, 1935 and in 1936. The attendance was very good.

We made 500 inspections of nurseries and greenhouses each year. We have tried to render every possible assistance to our nurserymen by giving them the most up to date information concerning quarantine regulations in other states. We have also given any special inspections necessary to enable them to meet these requirements. It has also been necessary for us to inspect several carloads of trees each year in order that they might be shipped to out of State markets.

Assistance was rendered the Fish & Game Department in estimating damage to orchards caused by deer, partridge and pheasants.

At the request of the Fruit Growers of Maine an apple advertising committee was formed. We have worked in conjunction with this committee and the New York and New England Apple Institute in trying to increase the consumption of Maine apples. Hundreds of insects and disease troubles were identified and proper treatment prescribed to those who sent samples or requested aid. A number of soil samples were also analyzed and recommendations made for improvements.

Many calls have been received for beautification of home grounds and parks. Illustrated lectures were given on this subject and rough plans drawn when requested. Plans were also made and executed, for the Maine Egg Laying Contest grounds. The entire property was landscaped at a cost of about \$100.00.

During the month of December each year, instructions for making Christmas decorations were given. Many people were instructed in how to make holiday decorations from the native material available in our woods. Many talks over the radio, to Granges, garden clubs, and other organized groups were made throughout the year by the State Horticulturist and his assistant.

Respectfully submitted,

STANLEY L. PAINTER,
State Horticulturist.

Biennial Report, Division of Markets

To the Hon. F. P. Washburn, Commissioner of Agriculture:

Following is a brief summary of the work of the Division of Markets for the biennial period July 1, 1934 to July 1, 1936. The activities of the Division during this period have been increased both as to regular and additional work imposed by the Legislature.

Statistics and Market News

With a constantly changing agriculture as the industry in Maine has shifted from lumbering to a more permanent type, the trend in various lines of farming is not only interesting, but valuable as a means of selecting farm property adapted to the type of farming the individual should follow. The U. S. Census provides the best basis for measuring these trends. In order that the material may be applied to townships this Department has just secured the data by towns for the third five year agricultural census. Through cooperation with Professor Charles H. Merchant of the College of Agriculture, a bulletin was issued early in 1936 giving the trends on the principle crops and livestock products by counties for the last thirty-five years. Several products seem to show their high point in the period 1900-1910 and since that time a gradual decline has occurred. It will be highly valuable if these trends can be reduced to a township basis at the end of a twenty-five year period.

Crop reports are continued, as formerly, in cooperation with the Federal Bureau of Agricultural Economics and the other New England States. Statistics relating to the blueberry crop, the quantity of milk and cream handled by large wholesale distributors and other strictly State information are collected annually. The Division continues its cooperation financially and otherwise, in the dissemination of

special potato market news service from Presque Isle as well as radio market news and agricultural service through WBZ and WBZA of Boston and Springfield. This latter work being supported jointly by the New England States and the Federal Government.

One of the most interesting developments in State market news has been the mimeograph weekly "Maine Markets" which was started in 1924. This has steadily grown from year to year until at the present writing the mailing list amounts to approximately 1900. Notwithstanding the fact that a careful revision of subscribers is made in January of each year, there is a steady growth of those wishing to receive this condensed report of market conditions.

Cooperatives

The Division continues its interest in the development of new and the strengthening of existing, cooperative organizations, but adheres to the policy that beyond furnishing information, assisting in audits and financial statements as well as providing information of help to the cooperatives in general, unless sufficiently able local management can be secured along with ample financial support, the Department is not justified in bolstering up an unbusinesslike concern. While there are several strong organizations delivering grain, feed and fertilizer on a car door basis it is not entirely visionary to believe that there is a tendency for existing concerns to charge a wide margin of profit on the ground that losses sustained during the depression must be made up. Legitimate profits are always in order but from past history when these margins of profit become too wide, resentment among consumers is inclined to increase. Sooner or later this results in a wave of cooperative organizations, designed to purchase supplies and market produce at a narrower margin than that charged by old line concerns. It is not difficult to imagine the start of another cooperative organization wave in the not distant future.

Lectures and Exhibits

The important opportunity which is given the Department for educational work through lectures and exhibits has been made the most of during the past two years. Special lectures have been given at 143 different meetings and conferences with an attendance of approximately 9947, thus reaching a large cross section of the people of our State. These figures do not include the special educational campaign carried on during the early spring and summer of 1935 in preparation for the coming into effect of the potato branding law on July 6 of that year. Sixty-six meetings were held especially to explain the workings of this measure and the attendance varied from two or three persons to as high as seventy-five. The exhibits at the Eastern States Exposition continue to be increasingly valuable as the attendance maintains an average of upwards of 250,000 people.

A rather noteworthy exhibit was presented at the Northeastern Poultry Industry Exposition at Commerce Hall, New York City, during February 1936, cooperating with the Maine Development Commission, the Maine Poultry Improvement Association and the Extension Service. The presentation was made of the high vigor and disease freedom of Maine hatched chickens. Thousands of active poultrymen attended this Exposition and very favorable results were obtained. Plans are under way for repeating at the same Exposition next November. Demonstrations and exhibits have been given at Farmers Week at Orono, at 4-H Club meetings and at special meetings of the Farm Bureau for discussing the tourist home and roadside markets. From past experience it would seem that such lectures, demonstrations and exhibits are highly valuable in making possible the observance of various standardization and grading laws designed to improve the reputation and enlarge the marketing area of various Maine crops.

Standardization

Regardless of what angle the marketing problem is attacked from, the merchandizing of farm products from

the producer to the consumer will sooner or later bring up the question of quality. As a general principle practically all grades of farm products have a use somewhere. The difficulty occurs when qualities or sizes are sold which do not meet the needs of the purpose for which the purchase was made. With this thought in mind it is easy to understand why the activities of the Maine Division of Markets have gradually been concentrated on various services connected with the problem of a better program of standardization.

The earliest attempt was made in Maine, when the apple grading law was passed and the value of established, well recognized national standards, is now demonstrated in the inspections which are required, for not only domestic markets, but are mandatory for export shipments. While the volume of apples moving from Maine has been materially reduced by the loss of trees from intense cold, the 1936 crop prospects are further shortened by a frost which occurred at blossom time. Nevertheless a few carlots will be purchased on the basis of government grades, as well as a few others for export purposes. Trained inspectors will be available for issuing Federal-State inspections on such of these shipments as request it.

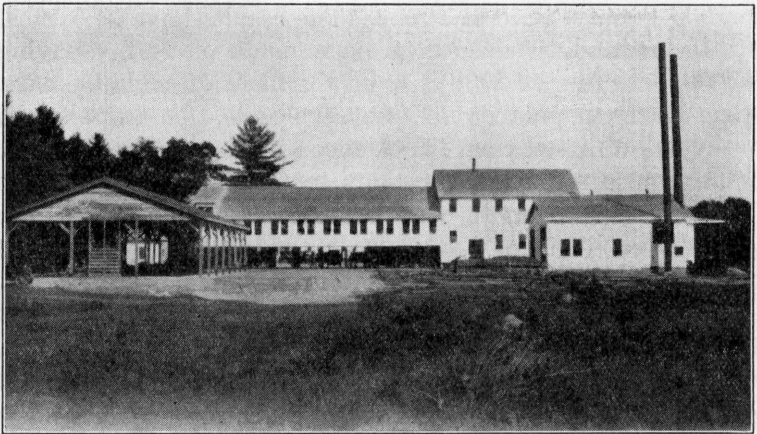
Interest in roadside markets continues to increase. This is a reflection of the business ability of our farmers who are located on trunk lines favorable to the establishment of such a retail business. To further inspire consumer confidence as well as protect the producer who markets only strictly fresh home grown products, the plan of an official approved sign for identifying roadside stands, is showing gradual growth. Forty-three such signs were posted in Maine in the spring of 1936 as compared with twenty-eight in 1935. Circular letters to the number of 3,000 was sent out to consumers explaining the objects of this sign late in the summer. The Division furnished speakers at several special conferences conducted by the Extension Service and plans are under way for the preparation of exhibits to demonstrate good points in merchandizing for the roadside markets.

With the inclusion of a fund in the last appropriation for

the Maine Development Commission for advertising agricultural products, a real impetus has been given to better grading and advertising. The Maine Poultry Improvement Association, not content with the benefits received from the exhibit at the Poultry Industry Exposition, is now developing plans in cooperation with the Development Commission and the Extension Service for advertising and selling Maine eggs in an identified carton. A special committee from the Poultry Improvement Association has been appointed to deal with this matter in cooperation with the Development Commission and definite steps are expected to be taken during the winter of 1936 and 1937. We anticipate an interesting report on this project two years hence.

Research work in the preparation of grades for sweet corn for canning purposes, was carried on by the Federal Bureau of Agricultural Economics and the Extension Service of our College of Agriculture six years ago. The idea has gradually been developed until three years ago the task of setting up an official grading system at canneries was instituted by the Division of Markets. The work was carried on during the 1934 season at thirteen factories and in 1935 twenty-three factories. The results have been most gratifying and two concerns have made plans for paying the farmers for the 1936 crop on the basis of cannable ears. Already the popularity of this service to the canners and producers of sweet corn is evidenced by the applications for inspection at thirty-three plants in the fall of 1936. The benefits which seem to come from this service are (a) an increasing feeling of confidence between the producer and the canner from the fact that a disinterested party has determined the quality of the product delivered. (b) The producer who delivers the highest quality of green product is paid a price sufficient to reward him for the extra care and expense involved. (c) The canner is able to segregate loads of different stages of maturity. This point is especially valuable at the factories where both the whole kernel and cream style of corn are put up. It is essential that corn used for the whole kernel style shall be high in percentage of milk, while the cream style seems to meet the fancy trade

with more satisfaction if there is a larger percentage of dough. (d) Research work now being carried on by the Extension Service in cooperation with the Bureau of Agricultural Economics aims to establish the relation between the work of the inspectors on the green product and the quality of the corn in the cans. Much credit for the development of this system of grading is due Donald W. Reed of the Extension Service. The most difficult problem in carrying out this work successfully has been the matter of personnel. The canning season only lasting from four to six weeks creates the problem of securing competent men who will be available year after year, thereby adding the benefit of experience to the efficiency of the service. The problem has been partially solved by using potato inspectors who have employment for approximately eight months during the winter. A further help comes from students at the College of Agriculture by starting them when Sophomores and using them during the succeeding three summers. The problem, however, of an experienced personnel has not been entirely solved.



Corn Grading at Thirty-three of Maine's Modern Canning Plants.

The most extensive project of standardization carried on by the Division is in connection with potatoes, developed

first in 1921 as a strictly State proposition. Federal cooperation was secured in 1922 and a cooperative shipping point inspection service has been continued each year since that time. With many disastrous years the fallacy of shipping low grade potatoes or misrepresenting the quality of the stock has become more and more apparent. Consequently, there has been a gradual development of voluntary Federal-State inspection. During occasional seasons of low prices, the cost of \$4.00 per car, tended to reduce the volume and, acting on the idea that the best possible service should be given at the least possible cost, the fee was reduced to \$3.00 and is now being maintained at that figure. Results justify this policy as the volume inspected from the 1934 crop was 7,678 carloads while from the 1935 crop 24,805 carlots were inspected. This rapid increase in the volume of inspections handled, has required a considerable increase in the number of inspectors employed. This increase, however, has not been in the same proportion as that of the inspections because with an increase volume it has been possible to place men so that more cars could be reached with much less travel. The number of inspections in 1934 being 12.19 per man per week, while in 1935-1936, 16.29 cars per man per week were inspected. Thus the actual cost of the service was reduced to the lowest point since the inception of the service and a rebate of the overcharge was made to the shipper of 59c per car. The soundness of the law under which this service has been rendered was again proven by this experience. While the total appropriation for the Division of Markets was only \$12,000, the sudden increase in demand for inspection work was amply cared for by the resulting increase in the amount of fees collected.

It is beyond question that the sudden jump in volume of inspections in the 1935-1936 season was partly caused by the coming into effect of the so-called potato branding law. This

law enacted by the 1935 Legislature became effective on July 6 of that year. The public was informed of the workings of this law through numerous press releases, circular letters and a 10,000 copy edition of a special bulletin. Sixty-six special meetings were conducted at which the law was explained and the official grades which the law recognized were demonstrated. As a result when the shipping season began in September, there was little complaint of the lack of information in regard to the law. During the first three months shippers were given the opportunity to regrade and remark their shipments when found out of line with the provisions of the law. In December, however, it became apparent that a few were either very careless or else did not attempt to comply with the law. Court prosecutions were then started in the municipal courts and up to July 1, 1936, seventy-four cases had been brought before municipal and superior courts. Like any new regulatory measure the branding law has received more or less criticism. On the whole, however, it has received the wholehearted support of the large majority of the potato industry.. Shippers repeatedly say that it has not only exerted a strong influence in stabilizing the market, but that it has also resulted in many personal savings by way of reducing the number of adjustments that were formerly made in the receiving markets. It is recognized that the outstanding weakness of the law is, that after shipments leave the State it is easy for receivers or handlers to remove the tags from sacked potatoes and either substitute a higher grade marking or merely misrepresent the quality of the stock in the shipment. Naturally the answer to this is the enactment of a Federal branding law to cover interstate shipments as well as the enforcement of State laws to protect consumers after shipments reach their destination. Sentiment, expressed at a recent National Meeting of Marketing Officials, shows an

increasing interest in favor of a National branding law. If truth in branding feeds, fertilizers and drugs is of public benefit; then surely the principles should be equally sound when applied to fruits and vegetables.

Appreciation is expressed for the fine cooperation given to the Division of Markets by the members of the Department, as well as other State and Federal agencies which has made possible the much enlarged activities and services of this Division.

Respectfully submitted,

C. M. WHITE,
Chief, Division of Markets.

Report of the Chief, Division of Inspection

To Hon. Frank P. Washburn, Commissioner of Agriculture:

I respectfully submit herewith my report covering the work of the Division of Inspection from July, 1934 to July, 1936.

The work of this Division has consisted in the enforcement of the laws regulating the sale of agricultural seeds, commercial feeding stuffs, commercial fertilizer, drugs, foods, fungicides and insecticides; the enforcement of the weights and measures law, and the regulating, grading and packing of apples.

Seed Inspection

The results of the analyses of the samples collected by inspectors together with samples from dealers may be found in Official Inspections Nos. 154 and 158.

	1935	1936
Number of samples collected	95	99
Hearings arranged	6	15

Feedingstuffs Inspection

The following table briefly outlines the scope of the work with feedingstuffs:

	1935	1936
Number of samples collected from July, 1934 to July, 1935	1026	
Number of samples collected from July, 1935 to July, 1936		964
Number of brands registered	1213	1202
Number of hearings arranged	113	160

The results of analyses of the samples taken may be found in Official Inspections No. 156.

Fertilizer Inspection

In 1935 and 1936, samples of practically every registered brand of fertilizer were collected and analyzed, endeavor being made to obtain as many samples as possible from the farmers having fertilizer on hand.

The following table briefly outlines what was accomplished:

	1935	1936
Number of brands registered	338	369
Number of samples collected	393	502
Number of hearings arranged	43	68

The results of the analyses of the samples collected may be found in Official Inspections No. 157.

Fungicide and Insecticide Inspection

The fungicides and insecticides most generally employed for repelling and mitigating the attack of insect pests have been collected and analyzed.

	1935	1936
Number of brands registered	283	294
Number of samples collected	59	56
Number of hearings arranged	6	4

The results of analyses of samples may be found in Official Inspections Nos. 154 and 158.

Food Inspection

The work of food inspection has been conducted as usual by the collection of samples, by hearings and by visiting and inspecting hotels, restaurants, grocery stores, markets, bottling establishments, canning plants and all places where food is manufactured or offered for sale.

	1935	1936
Number of samples collected	301	90
Number of hearings arranged	109	28
Number of non-alcoholic beverage licenses issued	189	166
Number of sardine licenses issued.....	23	26

Notable was the accomplishment of 1935 and 1936 in the detection of flagrant violations of the food law in certain sections of the State, namely the detection of a dangerous and deleterious substance to health. Numerous samples of hamburger steak collected and analyzed were found to contain sodium sulphite. Sodium sulphite is a preservative used on a parity with embalming fluid, dangerous to health and prohibited under the food law. The detection of this violation led to numerous hearings and in most instances the violators paid heavy fines, and those who have not paid fines, now face prosecution in Court.

In the general work of food inspection, the collection of samples represents only in a small way the amount of work accomplished, and as always been our custom we have tried our best to effect the best results, that is by education and prosecution. Particular attention has been paid during the past two years to bottling plants where carbonated beverages are manufactured.

Drug Inspection

The inspection of drug stores and the collection of samples has been carried on in the usual manner by an inspector who is a registered druggist.

	1935	1936
Number of samples collected	56	161
Number of hearings arranged	25	47

The results of the analyses of the samples of foods and drugs collected have been published in Official Inspections Nos. 155 and 159.

Collaboration With Various Federal Agencies

Much of the time of the officers of the Division of Inspection has been occupied with collaborating work with various Federal agencies. With the passage of the Federal Food and Drugs Act of 1906, and the inauguration of machinery to enforce the pure food law, regulations were established for definite cooperation and collaboration with various state governments. The very nature of the work assigned to the Division of Inspection, namely, safeguarding the food supply of the people of the State of Maine, has brought very definitely to our attention the necessity of the help and the assistance that has been enjoyed from various Federal agencies, in the control and distribution of various kinds of foods.

Maine is unique in the production of soft shelled clams, blueberries and sardines; and the very character of these products, the environment and the situations surrounding their production have necessitated and brought about in a natural enough way some plan of general control.

Shell Fish

The taking and shipping of shellfish into Massachusetts is a problem in itself. A Massachusetts Statute requires that in order to legally distribute and sell shellfish within the borders of that State there must be on file in the office of the Commissioner of Health of that State a certificate issued by the food control officials of the state where the shellfish had origin, attesting to the sanitary conditions of the flats and beds where such shellfish were taken, and the quality of the shellfish thus sold and distributed. This certificate must also bear the stamp of approval of the U. S. Public Health Service. Therefore, in order to make possible the marketing of clams, mussels and quahaugs that are taken on the coast of Maine and shipped beyond the borders of the State, it has been necessary for the Division of Inspection to make a sanitary survey of all beds and flats where such shellfish are taken, and inspect and examine the conditions under

which such shellfish are prepared for shipment, and issue certificates to shippers.

Fortunately the legislatures of 1933 and 1935 granted authority to the Commissioner of Agriculture and the Commissioner of Sea and Shore Fisheries, to issue certificates and licenses respectively, and with this authority of the Statute it has been possible to engage in a definite work with the U. S. Public Health Service, and U. S. Food & Drug Administration in certifying as to the quality of shellfish shipped from Maine, and attesting to the flats and beds where such shellfish were taken. This is a work that for some time prior to the passage of such legislation, the Division of Inspection was engaged in, in a desolatory manner, and with the law it has been made much easier, and we feel that much better service has been rendered in assisting the people of Maine in marketing a product that could not otherwise be sold beyond the borders of the State, if regulation and inspection and certification had not been strengthened by Statute.

Blueberries

Up to 1930 most of the shipments of fresh blueberries to Boston, New York and other markets had been made from Knox County, and for the most part from a small area around Rockland, Rockport, Camden and Union. Under skillful management a cooperative marketing organization had succeeded in successfully marketing considerable quantities of fresh blueberries. The attention of the U. S. Food Administration was first definitely directed to shipments of canned blueberries on account of insect infestation in 1920. As a result of this activity and very definite collaboration of the Department with U. S. Food and Drug Administration and the U. S. Bureau of Entomology, great improvement was made in this product in the six years from 1924 to 1930. With the increase of fresh blueberry shipments the attention of the Federal government was more or less definitely directed to this form of distribution. In the seasons of 1935 and 1936 greater quantities of fresh

berries were shipped from other sections of the State other than Knox County where blueberries are produced in quantities for commercial marketing, namely Hancock and Washington Counties. In order to assist in marketing this product it was necessary to set up a system of inspection to determine the quality of the berries and secure if possible, immunity from seizure in the markets beyond our borders; and the Bureau of Entomology in their investigation of the blueberry fly in Washington County, recommended as a remedial measure to prevent infestation of blueberries by the blueberry fly, dusting of blueberry bushes and growing areas, with calcium arsenic. The plan recommended by the U. S. authorities has been almost universally adopted by all blueberry growers, and we hope this Division has assisted materially in working with blueberry growers and packers in the application of insecticides, to prevent infestation. But as with the spraying of larger fruits such as apples, pears, and peaches, so here, a danger was discovered in marketing blueberries with a residue of dust poison. So it has become necessary to determine the quality of berries that have been in contact with arsenical dust owing to the perishable nature of the product. With the necessity for immediate examination and early reports, field laboratories with chemists in charge, were established at points where blueberries were shipped in commercial quantities, at Rockport, Rockland, Cherryfield and Harrington. These field stations were in operation throughout the blueberry seasons. At these field stations it has been possible to make tests of berries that have been fly infested and also for berries contaminated by arsenical dusting or spraying. With this surveillance of blueberry distribution it has been possible to prevent the shipment of berries either fresh or canned, carrying objectionable quantities of dust or spray residues.

Sardines

The Legislature of Maine in 1929 definitely placed with the Maine Department of Agriculture the supervision of the packing of sardines. Before this definite authority was

granted Federal officials from the U. S. Food Administration spent much time in Maine in cooperation with inspectors from the Division of Inspection. Within the six years past, our collaboration has been as full and complete, but apparently Federal authorities have not regarded it necessary to devote as much time to sardine inspection.

Among other features of the sardine law the statute of 1929 ordered that the oil used in sardines packed in Maine should be a vegetable or cottonseed oil of a grade not below that of prime Summer oil. With the experience of three years of supervision of sardine packing and inspection of factories, we recommended in our report of 1932 and 1934 that it was our belief that it would be of great assistance and material advantage to the whole sardine industry to require that the standard for the oil used by packers of Maine sardines be raised, and accordingly we are glad to report that the legislature of 1935 accepted our recommendation with an amendment to the sardine law requiring that oil used in Maine packed sardines should be of no less quality than Prime Winter Yellow, a progressive step endorsed by all the Maine sardine packers. This requirement has done much to improve the quality of Maine sardines.

Recommendations

We recommend with the increase in quantity of fresh blueberry shipments and such change in the whole plan of marketing blueberries fresh and frozen, it would be of great advantage to packers, growers and shippers, as well as to officials of this Department, if some system of certification and inspection could be authorized by Statute.

Another recommendation which we regard as important is that as early as possible the food standards be redrafted and published. We can profit immensely by the findings and rulings of the Food Standards Committee, a group made up of members of the Association of American Food and Drug Officials, the U. S. Department of Agriculture and the Association of Official Agricultural Chemists. These standards have not been published over the Commissioner's sig-

nature for a long period and we urge the printing of these regulations at the earliest opportunity afforded.

We also recommend that some form of license for slaughtering business, be provided. Under the Federal Act an ante-mortem and a post-mortem examination of all beef killed for interstate trade is required, and we recommend some similar legislation to protect the people of the State of Maine.

As officials charged with the duty of certifying and regulating the transportation of shellfish, it is our observation that much could be done in protecting the industry in Maine by having a closed season during the summer months and prohibit shipments of shellfish from the State of Maine.

Conclusion

In conclusion I wish to express my appreciation for the help and cooperation of many Federal agencies, the officials of the Maine Extension Service, the Maine Agricultural Experiment Station, and to you and your wise counsel and helpful attitude in the administration of affairs assigned me.

Respectfully submitted,

A. M. G. SOULE,
Chief, Division of Inspection.

Report of the Deputy Sealer of Weights and Measures

To Hon. Frank P. Washburn, Commissioner of Agriculture:

I respectfully submit herewith, my report covering the work of the Bureau of Weights and Measures from July 1, 1934 to July 1, 1936.

This work consists of testing of new equipment purchased by the various towns for the use of their local sealers, visiting the local sealers and assisting them in their work; re-weighing package goods and testing heavy duty scales, oil pumps, bottles, gasoline pumps and vehicle tanks.

Much new equipment has been purchased by the various towns during the last two years, especially the five gallon gasoline test can. In the past, local sealers in the smaller towns had to borrow the five gallon test can, but I am glad to report that it is fast becoming part of the equipment of every sealer.

The increased use of fuel oil and the installation of fuel oil meters on the delivery trucks has developed another problem—the proper testing of these meters. The flow of the meter has been stepped up from 18 to 30 gallons per minute therefore it is absolutely impossible to test with any degree of accuracy one of these meters with the usual five gallon test can, so the 100 gallon test tank has been developed and adopted, to insure the proper testing of these meters. The Bureau has encouraged the purchasing of this new measuring device and it has been added to the equipment of the following cities: Portland, Waterville, Lewiston, Bangor, Augusta and Saco.

During the last year I have visited the Sealers in all of the sixteen counties and much time has been spent with them on various matters, especially on the proper attachment of the lead seals to gasoline pumps in accordance with the new

ruling effective February 1, 1936. In many cases the lead seals and hand presses had to be purchased and then the local sealer had to be instructed where the adjustment was located, in order to properly seal the gasoline pumps.

Most package goods today have the net weight printed on the packages by the manufacturer or distributor, but there are a few commodities such as potatoes and beans that are put up by the local merchant, which need attention. Both the manufactured packed goods, as well as the local packed have been re-weighed and checked by this Bureau.

As many of the towns do not have enough heavy weights to properly test heavy duty scales, we have had many calls to assist local sealers in this work which have resulted in the installation of new scales in a number of cases where the scales could not be repaired or where they were being used for work beyond their capacity.

The testing and checking of oil pumps, bottles, and gasoline pumps has been carried on at all times, and in a number of cases the Bureau has assisted in the testing and sealing of several vehicle tanks.

There are at the present time, 255 Sealers of Weights and Measures who are serving in the various cities and towns of the State. In many cases one sealer is appointed to serve in several towns. The sealers are required by law to make an annual report of their work to this Bureau and a summary of their work by counties is hereby appended.

I wish to express my appreciation for your wise counsel and assistance in the administration of the duties assigned to me.

Respectfully submitted,

G. K. HEATH,
Deputy State Sealer.

STATE REPORT OF WEIGHTS AND MEASURES FOR THE YEAR 1934

COUNTIES	NUMBER TESTED AND SEALED											NUMBER CONDEMNED													
	Scales	Weights	Dry Measures	Liquid Measures	Yard Sticks	Gasoline Pumps	Milk Jars	Kerosene Pumps	Molasses Pumps	Taxi Meters	Measuregraphs	Vehicle Tanks	Scales	Weights	Dry Measures	Liquid Measures	Yard Sticks	Gasoline Pumps	Milk Jars	Kerosene Pumps	Molasses Pumps	Taxi Meters	Measuregraphs	Vehicle Tanks	
Androscoggin	1486	1217	31	339	52	565	6	256	21	20	4	4	56	14	0	16	2	14	0	6	0	0	0	0	0
Aroostook	1249	856	12	138	33	673	580	181	28	0	2	2	20	17	0	15	0	4	0	4	0	0	0	0	0
Cumberland	3076	1047	39	777	23	1383	50	181	35	63	0	18	142	38	1	3	7	31	0	2	2	2	2	0	0
Franklin	307	299	0	34	12	257	0	75	7	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0
Hancock	664	378	16	353	27	386	53	111	42	0	1	0	11	1	0	2	0	6	0	0	0	0	0	0	0
Kennebec	1896	2076	83	551	215	794	0	183	54	0	25	5	58	72	8	27	14	29	0	6	3	0	3	3	3
Knox	718	438	41	721	34	337	1934	53	33	0	1	20	4	0	1	2	0	0	6	0	0	0	0	0	0
Lincoln	439	656	6	81	13	215	0	72	11	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0
Oxford	734	475	22	130	30	430	0	75	15	0	1	14	41	16	0	5	0	25	0	1	0	0	0	0	0
Penobscot	1217	1437	78	211	37	764	5421	184	46	0	1	7	22	13	5	5	0	13	9	2	5	0	0	0	0
Piscataquis	312	191	20	56	5	185	50	43	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sagadahoc	326	79	0	50	4	136	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Somerset	469	297	1	119	17	452	0	66	2	0	3	1	21	9	0	0	1	5	0	0	0	0	0	0	0
Waldo	543	533	13	125	9	130	0	106	37	0	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0
Washington	609	560	49	224	34	343	442	127	55	0	0	1	8	0	1	0	0	0	0	0	0	0	0	0	0
York	1401	184	13	663	28	484	0	171	12	0	4	12	36	2	0	2	0	20	0	2	0	0	0	0	0
Totals	15446	10773	429	4622	573	7589	8536	1902	453	88	48	148	422	188	17	82	24	148	15	23	10	8	3	3	3

STATE REPORT OF WEIGHTS AND MEASURES FOR THE YEAR 1935

COUNTIES	NUMBER TESTED AND SEALED											NUMBER CONDEMNED												
	Scales	Weights	Dry Measures	Liquid Measures	Yard Sticks	Gasoline Pumps	Milk Jars	Kerosene Pumps	Molasses Pumps	Taxi Meters	Measuregraphs	Vehicle Tanks	Scales	Weights	Dry Measures	Liquid Measures	Yard Sticks	Gasoline Pumps	Milk Jars	Kerosene Pumps	Molasses Pumps	Taxi Meters	Measuregraphs	Vehicle Tanks
Androscoggin	1317	933	14	354	39	635	0	136	10	12	4	18	27	32	1	10	0	20	0	7	0	0	0	0
Aroostook	1298	787	17	177	27	674	0	182	36	0	0	5	11	16	2	7	0	4	0	0	0	0	0	0
Cumberland	2805	1045	53	180	42	1279	0	173	25	41	6	99	148	4	0	2	5	60	0	0	0	1	1	0
Franklin	305	233	0	54	10	223	12	66	8	1	0	1	1	0	0	0	0	2	0	0	0	0	0	0
Hancock	401	394	26	186	43	239	0	82	22	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
Kennebec	1718	1837	69	584	185	771	0	297	67	0	21	33	42	70	5	35	12	21	0	10	3	0	2	2
Knox	838	1229	188	965	48	256	432	195	33	0	0	16	11	20	5	19	3	2	4	1	2	0	0	0
Lincoln	435	639	11	249	15	219	975	47	3	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0
Oxford	530	513	32	108	30	452	600	86	13	0	1	15	18	43	1	4	1	11	10	2	0	0	0	0
Penobscot	820	646	73	150	52	523	5470	200	70	0	0	10	7	18	0	3	0	6	0	0	0	0	0	0
Piscataquis	274	119	5	26	9	129	0	35	2	0	0	5	0	2	0	0	0	0	0	0	0	0	0	0
Sagadahoc	302	90	0	10	4	130	0	11	5	0	0	4	2	7	0	0	0	3	0	0	0	0	0	0
Somerset	543	369	19	122	33	341	0	97	11	0	0	7	17	10	0	3	0	13	0	2	0	0	0	0
Waldo	342	403	4	53	4	215	0	71	29	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0
Washington	614	543	45	233	26	339	100	102	54	0	0	1	7	3	0	0	0	0	0	0	0	0	0	0
York	1016	100	22	105	33	524	5190	87	11	4	4	19	39	2	1	2	1	30	0	3	0	0	0	2
Totals	13558	9980	578	3561	600	6949	12779	1867	399	58	36	235	334	228	15	85	22	173	14	28	5	1	3	10

DEPARTMENT OF AGRICULTURE