

# MAINE STATE LEGISLATURE

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PUBLIC DOCUMENTS

OF THE

STATE OF MAINE

BEING THE

REPORTS

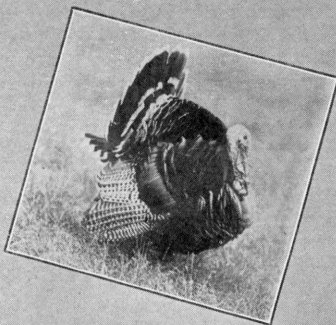
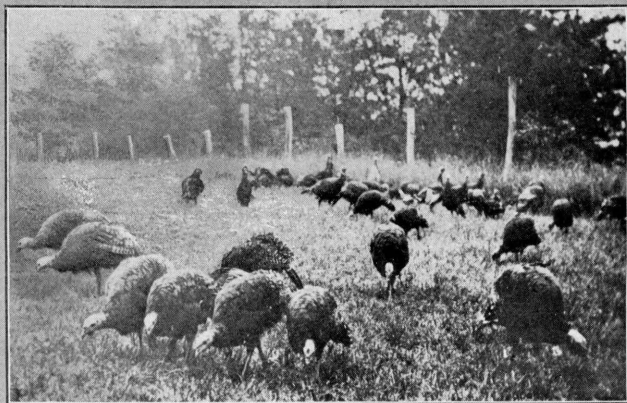
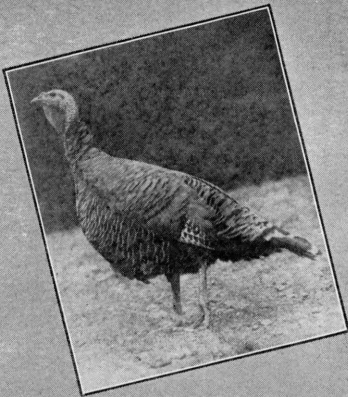
OF THE VARIOUS

PUBLIC OFFICERS, DEPARTMENTS  
AND INSTITUTIONS

FOR THE YEAR 1916

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VOLUME III



If your health, farm or location will not permit the raising of cattle  
why not learn the trade of turkey raising.

REPORT

OF THE

Live Stock Sanitary Commissioner

OF THE

State of Maine

ON

Contagious Diseases of Animals

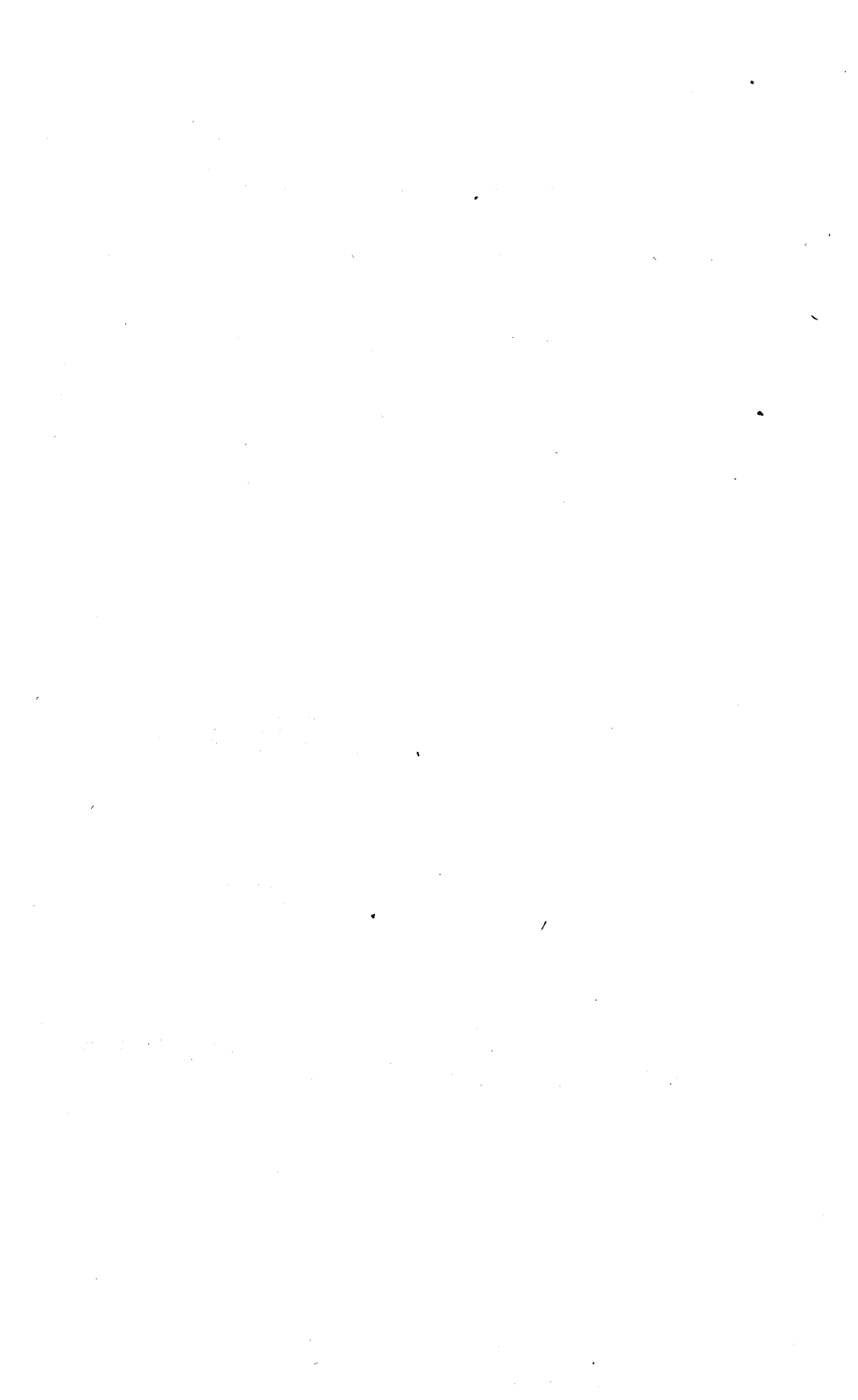
1916



BOYDEN BEARCE, Commissioner

WATERVILLE  
SENTINEL PUBLISHING COMPANY

1917



LETTER OF TRANSMITTAL.

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*To His Excellency, Oakley C. Curtis, Governor of the State  
of Maine:*

In accordance with provisions of the statute of Chapter 195,  
Public Laws of 1911, I have the honor to submit herewith my  
annual report for the year ending December 31, 1916.

Yours respectfully,

BOYDEN BEARCE,  
*Live Stock Sanitary Commissioner.*

## FINANCIAL STATEMENT FOR THE YEAR 1916.

## RECEIPTS.

Appropriation .....	\$30,000 00
Special appropriation .....	3,000 00
Amount received from sale of hides and carcasses.....	7,378 44
Amount received from the sale of Hog Cholera Serum....	307 30
	<hr/>
	\$40,685 74

## EXPENDITURES.

Animals condemned, including disinfection of stables .....	\$35,680 16
Salary—Live Stock Sanitary Commissioner.....	1,500 00
Salary—Clerk .....	500 00
Commissioner's traveling expenses.....	529 35
Veterinary services and traveling expenses.....	689 17
Hog cholera serum.....	811 05
Miscellaneous—Printing, express, postage, tele- graph, telephone and office supplies.....	913 47
	<hr/>
Amount unexpended .....	\$62 54

## STATISTICS OF CONDEMNED ANIMALS, 1916.

	No.	Amount.	Average per head
Pure blooded cattle condemned for tuberculosis	34	\$2,619 50	\$77 04
Grade cattle condemned for tuberculosis.....	472	25,537 50	54 10
Animals condemned at Brighton for tuberculosis	88	3,848 60	43 62
Animals slaughtered for food and carcass con- demned for tuberculosis .....	68	1,241 06	18 25
Horses condemned for glanders.....	54	2,348 50	43 34
Sheep condemned for tuberculosis.....	27	85 00	3 15
	<hr/>	<hr/>	
	743	\$35,680 16	
Imported cattle condemned for tuberculosis without appraisal .....	3		
Imported horses condemned for glanders with- out appraisal .....	2		
	<hr/>		
	748		

## ANNUAL REPORT.

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In accordance with the provisions of Section 19, Chapter 195 of the Public Laws of 1911 which act is entitled "An act to extirpate contagious diseases among cattle, horses, sheep and swine," I have the honor to present to the Governor of Maine the fifth annual report of the work accomplished and the financial standing of this Department for the fiscal year ending December 31, 1916.

At the beginning of this report I believe that an inventory showing our "stock in trade" will be appreciated and the following table shows the total valuation of all live stock in Maine for the years 1914, 1915 and 1916, also the increase or decrease in the numbers for the same years. We note with pride the increase of 10,242 in the number of swine, and regret the great falling off in the number of sheep. The use of automobiles for pleasure and work is constantly diminishing the number of horses and colts.

Total value of all live stock 1914.....	\$17,961,690
Total value of all live stock 1915.....	\$18,232,619
Total value of all live stock 1916.....	\$18,474,603
<i>Increase in two years.....</i>	<i>\$512,913</i>
Total number of cattle of all ages 1914.....	245,605
Total number of cattle of all ages 1915.....	251,197
Total number of cattle of all ages 1916.....	253,494
<i>Increase in two years.....</i>	<i>7,889</i>
Total number of horses 1914.....	120,007
Total number of horses 1915.....	119,687
Total number of horses 1916.....	115,284
<i>Decrease in two years.....</i>	<i>4,723</i>



Total number of colts 1914.....	11,211
Total number of colts 1915.....	10,786
Total number of colts 1916.....	10,555
<i>Decrease in two years.....</i>	656
Total number of sheep 1914.....	105,516
Total number of sheep 1915.....	96,333
Total number of sheep 1916.....	96,286
<i>Decrease in two years.....</i>	9,230
Total number of swine 1914.....	35,275
Total number of swine 1915.....	41,321
Total number of swine 1916.....	45,517
<i>Increase in two years.....</i>	10,242

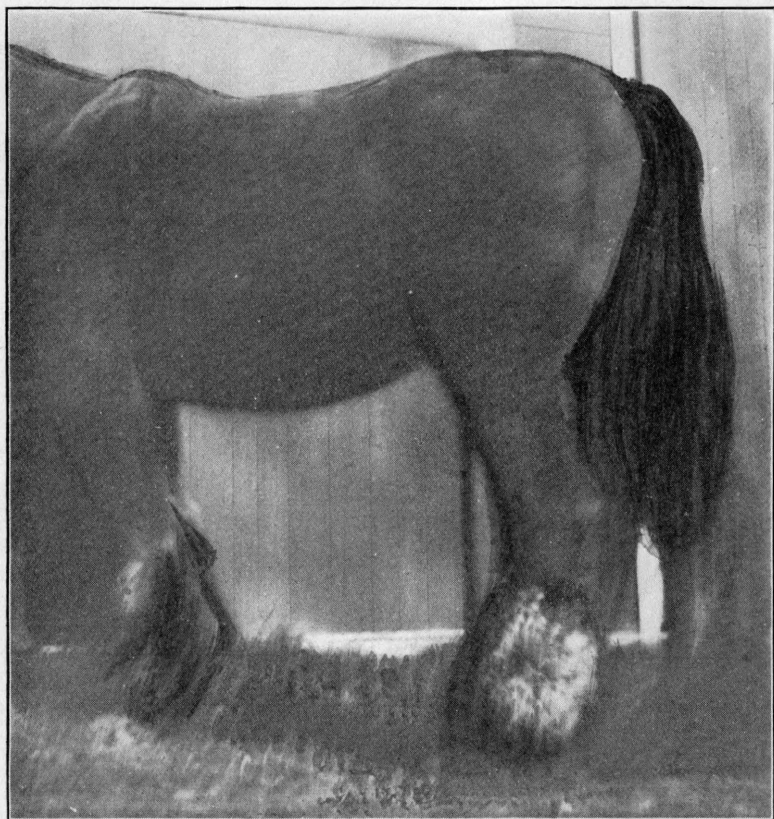
I am glad to report that during the past year the inspectors for this department have found no cases of foot-and-mouth disease, rabies, anthrax or hemorrhagic septicemia in the State. Glanders, tuberculosis and hog cholera are the principal diseases with which the department have labored during the past year.

#### GLANDERS.

The ophthalmic test has been the means of diagnosing many cases of glanders that otherwise would have been passed and the popularity of the test is rapidly gaining wherever this method has been applied. It is no longer doubted that glanders is a deadly disease, affecting the human family as well as horses and mules, and the work of controlling this disease and the destruction of the infected animals should be given prompt attention and consideration.

In my lecture work through the State the importance of controlling this dreaded disease has been emphasized and special requests have been made to selectmen and local boards of health that all suspicious horses may be reported and tested by inspectors of this department, and if found diseased, destroyed, and the owner recompensed.

For the year ending December 31, 1916, 54 horses that have been owned in the State one year have been found by inspection and test to be affected with glanders and condemned and



A Typical Case of Farcy Found in Kennebec County.



appraised and killed at a cost to the State of \$2,348.50, or an average of \$43.34 per head.

Following is a list of the towns and cities in which horses affected with glanders have been found, and the number in each place: Augusta 3, Bangor 1, Belfast 5, Brownfield 1, Brooks 2, Benton 2, Cambridge 1, Clinton 3, Corinná 1, Bucksport 1, Damariscotta 1, Dexter 1, Detroit 1, Dover 1, Greatworks 1, Gorham 1, Garland 1, Harmony 3, Lovell 1, Lincoln 7, Myra 1, Pownal 1, Portland 1, Rumford 3, Standish 1, South Hope 1, Thorndike 1, Topsham 1, Westbrook 1, Week's Mills 1, Winn 2, Waterville 1, Union 1.

During the year 1916, 1,039 permits have been issued for the importation of 6,650 horses, mules and ponies. The Law requires that they shall be reported to this department within forty-eight hours of their arrival and a physical examination, or mallein test, made by an inspector for this department, and the examination reported to this office. This Law has been complied with in most instances yet some have gotten by without the required examination. This is due to several reasons; transportation companies have not been as punctual as they ought in carrying out the Law which requires them to notify this department on the arrival of horses or cattle; others did not care to pay the price of examination, which I feel in many cases has been exorbitant; and a few have on arrival been driven to places of hiding.

A Law admitting horses, mules and ponies into Maine upon an approved health certificate might be of less expense to the importer and more effective in the control of glanders and farcy.

Of the whole number of horses examined on coming into the State only two have been found to be diseased and destroyed without appraisal.

#### BOVINE TUBERCULOSIS.

Bovine tuberculosis is the one disease which is taking the attention of both producer and consumer of dairy products at the present time more than ever before. The study of tuberculosis, both in man and animals, is one to which much attention has been given for many years, and the problem of its

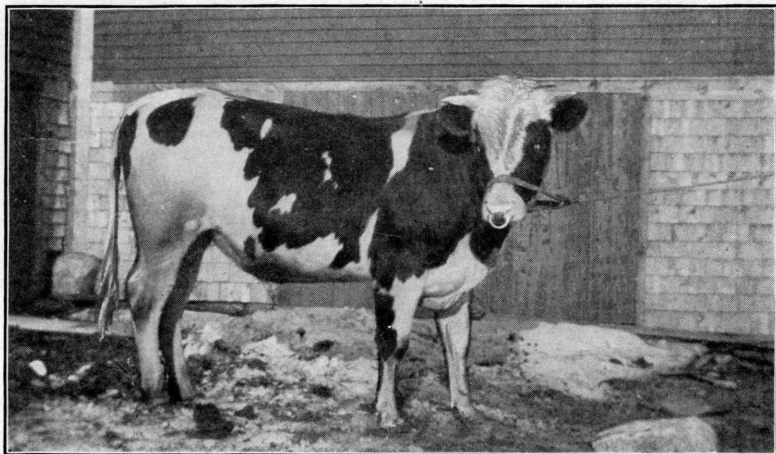
control among animals is so important at the present day as to command the attention of many investigators.

The situation in Maine is in no way alarming compared with the reports from other states, and I believe that with the amount of money expended the work of the past year will show good progress made toward the control of bovine tuberculosis. With a few revisions the Law governing the work of this department is adequate and sufficient, and if carried out with a spirit of fairness on the part of all concerned, greater progress might be possible.

We have great faith in the tuberculin test as a diagnostic agent when care is exercised and plenty of time taken in making the application. We have but little faith in a diagnosis made by physical examination, consequently in the work of investigating and detecting tuberculosis in the cattle of Maine, the tuberculin test has been depended upon, and only in a few cases have cattle been condemned on physical examination.

The offer made by the Turner Centre Creamery Company to pay one cent per pound extra for butter fat from a tuberculin tested herd has been a great inducement to the patrons of that creamery to have their herds tested, and the consumers of products from that creamery ought to be thankful that the managers are so painstaking, and anxious to place upon the market a clean and healthy product.

But upon an investigation conducted by this Department it was found that the Turner Centre Creamery Company was not getting all that their money was paying for, as in a great many herds only the cows that were giving milk were being tested, and the heifers, steers, oxen and dry cows were not tested, and perchance an untested diseased heifer, steer or ox might be standing beside the cow giving milk, and throwing off the germs of the disease as the milk was being drawn into the pail. These conditions were brought about by the farmer or owner objecting to paying for the testing of only such animals as he was obliged to in order to get the extra one cent per pound on butter fat, and on the part of the inspector it was the money end of the proposition which he looked at more than the eradication and control of the disease in our State. These conditions were laid before the management of the Turner Centre Creamery Company and they quickly saw that they were "paying too dear for their whistle" and an agree-



Imported from Massachusetts; given the tuberculin test and reacted; placed in quarantine and retested and again reacted. Was destroyed without appraisal.



ment was made between the Creamery Company and this Department, that all animals in the herd over one year old, including oxen, steers and heifers, must be tuberculin tested or the test would not be accepted by this Department. Consequently on the first of September, 1916, the following order and letter were mailed to each of the inspectors and a careful watch is being kept that these instructions are being carried out, and I believe that much good will be derived from a rigid enforcement of this system of applying the test.

AUGUSTA, MAINE, Sept. 11, 1916.

*Dear Sir:*

Many owners of cattle, and especially men who own pure bred herds, are having their cattle tuberculin tested regularly every year and have clean healthy herds. Many owners who are selling milk and cream to the creameries are having a few cattle in their herds tested in order to secure the extra price per pound for butter fat. In many such instances the number not tested, which includes oxen, steers and heifers, exceeds the number tested, and the tuberculous animal may be standing in the tie-up beside the tested cow from which milk is being drawn to be sold to the creamery. Thus, if there is any danger in tuberculous milk it is just as great under such conditions as though none of the herd was tested. Such men are not so anxious for clean healthy herds as they are for the extra price of butter fat.

Again we find owners who have sick cows, almost ready to die, who are willing to have them tested in order to sell them to the state and many times objecting to having their whole herds tested.

Tuberculin is a costly product and is furnished free by the United States government, that, by its use as a diagnostic agent, bovine tuberculosis may be eradicated or at least placed under control. By only testing a few animals in a herd are we using good judgment in its use?

Under existing conditions I feel obliged to send out the following order to inspectors that better results may be derived from the tuberculin test.

Very truly yours,

BOYDEN BEARCE,

*Commissioner.*



## ORDER.

Rule 3 in "Rules and Regulations" must be strictly adhered to and the true number in the herd, including oxen and steers, over one year old must be tuberculin tested unless the temperature before injection registers 103; in such cases the animal should be held for a retest. Four after injection temperatures should be taken, the first one not later than nine hours after injection. Should the temperature shown an upward tendency at the fourth reading they should continue the readings until either a reaction or a normal temperature is reached. Suspicious cattle should be held in quarantine and be retested.

I enclose a sheet of "Delayed Reactors" which comes from Dr. C. J. Marshall of Pennsylvania and should be carefully studied.

Sick cows which do not react to the test but by physical examination show symptoms of tuberculosis, after placing ear tags in their ears and reporting the case to this office, may be sent away and slaughtered; if found tuberculous by post mortem the state will pay a small appraisal not to exceed fifteen dollars (\$15).

The owner or custodian must endorse the certificate on the back of the test chart.

Duplicate test charts may be sent to Turner Centre Dairying Association on blanks furnished by this Department.

Tests made after September 15 and the charts forwarded to this office that do not comply with the above, will be returned to the inspector and no certificate of tuberculin test will be forwarded to the owner.

BOYDEN BEARCE,  
*Live Stock Sanitary Commissioner.*

AUGUSTA, Sept. 11, 1916.

Rule 7 in book of "Rules and Regulations," which we quote below, I believe is a good rule and would be a great help in the eradication and control of bovine tuberculosis if honestly and faithfully carried out. In adopting this rule, which was one made by my predecessor, I could easily see a way of investigating and finding tuberculous herds that could be found in no other way, and had the legislature given this department an adequate appropriation the work would have been

strenuously pursued. As it was, the rule was allowed in effect and a record was placed on file in this office giving the name and address of all owners of herds from which beef cattle were sold and slaughtered and by post mortem were found tuberculous. We were appraised of the fact that unscrupulous dealers were buying any sick animal for a few dollars, driving, hauling or dragging it to a place of slaughter, and after having a post mortem made, claiming a reward of \$25, thus making it a lucrative business.

In one instance, and there are letters on file in this office proving the statement, an owner had a cow sicken and die, and after she had been dead some days, hauled the carcass nearly 30 miles to a graduate veterinarian, who made a post mortem and pronounced it tuberculous, and the owner of the cow made oath that it was slaughtered for beef and the certificate called for the payment of \$16 by the State.

Consequently, as we could not follow out the object of this rule on account of the appropriation being insufficient, and as the appropriation was rapidly decreasing, it seemed better that such a rule be stricken out, and on October 23, 1916, the following notice, signed by the Governor, was sent to all the inspectors.

#### NOTICE TO INSPECTORS.

On and after October 23, 1916, Rule 7 in Book of Rules and Regulations, to wit: "Cattle slaughtered for beef, sheep and hogs slaughtered for meat, which have been owned in the State of Maine for more than one year, if found tuberculous upon post mortem, by graduate veterinarian, indorsed by the Live Stock Sanitary Commissioner, will be paid for when reported on the blanks furnished by the State, filled out in full and sworn to before a justice of the peace or notary public" will be discontinued, and no cattle, sheep or hogs slaughtered for meat will be paid for by the State after that date.

Signed

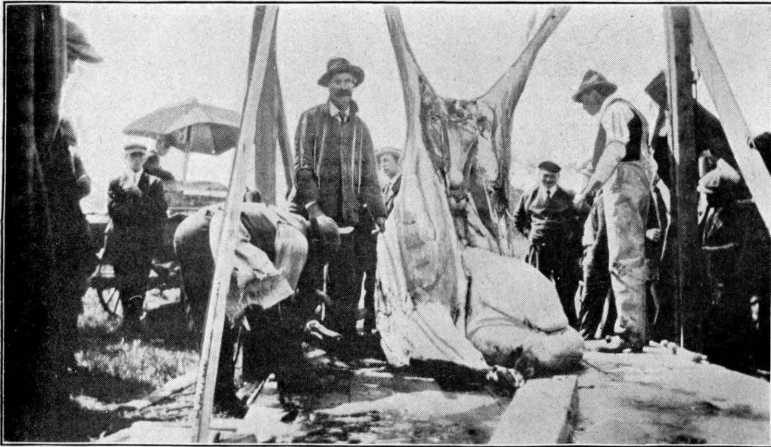
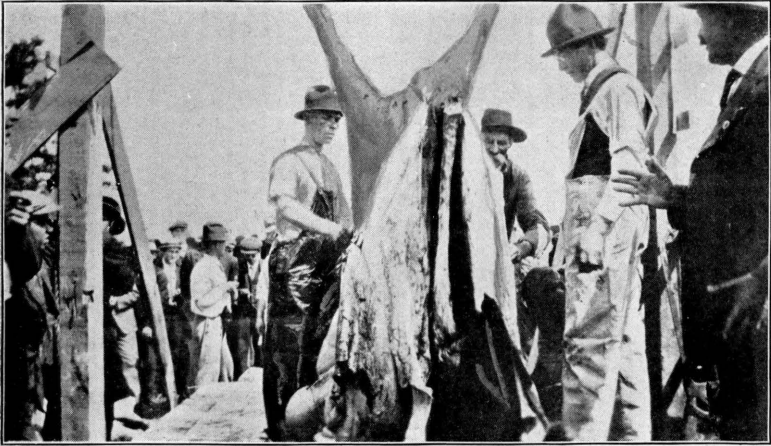
OAKLEY C. CURTIS, *Governor.*

BOYDEN BEARCE,  
*Live Stock Sanitary Commissioner.*

This question is being asked by many, "What is done with condemned cattle?" After the appraisal is made and a numbered ear tag placed in the animal's ear, it is shipped to either the Houlton Dressed Meat Company, E. W. Penley's at Auburn or the Portland Abattoir, Portland, where it is slaughtered under inspection of a Federal Meat Inspector, who is paid by the United States Government, and is under the direct charge of the Bureau of Animal Industry at Washington, D. C. This inspection consists of a rigid examination of every part of the body, the lungs, liver, spleen, heart, intestines, and the many glands which are located in different places throughout the body. This is carried out in the same manner as the inspection in the Western packing houses. All beef, pork, lamb or mutton slaughtered in the West must pass a like inspection before they are placed upon the market for sale. Animals condemned by the tuberculin test and slaughtered at either of the above mentioned places, in which no lesions of tuberculosis are found by the post mortem examination made by the meat inspector, are passed for food. If, by post mortem examination, one or two local lesions are found, for instance a slight lesion in the liver or kidney, that member is thrown away and the carcass passed for food. But if extensive lesions are found, or the disease has become generalized, the whole carcass is condemned and rendered by high steam pressure into tankage and finally finds its way back to the farm in fertilizer. The hides are disinfected and sold upon the market. The State realizes about \$6,000 annually on the sale of the hides and carcasses.

Some object to this way of disposing of the cattle but we find disease among all classes of cattle, hogs and sheep; local lesions of tuberculosis are found in many western cattle and hogs, and many are rendered into tankage on account of extensive lesions being found by post mortem. Range cattle and hogs have tuberculosis, but dairy cattle are more susceptible to the disease as high feed, poor ventilation, no exercise and no sunlight help to develop the disease.

This Department and the State is under great obligations to Dr. L. K. Green, the Federal Meat Inspector, at Auburn, who has been so obliging and courteous in explaining to owners of cattle and others while conducting the post mortem examinations upon cattle.



Two views of the slaughter and demonstration of tuberculous cattle at Maine Central Fair at Waterville, September, 1916.



Dr. Green has selected and preserved in formaldehyde, in glass jars, specimens showing the lesions of tuberculosis in the liver, lungs, heart, muscles, kidney, uterus, peritoneum, pleura and glands. These specimens are constantly on exhibition at the office of the Live Stock Sanitary Commissioner at the State House; and have been viewed and examined by hundreds of people visiting the State House from all parts of the State. We believe this collection of specimens which have been explained to so many, is a great step toward educating the owners of cattle for better and healthier herds.

In the 24 lectures which have been given by the Live Stock Sanitary Commissioner before different granges in the State these specimens have been shown and explained to appreciative audiences, thus telling the story of bovine tuberculosis far better than words could tell it.

The management of the Central Maine Fair, located at Waterville, made an urgent request to this Department that there be made on their ground during the fair a demonstration and slaughter of cattle that had been condemned by the tuberculin test. Consequently six grade cattle, all from one herd, and which had reacted to the tuberculin test, were selected.

The cows were placed in a large and commodious tent furnished by the fair management and set up far away from all other cattle; the cows were furnished with good stalls, plenty of bedding, and good hay and water; a caretaker was with them day and night. The first two days of the fair these cattle were on exhibition, and the third day they were slaughtered on a platform in the rear of the tent. Thousands of people visited this exhibition; they were shown the cows, the specimens of tuberculosis in the glass jars were explained, and literature on the contagious diseases was distributed. On the third day of the fair these six cows were slaughtered before a large and interested crowd of people. Post mortems were made and explained by Dr. L. K. Greene, the United States Meat Inspector at Auburn, and Dr. P. R. Baird, City Meat Inspector of Waterville. Each carcass showed extensive lesions of tuberculosis, was condemned by the inspectors, and placed in a pile upon the ground, saturated with kerosene oil and burned. The hides were disinfected and sold.

There were 6,640 more cattle tuberculin tested in Maine in the year 1916 than in 1915 with only a small increase in the

number condemned. More than one-half of the whole number tested in the State were from the counties of Androscoggin, Cumberland and Oxford. The herds in Androscoggin and Oxford Counties have been tested annually for some years and show a decreasing percentage of tuberculous cattle. Owing to the milk situation in Portland, Cumberland County has increased its number tested over 1915 by 2,261.

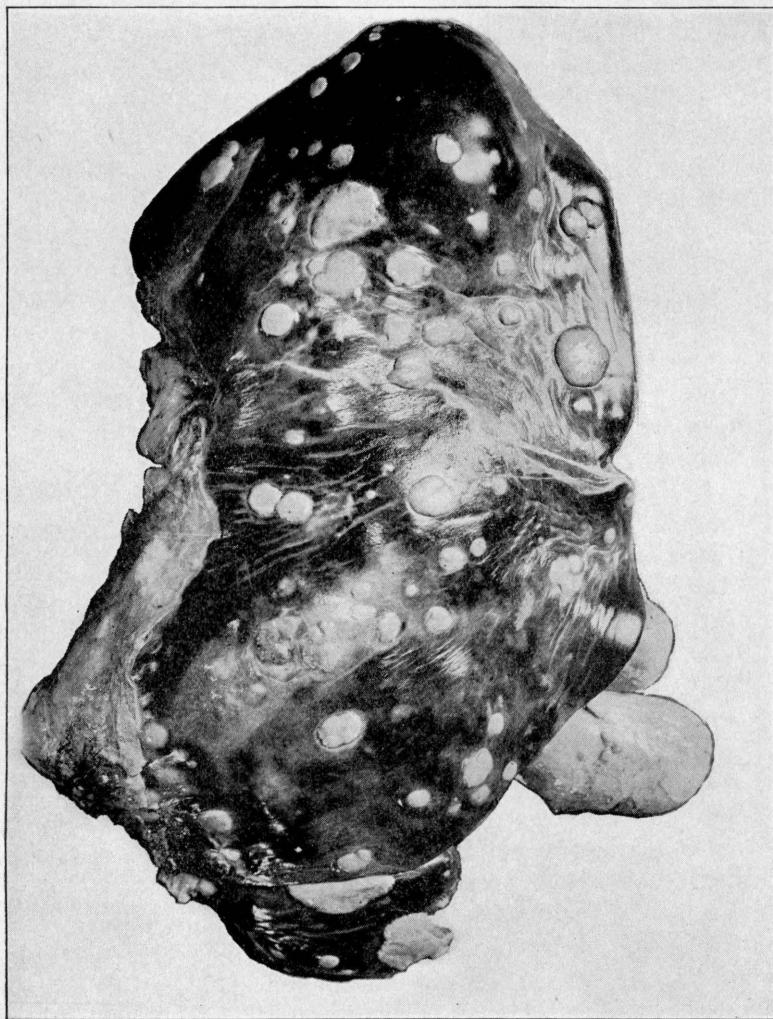
York County, showing the largest percentage of tuberculous cattle of any county in the State in both 1915 and 1916, gives some doubt as to owners of some herds being law abiding citizens. By a ratio taken from the number of tested and condemned cattle in 1915 and 1916, 85-10% of the cattle in York County are tuberculous.

During my lecture work throughout the State I have strongly advocated that farmers and breeders learn how to apply the tuberculin test to their own cattle. Many are already doing this.

The subject of Farm Demonstrators, working in the several counties of the State under the direction of the Agricultural College, has been taken up with the Dean of the College in view of the Farm Demonstrators teaching the owners of cattle how to apply the tuberculin test. Also a decision has been rendered by the Assistant Attorney General that such work by the Farm Demonstrators would not be violating in any way the Veterinary Surgeon, Medicine and Dentistry Law. It is hoped that this work of teaching how to apply the test will enter into the duties of the Farm Demonstrators in the near future.

"To attempt to eradicate human tuberculosis while children are being fed milk from tuberculous cows is futile. Consequently the first step must be the eradication of bovine tuberculosis and that can only be accomplished by teaching the parents the danger of tuberculous milk. There are at the present time few families left where tuberculosis has not claimed one or more victims, and no mother will, after once being taught the danger, willingly buy milk from untested or diseased cows if wholesome milk can at all be obtained for her children.

There is consequently no reason why any individual or any community should wait for official action in order to obtain



Liver of Cow, Showing Many Lesions on Surface, and Gall Bladder at Lower Right Side of Cut.





clean milk. Bovine tuberculosis must go first, but to await its eradication through the promulgation of laws, ordinances and regulations which necessarily must carry large appropriations to become effective, is futile. Action must come from below not from above. It therefore rests with either the consumer, the milk producer or the local Board of Health to start the ball rolling and as it is the milk consumer who is to reap the greatest benefit from the improvement, it is only reasonable that the consumer should pay for it.

If the public were thoroughly informed of the dangers, among which tuberculosis is only one of the many, to which it is exposed through the use of impure, dirty and infected milk, the demands for milk of approved purity would rise to the magnitude of a concerted national movement and would sweep all objections and difficulties out of its way. There is an important moral side to the milk question which must not be ignored. We may have a right to neglect the dangers to which we, as adults capable of judgment and acting for ourselves, are exposed; but we have absolutely no right to neglect the conditions that cause suffering and death among children. The failure to act, and act unceasingly, until a safe milk, for children at least, is within easy reach of every mother, may be characterized as barbarous indifference. It is an offense against the innocent, unquestioning confidence which children repose in their adult parents."

"All will agree that milk is the most important food in the world, as on it rests the welfare of the coming generation, and without it seventy-five percent of the newly born children would never reach the age of six months. If any sediment, however slight it may be, should appear, the milk should be rejected and no more milk bought from that dairyman. Sediment in a milk bottle is cow manure, pure and simple, and very rarely anything else, and its presence there is inexcusable and denotes the most slovenly methods of milking, handling and delivering milk. Inquire of your milk man whether his cows have been tuberculin tested, and if so, how long ago, and when they will be tested again, and did he have any reactors, or condemned tuberculous cattle in his herd, when they were last tested. Visit your milkman's farm and dairy and see for yourselves whether it is clean or not, whether

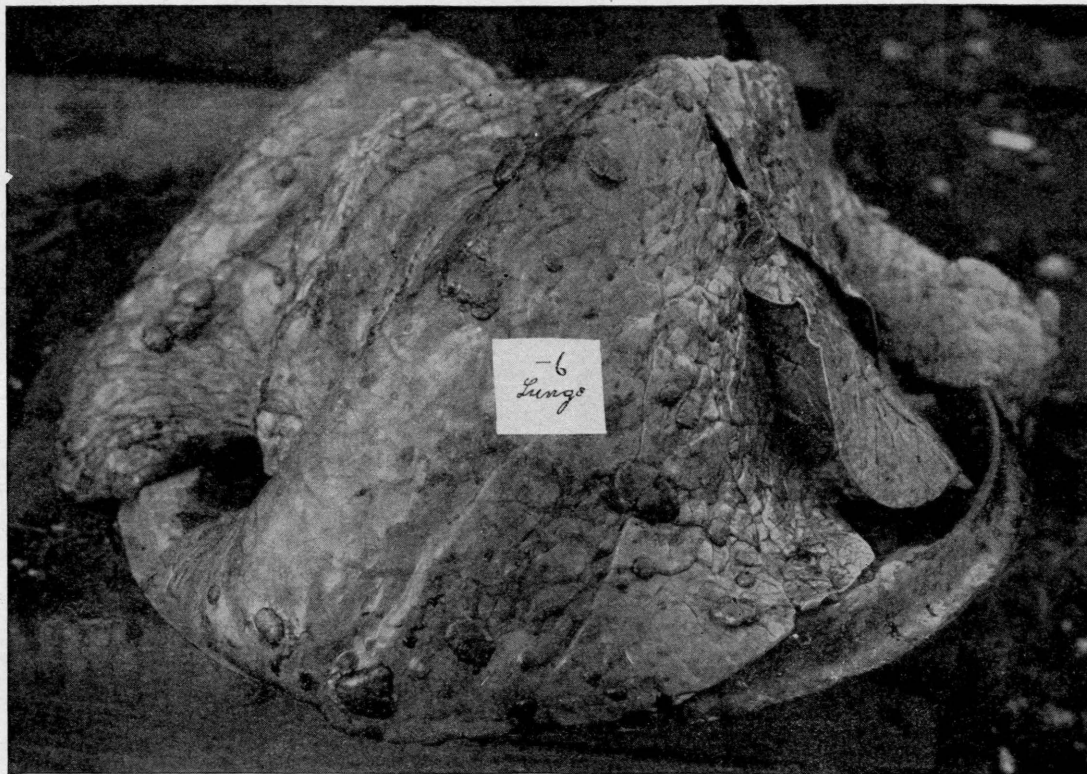
the milk room and milk utensils are clean and sweet smelling, and note the location of the manure pile and cesspool.

As soon as your milkman realizes that he is under observation he will quickly improve his methods, and it is only necessary for one or two customers to leave him and take their milk from an officially warranted clean dairy with tested cows, and no reactors on the premises, when he will decide to conform to the conditions and endeavor to obtain a clean bill of health for his dairy and his animals."

The following table taken from the milk license records, the most of which were recorded the first of the year, shows approximately the number of tuberculin tested and non-tuberculin tested herds from which milk is being sold in the cities and many of the large towns in the State of Maine.

As a few cities and towns are advocating a better enforcement of their sanitary laws regarding the sale of milk we hope the conditions will improve, but if this enforcement is allowed to relax after a few months very small results can be hoped for.

Name of City or Town.	No from Tested Herds.	No. from Non-Tested Herds.
Auburn .....	78	34
Augusta .....	9	40
Bangor .....	70	47
Bar Harbor .....	11	8
Bath .....	35	26
Belfast .....	6	32
Biddeford .....	4	56
Boothbay .....	19	28
Brewer .....	18	20
Bristol .....	4	34
Brunswick .....	10	31
Calais .....	3	15
Camden .....	15	48
Caribou .....	11	1
Castine .....	1	5
Eastport .....	3	28
Ellsworth .....	7	31
Gardiner .....	11	41
Georgetown .....	17	0



Tubercular Nodules on Surface of Lung.



Name of City or Town.	No. from Tested Herds.	No. from Non-Tested Herds.
Hallowell .....	10	34
Houlton .....	29	4
Island Falls .....	00	7
Kennebunkport .....	9	25
Kittery .....	7	24
Lewiston .....	82	23
Lincolnville .....	00	7
Machias .....	00	5
Milford .....	00	2
Mount Desert .....	1	10
Newport .....	7	4
Northport .....	8	13
Norway .....	16	1
Oakland .....	3	5
Old Orchard .....	5	12
Old Town .....	3	21
Orono .....	3	18
Orrington .....	8	15
Paris .....	11	3
Pittsfield .....	7	4
Portland .....	249	32
Presque Isle .....	13	1
Rockland .....	16	53
Rockport .....	3	33
Rumford .....	16	10
Saco .....	14	39
Sanford .....	23	29
Skowhegan .....	16	10
South Berwick .....	3	14
South Portland .....	16	15
St. George .....	00	10
Stonington .....	1	18
Thomaston .....	00	16
Topsham .....	4	11
Vinalhaven .....	3	24
Waldoboro .....	00	13
Warren .....	00	8
Waterville .....	32	21

Name of City or Town.	No. from Tested Herds.	No. from Non-Tested Herds.
Wells .....	10	5
Westbrook .....	6	40
Westport .....	2	12
Winslow .....	11	7
Winter Harbor .....	00	5
Winthrop .....	3	20
Wiscasset .....	2	13
York .....	7	18

EXTRACTS FROM BULLETIN NO. 82. NEW YORK DEPARTMENT  
OF AGRICULTURE.

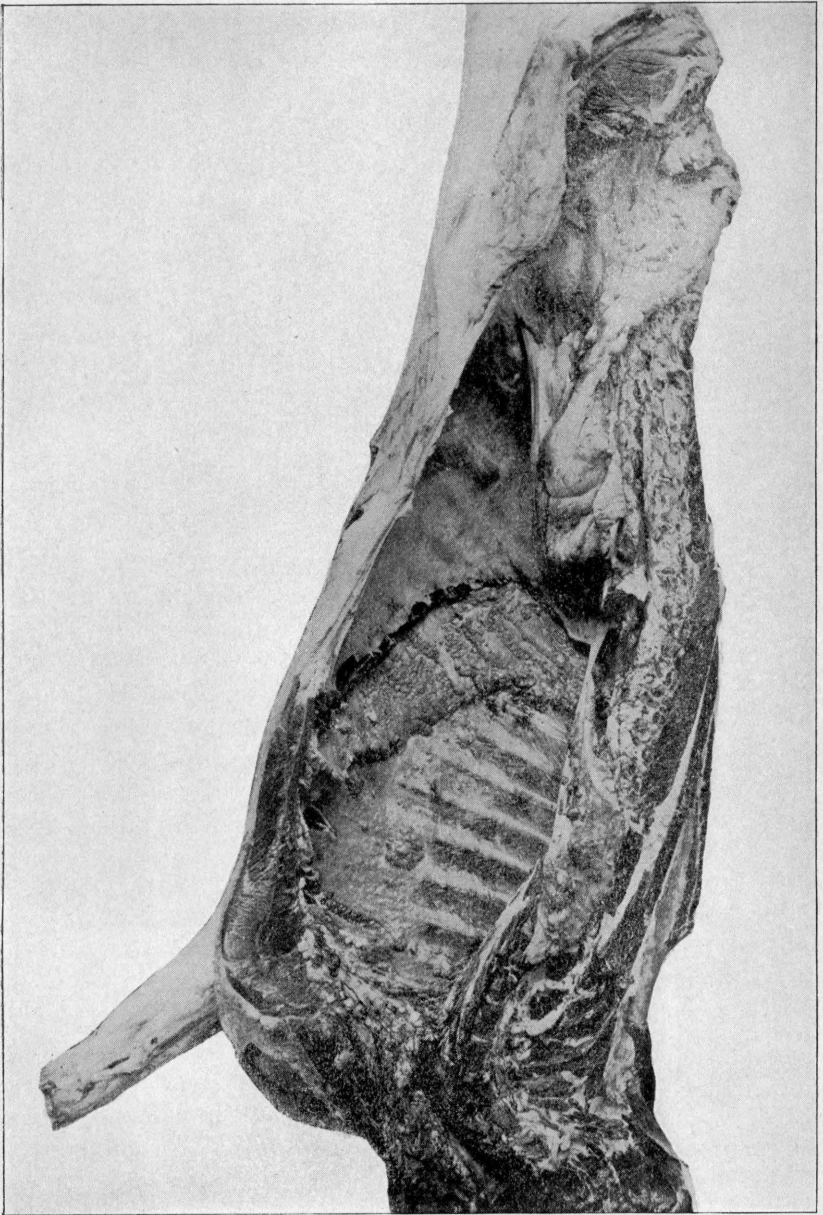
J. G. WILLS, Chief Veterinarian.

1. *What is tuberculosis?*

Tuberculosis is an infectious disease caused by tubercle bacilli. The disease is chronic in nature, so much so that it often requires many months or years to develop symptoms sufficient to become noticeable in the living animal. The germ gains entrance to one or more tissues or organs of the body through the mouth, lungs, intestines, or reproductive organs, where it multiplies or produces tubercles, or tuberculous lesions. These germs may grow in any part of the animal system, but usually first become seated in the lymphatic glands of the pulmonary (lung) or intestinal region. From the first, or primary, tubercle, the germs may be carried through the lymph or blood to other organs or tissues, where they become lodged and multiply, producing other tubercles. By their growth and development, these bacilli, or germs, produce changes in the tissues of the body of the affected individual.

2. *What is meant by localized tuberculosis?*

This is a term to designate cases in which the lesions are not extensive, but it may also be applied to cases in which two or even more parts of the body are affected, but only to a limited extent. Under the United States meat inspection regulations, carcasses of tuberculous animals showing localized tuberculosis are passed as suitable for food purposes, only the affected parts being destroyed.



Half Carcass of Cow, Showing Generalized Tuberculosis.





3. *What is meant by generalized tuberculosis?*

This is a term generally applied to cases in which the disease is in an advanced stage, either effecting several widely distributed parts of the body, or various organs; or to cases in which lesions are in an advanced stage in one organ. Under Federal meat inspection regulations, generalized carcasses are condemned as unfit for food and are usually destroyed by tanking.

4. *What animals are subject to tuberculosis?*

Tuberculosis is found in almost all species of animals, including man. In cattle it is known as bovine, and in birds as avian, tuberculosis. In the human family it is often referred to as consumption. Cattle, swine, fowl, dogs, cats, horses, sheep and goats are affected in the order named, the disease being rarely found in the last three. Fish are also susceptible.

5. *Is tuberculosis contagious?*

No, not in the strict sense of the term, which means contact, or catching. It is necessary that germs escape from the body of the infected individual and lodge and multiply in the tissue of the susceptible animal before the disease can occur. Therefore, contact with infected animals alone is not always sufficient to transmit the disease. The eating of infected material is more dangerous.

6. *Is bovine tuberculosis transmissible to the human family?*

Yes. From the information available it is probable that the adult of the human family seldom contracts tuberculosis from bovines except while in a weakened or debilitated condition. The disease is believed to be transmitted to very young children rather frequently by means of infected milk. Statistics collected from various sources tend to show that a considerable percentage of tuberculous children, especially those under one year of age, were infected by bovine germs, thereby indicating that cow's milk was the carrier of the disease.

7. *How should the consumer of dairy products protect himself against tuberculosis?*

It is well known that milk from certain tuberculous animals may contain living tubercle bacilli, particularly in case the

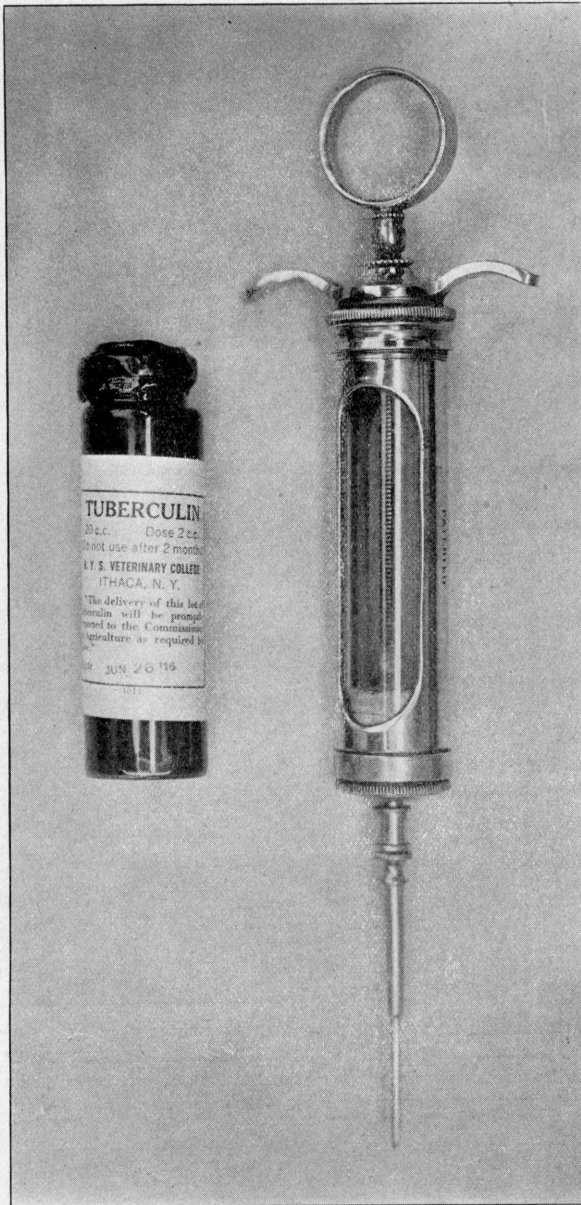
udder is affected. The consumer of dairy products should therefore insist that the herd from which his milk comes be in a healthy condition, each animal having passed a satisfactory annual tuberculin test; and that the milk be produced under cleanly conditions, and be properly cooled and bottled. If this is not done, the milk should be made safe by pasteurization before being used for human food. This is especially important in case the milk is to be used for young children. In large cities it is often more difficult to obtain good pure milk than in country districts, but milk from healthy cows can usually be obtained if the consumer is willing to pay a slight advance in price. It is evident that the dairyman who produces the better article is entitled to a correspondingly higher price.

Certified milk is considered as meaning raw milk, produced under exceptionally sanitary conditions, and from cows presumably healthy. It sells at an advanced price, and undoubtedly is a safer product than is milk from the average dairy herd.

It is the duty of the consumer of milk to ascertain, if possible, conditions under which the milk he uses is produced. If he is not satisfied as to the character of the product, protection against disease will be assured by pasteurization in his own household. It should be recognized that pasteurization is not a substitute for cleanliness and that dirty milk cannot be rendered wholesome by pasteurization. It can be rendered safe, however, so far as disease is concerned and is therefore of value in connection with contagions that may be carried by milk, provided it is protected from further contamination after pasteurization.

#### 8. *Can tuberculosis be cured?*

Not in the generally accepted meaning of the term. Tubercular lesions may and often do become arrested or checked in their development, but such lesions have often been found to contain living germs, even after long periods of time. Such cases, while they are in general appearances harmless, may, if favorable conditions arise, become the source of new infection. Arrested cases may again become active under certain conditions. Small tuberculous areas may occasionally heal permanently. As a rule the disease becomes arrested rather than cured.



Bottle of Liquid Tuberculin (20 Cubic Centimeters) and Hypodermic Syringe for Making Injection.



9. *What is tuberculin?*

Tuberculin as usually prepared is a liquid, but may also be had in other forms. It is obtained by growing the bacilli of tuberculosis on prepared beef broth (glycerinated bouillon) in an incubator for a sufficient time to saturate the fluid with the products from the growth of the germs. This liquid is then boiled, filtered, reduced by heat to a certain definite strength; a small quantity of carbolic acid is added to preserve it, and it is then placed in sterile bottles ready for use.

10. *Will tuberculin produce tuberculosis?*

Positively no. Tuberculin, properly prepared, contains no living germs, but is merely the product of the growth of tubercle bacilli upon beef broth. Living tubercular germs must be present before tuberculosis can be produced.

11. *Does tuberculin in doses as used in common test methods affect healthy animals?*

So far as has been determined, the injection of tuberculin produces no injurious effects in healthy cattle. Since it contains no material that is capable of producing ill effects, so far as known, there is no reason why there should be unfavorable results from its use.

12. *How is the subcutaneous tuberculin test conducted?*

The following are directions for conducting tuberculin tests, according to the subcutaneous method, as advised by the New York State Department of Agriculture:

1. Make a very careful physical examination of each individual for evidence of any disease or abnormal condition that might affect the reliability of the test. Note all such data in proper place on the temperature chart. Inaccuracies may occur when animals are tested immediately after shipping or driving, or when tested under exciting or unusual conditions. See that thermometers are accurate and syringe in working order. Temperature conditions, as well as other external influences should be considered. The barn temperature should be recorded at each temperature reading.

2. As large a number of preliminary temperatures as possible should be obtained. Take at least three temperature meas-

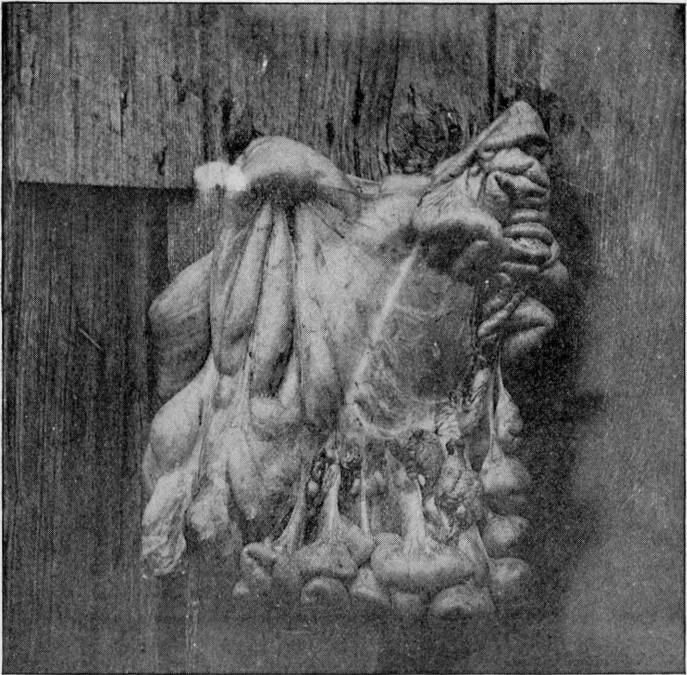
urements prior to the injection of tuberculin. It is advisable that one of these temperature measurements be taken after feeding. The interval between all preliminary temperatures should be at least two hours. The interval between first and last preliminary temperatures should not be less than six hours. Any animals showing pronounced abnormal preliminary temperatures should not as a rule be injected.

3. The dose of tuberculin as prepared by the New York State Veterinary College is 2 c. c. for full-grown (800 to 1000 pounds) cattle. For younger, lighter, or heavier animals the dose may be made proportionate. In case a tuberculin test has been made within six months or in case an animal has been repeatedly injected with tuberculin or has previously shown a suspicious temperature rise, or shows any physical evidence of tuberculosis, a double or larger dose should be given.

4. Inject tuberculin by means of a hypodermic syringe into the loose subcutaneous tissue on the middle of the side of the neck or other convenient place. The syringe should be carefully disinfected before using the needle before injecting each animal. For the former a 5 per cent solution of carbolic acid may be used, and for the latter, it is sufficient to dip the needle without removing it from the syringe, into liquid carbolic acid.

5. Temperature measurements should be resumed not more than eight hours after tuberculin is injected. These measurements should be taken at intervals of not more than two hours for twenty hours after injection. If the temperature of any animal at the twentieth hour shows a rise above the highest temperature of the preceding day, or any irregular temperature, the temperature readings of such animals should be continued until a definite decision can be reached. Temperature readings of animals that have been injected with tuberculin within six months or that have been suspicious at any previous test, or that have had repeated injections of tuberculin, should be resumed not later than six hours after injection and should always be continued for a period of at least twenty-four after injection.

The retesting of any animal that has once positively reacted to the tuberculin test is not advised, unless the owner or custodian is fully informed of the irregularities that may result on retest and is advised that animals once reacting are thereafter considered diseased by this department.



Intestines of Six-Months-Old Calf, Showing Tuberculous Mesenteric Glands at Lower Right Side of Picture.





13. *Is the tuberculin test accurate?*

Statistical records of official test work show that, as a diagnostic agent, tuberculin ranks as one of the most accurate known to medical science. Approximately 97 percent of all animals in which tuberculosis is indicated by tuberculin, show visible lesions of the disease upon post mortem.

The following tables show the number of cattle in Maine for the years 1915 and 1916 given by counties, also the number tuberculin tested and condemned in each year in the different counties. The comparison of the two tables shows good work being done in some counties.

Name of County	1916		
	Whole Number of Cattle in County	No. Tested	No. Condemned
Androscoggin .....	14,821	4,011	46
Aroostook .....	27,460	268	4
Cumberland .....	17,823	3,563	110
Franklin .....	14,375	1,156	8
Hancock .....	8,938	100	0
Kennebec .....	23,231	1,458	43
Knox .....	7,617	162	2
Lincoln .....	9,284	205	1
Oxford .....	24,001	5,636	50
Penobscot .....	29,279	1,807	71
Piscataquis .....	8,245	377	1
Sagadahoc .....	4,593	192	7
Somerset .....	21,766	719	33
Waldo .....	15,571	685	3
Washington .....	9,823	14	2
York .....	16,667	1,522	125
Total .....	253,494	21,885	506

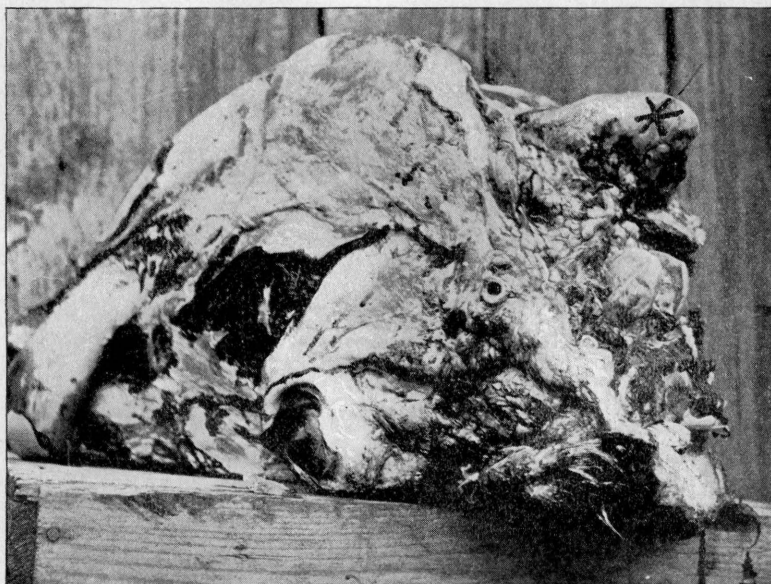
Name of County	1915		
	Whole Number of Cattle in County	No. Tested	No. Condemned
Androscoggin .....	14,427	3,564	57
Aroostook .....	26,383	365	14
Cumberland .....	17,553	1,302	34
Franklin .....	13,996	1,004	13
Hancock .....	8,773	107	2
Kennebec .....	23,308	1,422	66
Knox .....	7,932	105	2
Lincoln .....	9,227	279	3
Oxford .....	24,315	4,602	88
Penobscot .....	29,374	818	55
Piscataquis .....	8,142	43	1
Sagadahoc .....	4,317	233	2
Somerset .....	21,603	432	10
Waldo .....	15,680	158	18
Washington .....	9,476	11	1
York .....	16,691	800	81
Total .....	251,196	15,245	494

#### INFECTIOUS ABORTION.

We do not know to what extent contagious abortion prevails in the State as our personal attention has been called to only a few cases, but a report comes in various ways that it does prevail to a great extent. There seems to be an inclination among breeders to keep their own secrets and many times the disease will break out in a herd and even the next door neighbor will never hear of it. The neighborhood sire is a great source of infection.

We print elsewhere in this book extracts from Circular No. 216 issued by the United States Department of Agriculture which may be a help to some who have affected herds.

Veterinary science is constantly seeking some remedy for this disease but no discoveries along this line have been made and the outlook is faint.



Bovine Tuberculosis.

Head of cow, showing enlarged gland (Retropharyngeal) indicated by star. Localized tuberculosis.



## HOG CHOLERA.

Hog cholera prevails to a certain extent among the city swill or garbage fed hogs of the State, but in no case has cholera been found in farm fed hogs for the past year. In all outbreaks reported to this office anti-hog cholera serum has been furnished free by the State, while the owner pays the veterinarian for administering the serum. Hog cholera virus has not been used to my knowledge in the State.

The serum and virus used together is called the simultaneous, or double treatment, and is administered in many states to immune healthy hogs, or hogs which have not been attacked by the cholera. The serum alone, or single treatment, is used when there is an outbreak of the disease to immune some of the less affected and to check the intensity of the disease, and many times lessens the number of deaths in the herd.

The serum alone is used in many states and the serum and virus are used in some states, but I am told that in Canada neither the serum nor virus is allowed to cross the border.

Hog cholera virus is very dangerous to use as it contains the living germ of the disease and laws should be enacted, or rules made, governing its use only under supervision and regulations of the Live Stock Sanitary Commissioner.

The feeding of city swill to swine is generally entrusted to men who have but little care and thought of what effect the feed may have upon the hog, while men of good judgment and who would be interested in their work should be selected.

## IMPORTATION OF HORSES.

6,700 horses have entered Maine this year on permits, and as last year many of these came directly from the west. Most of this number were examined upon arrival and two were condemned as glandered and destroyed without appraisal.

## IMPORTATION OF CATTLE.

838 cattle have entered Maine on permits. 150 of this number were slaughtered immediately on arrival. The remaining 688 were dairy stock and were nearly all tuberculin tested or are held subject to the test at the expiration of the thirty-day limit. Of this number 3 were condemned without appraisal. By a careful estimation 304 of the dairy stock were pure bred with the Holstein breed predominating. We are glad to note the increase of 117 pure bred cattle coming to Maine over the year 1915. It shows greater interest in cattle raising.

## EXPORTATION OF CATTLE.

Maine has shipped to the Brighton market for slaughter this year 7,908 cattle, 11,246 sheep and lambs, 31,794 calves and 16,747 hogs. 5,649 milch cows have been shipped from Maine to Brighton. These were all tuberculin tested upon their arrival and 88 were condemned and paid for by the State of Maine at an appraisal regulated by the Law. These cattle were slaughtered under Federal Meat Inspection and such as passed for food the shipper received pay for including the hide, and the State of Maine paying the balance of the appraisal. The total amount paid for the 88 cattle was \$3,848.60, an average of \$43.62 per head.

The class of milch cows being shipped from Maine to Brighton are of the best grade cows and we have no record of milch cows commanding such high prices as at the present time and the farmer has taken advantage of the demand.

EXTRACTS FROM BULLETIN NO. 216, PUBLISHED BY THE UNITED STATES BUREAU OF ANIMAL INDUSTRY.

INFECTIOUS OR CONTAGIOUS ABORTION.

In reviewing the field of veterinary research covered during the year 1911 the particular event which indicates marked progress in the study of animal diseases is the work on infectious abortion that is being conducted in this and other countries.

From the viewpoint of economic importance, infectious abortion of cattle ranks second only to tuberculosis, and in certain sections of the country even supersedes the latter in the monetary loss it occasions. Aside from the loss of the calf, the loss occasioned by the reduction in milk supply, together with the failure to conceive for several months or forever after the abortion, and the frequency of retained placenta, has made this disease the bane of dairymen and stock raisers.

The exact financial loss can not be even approximately estimated, but from the fact that the disease exists in all sections of the country, both in dairy and range cattle, as is evidenced by the reports from various State officials, and from the inquiries received at this bureau regarding this disease, it can safely be stated that the direct loss reaches into the millions, while the potential loss is likewise enormous and inestimable. Thus in the last two years the Pathological Division of this bureau received correspondence from 32 different States regarding treatment, prevention, and eradication of the disease. Furthermore, the disease is of such an insidious character that it may be brought into a herd by an unsuspected animal without attracting attention, inasmuch as there are no readily noted symptoms present in the diseased animal.

SUSCEPTIBILITY.

Cows of all ages are more or less susceptible to the disease. Animals in their first or second pregnancies are more apt to abort if exposed than at any other time. Cows that have aborted once may abort a second time; abortion in the same cow more than twice is an unusual occurrence. Heifers from aborting mothers may be less susceptible than those born to noninfected dams; in fact, in one herd under observation such animals have shown a pronounced resistance to the infection.



Cows and heifers reared in a noninfected environment very often abort shortly after being brought to infected premises.

#### AGENTS OF DISSEMINATION.

Even before the discovery of the specific organism various observers had recognized the infective character of the after-birth, fetus, and vaginal discharges from the aborting animals. Franck and Bräuer were able to produce abortion experimentally with afterbirth and vaginal discharge from aborting animals. The fact that the specific agent has now been isolated in a majority of cases from the gastrointestinal tract, and at times from the liver and general circulation of the aborted fetus, places the product of conception prominently in this list. Milk has recently been added to the number of agencies by which the virus is eliminated from the body, as has already been referred to above. Thus the stall, litter, bedding, feed, water, pastures, stockyards, transportation cars and boats, attendants, their clothing, and various other objects can very readily become contaminated with one or more of the above-mentioned sources of infection, thereby acting as disseminators of the disease to other animals. The manure, if not composited properly and the outermost layer disinfected, may spread the disease to distant points. McFadyean and Stockman mention the possibility of foxes aborting as a result of infection with *Bacillus abortus* and acting as carriers of the infection. The same holds true in case of other animals, and especially with sheep and goats, since these animals have been claimed to abort not only as a result of experimental inoculation but also by pasturing or feeding on infected premises.

#### NATURAL MODE OF INFECTION.

This important phase of the disease is and has been responsible for a great deal of discussion and diversified opinions.

Artificially the disease can be produced by introducing the virus into the body by way of the digestive tract and the vagina and by intravenous and subcutaneous inoculations. With the first two methods we are principally concerned, since the intravenous inoculation, while giving the greatest number of positive results, is purely an experimental method. The latter state-

ment holds true for the subcutaneous inoculation, which gives few positive results, and, as proven by the English commission, requires rather too large a dose in the cow to be a probable occurrence naturally.

Nocard has also suggested the respiratory tract as a probable path of infection. The infection *per orem* has been considered an important natural avenue of infection by Bang, Zwick, Holth, and others, and particularly so by McFadyean and Stockman. W. L. Williams, one of the staunchest supporters of the infection *per vagina*, claims that Bang and other workers, in their experiments to prove infection through the mouth, do not show how the infection of the vagina was excluded, stating that these ruminating animals upon which the experiments were conducted could easily transfer the infection from the oral cavity to the vagina by licking, a habit to which many cows are addicted. This same argument is, however, equally applicable in favor of infection through the mouth; that is, an animal infected artificially or naturally through the vagina may lick that organ or discharges from the same and thereby introduce the virus into the oral cavity. In favor of the infection by means of the vulvo-vaginal tract there is a great deal of clinical evidence, most conspicuous among which is the oft-quoted and classical case of Paulsen, where on a farm that had always been free from the disease 7 out of a herd of 16 cows were served by a bull from infected premises, causing abortion in 5 cows within 10 weeks, in one 3 months, and in one 4 1-2 months after copulation.

Williams bases his treatment of abortion, which is given in the publication cited, on the ground that infection takes place through the vaginal tract. Holth, quoting Wall's histologic findings, states that the latter found the mucous membrane in the spaces between the cotyledons to be affected in three cases, thereby indicating that the infection occurred through the cervix, since infection through the blood would locate itself first in the cotyledons.

Another class of abortion where the bull is most probably the carrier of the infection, and principally during copulation, is that occurring among range cattle. But while the bull during copulation can very easily transplant infection into the cervix and uterus it is hardly probable that infection from the vagina

would readily pass through the rigid plug in the cervix after conception. If infection does take place after conception it probably does so by means of the lymphatic system of the vagina.

On a farm where the disease is not known to exist a new cow may be brought into the herd, or one of the cows of the herd may be taken to a bull on infected premises for service, and it often happens that not only the newly introduced cow or the one bred to the bull but others in the herd will drop their calves prematurely in quick succession, or give birth to calves that die at the age of several days. In such cases the infection must have taken place after conception, either by the genitals coming in contact with stalls, bedding, etc., contaminated with virus, or else the bacilli were introduced through the digestive tract by feed or drinking water containing the specific organism. And from the vast number of experimental abortions produced by introduction of virus through the mouth, particularly in animals such as rabbits, where the virus is introduced by tube and infection by vagina can be easily excluded, this means of infection must be given an important place, especially so until satisfactory experimental evidence is brought forward to the contrary.

#### SYMPTOMS.

The period of incubation is another phase of the disease which varies within wide limits. The only definite information on this subject is found in the experimentally infected cases, unless we take the untenable ground that all infections are transmitted during copulation. From the artificially inoculated cases recorded by Lehnert, Bräuer, Bang, McFadyean and Stockman, and others we learn that the period varies from 1 to 33 weeks. McFadyean and Stockman's cases averaged 126 days. It matters little how the infection was introduced whether the virus used was material from aborting cows or a pure culture, the period of incubation is irregular. The variation in part may be explained by the difference in virulence of the organisms and in the susceptibility of the individual. One must bear in mind, however, that the disease as a rule is chronic, and in such cases the disease processes have no doubt been existing long before abortion takes place.

Premonitory symptoms are not always observed, but when present are manifested two or three days before the expulsion of the fetus by swelling of udder ("making bag"), edematous swelling of the vulvar lips, reddening of and small inflamed nodular formations on the vulvo-vaginal mucosa, and the appearance of a mucoid or mucopurulent odorless discharge from the vagina. While all or most of these manifestations are present in a very large majority of cases of infectious abortion they are not prima facie evidence that abortion will occur. The swelling of the udder would be noticed in non-milking cows only, and in heifers there is invariably a swelling of the bag beginning some months before parturition. The other symptoms are not infrequently observed in non-aborting animals. In a herd of 45 Holsteins, where the writers were conducting some experimental work, and where abortion and granular vaginitis were coexistent, several cows showed a discharge with reddening and nodular formation on the vulvo-vaginal mucous membrane. One case in particular showed a profuse vaginal discharge, intense inflammation of the vaginal mucous membrane, and swollen vulvar lips. The manager, an experienced dairyman, was warned of the approaching abortion, and he agreed that the fetus would be expelled within a day or two, but neither this cow nor other suspicious ones have as yet aborted. In an infected environment a large percentage of animals abort during the first or second pregnancy. Cows most often abort between the fifth and seventh months of gestation. Animals aborting for the first time usually do so at an earlier stage than do those with a history of previous abortion. In cases where the infection has persisted in the uterus, however, abortion occurs at an early stage of gestation. The abortion at a later stage in a subsequent pregnancy may be caused by a reinfection. Cows may abort a second time, but a third abortion in the same cow is rare.

There is no doubt that abortion during the early months occurs more frequently than is reported but is unnoticed and considered simply as "failing to catch." Should the abortion occur in the early months of gestation when the chorionic tufts are not yet fully developed, the fetus and its membranes are expelled at the same time and the act is attended by no sys-

temic disturbance. However, if the abortion should occur in the late months of pregnancy, the afterbirth is generally retained, or at least not voided together with the fetus, the abortion is attended with restlessness and pain on the part of the aborting animal.

The fetus is, as a rule, born dead, or if alive is usually weak and puny and dies within a few days with diarrheal symptoms or remains a runt. Nocard and others have reported that calves born alive before the full period of gestation has expired utter peculiar cries which simulate the howling of a rabid dog.

Following the abortion there is a dirty yellowish-gray, mucopurulent discharge which persists for two or more weeks. The retained placenta if not removed within a few days after the abortion may give rise to necrosis and subsequently to sapremia, or the changes may extend to the uterine mucosa, causing endometritis, and in some instances may involve the whole thickness of the uterus and even penetrate into the abdominal cavity and produce peritonitis. Chronic metritis and pyometra may follow improper handling of the retained placenta. In a good number of cases cows may, to all appearances, recover from the effects of the abortion, the discharge and all inflammatory changes having ceased, but nevertheless they may fail to conceive and be brought to the bull several times before becoming impregnated, or may never again be successfully bred. Such condition is no doubt the result of retained placenta or endometritis in a great majority of cases. The failure to conceive for all time, or failure to conceive after one or more services, does not always mean that this condition is caused by an infection with *Bacillus abortus*.

#### PREVENTION AND TREATMENT.

The principal method of treating infectious abortion is through prevention. No medicinal treatment has thus far been discovered for the cure of this disease, and the best methods of disinfection known to science are required to eradicate it from a herd. These procedures should be executed with the most exacting care and should include the disinfection of the animals as well as their surroundings.

When the disease has made its appearance in a stable the healthy cows should be changed preferably to an uninfected stable or premises. This is frequently difficult to carry out, and where it is not possible the aborting cows should be kept by themselves in another stable, or in an isolated portion of the stable with a temporary partition separating them from the healthy animals. Separate attendants should be provided for each herd, and there should be no communication of any kind between the two herds. If a cow develops prodromal symptoms of abortion she should be removed at once to the infected stable.

As soon as an animal has aborted, the fetus and membranes should be immediately carried away and destroyed by either burning or deep burial after covering with lime, as the abortion bacilli are extremely numerous in these tissues. The vaginal discharge which follows is likewise very virulent and therefore should be disinfected, while the genital passages of the cow should be irrigated with an antiseptic solution and the animal kept from coming in contact with healthy cattle. The afterbirth, which is retained in most abortions occurring during the later months of pregnancy, should be removed within a few days. If it does not come away readily, do not forcibly remove it, but irrigate the uterus with a gallon or two of a warm disinfectant solution twice daily. This irrigation of the genitals is best accomplished by means of a soft rubber tube introduced into the vagina, and if possible into the uterus, with a funnel in its outer elevated end. About 1 gallon or more of a one-half to one-quarter per cent solution of liquor crésolis compositus, lysol, or trikresol, 1 per cent solution of creolin or carbolic acid, or 1 to 1,000 potassium permanganate solution, should be introduced into the womb, and this treatment should be repeated every day so long as any discharge is observed from the cow. Afterwards it should be used once weekly until it is time to breed the animal. In addition this cow, as well as every cow in the stable, should be sponged every morning around the vulva, anus, perineum, and root of the tail with a disinfectant solution twice as strong as that used for irrigating the genitals. Furthermore, every cow in an infected herd should have the genital tract irrigated as above, even after an apparently normal parturition. W. L.

Williams reports very good results from using one-fourth to one-half per cent Lugol's solution for irrigating the vagina during one estrual interval—that is, a period of 21 days—before breeding. The use of this solution is said not to prevent conception even if used one hour before service.

It is not advisable to breed a cow for at least two months after she has aborted, and not even then if the discharge has not ceased. If these precautions are neglected and the bull is allowed to serve the cow as soon as she comes in heat after aborting, the uterus will not be normal, and the animal will not conceive or the fetus will be expelled when quite small, while in a short time the cow comes in heat again. These very early abortions are as a rule not noticed, but as the system of the cow adapts itself to the infection, either through tolerance, immunity, or a loss of virulence of the bacilli, the period of retention becomes longer and longer, until finally the cow is immune and carries the fetus the full term of gestation. It generally requires from two to three years for the cow to become immune and even then there is a possibility of the cow acting as a carrier of the virus, and the bull which during that time serves this cow may transmit the infection to all other cows that he may cover if precautions are not taken to prevent it. For this reason it is not advisable to sell or otherwise dispose of the animals that abort and replace them with new cows, as such new animals are very likely to become infected. Only those which after treatment prove to be permanently sterile should be prepared for the butcher.

In order to prevent a bull from carrying the infection from a diseased to a healthy cow, it is necessary to irrigate and disinfect the sheath and penis before and after each service. Following the clipping of the long tuft of hair from the opening of the sheath, the end of a small rubber hose is inserted into the sheath and the foreskin held together with the hand to prevent the fluid from flowing out again immediately. The other end of the hose contains the funnel, into which any of the above-mentioned antiseptics used in irrigating the vagina is poured, and the prepuce sack is flushed out. The injection may also be made by means of a common fountain syringe with a long nozzle. The skin of the abdomen around the sheath should likewise be sponged with a disinfectant.

When a stable has become infected, it should be carefully and thoroughly disinfected. The cattle should be removed and the stable kept empty for two or more days. The walls, floors, and gutters should be scrubbed and the ceiling brushed clean of dust and cobwebs, and then a 3 per cent solution of liquor cresolis compositus, lysol, carbolic acid, etc., should be applied with a force or spray pump so as to force the disinfectant into the cracks and crevices. This disinfection should be repeated after each abortion. In addition to the above measures it is necessary to clean out the barnyard, removing the manure and contaminated litter to some field not accessible to cattle, where it is plowed under. The surface of the yard should be sprinkled with a solution of copper sulphate, 5 ounces to a gallon of water. Milking stools and other implements should also be thoroughly disinfected.

Great care should be taken to guard against cows or bulls from another aborting herd, and workmen who have attended such a herd should be made to wash and disinfect their clothes and persons before going into a healthy herd. The purchase of infected cattle may at the present time be prevented by demanding that such animals shall come from a herd, the members of which show a negative reaction to the complement-fixation and agglutination test for infectious abortion. Otherwise, all newly purchased cows should be kept separate from the healthy herd until they have calved.

It is not to be expected that this disease can be suppressed at once, but by keeping up the above treatment the losses will be diminished and the disease finally eradicated.

With reference to medicinal treatment, various agents have been recommended and heralded as specific from time to time, but the beneficial results attending their use may be attributed more to the nature of the disease or errors of diagnosis than to the therapeutic action of the drugs. In some cases similar to those cited in the chapter on Symptoms it appears that the cows are preparing to abort, and if any drug should be used at this time, credit would probably be given the remedy as the cause of the continuation of pregnancy, whereas such symptoms may abate without medication. Carbolic acid has been the most widely recommended agent in the treatment of this disease, and good results have been reported by subcuta-



neous injections of 2 drams of a 2 per cent solution every week until 12 injections have been made. The most suitable place for the injection is on the side of the neck. Range cattle may be more readily treated by the use of medicated salt placed in troughs accessible to the cattle. This salt may be prepared by pouring 4 ounces of liquefied crude carbolic acid upon 12 quarts of ordinary barrel salt and mixing thoroughly. The reported success of this carbolic acid treatment is probably more the result of the tolerance or immunity to the disease which occurs after several abortions rather than the effect of the remedy itself.

#### IMMUNIZATION.

A careful examination of various herdbooks will show that cattle rarely abort more than two or three times, after they develop a tolerance or resistance to the infection and carry the fetus to the normal termination of pregnancy. In this manner the disease will gradually exhaust itself after several years, providing susceptible animals are not purchased and added to the herd. It is this tendency toward natural immunity of the infected cattle which has raised the question of the production of an artificial immunity by various methods of procedure.

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**Extracts from a lecture delivered by the Live Stock Sanitary Commissioner, Boyden Bearce, before a meeting of Penobscot Pomona Grange at Levant on November 25, 1916, as printed in the Bangor Commercial and Maine Farmer.**

Similar lectures on the work of this Department have been delivered before 20 different Granges within the State.

*Worthy Master:*

It gives me much pleasure to again be present at a meeting of Penobscot Pomona Grange, and especially so because of my past record with this grange. While I see many new faces it seems to me like coming home again. I can proudly say that the eight years I served you as Master were among the very best years of my life and I look back to them with much

pleasure and I may say profit, for I realize that my work and association with the grange has been of great benefit and profit to me.

I am glad that this meeting was called to meet with Minerva Grange, for of the sixteen Subordinate Granges that I as Deputy, have organized, all but two are alive and doing good work and Minerva ranks with the best. Well do I remember the cold evening that we met here to organize this grange in this hall. It makes me feel proud when I look back over the good granges that stand to my credit.

This time I come to you Brothers and Sisters not as a professional man as the title of my office might seem to indicate, but as a farmer with the same interest and love for all that pertains to the farm that I always had.

The work of my Department is not to treat sick animals with medicines and liniments, to cure diseases, but to prevent the spread of the contagious diseases among the horses, cattle, sheep and swine of our State; and my mission here today is to explain how this work is being carried on and to advocate the raising of more, better and healthier cattle, sheep and swine and also more, better and healthier horses. The health of a farmer's horses, cattle, sheep and swine or poultry depends upon the farmer himself, and the health of the farmer and his family and the community at large depends, in a great measure, upon the health of the animals that furnish food.

The prevailing contagious diseases at the present day in this State are glanders, tuberculosis, contagious abortion, and hog cholera. Eighteen months ago we feared foot and mouth disease which was prevailing in the West and nearby states, but by strict quarantine and care on the part of every one it was kept from our state. Anthrax, pleuro pneumonia, hemorrhagic septicemia and rabies do not exist in our state at the present time.

In my talk today I want every one to feel free to ask questions as I realize that my way of explaining may not be understood by all. Let it be a heart to heart talk.

#### HORSES.

While we may think, judging from the great number of automobiles to be seen in both city and country, that there is

not much use for the horse at the present day, but it will astonish many to learn that in the year 1915 nearly 8,500 horses came into Maine to live and work and probably die here, and the greater number of these came direct from the West as fresh horses; a few coming as second hand horses from Boston and vicinity. Why not Maine raise her own horses? Why are we looking westward for our horses and again looking westward for most of the grain we feed them? With all our broad acres, both tillage and pasturage, we ought to be ashamed to look to the West for so much as we do for things that can be raised upon a farm.

Why not have a pair of brood mares for a farm team and raise a couple of colts every year? They do so in the West and why not in Maine? The state of Nebraska, with a climate similar to Maine, raises many colts, and at the age of from 4 to 6 they are sold, many of them coming to Maine for our farm and woods teams.

The prevailing contagious diseases of the horses which we are guarding against are glanders and farcy, both diseases carrying the same germ. Glanders we find affecting the nasal passage and glands of the head, while farcy shows upon the legs and body. They are both non-curable and deadly diseases. Very rarely is any other animal affected with glanders but the disease is communicated to man in several ways, and frequently cases are reported to me of people dying with glanders. The horse sheds, feeding stables, hitching posts and watering troughs, as well as the blacksmith's shop, are germ receiving and dispensing stations, and by and through these the disease is spread from horse to horse.

The Law is quite strict concerning the examination of all horses entering Maine. We have found none of the Western horses affected with glanders but occasionally find one coming from the cheap sales stables of Boston and vicinity; and while the purchaser of horses from such stables may not get glanders he is quite sure to get a horse whose value is no greater than the glandered horse.

We feel that one glandered horse in a community is far more dangerous to the people than fifty tuberculous cows. Usually this class of horses gets into the hands of cheap horse jockeys and is traded from one to another until he is ready

to die. Health officers and all citizens should be on the watch for such horses and have them disposed of.

One of the symptoms is the formation of ulcers in the nostrils and a discharge, mixed with blood, but without an offensive odor, from the nose. The glands under the jaw often swell. Swellings often occur on the legs, ulcers sometimes form on the skin, the coat is apt to be dull and the affected horse loses flesh. The discharge from the nostrils contains the germs which shows how easy it is for a glandered horse to infect a watering trough or manger. It also gives an idea of the care that needs to be exercised when glanders is in a community in order to keep well horses from becoming infected. Horses that come from a distance whether brought by horse dealers, immigrants, or gypsies, sometimes are affected and so spread the contagion.

The ophthalmic mallein test is depended upon by all authorities to pick out the doubtful horses diseased with glanders or farcy, yet by physical examination veterinarians have no trouble in diagnosing the disease.

The State pays a reasonable sum not to exceed fifty dollars for horses affected with glanders or farcy that are ordered killed, and one-half the cost of disinfecting. With this assurance offered by the State every citizen should be interested in ridding the State of this diseased animal.

#### BOVINE TUBERCULOSIS.

We find this disease prevailing to a great extent all over our State; we might safely say a common disease among cattle and hogs, frequently in poultry, but seldom found in sheep and horses. As near as we can ascertain the same conditions prevail in all the other states. Range cattle are freer from the disease than domesticated cattle. Unsanitary stables and conditions, close confinement, no exercise, high feed, impure air and no sunlight help to develop the disease and thus it is communicated from one animal to another in a herd. The communicability of bovine tuberculosis to man is a question that scientific men differ upon. It was once thought that if we drank a glass of milk from a tubercular cow our next step would be to make arrangements for our decease. This theory has been modified in a great measure and the latest decision, not of my own, but that taken from good authority, is that

weak children and babies sometimes take bovine tuberculosis from drinking milk from a diseased cow, but adults very seldom do.

I have brought specimens of the disease to show that we find it in all parts of the animal, it may be localized or generalized. What we mean by localized is that tubercular bacilli or lesions may be located in some particular part of the body as the specimens show. It may be that the glands, lungs, liver, kidneys, udder or muscles are slightly affected and by good sanitary conditions, plenty of good air, sunlight and exercise nature is aided in healing, or encasing, that bacilli, and it remains dormant and does no harm; but if allowed to develop it becomes generalized and the whole system becomes affected, and soon the animal grows emaciated and finally dies. From generalized tuberculosis and tuberculosis of the udder the disease is transmitted to other animals.

Many good authorities claim that the disease is not hereditary and that a calf from a tuberculous cow if taken immediately away from its mother and brought up under sanitary conditions will not be tuberculous. Yet there are some who doubt this and to prove my assertion will say there are two states in the Union that will not allow calves from tuberculous mothers to be admitted into them.

The most effective means for detecting this disease is the application of the tuberculin test. This specimen which I hold is tuberculin and furnished by the United States to the State of Maine free. It is a concentrated fluid obtained by growing the bacilli of tuberculosis on prepared beef broth for the length of time needed to saturate the fluid with the product from the growth of the germs, and it is then boiled and reduced to a certain strength, and then placed in these bottles ready for use.

Tuberculin was discovered by Dr. Koch, a German doctor, who thought he had discovered a cure for tuberculosis, but which has proven to be a reliable diagnostic agent for detecting tuberculosis in cattle.

The subcutaneous tuberculin test is the standard test and is applied by first taking the temperature of the animal and if the temperature is normal, that is varying from 100 to 102 degrees, a proper dose of tuberculin is injected under the skin between the hours of 8 to 10 o'clock in the evening. On the

following morning not later than eight hours after injection the temperature should again be taken and continued at intervals of two hours until the 24th hour. If the injected animal is free from tuberculosis there will be no decided rise in temperature or change from the usual appearance and action. But if the animal is tuberculous there will be a rise in temperature from 3 to 5 degrees, also a general disturbance manifested by chills, lack of appetite and a dejected appearance. This condemns the animal. According to rules adopted by this department the reactors, or condemned animals, are shipped to either Portland, Auburn or Houlton and slaughtered under the inspection of a federal meat inspector in the same manner as the western meat. The State pays a certain appraisal for these condemned cattle which does not exceed seventy-five dollars for a grade cow and one hundred dollars for a thorough bred cow. If by post mortem examination the disease is found to be localized, that is only one or two lesions found, the meat is used for food, but if in the judgment of the federal meat inspector the disease has become generalized, or there are several lesions, the carcass goes to the rendering tank and we receive the bones and muscles back upon the farm as fertilizer in the form of tankage.

The tuberculin test is not infallible but so nearly perfect that every state in the union except one has adopted it.

I wish to say a word about farmers testing their own cattle, for I do believe it is the duty of every farmer who owns cattle to study up along this line and be able to do the testing of his own herd. Many farmers are already doing this; with the outlay of three or four dollars for a syringe and thermometer and few hours study on the subject and he is well equipped. Tuberculin will work in the farmers' hands as well as in professional hands. It can be bought at reliable drug stores as it is a commercial product.

I am informed that in some states the county demonstrators teach how to apply the tuberculin test and demonstrate it as a part of their work. Our county demonstrators teach us how to caponize our fowl and also how to dress them for market, and why not give us the knowledge of applying the tuberculin test? The disease will never be eradicated from our state until the farmer gets more knowledge and by a determined effort

makes his own herd clean. The man who allows his buildings to burn without being insured is himself to blame and deserves no sympathy from his neighbors. Under the existing laws of Maine the farmer who owns and harbors a tuberculous herd of cattle is himself to blame and a menace to all his neighbors.

The man who owns tuberculous cows is quite sure to have tuberculous hogs if he feeds the skim milk or allows his hogs to run upon the dressing. The disease cannot be detected in hogs only by slaughter and on account of the short life of the hogs it seldom becomes generalized.

We have two creamery companies in the state that pay one cent per pound extra for butter fat from tuberculin tested herds; this is an incentive to have whole herds tested annually, and is working good for the whole state.

From the assessors' reports we find that there are approximately 251,196 cattle in the state over one year old; of this number 15,245 were tuberculin tested in the year 1915 and 494 were condemned and slaughtered. At this ratio there are about 8,000 tuberculous cattle in Maine. Penobscot County has 29,374 cattle; at the same ratio we have 965 tuberculous cattle in our county.

The local boards of health of some of the cities and towns of Maine are passing restrictions upon the sale of milk and cream from herds which have not been tuberculin tested. Infants brought up on cow's milk are in some danger and great care should be exercised that the cow which furnishes the food supply for the babe should be perfectly healthy and have passed the tuberculin test.

There are many symptoms of tuberculosis such as emaciation, general breaking down, cough, short breath, etc., but I have seen cattle slaughtered and the post mortem revealed extensive and generalized lesions while physical examination showed no symptoms.

#### CONTAGIOUS ABORTION.

Contagious abortion causes more of a financial outset to the farmer of Maine than any other disease and perhaps it would be safe to say than all the other contagious diseases of horses, cattle, sheep and swine combined. We have no cure to offer

for it. Scientific men are constantly on the watch for something to cure or prevent this dreaded infection but as yet no discoveries have been made. This disease is spread more by neighborhood sires than any other cause. Every herd should have a perfectly healthy sire and the neighborhood should not be allowed to patronize him. Good sanitary conditions, disinfection, care in purchasing new stock that is free from contagious abortion are the best preventatives known.

#### HOG CHOLERA.

Some claim that hog cholera prevails to a certain extent throughout the State but none has been reported from farm fed hogs. In every case it has been from herds that are fed on swill or city garbage. Many think that a hog can eat anything and that a good way to utilize and save city garbage is to feed it to hogs. The common way of feeding is to dump a barrelful, or sometimes a cartful, on some pasture lot and turn the hogs in for a feast, not even supplying the hog with a drink of pure water to wash down the filth. Is it any wonder that hogs get sick and die? Yet I believe that city swill can be fed to hogs and poultry if care is taken that the swill is gathered fresh every day, that the orange, lemon and grape fruit peeling is removed, that the whole is seasoned with salt and heated to a boiling point and fed sparingly twice a day. If you wish to feed a noon meal make it of some other ration. Hogs like poultry want plenty of fresh clean water. Nail up a box low down in the pen, so the hog can reach it, fill with a mixture composed of one-half Liverpool salt and one-half wood ashes, mixed thoroughly. The hog will thank you.

Over feed very often causes sickness and death but over care never does. This applies to all live stock and the human family as well.

Anti Hog Cholera Serum was introduced into Maine only a few years ago; it is said to be a preventative but not a cure for hog cholera. A prescribed dose is injected into one ham of the animal. This is claimed to immune the hog for from 4 to 8 weeks, but if the hog is already affected with the disease it is not used as a cure.

Hog Cholera Virus has not been used in Maine to my knowledge and is a dangerous product as it contains the real live germ of hog cholera.



The simultaneous treatment consists of a prescribed dose of Hog Cholera Serum injected into one ham and a prescribed dose of Virus in the other ham. This is claimed to immunize the hog for a life time.

The Serum alone is used in some states, the simultaneous, or double, treatment in some, but I am told that in Canada neither the Serum nor Virus is allowed to cross the border.

The hog is a good money maker on the farm. 25,000 live hogs were shipped into Maine the last year to supply the meat demands; with round hog at 12 cents a pound this ought to make the Maine farmers sit up and take notice. The large, thrifty, sparsely settled State of Maine not raising one half the pork that the consumption of the State demands. What is the cause and who is to blame?

Hogs thrive on roots; with plenty of roots, a small quantity of second crop clover, 200 pounds of corn a brood sow can be carried through the winter months. Pigs and shoats grow and thrive on pasturage and a small quantity of corn. Try a bunch, 10 to 20, keeping debit and credit with them, and I feel sure you will realize from 5 to 7 dollars net profit per head.

#### SHEEP.

It is a pitiable story to relate that since the year 1912 there has been a decrease in the number of sheep in Maine of 27,416, yet there is one redeeming feature that in the year 1915 the decrease was only 47. Let us hope that now that sheep are not taxable property they will increase in numbers and that we may soon see a flock on every hillside.

At the beginning of the year 1916, Maine had 96,286 sheep.

Nodular disease has been reported from three sections of the State but does not prevail to any great extent. The specimen which I show explains the disease better than words can. The sheep take the germ or egg from the pasture; the egg forms a grub which clings to the intestines of the sheep and sucks the nutriment from the food as it passes along the intestinal canal. The sheep thus deprived of food die of starvation. The contagion consists of the grub leaving the intestines and passing to the ground and producing another egg which is picked up by the sheep when grazing. There is no remedy for the disease

known to this department, but good authority suggests for a preventative, the frequent burning or plowing of the pasture.

#### CONCLUSION.

In conclusion allow me to say that it is my belief that the eradication of the contagious diseases among our horses, cattle, sheep and swine is up to the farmers and owners. A good housewife once remarked that she did not consider it a disgrace to find bed bugs in the house, but she did consider it a disgrace to keep them.

The eradication of contagious diseases from the human family is a more difficult problem than the eradication of the contagious diseases from our live stock. Our herds free from disease is one point gained toward healthy homes and families, and healthy families mean happiness to all. With the State aiding financially in this great work no one need be the possessor of a tuberculous cow or a glandered horse. Our city customers are calling for cleaner and healthier products from the farm and dairy and let us see to it that they have them. Unsanitary conditions may surround the city resident which he may not be able to remedy, but there is no excuse for the farmer allowing any conditions around his home and stables but what will promote health and vigor.

A good healthy herd of live stock, cattle, sheep or swine, is the keystone which holds prosperity upon the farm. A good healthy herd of cattle, either dairy or beef, is a bank account upon which you can draw your check and payment will not be denied.

The labor question may forbid the raising and handling of large dairy herds but more beef must be raised in Maine and at the present outlook it can be raised at a profit. One man can care for a large herd of beef cattle in winter and in the summer they practically take care of themselves.

The following clipping is appropriate for a closing thought:

"If the Armour, Swift and Morris people were to buy and kill live stock for the profit that might be derived from the sale of the carcasses alone it is a certainty that they, like many of those who are growing live stock for market, would time and again declare the business unprofitable, and ultimately abandon it altogether. They have proved that they can afford

to pass the carcasses out of their cooling rooms at cost or at a very narrow margin of profit for the sake of what is left behind. And so with the grower. If the animals can be kept moving in and out of the pastures and feed lots without actual loss they are still actually paying a substantial profit. The difference between the yields of well-fed fields and those deficient in available plantfood tell the whole story. Vastly greater quantities of barnyard manures are needed throughout all agricultural America. Livestock, therefore, must not be abandoned, no matter what temporary discouragements may be encountered.

Look well to the by-products of stock-keeping. There is where the real money is to be found. Those who fail to grasp this truth are losing sight of the very fundamentals of good farming."

## STOCK RAISING IN MAINE.

We publish by permission the answers to several inquiries sent out to the horse and cattle raisers of Maine asking why they preferred the particular breed of animals which they were raising. The response was not so general as we had wished, but we take pleasure in presenting a few thoughts from reliable breeders on each of the leading breeds except Jerseys, and we presume that the owners of the "little folks" were too busy caring for their herds to find time to tell others of their good qualities. We were very sorry for this, for the Jerseys are the writer's favorite breed.

We also present some pictures of Maine bred stock, some champions, and some record breakers, all owned in the State, and no one need go outside of Maine to buy the foundation of any of the leading breeds of cattle.

*Hon. Boyden Bearce, Sanitary Live Stock Commissioner,  
Augusta, Me.,*

DEAR SIR:—I note your inquiry as to why I am raising colts in Maine. Several things suggest themselves in reply. In the first place Maine needs horses and ought to supply its own demand. For many years past Maine has bought nearly ten thousand horses per year in the outside market. This takes a big sum in cash that might be kept at home. Thousands of farmers do their work with geldings when they could as easily keep mares, which would do as much work and raise a colt every year. Good care and good feed will mature the colts with a fair profit to the owners.

Maine is admirably adapted to raising horses. Down to about thirty years ago Maine farmers raised thousands of the horses then in demand, weighing from 950 to 1,150 pounds and dealers like George Bishop of New York and Gideon Wells of Maine continually scoured the state picking up the best of these and

leaving good money in their place. These horses went to the cities and supplied the demands of that time.

But as agriculture had developed in the west, farmers there had imported draft breeding stock from Europe and as they began to send their surplus east, the market turned to them and refused to take the smaller horses. Instead of getting into the game and buying big breeding stock, eastern farmers generally quit raising colts and helped the western farmers by buying thousands of their surplus geldings. Why continue such a practice?

Every farm needs horses and the cities need them by the thousands, and they can be raised in Maine if we will only make reasonable preparation and effort.

I believe in big mares. In theory you can breed up from small ones by using big mares, but good results are much quicker and more certain where big mares are used to start with.

As to breeds they are all good, Belgians, Clydesdales, Percherons, Shires and Suffolks. The Percherons are more generally popular and, I believe, outnumber all the others combined.

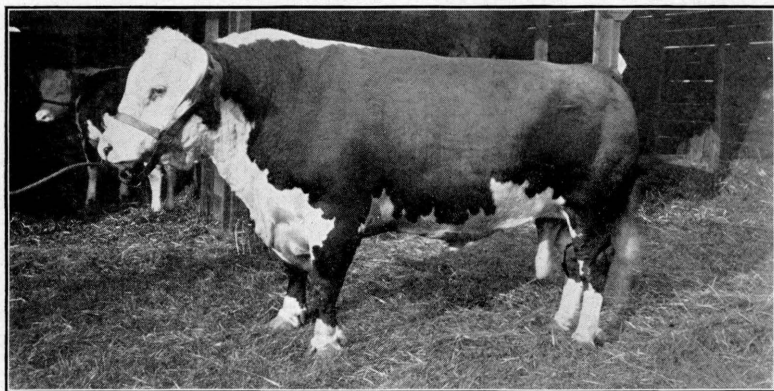
But to return to your question let me ask, why shouldn't we raise horses in Maine?

Yours very truly,  
HARVEY D. EATON.

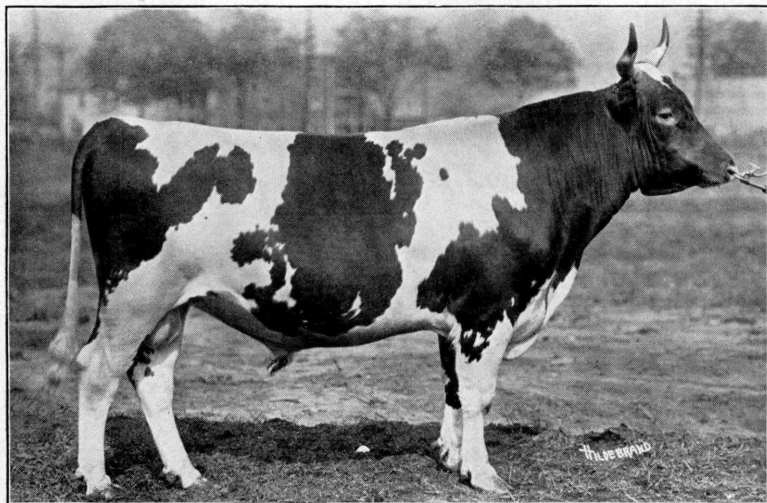
#### AYRSHIRE CATTLE AND WHY I SELECTED THEM.

In selecting a breed of Dairy cows one must consider whether the breed is adapted to the conditions in the part of the country you are doing business. The Ayrshire has always been the leading dairy cow in Scotland and Canada. The Ayrshire cow originated in the country of Ayr, Scotland, where climatic conditions are much the same as that of New England. This has made her a more or less popular cow in New England.

She has been called the "Dairy Rustler," the hardy breed of dairy cattle, a profitable producer and an economical producer. In her native heath she is known as the farmers' cow because she was the mainstay of the farm and support of the family. Today she is recognized as the profitable producer. She has been bred up from a definite dairy type which is recognized as correct, and she can reproduce that characteristic in a very marked degree.



Disturber Fairfax. See article written by D. H. Tingley.



Strathglass Gold Chink Imp. See article written by Dr. J. A. Ness.



She is also named the "Aristocratic cow"; her general make-up is attractive and handsome. Beauty has a commercial value, combined with her economical producing qualities, places her second to none in the dairy world.

The advanced registry work is doing wonders for all the breeds of dairy cattle and more so for the Ayrshire; she stands with the best with her records, and those fast came to the top and the end is not yet. All over the country new records are made, now in the West, now in the East, giving proof conclusive that the breed in general are profitable. Record animals are not confined to special lines of breeding, but wonders are found wherever owners give any special effort to give the cow a chance.

The Ayrshire is of good size, the cows at maturity weighing from 1,000 lbs. to 1,200 lbs. or more. Her color is white predominating, but red and white also. Her product, milk, is about 4% test above the market demand and is a balanced ration for the human family, especially invalids and infants. She is a persistent milker, very prolific and holds out to a long life of profitable usefulness.

DR. J. A. NESS.

#### "WHY I RAISE GUERNSEY CATTLE."

Let us first consider how our New England States stand in population and the amount of their dairy products as compared with the rest of the country. New York ranks first in population, Pennsylvania second and the New England States regarded as one State is third. As to its dairy products it ranks eleventh. We are not producing milk, butter and cheese enough for home use. Increased population means increased demand and the dairy products of our state are not keeping pace with this demand. Is this not in itself sufficient reason why more attention should be given to dairying?

I decided to make dairying a specialty and also that I would keep pure bred stock. There were four distinct dairy breeds, which should it be?

I chose the Guernseys because I liked them. Their beauty, size, hardiness and mild disposition, together with their ability to respond at the pail, appealed to me. While there were comparatively few Guernseys in the state at that time the increased



interest that was being shown led me to believe that there would be a good demand for all surplus stock. As time went on this proved to be true. There have been over 60,000 Guernsey females registered since my first purchase.

There never was a time when the outlook was brighter for the Guernsey breed than today. Their value is being shown to the world by the splendid records that are being made. This was brought home very forcibly to us by the recent auction sale at Langwater Farm, North Easton, Mass., when 75 Guernseys were sold for \$80,625, an average of \$1,075 each. Nearly all of them were raised at Langwater Farm.

Why do I raise Guernseys? Because I believe there is no better breed. I believe there are great possibilities ahead of them and for the man who will give the best of his thought and time to their care and development.

In winter my cows are fed silage and mixed hay (clover when I have it) with a grain ration composed of 200 lbs. bran, 100 lbs. cotton seed meal, 100 lbs. four x and 100 lbs. corn meal. (Corn meal is so high at the present time that I am using Grandin's stock feed in its place with very good results). I feed one pound of grain to 3 1-2 pounds of milk as a standard, but this is varied according to the condition of the cow.

When the cows freshen I like to let the calf run with them about two days; the calves are then fed whole milk for two weeks, then gradually worked on to skim milk by the time they are four weeks old with a little grain as soon as they will eat it. A good ration is made of 100 lbs. corn meal, 100 lbs. oil meal, 100 lbs. ground oats and 100 lbs. bran. It is very important that care be taken in changing the calves on to skim milk and not over feed them. I weigh each feed giving six to seven pounds night and morning and increasing gradually as they grow older. I like to have my heifers freshen at twenty-six to thirty months of age.

G. E. FOSTER.

#### "WHY I KEEP BROWN SWISS CATTLE."

1st. They are large, vigorous and hardy, good rustlers and will thrive and produce well when other breeds will do little or nothing.

2nd. They live longer and produce more than other breeds giving a longer period of profitable production.

3rd. As veal the calves are par excellent; they are compact and blocky in their build usually weighing at birth seventy-five to eighty pounds, and it is not uncommon for them to weigh one hundred and up to one hundred twenty-five pounds, and over.

Good cows will gain from eighty to one hundred pounds per month. A farmer milking ten cows, the increase in value of his calves for veal will pay for a Swiss bull in a short time.

They are large milkers. They are persistent milkers. They are profitable cows. There are more Swiss cows in register of merit according to the number in America and time record has been kept, than any other breed. They have produced butter fat cheaper per pound on test than any other breeds. In fact they are the best breed I have ever kept and I have kept several.

As for care they will stand more slighting than any breed I ever bred. I have never known a man to breed Brown Swiss, either pure or grades, but what was satisfied with them.

E. Y. SHAW.

#### “WHY WE KEEP HOLSTEINS AND OUR METHOD OF RAISING THE CALVES.”

Briefly our reasons for keeping Holsteins are these: 1st. They are large, hardy, vigorous animals that will consume the rough feeds grown on the home farm and convert them into products that can readily be sold for cash.

2nd. They are highly profitable when it comes to the production of whole milk and have proven themselves indispensable to the milkman.

3rd. The demand for them (especially for heifers from dams with A. R. O. records) quickly takes care of all surplus stock that can be produced. We have observed that it is a good idea to produce something that the other fellow wants and will have if he can get it.

Our methods of raising the calves are as follows: The newly born calf is allowed to stay with its dam for about twenty-four hours so that it may eat as much as it pleases. As nearly everyone knows the first milk produced by the dam is

very laxative and if the calf partakes freely of it its digestive tract is cleansed, stimulated and made ready to do good work. The calf is then taken away from its dam but in order to get more value from the rich laxative milk we allow the calf to suck twice a day until it is three days old. Then it is taught to drink. As a rule we feed whole milk for ten days or two weeks, and then gradually add skim milk and reduce the whole milk. Right here let me emphasize the fact that it is very unwise to attempt to feed all calves just alike. Their tastes and ability to handle food differ so much that we find it necessary to study their individual needs, and to feed and care for them accordingly.

A very small amount of dry bulky grain (mostly bran) is given them as soon as they will eat it. We never give them any hay until they are at least two months old and for this reason are seldom bothered with hay scours.

Usually when the calf is about two months old it is safe to feed a very small amount of hay and also a sprinkling of silage. Of course the skim milk and grain have been gradually increased during this time. If it is possible we like to give the calf skim milk until it is ten months old.

We have long since abandoned the custom of turning the calf away to pasture before it is a year old. The sudden change from barn life to a pasture where the flies are very thick is too great and there is bound to be a decided loss in flesh. All setbacks should be carefully avoided.

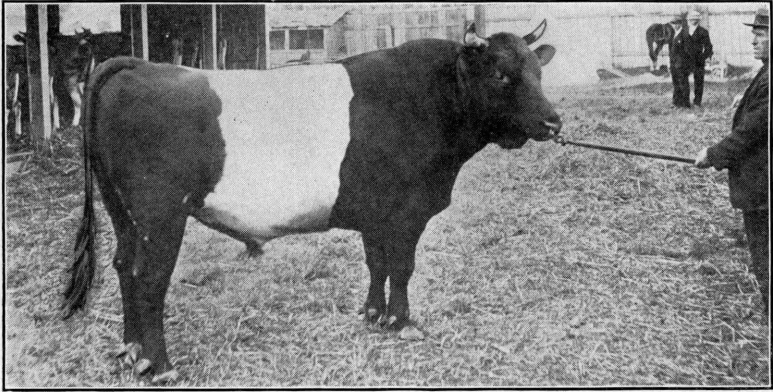
We plan to breed our heifers so they will freshen from two years and two months of age to two years and five months of age. If they have had proper feed and care they should be profitable milkers from this time on.

In order to be successful in raising calves one must bear in mind these things; they must be given plenty of good food, exercise, and warm comfortable quarters, and furthermore they must be kept growing from start to finish.

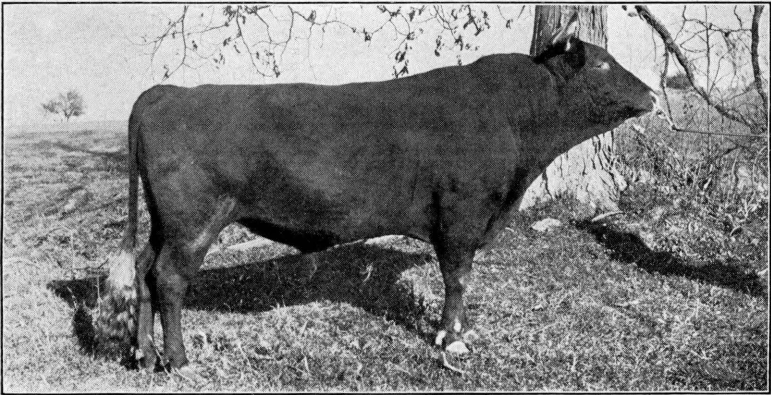
C. S. McINTIRE.

#### "WHY I BREED DUTCH BELTED CATTLE."

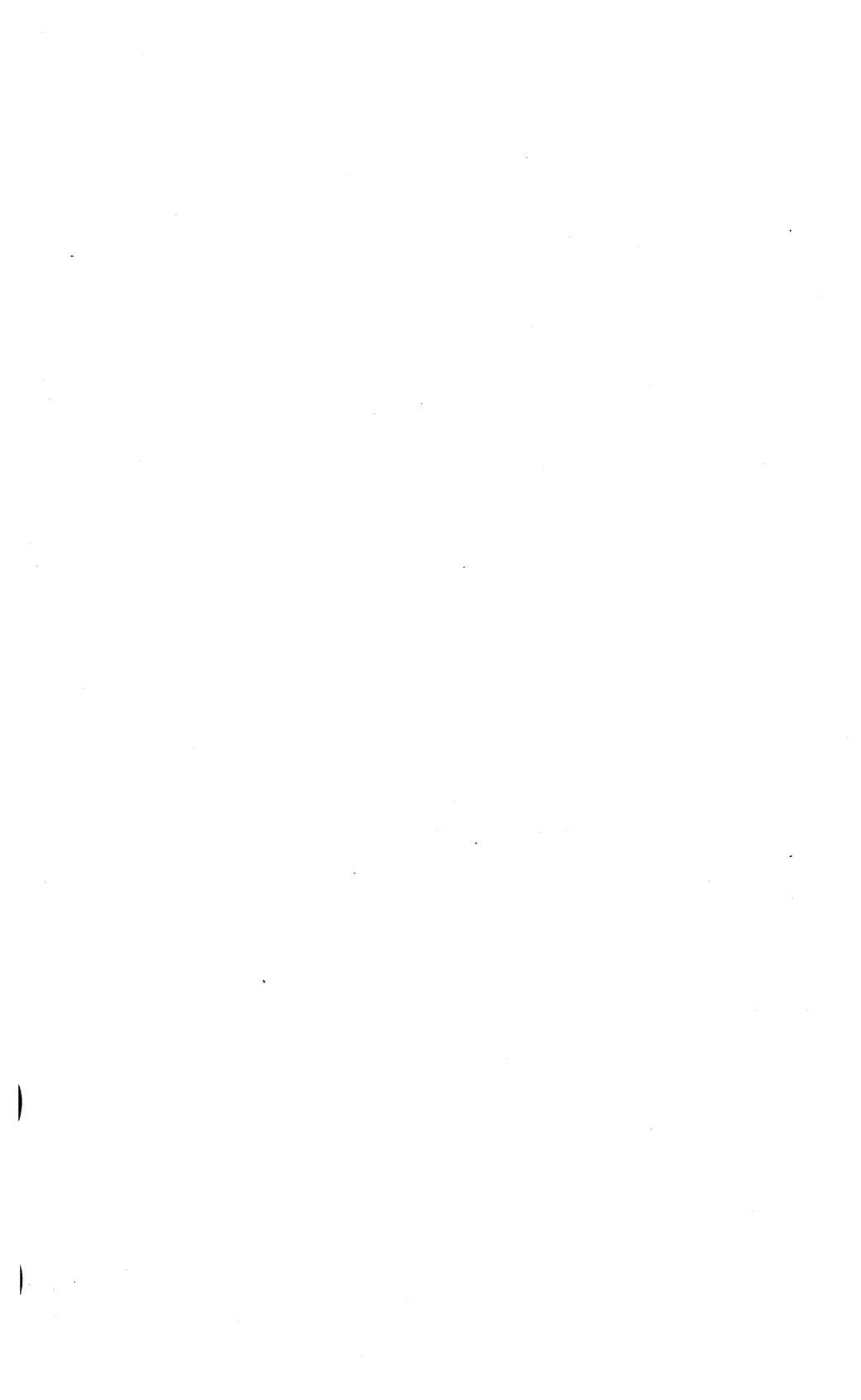
The Dutch Belted cattle are natives of Holland and are probably the oldest dairy breed in existence. In color they are black with a continuous white belt around their body;



Bruce W. See article written by J. A. Wilson.



Buel S. See article written by C. P. Hamlin.



the white being pure white and the black jet, making a beautiful and imposing contrast. This belt is always reproduced and is so perfectly fixed that it will crop out in the grades for many generations.

I was attracted to these cattle on account of their fine appearance and splendid dairy form possessing what dairymen call a "milky form," viz., their necks small, horns straight, backs deep, chest, hips and rumps high, broad udders and milk veins well developed, soft hair and mellow skin. In size they are above the average; mature cows ranging from eight to twelve hundred, and the bulls reaching sixteen to twenty hundred. Cows fatten readily for beef purposes when past the milking age; oxen reach a large and heavy weight, making beef of excellent quality.

They possess wonderfully strong and vigorous constitutions and are very hardy; able to stand sudden changes in the climate. They are good keepers and thrive well on ordinary rations.

These cattle are noted for docility and intelligence, the bulls of whatever age rarely become ill-tempered.

These cows are large producers of milk averaging four per cent butter fat; cows of this breed have given seventy-five pounds of milk per day.

The Dutch Belted are few in number compared with other breeds, but there is an increasing demand for breeding stock at good prices. There are in all some five hundred breeders scattered over the country.

To my mind they are the handsomest of dairy cattle and never fail to attract general attention whenever they are exhibited.

J. A. WILSON,

"WHY I RAISE SHORTHORNS."

If pure bred cattle ever had advantage over those of mixed breeding, it is at the present time—for with the present high cost of feed and labor, common sense requires that we select the best available animals to which to apply this feed and labor. It goes without argument that these best animals are those of pure blood. Years of selection have produced ani-

mals not only of great general merit but also of uniform types—types adapted to fill certain special requirements, and it is the various requirements of farmers that give each breed its place in profitable agriculture.

A first class animal of any breed is a valuable asset on a Maine farm, but we believe that the Shorthorn is better adapted to the needs of a host of Maine farmers than any other breed yet originated.

First, the Shorthorn is the ideal beef animal being hardy, easily kept, cheaply fattened and when dressed giving the largest proportion of high priced meat; and the cow, even of the strictly beef type, giving sufficient milk to grow and keep the calf in the best of condition.

Maine agriculture requires live stock. The maintenance of farm fertility and the profitable utilization of pasture lands and abundant hay crop, can be as well accomplished by no other means. It is necessary from natural conditions that our farmers should be general crop farmers, and dairying above a four or five cow outfit, does not at all accord with this type of agriculture, nor with the tastes of many of the farmers themselves.

But the Shorthorn solves the difficulty, for beef is not the only merit of this breed. For those who wish to produce milk as well as beef the "dual purpose" type of Shorthorn occupies the field without a competition.

Some writers have tried to prove that there can be no "dual purpose animal," but the fact remains that physiologically there is no reason why the same animal may not produce a good flow of milk and yet be deep fleshed and fatten readily, and experience also shows this to be true, many cows here in our New England herds having official milk records of from 6,000 to 14,000 pounds per year.

Specialization of function is without question desirable and the Shorthorns have been specialized to produce milk and beef together. I believe that this "dual purpose" character fits in well with Maine agriculture. Many of our farmers are not equipped for, nor desirous of, producing milk as their sole source of revenue. What they want is a cow that will produce milk at a profit, produce a calf valuable for beef and fatten readily when she is to be turned.

Such is the case for the Shorthorns—the “dual purpose animal.” Such are the reasons why for nearly fifty years we have bred these cattle, cared for them under ordinary farm conditions in connection with our general farming, and today are most optimistic as to their future usefulness in agriculture; and such are the reasons for their reawakening in popularity among the farmers of Maine.

A. H. ELLIS,

“WHY I RAISED HEREFORDS.”

Our herd is headed by Disturber Fairfax 348,917, Sire Fairfax 12, 294,552, Dame Lady Welcome, a Disturber cow. Our cows are from Mark Hanna and Lord Wilton blood, the best we could get in Canada. We have been breeding for about eighteen years and think they will make more out of the same feed than any breed in America.

The Herefords had their origin in Herefordshire, England. They have had quite a boom in the last three years all over the country, selling at the top price as the records show. In March, 1916, Overton Harris of Harris, Missouri, sold 61 head, averaging \$1,236 per head. Warren F. McRay of Indiana sold in May, 1916, 77 head at \$1,286 per head. We here in New England have had good sales, especially females. At our sale in May at St. Johnsbury, Vt., several brought \$500. We believe that the beef cattle business has yet to come to New England as the West cannot always furnish our meat.

We let the cows suckle their calves until they are from eight to ten months old; then give them a good chance in the winter, and when fourteen months old they will weigh around 1,000 pounds. We usually breed the heifers when they are from twenty-four months to three years of age.

There is less trouble in beef breeds than in dairying as the labor problem confronts us today and grain at almost prohibitive prices. The Hereford cows will do nicely with good silage and hay and most farmers should raise some roots, turnips and mangles.

Today several fine herds of Herefords are flourishing in our State, and there is a good demand for breeding stock. I have



noticed in traveling over the country, that you can tell by the farms where the stock is kept. Better crops and hay follow the cattle. It looks as if the man that would put in some good Herefords and give them a chance to live would find that they would make him some profit in making young beef and improve his farm at the same time.

D. H. TINGLEY & SON,

#### DEVON CATTLE.

The Devon breed of cattle are one of the oldest pure breeds in the world. They originated in the County of Devon in England, and were one of the first pure breeds to be brought to America, being quite popular at one time. They are handsome deep red animals and are noted for their hardihood. Their flesh is fine grained and tender, making the best quality of beef or veal. Thus you see they are excellent for beef although not as heavy as the Durham or Hereford breeds. They are also good for milk and butter, many of them producing as high as 40 pounds of milk per day with a test ranging from 3 to 5% butter fat. Their milk is also rich in sugar, making it extra good for babies and young animals.

The cows are good milkers with well shaped udders and fair sized even teats. They are rather inclined to be nervous and do best when handled quietly.

As oxen they are highly prized, being quick and trappy and very handsome with their snug round build and their rich dark red color. Their type is so even that they are easily very closely matched, making very fancy matched cattle.

In conclusion will say that I like my Devons very much and think it would be to the advantage of the Maine farmers to raise more of this breed of cattle.

C. P. HAMLIN,

## DOMESTIC ANIMALS.

## CHAPTER 195, PUBLIC LAWS OF 1911.

An Act to extirpate contagious disease among cattle, horses, sheep and swine.

Whereas the term of office of the present state of Maine cattle commissioners expires May first, nineteen hundred and eleven, and whereas it is necessary for the live stock interests in Maine that this act should take effect on the first day of May, in the year of our Lord nineteen hundred and eleven, therefore in the judgment of the legislature, the measure herein proposed is immediately necessary for the preservation of the public peace, health and safety.

Be it enacted by the people of the State of Maine, as follows:

Section 1. That for the purpose of facilitating and encouraging the live stock interests of Maine, and for extirpating all insidious, infectious and contagious disease, now or that may be among cattle, horses, sheep and swine, and especially tuberculosis, the governor of the state is hereby authorized and required, immediately after the passage of this act, to appoint one person of known ability, who shall be charged with the execution of the provisions of this act, and who shall be known and designated as the live stock sanitary commissioner and whose powers and duties shall be those provided for in this act, and whose tenure of office shall be four years, unless sooner removed by the governor. Said live stock sanitary commissioner shall work in conjunction with and under the general direction of the commissioner of agriculture.

The compensation of said commissioner shall be fifteen hundred dollars per year and actual traveling expenses and five hundred dollars for clerk hire.

He shall take oath to faithfully perform the duties of his office devolving upon him by the provisions of this act.

Section 2. [As amended by P. L. 1913, c. 210 and P. L., 1915, c. 304.] That it shall be the duty of the live stock sanitary commissioner to cause investigation to be made as to the existence of tuberculosis, pleuro-pneumonia, foot and mouth disease, glanders, hog cholera and other infectious and contagious diseases, among cattle, horses, sheep and swine; and such live stock sanitary commissioner or his duly constituted agent, is hereby authorized to enter any premises or places including stock-yards, cars and vessels, within any county or part of the state, in or at which he has reason to believe there exists any such disease, and to make search, investigation and inquiry in regard to the existence thereof.

Upon the discovery of the existence of any of the said diseases, the live stock sanitary commissioner is authorized to give notice, by publication of the existence of such diseases, and the locality thereof, in such newspapers as he may select, and to notify in writing the officials or agents of any railroad, steamboats or other transportation company, doing business in or through such infected locality, of the existence of such disease; and is hereby authorized and required to establish and maintain such quarantine of animals, places, premises or localities, as he may deem necessary to prevent the spread of any such disease, and also to cause the appraisal of the animal or animals affected with the said disease, in accordance with such rules and regulations, made by him, as hereinafter authorized and provided, also to cause the same to be destroyed, and a proper disposition of the carcass made, according to rule and regulation as aforesaid, and to pay to the owner or owners thereof their value, as determined upon at the time of appraisal, out of any moneys appropriated by the legislature for that purpose; provided, however, that no appraised value shall be more than one hundred dollars for cattle, with a pedigree recorded, or recordable in the recognized herd books, of the breed in which the cattle destroyed may belong, nor more than seventy-five dollars, for the cattle which has no recordable pedigree; and all other animals so destroyed shall be paid for at the rate of one-half of their cash value; provided, that no appraised value shall exceed one hundred dollars for any horse condemned; and provided, further, that in no case shall compensation be allowed for any animal destroyed under the provisions of this act, which may have con-

tracted or been exposed, to such disease in a foreign country, or on the high seas, or that may have been brought into this state, within one year previous to such animal showing evidence of such disease, and the owner or owners thereof shall furnish satisfactory evidence as to the time such animal or animals shall have been owned in the state; nor shall compensation be allowed to any owner who in person, or by agent, knowingly and wilfully conceals the existence of such disease or the fact of exposure thereto in animals of which the person making such concealment, by himself or agent is in whole or part owner.

Section 3. That the live stock sanitary commissioner is hereby authorized and required to make record, and publish rules and regulations, providing for and regulating the agencies, methods and manners of conducting the investigation aforesaid, regarding the existence of said contagious diseases; for ascertaining, entering and searching places where such diseased animals are supposed to exist; for ascertaining what animals are so diseased, or have been exposed to contagious diseases; for making, reporting and recording descriptions of said animals so diseased, exposed and destroyed and for appraising the same, and for making payment therefor; and to make all other needful rules and regulations, which may in his judgment be deemed requisite, to the full and due executions of the provisions of this act. All such rules and regulations before they shall become operative, shall be approved by the governor of Maine, and thereafter published in such manner as may be provided for in such rules and regulations and, after such publication, said rules and regulations shall have the force and effect of the law, so far as the same are not inconsistent with this act and other laws of the state, or the United States.

Section 4. That any person or persons who shall knowingly and wilfully refuse permission to the live stock sanitary commissioner, or his duly constituted agent, to make, or who knowingly or wilfully, obstructs said live stock sanitary commissioner, or his duly constituted agent, in making necessary examination of, and as to animals supposed by the live stock sanitary commissioner or his agent to be diseased as aforesaid, or in destroying the same, or who knowingly attempts to prevent such live stock sanitary commissioner or his duly constituted agent, from entering upon the premises and other places hereinbefore

specified, where any of said diseases are by the live stock sanitary commissioner supposed to exist, shall be punished by fine, not exceeding one hundred dollars, or by imprisonment, not exceeding ninety days, or by both at the discretion of the court.

Section 5. That any person who is the owner of or who is possessed of any interest in any animal affected with any of the diseases named in section two of this act, or any person who is agent, common carrier, consignee or is otherwise charged with any duty in regard to any animal so diseased, or exposed to the contagion of such disease, or an officer or agent, charged with any duties under the provisions of this act, who shall knowingly conceal the existence of such contagious disease, or the fact of such exposure to contagion, and who shall knowingly and wilfully fail within a reasonable time to report to the live stock sanitary commissioner the knowledge of their information in regard to the existence and location of such disease, or of exposure thereto (shall be deemed guilty of a misdemeanor) and shall be punished as provided in section four of this act.

Section 6. That when the owner of animals adjudged under the provisions of this act, by the proper authority, to be diseased, or to have been exposed to contagion, refuses to accept the sum authorized to be paid under the appraisement provided for in this act, it shall be the duty of the live stock sanitary commissioner to declare and maintain a rigid quarantine for thirty days as to the animals adjudged as aforesaid, to be diseased, or exposed to any contagious or infectious diseases and of the premises or places where said cattle, horses, sheep or swine may be found, according to the rules and regulations to be prescribed by said live stock sanitary commissioner, approved by the governor, and published as provided in the third section of this act.

Section 7. That no person owning or operating a railroad, nor the owner or owners or masters, of any steam, sailing or other vessel, within the state, shall receive for transportation, or transport from one part of the state to another part of the state, or to bring from any other state or foreign country, any animals affected with any of the diseases named in section two of this act, or that have been exposed to such diseases, especially the disease known as tuberculosis, knowing such animal to be affected or to have been so exposed; nor shall any person

or persons, company or corporation, drive on foot, or transport in private conveyance, from one part of the state to another part of the state, any animal knowing the same to be affected with, or to have been exposed to, any of said diseases; the proper movement of these animals under the direction of the live stock sanitary commissioner for purposes of slaughter and disposal, excepted. Any person or persons violating the provisions of this section shall be punished by a fine not exceeding one hundred dollars, or by imprisonment not exceeding three months, or by both.

Section 8. [As amended by P. L. 1913, c. 74 and P. L. 1915, c. 304.] When cattle shipped from Maine to the quarantine station at Brighton, Massachusetts, are subjected to the tuberculin test, and respond to such test, and the inspector for the Cattle Bureau of Massachusetts shall find upon post-mortem examination that such cattle were diseased from tuberculosis, and will so state in writing within thirty days from shipment from the state, to the live stock sanitary commissioner, and shall also give in writing, a description of such animal, the name of the owner, the shipper, the date and name of place from which same was shipped, the name of the party of whom it was bought and the fair cash value of such animal at time condemned, and shall also comply with any other rule or regulation that the live stock sanitary commissioner may require, the owner shall be entitled to receive a fair market value, not to exceed seventy-five dollars for grade and one hundred dollars for thoroughbred cattle with a pedigree recorded or recordable; but in no case shall he be paid for any animal condemned under the provisions of this section, until he has filed with the live stock sanitary commissioner a claim, stating the name of the owner, the shipper, his post-office address, place and date of shipment, a fair market value of such animal, name of the person from whom said animal was purchased or consigned and such other information as the live stock sanitary commissioner may require; such claims shall be accompanied in every instance with a "sale ticket" for such part of the animal as may have been sold, and the amount of such sale shall be deducted from the appraised value due the owner of the condemned animal. Cattle re-acting to the tuberculin test may be sent to establishments maintaining a United States government meat inspection service, and be killed

under federal government inspection, and be disposed of according to the requirements of the Government Meat Inspection Act.

Section 9. [As amended by P. L. 1913, c. 210.] Any person or persons bringing horses into the state of Maine must have a permit and shall notify the live stock sanitary commissioner within forty-eight hours after their arrival, who shall at once cause the same to be examined either by a physical examination or to be tested with mallein, or the blood test used, at the expense of the owner, and if an animal is found to be glandered no compensation shall be allowed.

No permit or examination will be required for horses used in circuses and to perform on the stage.

Whoever violates any of the provisions of this section shall be punished by a fine as provided in section sixteen.

Section 10. Such sum as may be deemed necessary by the live stock sanitary commissioner shall be used from their appropriation for the purpose of vaccination of cattle against tuberculosis, under the rules and regulations as shall be made for the control of such work.

Section 11. Cattle used for dairy purposes or for breeding purposes that are to be shown in competition for prizes, in any state agricultural shows, Bangor, Waterville and Lewiston, shall be tested with tuberculin, within twelve months of the opening date of the exhibition where they are to be shown. Such test shall be made under the direction of the live stock sanitary commissioner, who shall furnish a certificate of such test, to the owner or owners of such animals. State agricultural associations who receive any aid from the state, shall demand a certificate of test, duly authorized by the live stock sanitary commissioner from owners of cattle that are to compete for prizes in accordance with the above, under penalty of forfeiture of such aid; calves under one year excepted.

Section 12. [As amended by P. L. 1913, c. 210.] The live stock sanitary commissioner shall make all needful rules and regulations as to the manner in which application shall be made to him for the investigation of tuberculosis in the herds of the state, provided, however, he employ regular skilled veterinarians and shall regulate the way and manner in which the test shall be applied, and the state shall not be held responsible for any private test made. Provided, that any registered veterina-

rian in good standing may have the right to use the tuberculin test by filing with the commissioner of agriculture evidence of his registration and that he is in good standing. Upon receipt of such evidence the commissioner of agriculture shall issue a permit granting him the right to practice for the department. The live stock sanitary commissioner having sufficient evidence that he is incompetent or has been engaged in fraudulent practices in the use of the tuberculin test, shall suspend him from practicing by written notice, which notice shall state the reason for his suspension. The live stock sanitary commissioner shall immediately file with the governor and commissioner of agriculture the evidence of incompetency or of fraudulent practice in the use of the tuberculin test. The governor and commissioner of agriculture shall give the party a hearing, and if they find he is incompetent or has been engaged in fraudulent practice in the use of the tuberculin test they shall strike his name from the list; but if found competent or not guilty of fraudulent practice in the use of the tuberculin test they shall notify the live stock sanitary commissioner of their finding, and he shall notify the party that he can resume practice for the department.

Section 13. There shall be left with the owner of all condemned animals a proper certificate, duly authenticated, showing the number condemned and the value at which they are appraised, which shall be transferable only with the consent and acceptance of the commissioner.

Section 14. That the live stock sanitary commissioner shall thoroughly disinfect all stables and premises where condemned animals were found or cause the same to be done by a competent agent in the employ of such commissioner and the expense incurred on account of such disinfectant one-half shall be paid from the appropriation allowed for the use of such commissioner and one-half by owners or person in control of such stable and premises.

Section 15. That it shall be the duty of the assessors of all cities, towns and plantations, to keep a record of all pure blood cattle kept for breeding purposes, and to make a report of the same to the live stock sanitary commissioner on or before the first day of July of each year, showing the name of the owner, number in the herd, age and sex; such reports to be made upon blanks furnished by the live stock sanitary commissioner.



Section 16. That all persons selling pure blood cattle, or cattle represented to be pure blooded, for breeding purposes, shall before delivery, make a report to the live stock sanitary commissioner, upon blanks furnished by them upon application, stating the number of cattle sold, the age and sex and to whom sold, and before delivery thereof, such cattle shall be tested with tuberculin under the direction of, and a certificate of health given by the live stock sanitary commissioner, unless such a test has been carried out under the direction within one year; calves under one year excepted. Such certificate of health shall be delivered to the buyer by the seller. Whoever violates any provisions of this section, shall be punished by a fine not less than twenty-five dollars or more than fifty dollars for each offense.

Section 17. That no neat stock, (calves, cows, steers, oxen or bulls), or stags of any age, shall be allowed to enter the state of Maine, from any other state or county, neither for dairying purposes, breeding purposes nor for slaughter, (except cattle in transit under the control of the federal government) without a permit duly authorized by the live stock sanitary commissioner, said permit to accompany the shipment. Such animals shall be tested with tuberculin within thirty days of arrival regardless of any other test made and shall be held in quarantine upon premises of the owner, until released by the live stock sanitary commissioner. Whoever violates any provisions of this section shall be punished by a fine as provided in section sixteen.

Section 18. It shall be the duty of the several county attorneys, to prosecute all violations of this act, which shall be brought to their notice or knowledge by any person making the complaint under oath; and the same shall be heard in any supreme judicial court having jurisdiction in the county in which the violation of this act has been committed.

Section 19. That the live stock sanitary commissioner shall make and preserve a full record of all rules and regulations promulgated under the provisions of this act, and all payments and expenses hereunder incurred, and all other transactions performed by him, in the discharge of his duties as herein provided; and he shall on or before the first Wednesday in January, of each year, under his continuance in service, and at other times as he may deem conducive to the public interest, or as he

may be required so to do by the governor of the state, report to said governor, full and accurate accounts of his expenditures and other proceedings under the provisions of this act, and of the condition of said disease, if any in the state, to be communicated by him to the legislature. Whenever the functions of said live stock sanitary commissioner shall be suspended or terminated, he shall turn over to the secretary of state, all of his books, papers, records, and other effects, taking his receipt therefor and he shall remain the custodian of the same until such time as the functions of said live stock sanitary commissioner may be restored.

Section 20. That the live stock sanitary commissioner shall have power and is hereby authorized to employ skilled veterinarians in all tuberculin tests and such other agents and employees as they may deem necessary to carry into effect the provisions of this act, and to fix the compensation of the person or persons so employed, and to terminate such employment at his discretion; and he is authorized out of the moneys by this act appropriated to make such expenditures as may be needed for the actual and necessary traveling expenses of himself and said employees, stationery, expense of disinfecting the premises, cars and other places, destroying diseased and exposed animals, any paying for the same and such other expenses and expenditures that he may find to be actually necessary to properly carry into effect the provisions of this act.

Section 21. That the moneys appropriated by this act shall be paid by the treasurer of the state of Maine upon requisition, upon vouchers approved by said live stock sanitary commissioner. The said live stock sanitary commissioner before entering upon his duties of the office, shall take an oath to faithfully discharge the duties of said commissioner, and shall enter upon a bond with the state of Maine, with sureties to be approved by the governor and council in such a sum as they may designate, for the faithful performing and discharging of all duties devolving upon said commissioner under the provisions of this act.

Section 22. That for the purpose of carrying into effect the provisions of this act the sum of twenty-five thousand dollars for the year nineteen hundred and eleven, and like amount for the year nineteen hundred and twelve, or as much thereof as

may be necessary, together with all moneys received or that may be received from the sale of hides and carcasses of condemned animals, is hereby appropriated out of all moneys in the treasury not otherwise appropriated.

Section 23. Chapter nineteen of the revised statutes of nineteen hundred and three, together with chapter one hundred and thirty-three of the public laws of nineteen hundred and nine are hereby repealed.

All acts and parts of acts inconsistent herewith are hereby repealed.

Section 24. This act shall take effect May first, nineteen hundred and eleven.

#### CHAPTER 322, RESOLVES OF 1915.

Resolved, that the sum of thirty thousand dollars for the year nineteen hundred and fifteen, and the sum of thirty thousand dollars for the year nineteen hundred and sixteen, be and hereby is appropriated to be used under the direction of the live stock sanitary commissioner for the control of contagious diseases among domestic animals.

## RULES AND REGULATIONS OF THE LIVE STOCK SANITARY COMMISSIONER.

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*(By authority of Chapter 195 of the Public Laws of 1911, and as by Chapters 74 and 210 of the Public Laws of 1913.)*

**RULE 1.** When it shall appear to the live stock sanitary commissioner that any contagious or infectious disease exists in a herd of cattle in the State, then QUARANTINE shall be declared upon such herd and its products, by notice to the owner in the following manner:

To .....Town of .....  
The herd of cattle owned by you and kept at your premises in .....are hereby placed in quarantine. They are to be kept entirely isolated from all animals, shall not be sold nor offered for sale. Said herd consisting of..... animals shall not be removed from said premises, neither shall any animal of the herd.

The barn or stable where such animals are now kept, is declared to be a quarantined station, from which no animal be allowed to depart, nor shall any animal be placed with the herd or exposed to contact in any manner with the herd under penalty as provided in Chapter 195 of the Public laws of 1911, and proper notice shall be posted on barn or stable when animals are kept in quarantine.

Said notice shall be served upon party or parties named in the above notice, by any civil officer, and his return shall be made thereon to the live stock sanitary commissioner.

**RULE 2.** Cattle reacting to the tuberculin test, when condemned, shall be sent by the live stock sanitary commissioner's order to establishments maintaining a United States Government inspection, and be killed under federal inspection, and be disposed of according to the requirements of the Government Meat Inspection Act.

RULE 3. The subcutaneous tuberculin test shall be the standard method of testing animals for this department and no other test will be recognized without the consent of the live stock sanitary commissioner.

Inspectors employed to apply the tuberculin test, shall first make a physical examination of all the animals in the herd, noting conditions of herd, conditions of stable, number in herd over one year old, number in herd under one year old. All animals over one year old shall be tested unless some sufficient reason is given why certain designated animals should not be tested. In testing, rules established by the Bureau of Animal Industry of the United States Department of Agriculture must be followed.

RULE 4. The expense of the inspection shall be paid by the owner, except when investigation is ordered by the live stock sanitary commissioner, and no inspection will be recognized as official, unless made by an inspector recommended by the live stock sanitary commissioner. Upon application a list of inspectors indorsed by the live stock sanitary commissioner, will be furnished to any person wishing for the same.

RULE 5. The State will pay for any animal when condemned by an authorized agent, under the direction of the live stock sanitary commissioner but in no case will the State pay for an animal which has died of contagious or infectious disease.

RULE 6. When cattle shipped from Maine to Brighton, Mass., are condemned as tuberculous, the owner shall furnish the information where the animal originated, if required by the live stock sanitary commissioner.

RULE 7. Cattle slaughtered for beef, sheep and hogs, slaughtered for meat, which have been owned in the State of Maine for more than one year, if found tuberculous upon post mortem, by a graduate veterinarian, indorsed by the live stock sanitary commissioner, will be paid for when reported on the blanks furnished by the State, filled out in full and sworn to before a Justice of the Peace or Notary Public.

RULE 8. Inspectors applying the tuberculin or mallein test shall report to the live stock sanitary commissioner within forty-eight hours the result of the inspection, upon blanks furnished by the State.

RULE 9. No live stock (horses and cattle) shall be allowed to enter the State of Maine from any other State or Country

without a permit from the live stock sanitary commissioner, said permit to accompany the way-bill.

CHAPTER 195, PUBLIC LAWS OF 1911. Section 17. That no neat stock (calves, cows, steers, oxen or bulls), or stags of any age, shall be allowed to enter the State of Maine, from any other state or country, neither for dairying purposes, breeding purposes, nor for slaughter, (except cattle in transit under the control of the federal government) without a permit duly authorized by the Live Stock Sanitary Commissioner, said permit to accompany shipment. Such animals shall be tested with tuberculin within thirty days of arrival, regardless of any other test made, and shall be held in quarantine upon premises of the owner, until released, by the live stock sanitary commissioner. Whoever violates any provisions of this section shall be punished by a fine as provided in section sixteen.

CHAPTER 210—PUBLIC LAWS OF 1913. Section 9. Any person or persons bringing horses into the State of Maine, must have a permit and shall notify the Live Stock Sanitary Commissioner within forty-eight hours after their arrival, who shall at once cause the same to be examined either by a physical examination or to be tested with mallein, or the blood test used, at the expense of the owner, and if an animal is found to be glandered no compensation shall be allowed.

“No permit or examination will be required for horses used in circuses and to perform on the stage.”

“Whoever violates any of the provisions of this section shall be punished by a fine as provided in section sixteen.”

RULE 10. Upon the arrival of live stock (horses and cattle) at their destination, the transportation company (Express, Railroad or Steamships,) shall notify the live stock sanitary commissioner.

RULE 11. Swine imported into the State, shall be kept in quarantine for 90 days, on the premises of the owner, who shall notify the live stock sanitary commissioner, upon their arrival, said quarantine may be sooner removed by said commissioner.

RULE 12. When hog cholera exists in a herd, the herd shall be placed in quarantine, and the owner shall not be allowed to sell or offer for sale said animals before the quarantine is raised by the live stock sanitary commissioner or by an authorized agent.

RULE 13. When contagious and infectious abortion of cattle exists in a herd, the owner shall notify the live stock sanitary commissioner, who shall quarantine such herd and shall not allow any animal to be sold, unless to be shipped or driven directly to the slaughter house.

RULE 14. It shall be the duty of inspectors to report to the live stock sanitary commissioner, within forty-eight hours when he has knowledge as to the existence of Tuberculosis, Contagious Puelro Pneumonia, Foot and Mouth disease, Glanders, Hog Cholera, Contagious Abortion, Sheep Scab, Rabies and other infectious and contagious diseases, among horses, cattle, sheep and swine.

RULE 15. Railway cars used for the transportation of infected animals shall be disinfected by an agent in the employ of the live stock sanitary commissioner.

RULE 16. Cattle condemned and ordered by an inspector to be shipped to a slaughtering house under Federal inspection, should arrive at destination on Wednesday of each week if possible, that interested parties may visit such slaughtering house and see the work carried out.

#### APPRAISAL FOR GRADE ANIMALS.

RULE 17. Animals from four to six years old, of good size, in good flesh, without any deformities or imperfections in body, limbs, eyes or udder may be given the highest appraisal of Seventy Five Dollars (\$75.00), after July 3rd, 1915. Animals from four to six years old, undersized, poor in flesh and with imperfections shall be appraised proportionately less.

Perfect animals three years old and under four.....	\$60 00
Imperfect animals three years old and under four, less.	
Perfect animals two years old and under three.....	45 00
Imperfect animals two years old and under three, less.	
Perfect animals one year old and under two.....	25 00
Imperfect animals one year old and under two, less.	
Perfect animals from six to eight years old.....	60 00
Imperfect animals from six to eight years old, less.	
Perfect animals from eight to ten years old.....	50 00
Imperfect animals from eight to ten years old, less.	

Perfect animals from ten to twelve years old.....	40 00
Imperfect animals from ten to twelve years old, less.	
Perfect animals over twelve years old.....	30 00
Imperfect animals over twelve years old, less.	

APPRAISAL FOR CATTLE WITH A PEDIGREE RECORDED OR  
RECORDABLE.

RULE 18. Animals from four to six years old, of good size, in good flesh, without any deformities or imperfections in body, limbs, eyes, or udder may be given the highest appraisal of One Hundred Dollars, (\$100). Animals from four to six years old, undersized, poor in flesh and with imperfections shall be appraised proportionately less.

Perfect animals three years old and under four.....	\$85 00
Imperfect animals three years old and under, less.	
Perfect animals two years old and under three.....	60 00
Imperfect animals two years old and under three, less.	
Perfect animals one year old and under two.....	40 00
Imperfect animals one year old and under two, less.	
Perfect animals from six to eight years old.....	90 00
Imperfect animals from six to eight years old, less.	
Perfect animals from eight to ten years old.....	75 00
Imperfect animals from eight to ten years old, less.	
Perfect animals from ten to twelve years old.....	60 00
Imperfect animals from ten to twelve years old, less.	
Perfect animals over twelve years old.....	50 00
Imperfect animals over twelve years old, less.	

RULE 19. The above rules shall be published for three consecutive weeks in the official State newspaper.

Approved this the 23rd day of June, 1915.

OAKLEY C CURTIS,

*Governor of Maine.*

BOYDEN BEARCE,

*Live Stock Sanitary Commissioner.*



List of Inspectors registered by this office and authorized to inspect Horses and Cattle, under the direction of the Live Stock Sanitary Commissioner, September 1st, 1915.

- Dr. P. R. Baird, Waterville, Maine.
- Dr. C. L. Blakely, Augusta, Me.
- Dr. E. F. Brackett, Lewiston, Me.
- Dr. E. M. Bradley, Boothbay Harbor, Me.
- Dr. J. Norman Brown, Pittsfield, Me.
- Dr. Chas. W. Boothby, Standish, Me.
- Dr. Ernest E. Bubier, North Jay, Me.
- Dr. G. J. Burt, Fort Fairfield, Me.
- Dr. J. J. Callahan, Island Falls, Me.
- Dr. Fred T. Cheney, Houlton, Me.
- Dr. A. W. Chadwick, Damariscotta, Me.
- Dr. A. B. Chase, Dover, Me.
- Dr. A. W. Cleaves, Bar Harbor, Me.
- Dr. J. H. Crawford, West Baldwin, Me.
- Dr. W. H. Corey, Newport, Me.
- Dr. E. E. Crockett, Dryden, Me.
- Dr. John B. Darling, Belfast, Me.
- Dr. C. H. Day, North Fryeburg, Me.
- Dr. Carl Fremont Davis, Rumford, Me.
- Dr. G. G. Downs, Mount Vernon, Me.
- Dr. S. W. Durfee, Jefferson, Me.
- Dr. C. F. Dwinal, Bangor, Me.
- Dr. A. A. Dyer, Cornish, Me.
- Dr. Harold N. Eames, Sanford, Me.
- Dr. E. V. Estes, Portland, Me.
- Dr. W. E. Fairbanks, Lewiston, Me.
- Dr. F. H. Farnum, Pittsfield, Me.
- Dr. P. J. Flagg, West Brooksville, Me.
- Dr. C. I. Fogg, Norway, Me.
- Dr. R. E. Freeman, Bangor, Me.
- Dr. C. F. French, Rockland, Me.
- Dr. G. C. Fuller, Kennebunk, Me.
- Dr. E. E. Gibbs, Saco, Me.
- Dr. James H. Glover, Oxford, Me.

- Dr. Chas. L. Gove, Dexter, Me.  
Dr. Stillman Hartford, Gorham, Me.  
Dr. C. H. Hall, Kennebunk, Me.  
Dr. G. R. Inglis, Auburn, Me.  
Dr. H. S. Irish, South Windham, Me.  
Dr. W. R. Jackson, Sanford, Me.  
Dr. J. M. Johnson, Lewiston, Me.  
Dr. Archilles Joly, Waterville, Me.  
Dr. T. J. Judkins, Norway, Me.  
Dr. C. F. Kirk, Lewiston, Me.  
Dr. C. V. Knight, Turner Centre, Me.  
Dr. A. C. Leighton, Limestone, Me.  
Dr. C. H. Leighton, Cumberland Mills, Me.  
Dr. W. S. Leighton, Biddeford, Me.  
Dr. R. L. Libby, Houlton, Me.  
Dr. W. S. Lord, West Baldwin, Me.  
Dr. W. H. Lynch, Portland, Me.  
Dr. M. E. Maddocks, Augusta, Me.  
Dr. L. E. Maddocks, Dover, Me.  
Dr. S. A. McDaniel, Kezar Falls, Me.  
Dr. W. L. Mebane, Rockwood, Me.  
Dr. C. M. Merrill, South Paris, Me.  
Dr. A. L. Murch, Bangor, Me.  
Dr. N. W. McCaughey, Presque Isle, Me.  
Dr. J. T. Moran, Berwick, Me.  
Dr. John A. Ness, Auburn, Me.  
Dr. A. J. Oakes, Sangerville, Me.  
Dr. J. L. Parks, Fort Fairfield, Me.  
Dr. A. N. Peabody, Thomaston, Me.  
Dr. C. W. Purcell, Biddeford, Me.  
Dr. B. L. Pratt, Caribou, Me.  
Dr. C. H. Robinson, Livermore Falls, Me.  
Dr. E. E. Russell, Farmington, Me.  
Dr. F. L. Russell, Orono, Me.  
Dr. Amos Ruther, Guilford, Me.  
Dr. C. L. Ryan, Dexter, Me.  
Dr. I. L. Salley, Skowhegan, Me.  
Dr. W. B. Sherman, Rockland, Me.  
Dr. H. L. Stevens, Rockland, Me.

- Dr. J. W. Stewart, Waterville, Me.
- Dr. M. E. Strout, Bangor, Me.
- Dr. I. P. Symonds, Norway, Me.
- Dr. R. B. Stanhope, Livermore Falls, Me.
- Dr. D. A. Tuttle, North Yarmouth, Me.
- Dr. H. S. Usher, Bonny Eagle, Me.
- Dr. C. L. Wakefield, Augusta, Me.
- Dr. C. W. Watson, Brunswick, Me.
- Dr. E. C. Walker, South Paris, Me.
- Dr. H. B. Wescott, Portland, Me.
- Dr. G. F. Wescott, Portland, Me.
- Dr. S. C. Wheeler, Easton, Me.

Issued December 11, 1915.

U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF ANIMAL INDUSTRY.

A. D. MELVIN, CHIEF OF BUREAU.

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STATE SANITARY REQUIREMENTS GOVERNING  
ADMISSION OF LIVE STOCK.

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ALABAMA.

*Horses, mules, and asses.*—Health certificate and, if exposed to glanders, mallein test chart must accompany same. Designate each animal as mare, gelding, stallion, jack, jennet, horse mule, or mare mule.

*Cattle.*—Health certificate, including tuberculin test, for breeding and dairy cattle over 6 months of age and feeding and grazing cattle over 2 years of age. Calves from tuberculous mothers not admitted. Cattle for feeding under 2 years of age require affidavit of owner that he will keep them separate from other cattle during feeding period.

No ticky cattle, horses, or mules shall be brought into Alabama. Cattle from the area quarantined for splenic fever shall be accompanied by certificate of inspection or dipping.

*Dogs.*—Health certificate, stating no exposure to disease.

*Hogs.*—Health certificate, stating no exposure to cholera or other contagious disease.

*Sheep.*—Health certificate.

*Who may inspect.*—Any legally qualified veterinarian who is indorsed by his State veterinarian or by the United States Bureau of Animal Industry.

*Official.*—State veterinarian, Auburn, Ala., to whom copy of all certificates must be sent.

## ARIZONA.

*Horses, mules, and asses.*—Health certificate, preferably including mallein test.

*Cattle.*—Health certificate. Tuberculin test for dairy or breeding cattle.

*Hogs.*—Health certificate and isolation at destination two weeks or until released by State veterinarian.

*Sheep.*—Health certificate for all. Certificate of dipping under official supervision when from any territory classed by the Government as infected.

*Who may inspect.*—Horses, cattle, and hogs: Any State, Federal, or county veterinarian, or other veterinarian when his certificate is approved by the State veterinarian or State sanitary board at point of origin. Sheep: Federal veterinarian.

*Official.*—State veterinarian, Phoenix, Ariz., to whom duplicate certificate should be sent in advance.

## ARKANSAS.

*Horses, mules, and asses.*—Health certificate, stating particularly that stock is free from ticks.

*Cattle.*—Health certificate for dairy or breeding cattle, including tuberculin test by official veterinarians.

*Hogs.*—Must be free from and not exposed to contagious or infectious disease. Swine for exhibition at fairs must be immunized by the Dorset-McBride-Niles serum method and be accompanied by certificate showing same.

*Sheep.*—Must be free from and not exposed to contagious or infectious disease.

*Who may inspect.*—Veterinary inspectors of the Bureau of Animal Industry or official veterinarians of the State of origin.

*Official.*—State veterinarian, Old State House, Little Rock, Ark.

## CALIFORNIA.

*Horses, mules, and asses.*—Health certificate. In lieu of health certificates horses, mules, and asses may be brought into California when accompanied by signed statement of State veterinarian or other livestock sanitary authority stating each animal in shipment is free from and has not recently been exposed to any communicable disease.

*Cattle.*—Dairy cattle and breeding bulls over 6 months of age, health certificate, including tuberculin test. In lieu of health certificate and tuberculin test record dairy cattle and breeding bulls may be brought into California when accompanied by signed statement of State veterinarian or other live-stock sanitary authority stating animals originated in herds free from tuberculosis and other communicable disease.

*Sheep.*—In accordance with Federal regulations.

*Hogs.*—Health certificate.

*Exemptions.*—Animals accompanying emigrant outfits are exempt from all inspection requirements. Animals for theatrical and exhibition purposes are exempt from all inspection requirements provided they do not remain in California.

*Note:*—Transportation companies should ascertain if California has any special regulations in effect covering the State in which the shipments originate before accepting animals for shipment.

*Who may inspect.*—Any qualified veterinarian who is a graduate of a duly recognized and accredited veterinary college.

*Official.*—State veterinarian, Sacramento, Cal.

#### COLORADO.

*Horses, mules, and asses.*—Health certificate.

*Cattle.*—Health certificate and tuberculin-test chart for bulls for breeding purposes and female cattle over 6 months old intended for dairy purposes.

*Hogs.*—Hogs for breeding purposes must be accompanied by affidavit from owner or seller showing them to be free from hog cholera or exposure thereto and a copy of same be sent to the State veterinarian of Colorado. Cars carrying hogs destined to Colorado for purposes other than immediate slaughter must, before loading, be properly disinfected as required by the United States Bureau of Animal Industry.

*Sheep.*—In compliance with regulations issued by the United States Department of Agriculture.

*Who may inspect.*—Official veterinarians, State or Federal, or a licensed veterinarian whose certificate is approved by the State veterinarian or like officer.

*Official.*—State veterinarian, Denver, Colo.

## CONNECTICUT.

*Horses, mules, and asses.*—Permit and ophthalmic mallein test.

*Cattle.*—For neat cattle over 6 months of age, permit from commissioner on domestic animals, health certificate, including tuberculin-test chart, properly filled out and certified to by a qualified veterinarian in any other State who is approved by the authority having jurisdiction of diseases of domestic animals in that State. This certificate must contain a description of each animal, including age, breed, sex, and color, or numbered ear tags, so that animals may be easily identified. When certificate as above described is not provided neat cattle may be taken into the State under a permit from the commissioner on domestic animals and held in quarantine at the place designated until examined and released by the commissioner or his agent.

*Hogs.*—none.

*Sheep.*—None.

*Who may inspect.*—Commissioner or his agent.

*Official.*—Commissioner on domestic animals, State Capitol, Hartford, Conn.

## IDAHO.

*Horses, mules, and asses.*—Health certificate, including mallein-test chart.

*Cattle.*—Health certificate including tuberculin-test chart.

*Hogs.*—Health certificate showing hogs to have been immunized by the Dorset-McBride-Niles serum method within 15 days from date of shipment into State. Said certificate must also state that cholera has not existed on the premises from which the hogs were shipped for a period of at least 6 months prior to date of shipment.

*Sheep.*—Bucks must be dipped under State supervision upon arrival. Sheep can not come farther than 2 miles within the State line until inspected by live-stock inspector in this State.

*Who may inspect.*—Federal, State, and properly qualified assistant State veterinarians.

*Official.*—State veterinarian, Boise, Idaho.

## ILLINOIS.

*Horses, mules, and asses.*—Certificate of health, showing the animals to be free from contagious or communicable diseases.

*Cattle.*—All importations of bulls, cows, or heifers exceeding the age of 9 months must be covered by a certificate of health, including the tuberculin test administered within 30 days prior to date of shipment or by a permit for their consignment in quarantine for feeding purposes only. Bulls, cows, or heifers less than 9 months of age and steers or spayed heifers must be covered by an affidavit certifying to their classification.

*Hogs.*—Certificate of health showing the animals to be free from cholera or exposure thereto by being removed from cholera-infected premises.

*Note:*—Regulations which apply to cattle and swine shall not be interpreted as covering shipments consigned to public stock yards at Chicago, Peoria, or East St. Louis, Ill.

*Who may inspect.*—State veterinarian and his assistants; inspectors of the United States Bureau of Animal Industry.

*Officials.*—State veterinarian, Springfield, Ill.; secretary State board of live-stock commissioners, Springfield, Ill.

## INDIANA.

*Horses, mules, and asses.*—Health certificate, including certificate of soundness for stallions and jacks, together with affidavit that they are free from any contagious, infectious, or communicable disease.

*Cattle.*—Health certificate, including tuberculin test for dairy or breeding cattle indorsed by State or Federal authorities; calves under 6 months of age, health certificate showing that they are from tuberculin-tested and free-from-tuberculosis mothers. Affidavit for cattle intended for feeding purposes.

*Sheep.*—Health certificate showing that they have been dipped if passing through public stock yards.

*Hogs.*—For breeding purposes must have health certificate issued in triplicate showing them to be free from disease and that they have not been exposed to disease. For feeding or stocker purposes a permit must be obtained to bring them in, subject to vaccination and quarantine for 30 days on premises of the owner at destination.



*Who may inspect.*—Veterinary inspectors of the United States Bureau of Animal Industry or authorized State or deputy State veterinarians.

*Official.*—State veterinarian, Indianapolis, Ind.

## IOWA.

*Horses, mules, and asses.*—Health certificate, including mallein test.

*Cattle.*—For dairy and breeding purposes, health certificate, including tuberculin test.

Cattle other than dairy and breeding cattle, except steers and cattle for immediate slaughter, shall be accompanied by a certificate of health and an affidavit certifying that the title of such cattle will not be transferred and that they will not be used for other purposes than feeding or slaughter without first notifying the State veterinarian and having them subjected to the tuberculin test.

*Hogs.*—Except for immediate slaughter, must be accompanied by a certificate of health certifying that they have been immunized with Dorset-McBride-Niles anti-hog-cholera serum not more than 30 days prior to date of importation when the serum alone is used and not less than 30 days prior to date of importation when the simultaneous method is used.

*Sheep.*—Health certificate.

*Who may inspect.*—Federal, State, or assistant State veterinarians or any graduate veterinarian whose certificate is indorsed by the parties having charge of live-stock sanitation in the State where shipment originates.

*Official.*—State veterinarians, Des Moines, Iowa.

## KANSAS.

*Horses, mules, and asses.*—Health certificate.

*Cattle.*—Tuberculin-test certificate for dairy and breeding cattle. All other classes of cattle admitted by complying with Bureau of Animal Industry's requirements to move interstate.

*Hogs.*—Special permits required on hogs entering the State or moving from point to point within the State for any purpose other than immediate slaughter.

*Sheep.*—No restrictions.

*Who may inspect.*—Inspectors of the United States Bureau of Animal Industry, veterinarians and inspectors having a commission from the State live-stock sanitary commissioner.

*Official.*—State live-stock sanitary commissioner, Topeka, Kans.

## KENTUCKY.

*Horses, mules, and asses.*—Health certificate. If originating in an area quarantined on account of Texas fever, they shall be disinfected and loaded in a cleaned and disinfected car.

*Cattle.*—Health certificate, including the tuberculin test for breeding and dairy cattle over 6 months of age.

Health certificate only for stockers and feeders.

Health certificate and tuberculin test not required when cattle are consigned to the Bourbon Stock Yards, Louisville, Ky.

All cattle shall be loaded in cleaned and disinfected cars or crates.

*Hogs.*—Health certificate stating that hogs have been immunized against cholera by the serum-virus method at least 21 days before shipment or the serum-alone method within 5 days of shipment and sprayed or washed in a disinfectant solution before loaded.

Hogs from public stockyards accepted for immediate slaughter only. All hogs shall be loaded in cleaned and disinfected cars or crates.

*Sheep.*—Health certificate for pure-bred sheep. Dipping certificate also for stock sheep, except when consigned to points where vats are available for dipping immediately after arrival.

All sheep must be loaded in cleaned and disinfected cars or crates.

*Who may inspect.*—State or Federal inspectors or veterinarians whose certificates are indorsed by live-stock sanitary officials of the State in which shipment originates.

*Official.*—State veterinarian, Frankfort, Ky.

## LOUISIANA.

*Horses, mules, and asses.*—Health certificate showing freedom from all contagious, infectious, and communicable diseases.

*Cattle.*—Dairy and breeding cattle shall be free from tuberculosis and must be tested with tuberculin before entering the State. Railroad agents or owner of cattle must mail certificate to secretary and executive officer of State live-stock sanitary board immediately following arrival of cattle at destination. No tuberculin test is required for cattle under 6 months old. Calves from tuberculous cows shall be rejected.

*Hogs.*—All swine shipped into the State of Louisiana must be accompanied by a certificate of health showing their freedom from contagious, infectious, or communicable diseases or exposure thereto, certifying that no infectious swine disease has existed in the locality from which shipment originates within a period of 6 months; otherwise certificates must show that such swine have been immunized by the Dorset-McBride-Niles serum-alone method not more than 20 days prior to date of shipment. Railroad stockyards are considered infectious, and no hogs yarded or loaded through them will be accepted in the State of Louisiana for any purpose other than immediate slaughter (48 hours).

Hog-cholera virus or virulent blood should not be shipped by serum manufacturers into the State except by written permission issued by the secretary and executive officer.

*Sheep.*—Health certificate from qualified veterinarians 24 hours before shipping showing freedom from infectious, contagious, or communicable disease.

*Who may inspect.*—Federal veterinarians, State veterinarians, deputy State veterinarians, assistant State veterinarians, and other veterinarians provided they are graduates of veterinary schools or colleges recognized by the United States Department of Agriculture and their competency and reliability certified to by authorities in charge of live-stock sanitary control work in the State where shipment originates.

All health certificates and test charts must be made in triplicate on official uniform blanks. The original must be attached to waybill of shipment. Duplicate must be sent to secretary and executive officer in ample time to reach him before arrival of stock. Triplicate should be sent to the proper State official in the State where inspection is made and where shipment originates. Tuberculin-test charts must show at least 3 temperatures were taken before injection 2 or 3 hours apart and 5 tempera-

tures after injection 2 hours apart, beginning 10 hours after infection of tuberculin.

*Official.*—Secretary and executive officer of State live-stock sanitary board, Baton Rouge, La.

#### MAINE.

*Horses, mules, and asses.*—Any person or persons bringing horses into the State of Maine must have a permit and shall notify the live-stock sanitary commissioner within 48 hours after their arrival, who shall at once cause the same to be examined either by a physical examination or to be tested with mallein, or the blood test used, at the expense of the owner, and if an animal is found to be glandered no compensation shall be allowed. No permit or examination will be required for horses used in circuses or to perform on the stage.

*Cattle.*—That no neat stock (calves, cows, steers, oxen, or bulls) or stags of any age shall be allowed to enter the State from any other State or country, either for dairy purposes or for slaughter (except cattle in transit under the control of the Federal Government), without a permit duly authorized by the live-stock sanitary commissioner, said permit to accompany the shipment. Such animals shall be tested with tuberculin within 30 days of arrival, regardless of any other test made, and shall be held in quarantine upon the premises of the owner until released by the live-stock sanitary commissioner.

*Hogs.*—Swine imported into Maine shall be kept in quarantine for 90 days on the premises of the owner, who shall notify the live-stock sanitary commissioner upon the arrival; said quarantine may be sooner removed by said commissioner.

*Sheep.*—None.

Transportation companies (express, railroad, or steamship) shall notify the live-stock sanitary commissioner of the arrival of live stock at their destination.

*Who may inspect.*—Qualified veterinarians authorized by the live-stock sanitary commissioner.

*Official.*—Live-stock sanitary commissioner, Augusta, Me.

## MARYLAND.

*Horses, mules and asses.*—None.

*Cattle.*—Health certificate for feeding cattle and tuberculin test for dairy and breeding cattle accompanied by test chart.

*Hogs.*—Health certificate.

*Sheep.*—None.

*Who may inspect.*—State veterinarian, deputies, and inspectors of the United States Bureau of Animal Industry.

*Official.*—Chief veterinary inspector, 120 North High Street, Baltimore, Md.

## MASSACHUSETTS.

*Horses, mules, and asses.*—Permit required on shipments from New York, Rhode Island, and Connecticut only. Examination on arrival.

*Cattle.*—Neat cattle for dairy or breeding purposes unless consigned to quarantine station in Brighton stock yards, must be accompanied by a permit of Massachusetts department of animal industry. Tuberculin test required if over 6 months of age, made either by a veterinarian approved by proper official of State where shipment originates or by agent of Massachusetts department on arrival at destination. Quarantined until released by department. Permit not required if for immediate slaughter consigned to abattoir under Federal inspection.

*Hogs.*—None.

*Sheep.*—None.

*Who may inspect.*—Qualified veterinarians whose record of inspection and test is approved by the officials in charge of live-stock interests in the State where the shipment originates. The tests of United States inspectors of the Department of Agriculture are accepted at all times.

*Official.*—Commissioner of animal industry, room 138, State House, Boston, Mass.

## MICHIGAN.

*Horses, mules, and asses.*—Health certificate, including mallein test.

*Cattle.*—Health certificate for dairy and breeding cattle, including tuberculin test.

*Hogs.*—None.

*Sheep.*—None.

*Who may inspect.*—Veterinarians graduated from an accredited veterinary college and authorized by State officials.

*Officials.*—State veterinarian, Lansing, Mich.; president live-stock sanitary commission, Lansing, Mich.

## MINNESOTA.

*Horses, mules, and asses.*—All branded horses, mules, or asses imported into Minnesota must be accompanied by a health certificate, including mallein test, certifying that animals have been examined and mallein tested within 30 days prior to date of shipment and found free from glanders.

*Cattle.*—Cattle for breeding or dairy purposes must be tuberculin tested.

Cattle of New York State must show certificate of health and tuberculin test issued and made by an inspector of the United States Bureau of Animal Industry or the chief veterinarian of the New York department of health.

*Hogs.*—Health certificate.

*Sheep.*—Health certificate.

*Who may inspect.*—State veterinarians or assistants, Federal veterinarians, and veterinarians acting under authority of State live-stock sanitary board.

*Official.*—Secretary and executive officer, live-stock sanitary board, Old Capitol, St. Paul, Minn.

## MISSISSIPPI.

*Horses, mules, and asses.*—Health certificate.

*Cattle.*—Health certificate. Tuberculin test for dairy and breeding cattle.

*Hogs.*—Health certificate.

*Sheep.*—Health certificate.

*Who may inspect.*—State veterinarian, assistant State veterinarians, inspectors of the Bureau of Animal Industry.

*Official.*—State veterinarian, Agricultural College, Miss.

## MISSOURI.

*Horses, mules, and asses.*—None specifically required. The statutes of the State forbid the importation of animals affected with glanders, farcy, or nasal gleet.

*Cattle.*—Health certificate for dairy and breeding cattle, including tuberculin test. If any animal in a lot inspected is found tuberculous, the words “exposed to tuberculosis on day of inspection” shall be written on the certificate of health of such animals as pass. Cattle for pasturing, feeding, or immediate slaughter admitted on permit from State veterinarian without tuberculin test. Regulations do not apply to cattle shipped to the public stockyards at Kansas City, St. Joseph, and St. Louis, or for exhibition at any fair or live-stock show.

*Hogs.*—None, except to Pettis County. Hogs to Pettis County must be immunized by a graduate veterinarian.

*Sheep.*—None specifically required. The statutes of the State forbid the importation of sheep affected with any contagious disease.

*Who may inspect.*—Official veterinarian, State or Federal, or graduate veterinarian, whose certificate shall be approved in writing by State veterinarian or like officer.

*Official.*—State veterinarian, Columbia, Mo.

#### MONTANA.

*Horses, mules, and asses.*—Health certificate, including mallein test. Horses, mules, and asses may be shipped without inspection to quarantine yards at Miles City, Billings, or Dillon, providing the waybills bear the notation “consigned to quarantine yards at \_\_\_\_\_, Montana.” Animals so shipped will be tested and inspected at owner’s expense by a representative of the Montana live-stock sanitary board before being released from quarantine yards. Wild, unbroken, range (but not pasture) horses, mules, or asses may be shipped into Montana on a clinical health certificate, providing each individual animal is given a clinical chute inspection.

Animals for temporary racing, exhibition, or speed purposes may be shipped in on a clinical health certificate.

*Stallions or jacks.*—In addition to mallein test a certificate of soundness, original of which must accompany shipment and copy mailed to the stallion registration board at Bozeman, Mont., at least 10 days before the importation of stallion or jack into the State. No stallion or jack which is neither pure bred nor grade shall be imported into the State of Montana for breeding purposes. A “grade” is defined as an animal whose sire or dam, but not both, is a registered pure-bred animal.

*Cattle.*—Cattle for dairying, strictly pasture breeding, all pure breeds and all bulls over 6 months of age must be accompanied by a tuberculin-test chart. Cattle for feeding purposes or for slaughter where no inspection is maintained must be accompanied by a clinical health certificate. Cattle for slaughter where an inspection is maintained do not require a health certificate, but the waybill must be marked "For immediate slaughter," giving the name of the abattoir.

All cattle of any class originating in the State of Wisconsin or New York destined to the State of Montana must be accompanied by a certificate of health issued by a veterinary inspector of the United States Bureau of Animal Industry, the inspection to be made in accordance with the regulations of the live-stock sanitary board and the laws of Montana. Health certificates and test charts are good for 30 days. The original certificate must accompany the shipment to its destination and a duplicate immediately forwarded by the veterinarian making the inspection or test to the State veterinary surgeon, Helena, Mont.

*Hogs.*—Hogs for feeding or breeding purposes must be accompanied by a clinical health certificate stating the animals do not come from a public stockyard or a district in which hog cholera has existed during the past 6 months, and providing the animals have not been double vaccinated, or at least 90 days have elapsed since they were double vaccinated. Hogs may be shipped from a district where hog cholera has existed during the past 6 months provided they are shipped not earlier than 30 days and not later than 60 days after receiving the single vaccination and, provided further, that they have been kept since vaccination on premises on which hog cholera has not existed during the past 6 months.

*Hogs for slaughter.*—Same as for breeding and feeding.

*Hogs for exhibition.*—All swine to be exhibited in Montana at State or county fairs must be accompanied by a certificate showing they have been immunized by the single vaccination not less than 15 days and not more than 60 days prior to their shipment.

All hogs must be loaded through clean and disinfected pens and chutes into disinfected cars, and must not be unloaded en route in any public stockyard unless the stockyard has been specially disinfected for that purpose.



*Sheep.*—Health certificate and shipped in disinfected cars. Sheep for grazing or feeding purposes must be inspected upon their arrival at railroad destination in Montana by a Montana inspector, at owner's expense, and quarantined for 90 days on land owned, leased, or controlled by owner of the sheep. Bucks and ewes for dissemination to other bands for breeding purposes shall be dipped twice, with an interval of 10 days, under the supervision of a Montana inspector at the owner's expense and quarantined for at least 90 days on land owned, leased, or controlled by the owner. In all sheep shipments 5 days' notice must be given the State veterinary surgeon's office at Helena before the arrival of the sheep in Montana.

*Disinfection of cars.*—Disinfection of cars does not apply to box cars which have not been previously used for stock shipments.

*Dogs.*—Until further notice no dogs or any animals of the canine species will be permitted to enter the State of Montana from the States of Oregon and Minnesota and the counties of Asotin, Garfield, Columbia, Walla Walla, and Benton, in the State of Washington, and the counties of Nez Perce, Idaho, Washington, Canyon, Owyhee, and Latah, in the State of Idaho, unless accompanied by a permit issued by the State veterinary surgeon at Helena, Mont., and an official health certificate from a recognized veterinarian at point of origin stating animals are free from rabies and have not been exposed to rabies during the past 6 months.

*Who may inspect.*—Federal, State, graduate deputy State veterinarians, or graduate veterinarians whose certificates are indorsed by the State veterinarian or live-stock sanitary board.

*Official.*—State veterinary surgeon, Helena, Mont.

#### NEBRASKA.

*Horses, mules, and asses.*—Health certificate.

*Cattle.*—For dairy or breeding purposes over 6 months old, health certificate, including tuberculin test. For feeding, grazing or range purposes, permit from the deputy State veterinarian of Nebraska without tuberculin test. If not accompanied by a health certificate, cattle will be inspected at destination at owner's expense. For exhibition purposes, permit from deputy State veterinarian without tuberculin test, provided accompanied

by proper health certificate. Exhibition cattle remaining in the State three months or more shall be subject to tuberculin test at owner's expense. Cattle for immediate slaughter admitted without inspection. Cattle originating in the States of Illinois and New York shall not be transported, trailed, or driven into the State of Nebraska unless accompanied by certificate of health and tuberculin test issued by an inspector of the United States Bureau of Animal Industry.

*Hogs.*—Certificate of health showing freedom from all contagious and infectious diseases and that no contagious disease has existed in the locality in which the shipment originated for a period of six months previous to the time of shipment. Railroad cars used for such shipments must be thoroughly disinfected with a 5 per cent solution of carbolic acid before hogs are loaded. Such hogs shall not be unloaded while in transit into any public stockyard. If feeding and watering are necessary, it must be done in the car. No hogs intended for shipment into the State of Nebraska shall be loaded from or unloaded into any public stockyards or ordinary chutes, but must be loaded from wagons and unloaded in the same manner. Hogs shipped to public stockyards for immediate slaughter where Government inspection is maintained need no inspection.

*Sheep.*—Health certificate stating that they are free from all contagious and infectious disease. When such shipments originate in a territory where lip-and-leg ulceration or scabies exists, the certificate must show freedom from these diseases.

All shipments of any live stock coming into Nebraska without a proper health certificate as above indicated shall be reported to the deputy State veterinarian by railroad agent at destination. Such live stock will be allowed to be taken to the final destination, but will be quarantined on the premises of the owner for inspection and test by an authorized agent of the State at owner's expense. All animals found to be diseased will be disposed of as directed by the deputy State veterinarian.

*Who may inspect.*—Federal or State veterinarians or graduate veterinarians authorized by the deputy State veterinarian.

*Official.*—Deputy State veterinarian, Lincoln, Nebr.

## NEVADA.

*Horses, mules, and asses.*—Health certificate, including mallein-test certificate. Physical examination of stallions and jacks for dourine. Certificate and records of mallein test mailed to State quarantine board, veterinary division, University of Nevada, Reno, Nev., on day of shipment.

*Cattle.*—Health certificate, including tuberculin-test certificate for dairy and breeding cattle. Exception made in case of range cattle transferred from the ranges of other States to the ranges of Nevada. In lieu of certificate of inspection owner must mail a statement giving the origin and destination of shipment and the number of bulls, cows, steers, and calves included in same.

*Hogs.*—None.

*Sheep.*—Before entrance into State for grazing must notify board (State sheep commission) or any inspector in writing. Notice not required for sheep in transit unless they remain in State or are unloaded to feed and rest for a longer period than 48 hours.

*Who may inspect.*—State veterinarians, veterinarians of agricultural colleges and experiment stations, Federal veterinary quarantine officers, or graduate veterinarians certified to by State veterinarians or live-stock sanitary officials.

*Officials.*—State quarantine board, veterinary division, University of Nevada, Reno, Nev.; executive officer, State sheep commissioners, Lovelace, Nev., or secretary State sheep commission, Reno, Nev.

## NEW HAMPSHIRE.

*Horses, mules, and asses.*—None.

*Cattle.*—Health certificate, including the tuberculin test for all cattle except calves under 6 months old. Permits allowing shipment will be issued upon receipt of test charts approved by proper live-stock sanitary officials of the State in which shipment originates.

*Hogs.*—None.

*Sheep.*—None.

*Who may inspect.*—Veterinarians approved by proper live-stock sanitary officials of State of origin.

*Official.*—Commissioner of agriculture (division of animal industry,) Concord, N. H.

## NEW JERSEY.

*Horses, mules, and asses.*—None.

*Cattle.*—Health certificate for dairy and breeding cattle, including tuberculin test.

*Hogs.*—None.

*Sheep.*—None.

*Who may inspect.*—Official veterinarians of the State or competent veterinarians whose health certificate is approved in writing by State officials.

*Official.*—Secretary State board of health, Trenton, N. J.; secretary commission on tuberculosis in animals, Trenton, N. J.

## NEW MEXICO.

*Horses, mules, and asses.*—Health certificate.

*Cattle.*—Health certificate, including tuberculin test, for dairy cattle or cattle intended for the breeding of dairy cattle.

*Hogs.*—Subject to hog laws of 1915. Details obtained from the cattle sanitary board, Albuquerque, N. Mex.

*Sheep.*—Health certificate. Buck must be dipped at unloading point.

*Who may inspect.*—Official veterinarian, State or Federal, for cattle. Sheep must be inspected by a Federal veterinarian before shipment and by State inspector at destination.

*Officials.*—Secretary cattle sanitary board, Albuquerque, N. Mex.; secretary sheep sanitary board, Albuquerque, N. Mex.

## NEW YORK.

The movement into the State of New York of domestic animals suffering from any contagious or infectious disease is prohibited, and persons bringing such animals into the State are held responsible.

*Horses, mules, and asses.*—Must be free from contagious or infectious disease. Such animals from States bordering on New York are required to be shipped subject to health certificate either before or after entrance into the State. Ophthalmic test is accepted as an official test.

*Cattle.*—Neat cattle for dairy or breeding purposes must be accompanied by certificate of health showing satisfactory tuberculin-test record, such test to be made by a veterinarian ap-

proved by proper official of his State, or if not so accompanied must be held in quarantine at destination within State until duly examined by a representative of the State department of agriculture and released.

*Hogs.*—Must be free from contagious or infectious disease.

*Sheep.*—Must be free from contagious or infectious disease.

*Who may inspect.*—Federal inspectors, inspectors indorsed by the proper official of the State from which the shipment comes, and the commissioner of agriculture, or duly authorized representatives.

*Official.*—Chief veterinarian, Albany, N. Y.

#### NORTH CAROLINA.

*Horses and asses.*—Health certificate when for breeding purposes.

*Cattle.*—Health certificate, including certificate of tuberculin test when for breeding or dairy purposes.

*Hogs.*—Health certificate for breeding purposes.

*Sheep.*—Health certificate for breeding purposes.

*Who may inspect.*—State veterinarians or any veterinarian whose certificate he will indorse; also United States inspectors.

*Official.*—State veterinarian, Raleigh, N. C.

#### NORTH DAKOTA.

*Horses, mules, and asses.*—Health certificate, including mallein test made within 30 days prior to entry into State. Certificate for stallions should, in addition, show the animals to be free from infectious, contagious, or transmissible disease or unsoundness.

*Cattle.*—Health certificate for all cattle. Cattle over 6 months of age that can be used for breeding or dairying purposes must be accompanied by tuberculin-test chart health certificate.

Cattle that originate or are shipped from the States of New York and Wisconsin and South St. Paul, Minn., must be accompanied by certificate issued by a veterinary inspector of the United States Bureau of Animal Industry. Test and inspection must be made within 30 days of shipment.

*Swine.*—Health certificate stating that no infectious swine disease exists or has existed in locality from which the ship-

ment originated within 6 months prior to date of shipment, unless the swine are certified by a duly accredited Federal or State veterinarian as having been immunized by the Dorset-McBride-Niles hog-cholera immune serum. Swine brought into State for exhibition purposes at State and county fairs must be accompanied by a certificate stating that such swine have been immunized by the Dorset-McBride-Niles hog-cholera serum.

*Sheep.*—Health certificate showing them to be free from scabies, lip-and-leg ulceration, or exposure thereto within 30 days prior to date of shipment.

All live stock of any class originating in the State of South Dakota destined to the State of North Dakota must be accompanied by a certificate of health issued by a veterinary inspector of the United States Bureau of Animal Industry or by veterinarian registered by the United States Bureau of Animal Industry to test horses going to Canada.

*Who may inspect.*—Federal, State, or deputy state veterinarian or graduate veterinarian whose inspections are indorsed by officials in charge of live-stock sanitary work in the State where inspection is made.

Duplicates of all certificates must be forwarded to the live-stock sanitary board, Bismarck, N. Dak. Certificates issued by veterinarians failing to do this will be refused recognition.

All tests and inspections must be made within 30 days of shipment of stock.

*Officials.*—State veterinarian, Bismarck, N. Dak.; bacteriologist, Agricultural College, North Dakota; State live-stock sanitary board, Bismarck, N. Dak.

#### OHIO.

*Horses, mules, and asses.*—None.

*Cattle.*—Health certificate, including tuberculin test for dairy and breeding cattle 6 months of age and over. Tuberculin test must be made within 6 weeks prior to the importation of cattle into this State.

*Hogs.*—None.

*Sheep.*—None.

*Who may inspect.*—Inspectors of the United States Bureau of Animal Industry, veterinarians in the employ of the State

board of agriculture, and veterinarians whose competency, trustworthiness and reliability are vouched for by the authority in charge of the control of animal diseases in the State from which the animals are shipped.

*Official.*—State veterinarian, Columbus, Ohio.

#### OKLAHOMA.

*Horses, mules, and asses.*—Health certificate showing mallein test and stating particularly that stock is free from ticks.

*Cattle.*—Health certificate, including tuberculin test for dairy or breeding cattle.

*Hogs.*—For purposes other than immediate slaughter, certificate showing that they have not been exposed to hog cholera for at least 6 months previous to time of shipment and that cars containing them were cleaned and disinfected; that they were not loaded or unloaded en route into public stockyards or stock pens.

*Sheep.*—None, other than compliance with Federal regulations when shipped from areas under quarantine for scabies.

*Who may inspect.*—State veterinarians or graduate veterinarians from a school recognized by the United States Bureau of Animal Industry.

*Official.*—President, Oklahoma State board of agriculture, Oklahoma City, Okla.

#### OREGON.

*Horses, mules, and asses.*—Health certificate, including mallein, complement-fixation, or other officially accepted test. Imported stallions and mares coming direct from European ports need not be mallein tested.

*Cattle.*—Health certificate, except for immediate slaughter, including tuberculin test for all dairy and breeding cattle. All cattle excepting settlers' and homesteaders' effects, imported into the State of Oregon from that territory east of the Mississippi River and north of the Tennessee-North Carolina north-boundary line must first receive a written permit from the State veterinarian to be moved into the State of Oregon before such movement can be made. All cattle originating in the States of New York, Wisconsin, or South Dakota must be tuberculin tested by a Federal veterinarian unless otherwise ordered. All cattle from Illinois to be tuberculin tested by Federal veterina-

rian or veterinarian approved in writing by State veterinarian of Illinois.

#### ILLINOIS.

*Hogs.*—Health certificate, except for immediate slaughter, stating that no infectious disease exists or has existed in the locality from which said shipment originated within a period of 6 months prior to shipment. In instances where a veterinarian is so far remote as to prevent examination an affidavit from the owner certifying the animals to be free from exposure to cholera for past 6 months will be accepted in lieu of health certificate. Certificate showing animals to have been immunized by the Dorset-McBride-Niles hog-cholera immune serum is desired where this treatment has been given, stating whether single or double treatment has been given, amount of serum injected, time of injection, and brand of serum used; also, animals must be dipped in a 2 per cent standard disinfecting solution prior to shipment if double treatment has been given; also, animals must be held 30 days after immunization if double treatment has been administered. Disinfected cars, crates, and yards to be used in moving all hogs into or within the State, except those for immediate slaughter.

*Sheep.*—Health certificate from States in quarantine. Animals must be free from disease. Notice must be given State veterinarian or nearest deputy, stating, by telegraph, telephone, registered letter, or in person, time and place when and where sheep crossed State line, locality from which they came, name and residence of owner or owners and person in control of same, and numbers, brands, and character of the animals. Sheep from quarantined States must be dipped once. Range bucks must be dipped twice after arrival.

Duplicate certificate of inspection to be forwarded this office by veterinarian making inspection, and railroad agent at port of entry into Oregon to forward shipping; also inspection data.

*Who may inspect.*—Official veterinarians, State or Federal, graduate veterinarians when approved in writing by State veterinarian or like officer for animals, excepting sheep. Sheep to be inspected by official veterinarians, if possible, State or Federal.

*Officials.*—State veterinarian and secretary, State live-stock sanitary board, Salem, Oreg.



## PENNSYLVANIA.

*Horses, mules, and asses.*—Must be free from transmissible diseases.

*Cattle.*—Apparently healthy calves under 6 months of age and those older for immediate slaughter can be admitted without a health certificate or tuberculin test. Southern cattle for immediate slaughter and those for temporary exhibition purposes can be admitted only on a special permit. All others are to be accompanied by health certificate and a satisfactory tuberculin test.

*Hogs.*—Must be free from transmissible disease. Hogs for purposes other than immediate slaughter, if hauled, must be transported in cleaned and disinfected cars or other conveyances. Such swine must not be handled through public stock yards or pens.

*Sheep.*—Must be free from transmissible disease.

*Who may inspect.*—State veterinarian, officially certified inspectors in the States from which cattle originate, agents of the Pennsylvania State live-stock sanitary board, and inspectors of the United States Bureau of Animal Industry.

*Official.*—State veterinarian and secretary State live-stock sanitary board, Harrisburg, Pa.

## RHODE ISLAND.

*Horses, mules, and asses.*—Ophthalmic mallein test, either before or after arrival.

*Cattle.*—Physical examination; if cattle suspicious, tuberculin test ordered by cattle commissioner.

*Hogs.*—None.

*Sheep.*—None.

*Who may inspect.*—Cattle commissioners of Rhode Island.

*Official.*—State veterinarian, Providence, R. I.

## SOUTH CAROLINA.

*Horses, mules, and asses.*—Health certificate. Mallein test of any exposed animals.

*Cattle.*—Health certificate, except when intended for immediate slaughter. Tuberculin test for dairy and breeding cattle over 6 months old.

*Hogs.*—Health certificate, except when intended for immediate slaughter.

*Sheep.*—Health certificate, except when intended for immediate slaughter.

*Who may inspect.*—Official veterinarians, State or Federal.

*Official.*—State veterinarian, Clemson College, S. C.

## SOUTH DAKOTA.

*Horses, mules, and asses.*—Health certificate, including mallein test, ophthalmic test being accepted.

*Cattle.*—Steers, health certificate; bulls and female cattle, health certificate and tuberculin test, except female cattle shipped direct from Mexico, the States of Texas, Arizona, New Mexico, Nevada, Colorado, Utah, Idaho, Wyoming, and Montana, which will be received on health certificate and affidavit of consignee that same will not be used, sold, or offered for sale for dairy or domestic purposes.

Shipments of female cattle from above points when not made direct must be tuberculin tested, the intradermal test being accepted.

All shipments originating in the State of New York, whether made direct or indirect, must be inspected and tested by an inspector of the United States Bureau of Animal Industry.

*Hogs.*—For immediate slaughter, health certificate; for breeding purposes, health certificate, and must be shipped in crates or cleaned and disinfected cars, and not loaded or unloaded through any public stockyards.

*Sheep.*—Health certificate. All bucks and pure-bred sheep for breeding purposes will be held in quarantine at State line or rail or boat destination for 60 days and dipped twice under State supervision. Live-stock sanitary board must be notified of probable time of arrival, that quarantine and dipping may be arranged for.

*Who may inspect.*—State veterinarian or one of his deputies of the State where shipment originates or an inspector of the United States Bureau of Animal Industry.

*Official.*—State live-stock sanitary board, Pierre, S. Dak.

## TENNESSEE.

*Horses, mules, and asses.*—Health certificate. Horses, mules and asses originating in a quarantined area quarantined on account of the existence of southern, splenic, or Texas fever outside of the State of Tennessee shall not at any time be transported, driven, or allowed to drift therefrom into any portion of this State unless they are dipped in a standard arsenical solution either at point of origin, in transit, or on arrival at destination.

*Cattle.*—For breeding and dairy purposes, health certificate, including tuberculin test of all cattle over 6 months old.

*Hogs.*—Health certificate. Hogs from public stockyards accepted for immediate slaughter only.

*Sheep.*—Health certificate.

*Who may inspect.*—State and Federal inspectors or other qualified veterinarians who are approved by the live-stock sanitary control official of the State in which the shipment originates.

*Official.*—State veterinarian, State Capitol, Nashville, Tenn.

## TEXAS.

*Horses, mules, and asses.*—Health certificate, including mallein test.

*Cattle.*—Dairy and breeding cattle over 6 months old and cattle for exhibition purposes at any fairs within the State must be accompanied by a certificate of inspection showing them to have been tuberculin tested within 60 days prior to time of entering the State.

*Hogs.*—Hogs for breeding and stocking purposes or hogs intended for exhibition at any fair within the State must be accompanied by a certificate of inspection showing them to have been immunized by the Dorset-McBride-Niles serum method and to have been dipped or otherwise disinfected in 3 per cent solution of cresol compound, U. S. P.

*Sheep.*—Health certificate, except when intended for immediate slaughter.

*Who may inspect.*—Federal, State, or other veterinarians whose certificates are indorsed by officials in charge of the live-stock sanitary control work in the State where inspections are made.

*Officials.*—Chairman live-stock sanitary commission, Fort Worth, Tex.; State veterinarian, Fort Worth, Tex.

## UTAH.

*Horses, mules, and asses.*—No horses, mules, or asses shall be admitted into the State unless accompanied by health certificate, including mallein-test chart; and no stallions or jacks shall be admitted unless accompanied by certificates showing that they are not afflicted with dourine, and mares must be certified to as being free from contagious abortion, the tests to have been made not more than 20 days next prior to date of shipment from State of origin.

*Cattle.*—For dairy or breeding purposes, health certificate stating that they are not affected with contagious abortion, and that they have been examined and subjected to the tuberculin test within 40 days prior to shipment and are free from tuberculosis or other contagious disease. In tuberculin and mallein tests at least 3 temperatures must be taken before the injection of tuberculin or mallein, and these not more than 3 hours apart, and 4 temperatures taken after injection not more than 2 hours apart, and beginning not earlier than 10 hours after injection.

*Swine.*—All swine shipped into the State must be accompanied by health certificate stating that they are free from any infectious or communicable disease and that no such disease has existed on the premises from which the swine were shipped for a period of at least 6 months prior to shipment. Further, said certificate must show that the swine have been immunized by the Dorset-McBride-Niles hog-cholera serum within 10 days of the date of shipment.

*Who may inspect.*—Veterinary inspectors of the United States Bureau of Animal Industry, State or deputy State veterinarians of the State in which the shipment originated.

*Official.*—State inspector, Salt Lake City, Utah.

*Sheep.*—When any owner or person in charge of sheep desires to bring such sheep into the State from an adjoining State they shall notify the State board of sheep commissioners in writing of such intention at least 10 days before entering the State, indicating the time and place where such sheep shall enter. Provided, however, that no notice will be required when sheep are in transit through the State on railroad cars.

*Official.*—President and secretary State board of sheep commissioners, Salt Lake City, Utah.

## VERMONT.

*Horses, mules, and asses.*—Must be accompanied by one of the three documents enumerated below:

(a) Permit from Vermont live-stock commissioner as for cattle.

(b) Certificate of inspection and mallein test by a veterinarian whose competency and reliability are certified to by the authorities charged with the control of live-stock sanitary work in the State in which inspection has been made.

(c) Certificate of inspection and mallein test signed by an inspector in the employ of the United States Bureau of Animal industry.

*Cattle.*—Must be accompanied by a permit from Vermont live-stock commissioner specifying the number of head and the State or county from which shipment is made and destination in Vermont.

*Hogs.*—None.

*Sheep.*—None.

*Who may inspect.*—Live-stock commissioner and his veterinarians. Tests made in another State for shipment into Vermont are accepted when approved by the proper official of that State.

*Official.*—Live-stock commissioner, White River Junction, Vt.

## VIRGINIA.

*Horses, mules, and asses.*—None.

*Cattle.*—Health certificate for dairy and breeding cattle, including tuberculin test made within the preceding four months.

*Hogs.*—Brought into Virginia for purposes other than immediate slaughter to be accompanied by certificate of health by qualified veterinarian properly indorsed by officials of State of origin showing animals to be free from cholera or exposure thereto for period of 6 weeks prior to shipment. Said certificate of health must be presented to State veterinarian of Virginia and approved by him before the animals shall be received into State.

*Sheep.*—None.

*Who may inspect.*—Inspectors of the United States Bureau of Animal Industry, State veterinarians, and qualified veterinarians whose certificates are approved in writing by the State

veterinarian or live-stock sanitary official of the State in which animals originate.

*Official.*—State veterinarian, Richmond, Va.

## WASHINGTON.

*Horses, mules, and asses.*—Physical inspection.

*Cattle.*—Tuberculin test for dairy and breeding cattle and special permit from the commissioner of agriculture.

*Hogs.*—Physical inspection and immunization.

*Sheep.*—Physical inspection.

*Who may inspect.*—State veterinarian, assistant State veterinarians, and inspectors of the United States Bureau of Animal Industry.

*Official.*—Commissioner of agriculture, Olympia, Wash.

## WEST VIRGINIA.

*Horses, mules, and asses.*—Certificate of good health from approved veterinarian.

*Cattle.*—Tuberculin test for dairy and breeding cattle over 6 months old; certificate of good health from approved veterinarian for feeding and grazing cattle.

*Hogs.*—Certificate of good health from approved veterinarian.

*Sheep.*—Certificate of good health from approved veterinarian.

*Who may inspect.*—State veterinarians or their assistants and inspectors of the United States Bureau of Animal Industry.

*Official.*—Commissioner of agriculture, Charleston, V. Va.

## WISCONSIN.

*Horses, mules, and asses.*—Health certificate for native horses. If from localities where glanders is prevalent, all shall be mallein tested. Range horses, branded western, mallein tested.

*Cattle.*—For dairy, breeding, or when mingled with or intended to be mingled with breeding or dairy cattle after being shipped into the State of Wisconsin, tuberculin test prior to shipment if 6 months old or over. Shipments of calves less than 6 months old shall have statement filed with the bill of lading that the calves are from tuberculin tested dams and fed

on milk from clean herds. The term "feeders," "stockers," or "stock cattle" shall be construed as applying to cattle to be shipped into Wisconsin intended or used for immediate feeding purposes, to be held on certain designated premises and not mingled with dairy or breeding cattle or cattle intended for dairy or breeding purposes. The owner or shipper or his agent who shall be in charge of such cattle shall file a certified statement with the State veterinarian that the cattle contained in such shipment will not be mingled with dairy or breeding cattle, and that he will in no manner dispose of same to anyone, within the State of Wisconsin unless for immediate slaughter within 10 days; that such cattle will remain in his possession until so slaughtered or reshipped out of the State. Such cattle shall not at any time be tuberculin tested after being shipped into the State of Wisconsin unless application has been first filed with the State veterinarian, who will designate a qualified veterinary surgeon to make such test, which shall be at the expense of the owner.

*Swine.*—Swine shall have certificate of health certifying to one of the following:

1. None shall have been treated with the "double method" within 30 days of shipment. If so immunized, state date of treatment.
2. If from district within 5 miles of hog-cholera outbreak, must either be immune or have had a treatment of "serum alone" not less than 10 days nor more than 30 days before shipment.

From noninfected districts shipment may be made by owner filing a certificate with the carrier, and a copy must also be sent to the State veterinarian at Madison certifying that such shipment originates from hog-cholera-free district.

*Who may inspect.*—Federal, State, assistant State, or veterinarians whose integrity and competency are vouched for by the official in charge in the State of origin.

*Official.*—State veterinarian, Madison, Wis.

#### WYOMING.

*Horses, mules, and asses.*—Health certificate.

*Cattle.*—Neat cattle, health certificate. All dairy cattle, bulls, and female cattle, registered or pure bred, over 6 months old,

health certificate, including tuberculin test. All cattle originating in the States of New York and Wisconsin must be accompanied by Federal health certificate and test chart. Cattle originating in an area under Federal quarantine for any disease must be accompanied by a health certificate issued by an inspector of the United States Bureau of Animal Industry.

*Hogs.*—For purposes other than immediate slaughter, health certificate showing them free from all contagious, infectious, and communicable diseases and certifying that no infectious, swine disease exists or has existed in the locality from which said shipment originated within the period of 6 months; otherwise certificate must show that they have been immunized by the Dorset-McBride-Niles hog-cholera serum not more than 30 days prior to date of shipment.

Live stock of any class originating in the State of Illinois will not be permitted to enter Wyoming.

*Who may inspect.*—Veterinary inspectors of the United States Bureau of Animal Industry, State veterinarians, or authorized deputies or assistants, or a graduate veterinarian whose reliability and competency are certified to by the proper State authorities in which the animals originate.

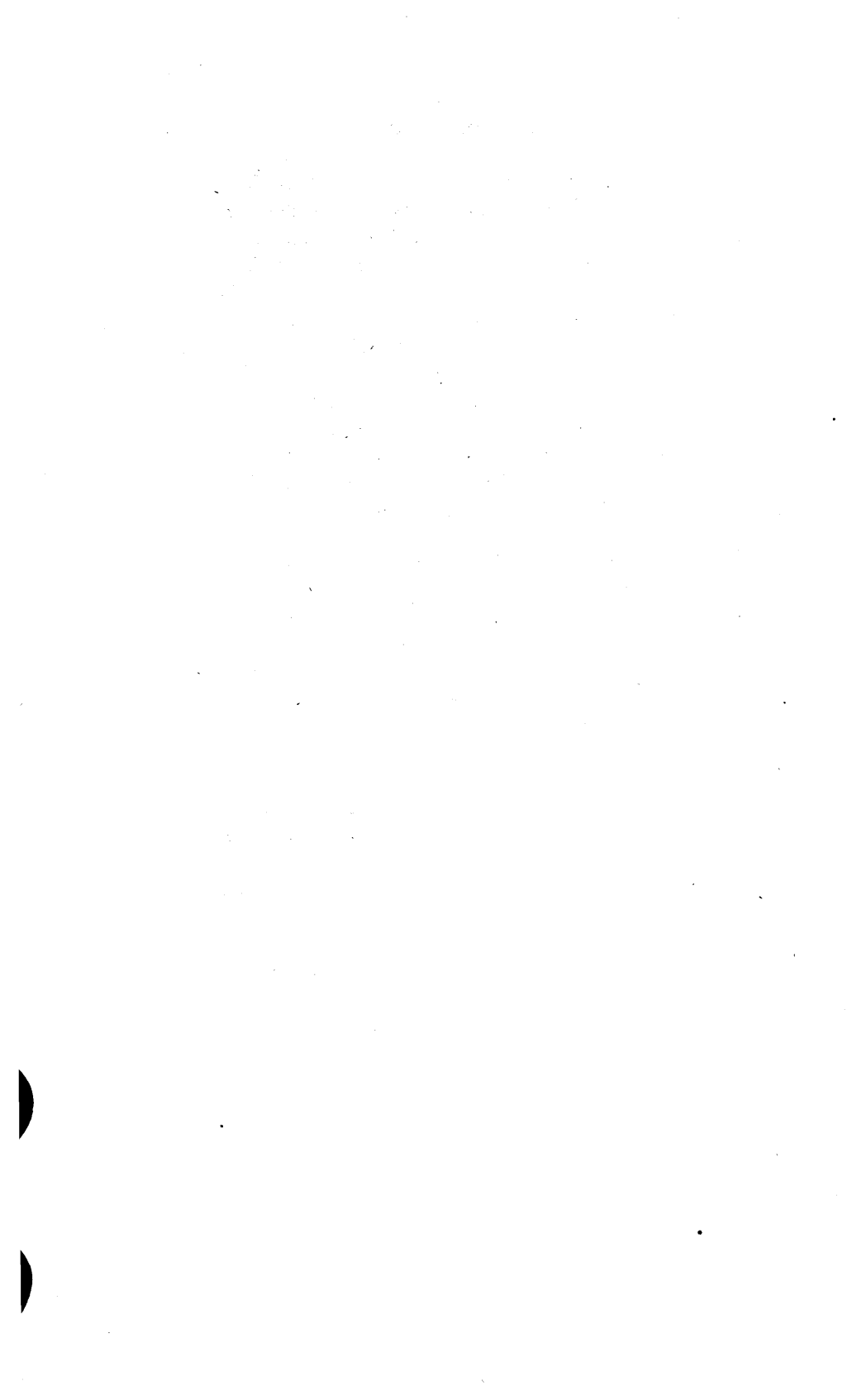
*Official.*—State veterinarian, Cheyenne, Wyo.

*Sheep.*—Send 10 days' notice to secretary State board of sheep commissioners, Cheyenne, Wyo., inclosing 3 cents for each sheep and 25 cents for each buck. All sheep to be dipped twice at destination within 15 days after arrival in a dip prescribed or recognized by the State board of sheep commissioners for scabies.

*Who may inspect.*—Federal or State inspectors.

*Official.*—Secretary-treasurer State board of sheep commissioners, Cheyenne, Wyo.





## INDEX.

	PAGE
Letter of Transmittal .....	3
Financial Statement .....	4
Annual Report .....	5
Glanders .....	6
Tuberculosis .....	7
Disposal of Tuberculous Animals .....	12
To Attempt to Eradicate Human Tuberculosis, etc.....	14
Milk License Records .....	16
Extracts from Bulletin No. 82, New York Department of Agriculture	18
1. What is tuberculosis .....	18
2. What is meant by localized tuberculosis.....	18
3. What is meant by generalized tuberculosis.....	19
4. What animals are subject to tuberculosis.....	19
5. Is tuberculosis contagious .....	19
6. Is bovine tuberculosis transmissible to the human family....	19
7. How should the consumer of dairy products protect himself against tuberculosis. ....	19
8. Can tuberculosis be cured .....	20
9. What is tuberculin .....	21
10. Will tuberculin produce tuberculosis .....	21
11. Does tuberculin in doses as used in common test methods affect healthy animals .....	21
12. How is the subcutaneous tuberculin test conducted.....	21
13. Is the tuberculin test accurate .....	23
Table showing number of cattle tested and condemned in each county for 1916 .....	23
Table showing number of cattle tested and condemned in each county for 1915 .....	24
Infectious Abortion .....	24
Hog Cholera .....	25
Importation of Horses .....	26
Importation of Cattle .....	26
Exportation of Cattle .....	26
Infection or Contagious Abortion.....	27
Extracts from a Lecture Delivered by the Live Stock Sanitary Commissioner .....	36
Stock Raising in Maine .....	47
Horse Raising in Maine .....	47
Aryshire Cattle .....	48
Guernsey Cattle .....	49

	PAGE
Brown Swiss Cattle .....	50
Holstein Cattle .....	51
Dutch Belted Cattle .....	52
Shorthorn Cattle .....	53
Hereford Cattle .....	55
Devon Cattle .....	56
Laws of Maine Relating to the Extirpation of Contagious Diseases	57
Rules and Regulations of the Live Stock Sanitary Commissioner ..	67
State Sanitary Requirements Governing the Admission of Live Stock	75