

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 1914

VOLUME III.

REPORT
OF THE
Live Stock Sanitary Commissioner
OF THE
STATE OF MAINE
ON
CONTAGIOUS DISEASES OF ANIMALS
1914

DR. A. JOLY, Live Stock Sanitary Commissioner
WATERVILLE, MAINE



WATERVILLE
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1915

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LETTER OF TRANSMITTAL.

To His Excellency, William T. Haines, 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, 1914.

Very respectfully,

ACHILLES JOLY, D. V. S.,
Live Stock Sanitary Commissioner.

FINANCIAL STATEMENT FOR THE YEAR 1914.

Appropriation \$50,000 00

EXPENDITURES.

Animals condemned	\$31,476 59	
Salary—Live Stock Sanitary Commissioner.....	1,500 00	
Salary—Clerk	500 00	
Veterinary services and traveling expenses.....	2,486 07	
Disinfection—Stables and cars.....	1,369 50	
Hog cholera serum	898 55	
Miscellaneous—Commissioner's traveling expenses, printing, express, telephone and telegraph, post- age and office supplies	1,920 14	40,150 85
Balance undrawn		\$9,849 15

RECEIPTS.

Net proceeds from sale of hides and carcasses.....	\$7,511 58
Total amount reverted to State Treasurer.....	\$17,360 73

STATISTICS OF CONDEMNED ANIMALS, 1914.

	No.	Amount.
Pure bred cattle condemned for tuberculosis.....	54	\$4,925 00
Grade cattle condemned for tuberculosis.....	438	19,481 50
Cattle slaughtered for beef, and carcasses condemned for tuberculosis	87	1,585 10
Grade cattle condemned at Brighton, Mass., for tuber- culosis, appraisal at \$6,000.00 after deducting \$3,528.51, amount allowed for hides and carcasses, leaving the net amount paid of	121	2,471 49
Horses condemned for Glanders.....	68	3,013 50
	768	\$31,476 59
Imported cattle condemned without appraisal.....	9	
Grade cattle condemned without appraisal at the wish of the owner	3	
Imported horses condemned without appraisal.....	4	
	784	

INTRODUCTION.

It appears from the census published by the United States Department of Agriculture on January 1, 1914, that the valuation of Maine Live Stock has increased from \$26,694,900.00 in 1913 to \$28,829,200.00 in 1914, figuring as follows:—

Horses 111,000 @ \$150 per head.....	\$16,650,000 00
Milch Cows 159,000 @ \$47.50 per head.....	7,545,500 00
Other Cattle 100,000 @ \$23.40 per head.....	2,340,000 00
Sheep 177,000 @ \$4.30 per head.....	761,100 00
Swine 97,000 @ \$15.80 per head.....	1,532,600 00

\$28,829,200 00

With such a large capital invested, Maine had the wisdom to enact laws not only to foster the live stock industry, but also to encourage it by granting a liberal appropriation to be expended for exterminating all insidious, infectious and contagious diseases that might be found among the domestic animals.

The duties of the Live Stock Sanitary Commissioner are to enforce these laws by following certain policies which should meet with the approval of the breeders, the farmers and the business men, and also with men familiar with our existing conditions, men who are acquainted with the subject of sanitation, and trained for that particular line of work.

The policy decided and mapped out when entering office in January, 1913, has been followed with consistency and has been carried out, we believe with good results.

In this report and in connection with the fourteen plates it contains, our work perhaps will be more plainly illustrated.

Maine maintains a quarantine at all times. No live stock can enter the state without a permit. During the year, 1576 permits have been issued, the requests being made, either by mail, dispatch, or telegraph, and at all hours of the day and night.

All imported horses and cattle are examined upon their arrival, at the owners expense, as provided by law. Maine pays more for condemned cattle than any other state in the Union,

and possibly this is one of the reasons why we are freer from bovine tuberculosis than any sister state.

Bills have been rendered monthly to the State Auditor, and with all bills paid, while no false economy has been pursued, we revert to the State Treasurer the sum of \$17,360.73.

TUBERCULOSIS.

Maine has the most adequate sanitary laws of any state in the Union, and these laws intelligently enforced will keep Bovine Tuberculosis under control.

1. No live stock (calves, cows, steers, oxen, or bulls), of any age, neither for dairying or breeding purposes, nor for slaughter can enter Maine without a permit.

2. The application of the tuberculin test is required at place of destination.

3. Investigations are ordered at the expense of the State, of herds where tuberculosis has been found, according to information received from Massachusetts officials at Brighton.

4. Investigations are ordered at the expense of the State, of herds where a tuberculous carcass originated; such information being received from local abattoirs or butchers.

5. Owners are assisted in disposing of cattle which have reacted to a private tuberculin test.

6. Cattle to be exhibited at our State Fairs must be tested; also in the case of a sale of a pure bred animal.

7. The co-operation with the local boards of health in the inspection of dairies with the tuberculin test.

During the year nine head of imported cattle were condemned out of 191. As an animal has to be in the state one year before an indemnity is allowed the owner had to stand his own loss.

One cow (Fig. 10), a pure bred Aberdeen Angus, came from Indiana, accompanied by a certificate of tuberculin test. Upon arrival, she was quarantined, tested, and re-acted. Post mortem revealed an advanced case of tuberculosis.

One Ayrshire calf (Fig. 13), imported from Massachusetts, also re-acted and tuberculous lesions were found at post mortem.

The investigation of a reported infected herd consists in applying the tuberculin test, condemning the re-actors and disinfecting the stables.

Our Maine cattle dealers have reported during the year 121 cases. This information has been of a great assistance in discovering the disease, and in stamping it out. I will cite the results in three instances.

Figure 1 shows seven condemned head of cattle out of a herd of 15.

In Figure 8 one can see nine head condemned out of 13, and in Figure 11, five tuberculous cattle were found out of eleven, in a herd where every animal was in a first class condition in appearance.

Our Maine butchers have reported 87 cases, and the investigations have been very interesting. Figure 2 shows where a farmer had sold to a butcher a cow which proved to be tuberculous. The inspection of the herd resulted in condemning ten out of 13 head.

Hogs sold to a meat dealer were condemned as tuberculous. Investigation brought the following facts: These hogs had been fed on skimmed milk; the herd was tested, three head were condemned out of eight (Fig. 3). Two more hogs which had also been fed on the by-products of these cows were on the premises (Fig. 4), they were also condemned and tuberculous lesions were found at post mortem.

From these sources of information we have investigated during the year, 208 infected herds, and in nine cases out of ten tuberculosis was found. Veterinarians have reported 161 private herds where tuberculosis has been found, so in all 369 infected herds have been cleaned out during the year.

Last July, tuberculosis was discovered in the Portland City Piggery. Investigation could not lay the cause to tuberculous milk, for these pigs had been fed on nothing else but unsterilized garbage collected from house to house by employees of the City of Portland. The disease must have been introduced by bacilli of human origin. The piggery is quarantined and the disposal of animals must be made under the direction of the Live Stock State Sanitary Commissioner.

Judging by the large amount of cattle tested, every year, it cannot be questioned but that farmers believe in the tuberculin test.

During the year, certificates of tuberculin tests have been issued to the owners of 1,822 herds.

With our present policy we cannot only keep bovine tuberculosis under control, but we can reduce it to a very small percentage.

While we are fighting the plague in tracing infected premises, we believe also in educating the people by public demonstration.

In September, at the Central Maine Fair, held in Waterville, six tuberculous cattle (Fig. 12), were exhibited under a tent. These cattle had re-acted to the tuberculin test. During the first two days of the fair, lecturers were in attendance to explain the tuberculin test to all visitors, and on the third day a public post mortem was held by a United States Meat Inspector, in presence of a large number of people. Physicians and Veterinarians were especially invited to witness the operation. In each case tuberculous lesions were found; this again demonstrates the reliability of the tuberculin test.

The tuberculin test will diagnose tuberculosis 98% correctly, when physical examination will fail 95%, as Figures 5 and 7 indicate.

Calves fed on tuberculous milk will contract the disease, (Fig. 9) and farmers should not feed skimmed milk, brought from the creamery, unless it has been sterilized.

GLANDERS.

Glanders is under control and will not increase as long as we require an inspection of imported horses at place of destination. Four horses were condemned as glandered upon their arrival, causing the owner a total loss, with the exception of one case where the seller reimbursed the buyer.

HOG CHOLERA.

During the last 12 months we have had 23 small outbreaks of hog cholera, affecting about 1200 swine; we followed the policy outlined in 1913, by using the anti-hog cholera serum, furnished by the State. We feel that we have had good results, but better results could have been obtained if, in many cases, the veterinarian had been notified sooner.

CONTAGIOUS ABORTION.

Contagious abortion has been reported from many localities in the State, and we regret to say that we have no practical and assured treatment to offer. Herds which are free from the disease, can stay clear, it is believed, by not coming in contact with other cattle. Several State Commissions and the Bureau of Animal Industry are making researches, and let us hope that in the near future some one will come to our assistance.

FOOT AND MOUTH DISEASE.

The present outbreak of Foot and Mouth Disease was first recognized in Michigan, the 19th of October. The contagion spread rapidly through the Chicago and Buffalo stock yards. The disease reached the Brighton stock yards, and was diagnosed on November 6.

Maine which maintains a quarantine at all times, in accordance with her Sanitary Laws, simply had to refuse the entrance of live stock. Consequently, since November 6, 1914, a strict quarantine has been observed. No cattle, sheep, swine or other ruminants have been allowed to enter our State. Realizing the amount of exposure the State had been through, inasmuch, as the same week that the Brighton Stock Yards were discovered infected, many of our Maine cattle dealers were there, and could have brought home the germ on their clothing, so as a matter of course, the following notice was sent to thousands of breeders and farmers. It was also published in several papers all through the State:

Foot and Mouth Disease.

Foot and mouth disease is an infectious malady caused by a virus.

SYMPTOMS:—"Two to seven days after exposure, the temperature of the cow rises 2 to 4 degrees, the pulse accelerates, appetite diminishes, shivering may be seen, while the hair is roughened, the muzzle hot and dry, the teats and membranes of the mouth become red, saliva drools or froths from the mouth and a characteristic smacking of the tongue is heard. Tender-

ness of the feet is shown by lameness and soreness. In two to three days large and small vesicles develop on the inner surface of the lips and cheeks, the gums, palate and top and borders of the tongue. The vesicles contain at first a clear, watery colorless or yellowish fluid, but this becomes cloudy and pearl-grey in color. The temperature falls with the appearance of the vesicles. After one to three days the vesicles rupture, the liquid escapes, and red, raw sores crust over and for a time remain as yellowish-brown spots. Simultaneously with the eruption of vesicles upon the mucous membranes of the mouth vesicles may develop, in cattle, on the muzzle and at the base of the horns and in hogs on the snout. In cattle the feet may become affected simultaneously with the formation of vesicles in the mouth but it usually develops subsequently to their appearance. Sheep, goats and swine do not commonly show severe lesions of the mouth, when attacked with the disease. In these animals the feet are most affected."

Farmers are urged both for their own protection and as a duty to their neighbors to report immediately all cases of suspicious sore mouths or lameness among their stock, to Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine. Investigations will be made at the expense of the State.

But few veterinarians in Maine had ever seen a case of foot and mouth disease, and if the invasion had reached this State it would have been a great handicap in the work of suppressing the epidemic. The Live Stock Commissioner admitting these facts, went with a party of veterinarians (Fig. 14) to Massachusetts to study the disease. Through the courtesy of the Bureau of Animal Industry at Washington, we, accompanied by Dr. H. E. Brown, a federal inspector, had the privilege of examining a herd of 28 cases in all stages, at Medford, Mass. After our visit, Dr. Brown immediately demonstrated, after going out of the barn, how to proceed to disinfect our clothing. We returned home, all equipped to fight the disease; so far we have been free from it.

OUR MILK SUPPLY.

No person wants to buy or drink milk produced by a tuberculous cow, and no owner of a herd of cattle has a right to

claim that his cows are free from tuberculosis, unless he has had them tested. Cities and towns depend upon their Boards of Health for action; it is up to them; they have not only the power, but it is their duty to see that the milk supply comes from non-infected sources. I submit here a copy of an ordinance which has already been adopted by several cities:—

RULES AND REGULATIONS

OF THE

BOARD OF HEALTH OF

RELATING TO THE SALE OF MILK WITHIN THE CITY OF

It is hereby ordained by the Board of Health of this City of, as follows, viz:

Section 1. No person, firm, corporation, association, or society shall at any time, by himself, his clerk, servant or agent, directly or indirectly, sell or offer for sale, or keep with intent to sell, any milk or cream within the City of, or deliver or bring the same therein for the purpose of sale, unless the cows from which the same shall have been taken shall have been examined by tuberculin test, applied by some veterinarian approved by this Board and the Live Stock Sanitary Commissioner, and a certificate of such examination, giving the name and residence of the owner or keeper of the cow, and a description sufficient for her identification, and the place and conditions as to the food and drink furnished or to be furnished such cow, and showing that such cow is healthy and free from disease, shall have been filed with the Secretary of this Board.

Section 2. Veterinarians for such examination must be approved by this Board and by the State Live Stock Sanitary Commissioner, and their approval may be revoked at any time, but their certificate shall remain in force one year and no longer.

Section 3. Whenever any contagious or infectious disease exists in the family of either a milk producer or milk dealer, or any agent or servant of said milk dealer or producer, such milk producer or milk dealer or agent or servant shall within twenty-four hours notify the Secretary of the Board of Health in writing.

Section 4. Any violation of the foregoing by-laws by any person, firm, corporation, association or society shall be deemed a misdemeanor, and upon conviction thereof such person, firm, corporation, association or society shall be punished by a fine of not more than \$50.

Approved

Justice of the Supreme Court.

The above ordinance was passed by the Boards of Health of Lewiston and Auburn in 1914, and the inspection resulted in condemning 107 tuberculous cows in 45 different herds, affecting the whole output of milk of over 500 cows.

IMPORTATION OF HORSES.

We have been able to keep an exact account of the number of horses brought into Maine which amounted to 7,531, at an estimated value of \$1,500,000.

These horses have been examined at place of destination and four were condemned as glandered.

IMPORTATION OF CATTLE.

During the year we have received 191 head of pure bred cattle, from different parts of the United States.

Regardless of any previous test these animals were tested at place of destination and nine head re-acted and were condemned as tuberculous. For immediate slaughter we imported 3051 head of cattle.

IMPORTATION OF SWINE AND SHEEP.

In accordance with report received 503 pigs were brought into the State for breeding purposes, and 17,940 for slaughter. Nine pure bred sheep were imported for breeding purposes and for slaughter, 2174.

EXPORTATION OF CATTLE.

Maine has shipped during the year 5,060 milch cows to Brighton Market. Upon their arrival they were tested with tuberculin and only 121 head were condemned as tuberculous,—a percentage of 2 2-5.

These figures are very gratifying and one can form an opinion of the percentage of bovine tuberculosis among our dairies when we must consider that those 5,060 milch cows were bought from as many different and scattered herds all over the State.

By subtracting the amount of 5,060 milch cows from the whole number shipped to Massachusetts, as the table below shows, it will leave a balance of 9,217 head of cattle that were exported for beef.

LIVE STOCK SHIPPED WEEKLY FROM MAINE IN 1914, TO
WATERTOWN AND BRIGHTON LIVE STOCK YARDS,
MASSACHUSETTS.

Date.	No.	No.	No.	No.
1914.	Cattle.	Sheep.	Calves.	Hogs.
Jan. 6.....	348	332	588	161
13.....	302	593	532	137
20.....	303	470	492	137
27.....	213	329	398	132
Feb. 3.....	309	120	453	168
10.....	314	157	688	147
17.....	204	116	519	125
24.....	352	191	559	163
Mar. 3.....	272	42	703	143
10.....	274	90	706	156
17.....	270	49	762	276
24.....	344	41	843	210
31.....	336	7	843	171
April 7.....	219	31	860	150
14.....	155	8	586	206
21.....	186	11	462	225
28.....	212	33	799	262
May 5.....	193	17	852	285
12.....	221	43	1198	324
19.....	198	41	1098	175
26.....	161	44	839	261
June 2.....	167	6	837	166
9.....	179	12	866	223
16.....	261	31	995	152
23.....	165	131	1011	169
30.....	201	4	805	129
July 7.....	148	12	644	125
14.....	178	32	839	157
21.....	205	15	784	362
28.....	239	33	576	203
Aug. 4.....	255	120	598	167
11.....	349	249	841	194
18.....	334	678	815	300
25.....	363	205	1238	195
Sept. 1.....	302	978	919	212
8.....	302	910	838	252

	15.....	361	2178	774	179
	22.....	488	5104	827	285
	29.....	376	3040	839	252
Oct.	6.....	406	2102	809	198
	13.....	254	2586	737	131
	20.....	249	1758	1028	60
	27.....	375	1895	890	225
Nov.	3.....	399	2185	722	65
	10.....	212	2177	399	50
	17.....	617	2342	693	362
	24.....	317	1667	274	131
Dec.	1.....	386	835	589	238
	8.....	267	726	397	6
	15.....	223	635	291	2
	22.....	255	308	316	20
	29.....	58	27	187	20
			<hr/>	<hr/>	<hr/>
		14,277	35,738	37,258	9,244
Shipment during 1913.....	13,152	25,011	35,294	14,059	

DISPOSAL OF TUBERCULOUS ANIMALS.

Cattle condemned by the tuberculin test are called re-actors, and ear number tags are used for identification; they are immediately shipped to an abattoir which maintains a United States Government Meat Inspection; they are slaughtered, and disposed of according to the requirements of the Government Meat Inspection Laws. At the present time the E. W. Penley Abattoir of Auburn is the only establishment in Maine under United States Government supervision.

The result of the post mortem is kept on file, every condemned animal can be traced, and the veterinarian who has applied the tuberculin test has to account for the reliability of his work.



FIGURE 1. Seven tuberculous cattle condemned out of a herd of fifteen, February 15, 1914. The owner of the herd had sold one cow to a cattle dealer; it was condemned, and found tuberculous, at Brighton Market. An investigation was ordered by the Live Stock Sanitary Commissioner with the above result.

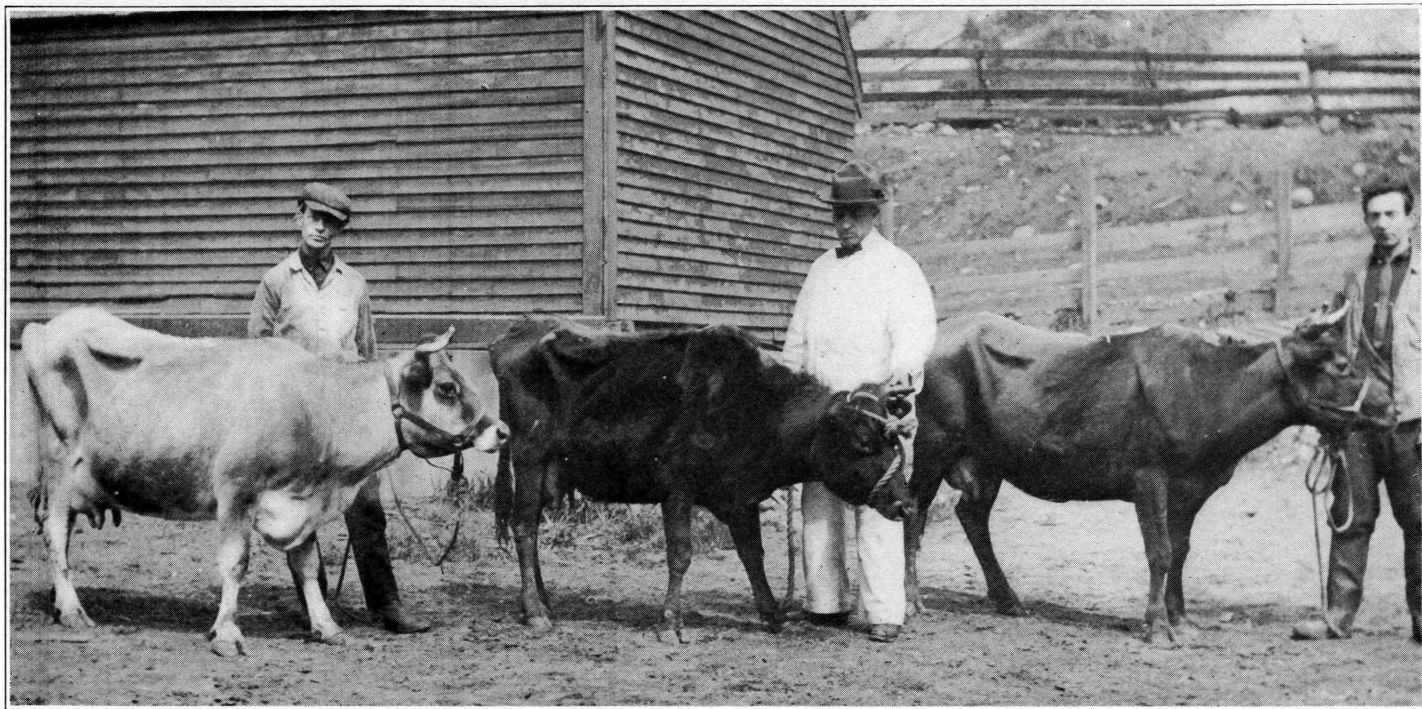


FIGURE 3. Hogs were sold to a meat market. They were found tuberculous when slaughtered. An investigation was ordered. The hogs had been fed on skimmed milk. The testing of the herd of eight cows resulted in condemning three head. May 8, 1914.

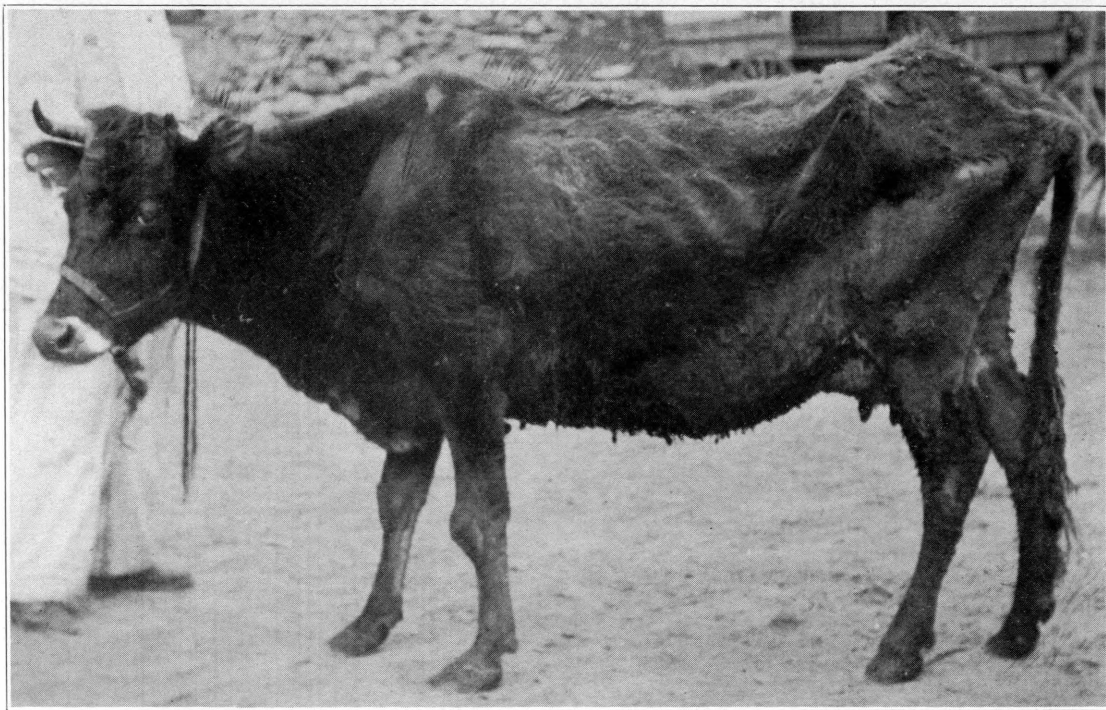


FIGURE 5. Cow condemned by a physical examination. No tuberculous lesions were found. April 28, 1914.

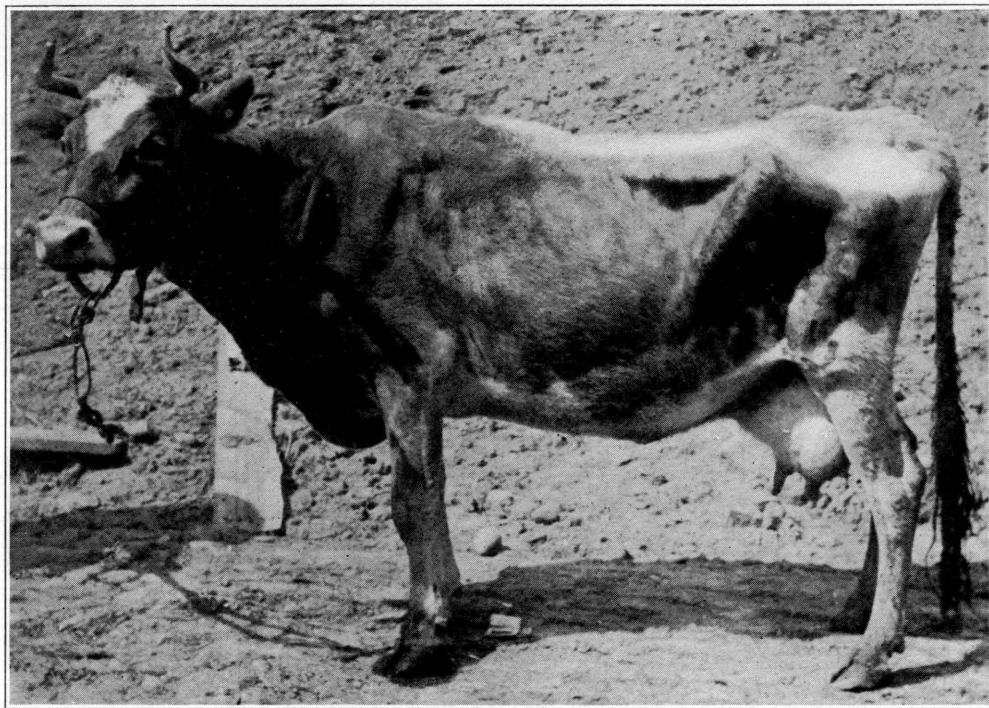


FIGURE 7. Cow condemned by a physical examination. No tuberculous lesions were found. A chronic case of Broncho-pneumonia. May 14, 1914.



FIGURE 9. Four one year old heifers reacted to the tuberculin test. Post-mortem showed advanced cases of tuberculosis. November 16, 1914. These calves during the winter of 1913-14 had been fed on milk produced by an infected herd. Early in the spring they were turned out in the pasture, and upon returning to the barn, they were tested, giving the above result.



FIGURE 11. Five tuberculous cattle out of a herd of eleven were found tuberculous and condemned, following an investigation, after having received the information that one cow, originating from the herd, had been found tuberculous. These cattle were in a first class condition.

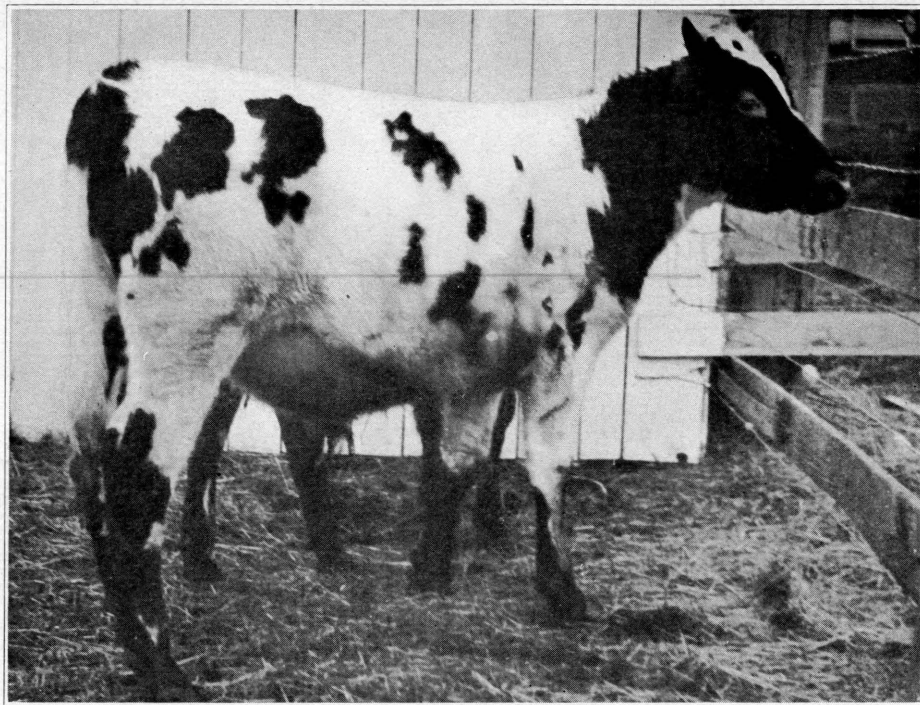


FIGURE 13. Pure bred Ayrshire calf, seven months old, imported from the State of Massachusetts, was tested and condemned. Tuberculous lesions were found at post-mortem. October 17, 1914.

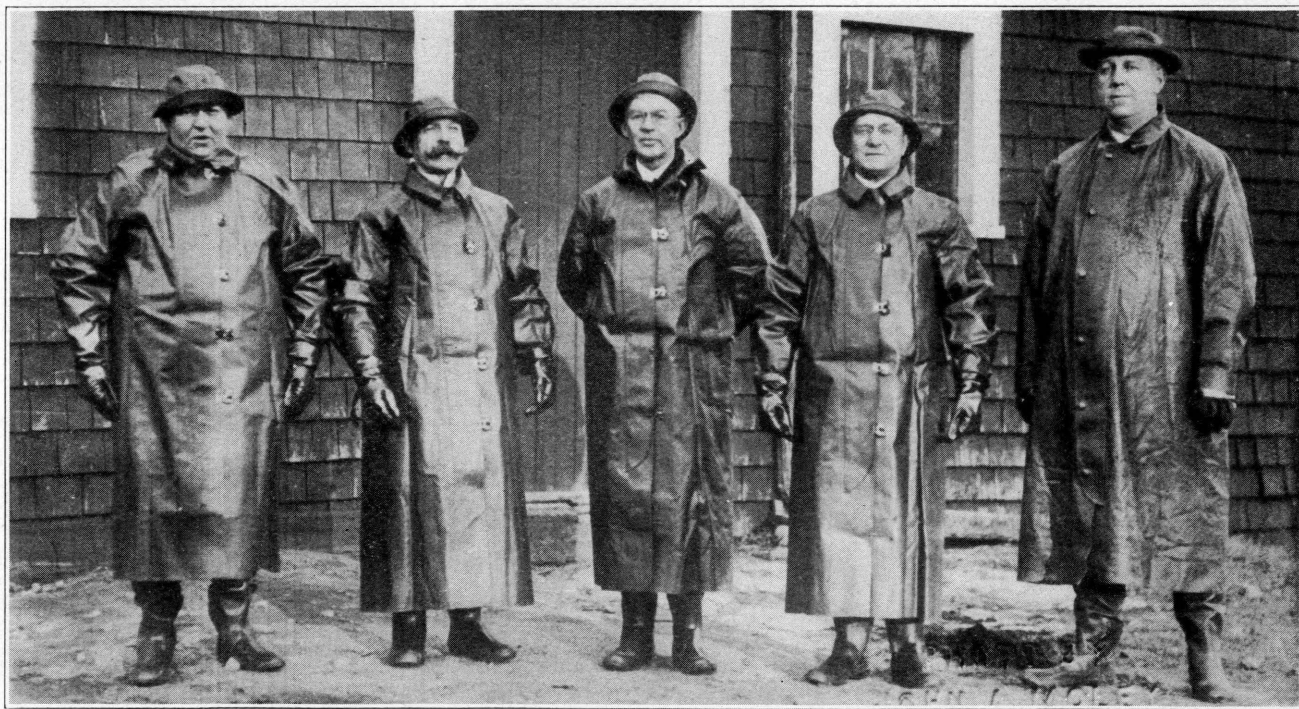


FIGURE 14. Maine Official and Veterinarians at Medford, Mass., visiting a herd of twenty-eight head of cattle affected with foot and mouth disease, November 24, 1914. Left to right: Dr. I. L. Salley of Skowhegan; Dr. W. H. Lynch of Portland; Dr. A. L. Murch of Bangor; Dr. A. Joly, Live Stock Sanitary Commissioner; Dr. H. E. Brown, Federal Inspector

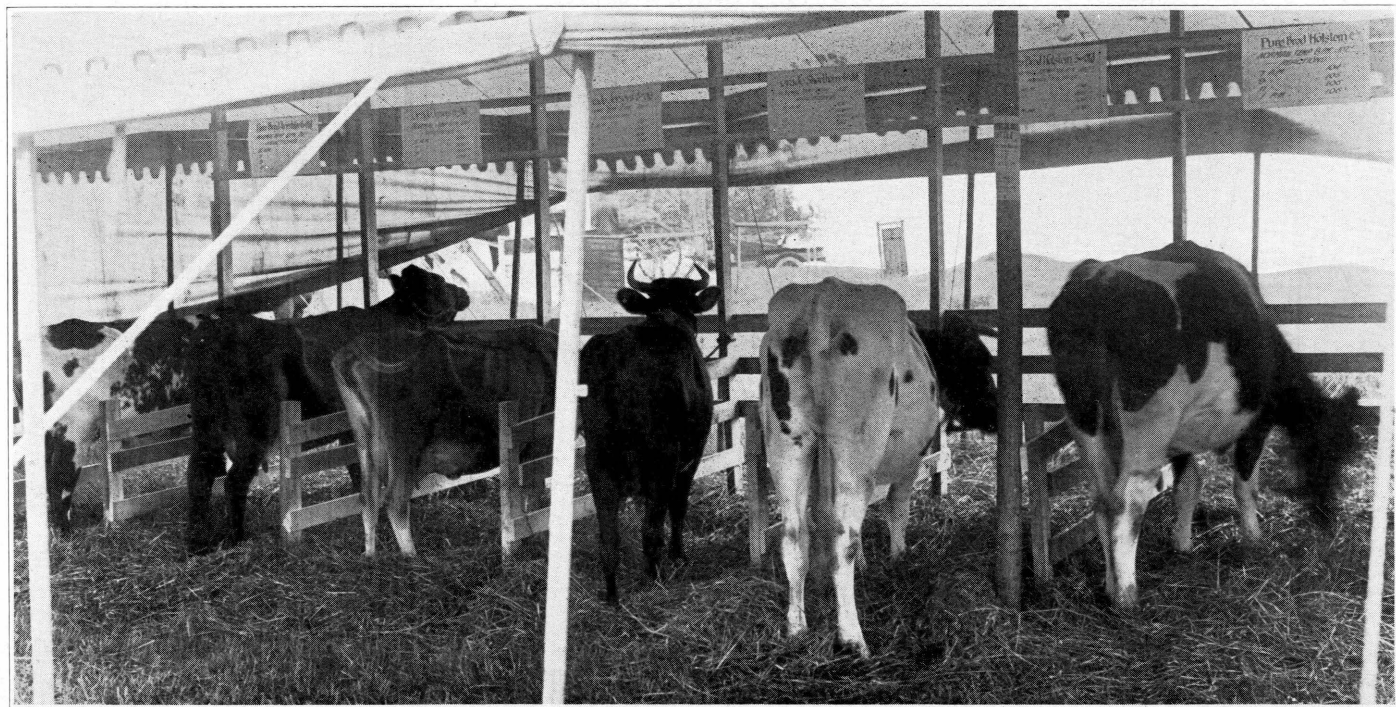


FIGURE 12. Exhibit of six tuberculous cattle at the Central Maine Fair, September 3, 1914. A public post-mortem was held on the fair grounds, in presence of several physicians and veterinarians. In every case, tuberculous lesions were found.



FIGURE 10. Pure bred Aberdeen Angus, imported from the State of Indiana, accompanied by a certificate of tuberculin test. The animal was quarantined, retested and condemned. Post-mortem revealed an advanced case of tuberculosis. October 7, 1914.

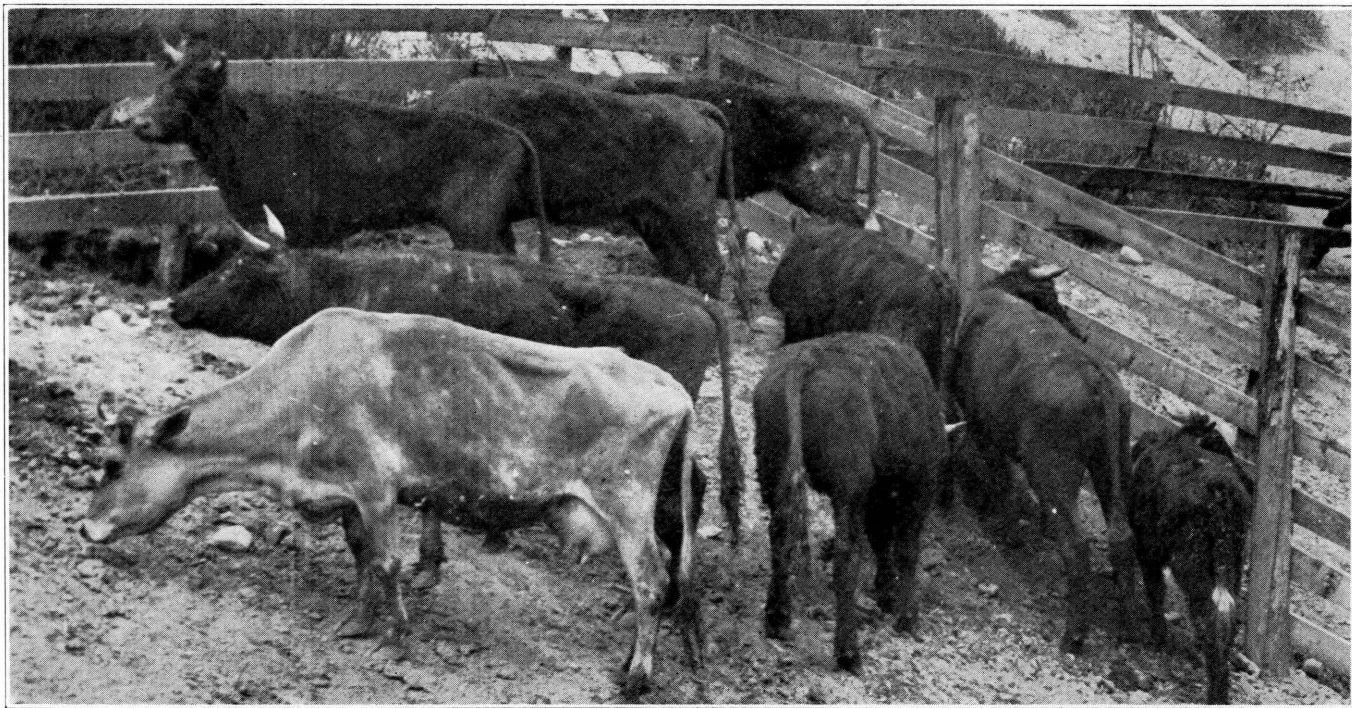


FIGURE 8. Nine head out of a herd of thirteen were condemned as tuberculous. The owner had sold a cow which had been found diseased at Brighton. Investigation followed. May 15, 1914.

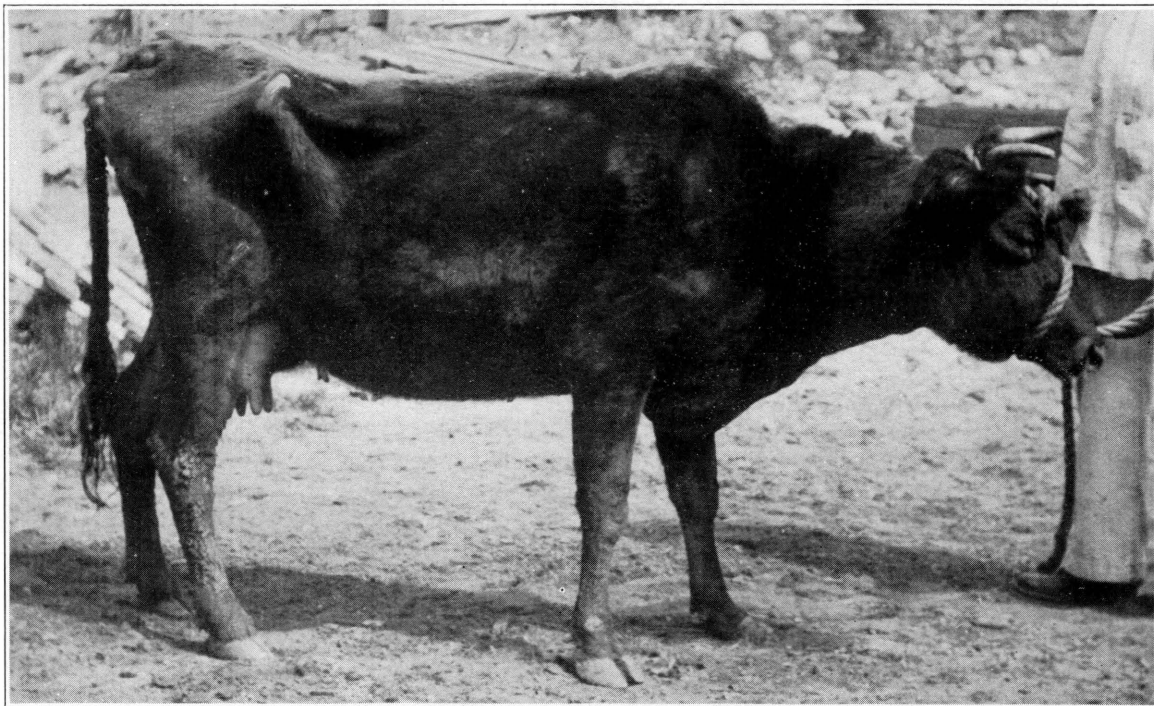


FIGURE 6. The above cow reacted to the tuberculin test. No tuberculous lesions were found at post-mortem. May 12, 1914.

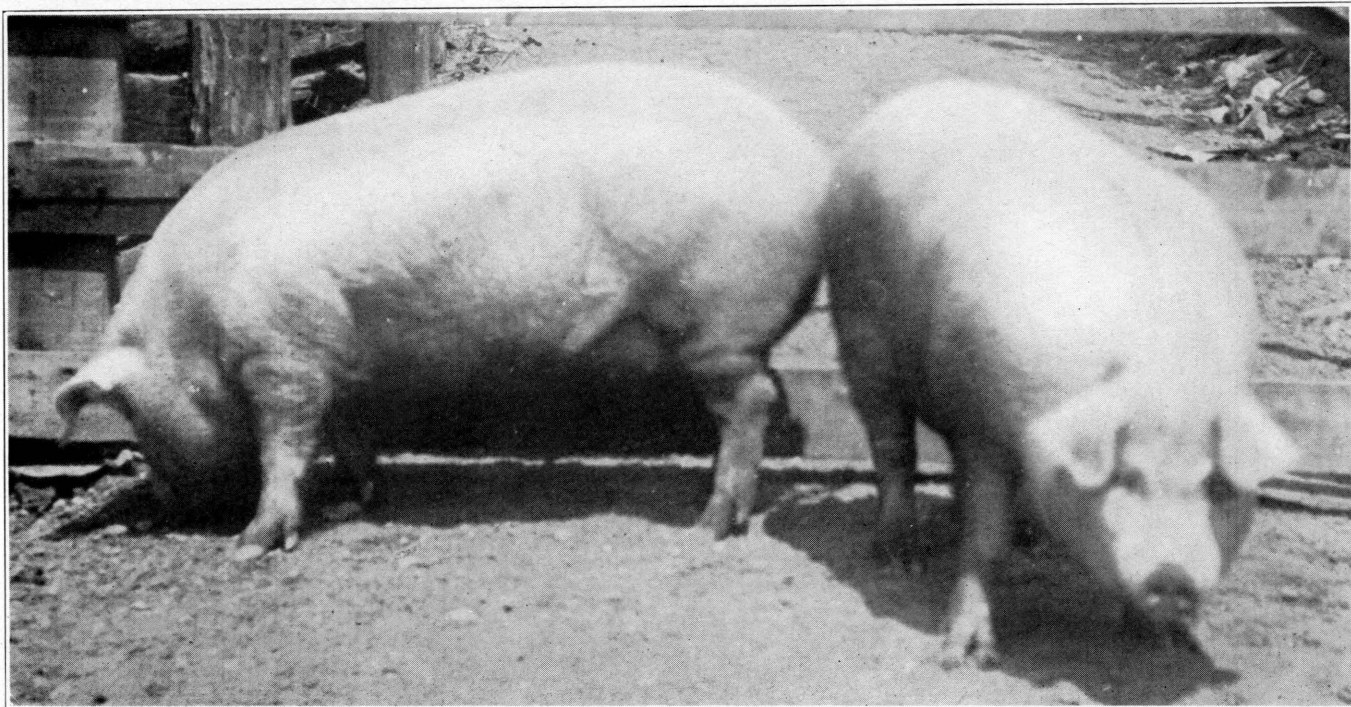


FIGURE 4. These hogs having been fed on skimmed milk from the same herd as those in Figure 3, were condemned, and at post-mortem tuberculous lesions were found in both. May 8, 1914.



FIGURE 2. A farmer had sold to a butcher, a cow which was found tuberculous when slaughtered. Investigation of the herd discovered ten more cases out of thirteen. April 2, 1914.

MAINE LIVE STOCK INDUSTRY.

By DR. A. JOLY, Live Stock Sanitary Commissioner.

Read before the State Board of Trade at Portland,
March 24th, 1914.

The subject assigned to me is so vast and so important that, in the brief space of twenty minutes allotted me, I can offer you but a few thoughts to consider.

Maine has over 28,000,000 dollars worth of live stock. Maine appropriates \$50,000 a year to carry out its sanitary laws, governing the moving of domestic animals, facilitating and encouraging the live stock interests, and extirpating or controlling all infectious and contagious diseases, that may exist among cattle, horses, sheep and swine,—and especially tuberculosis.

During this past year we have condemned 1021 animals that were a menace to public health and to our live stock industry.

Sixty-seven horses were found affected with glanders, and 954 head of cattle were condemned as tuberculous. Nevertheless, we feel that we have glanders, and even tuberculosis under control, and can keep it so, if our local boards of health will cooperate with us.

It is of the greatest importance that our milk supply comes from tested herds; it is a protection that we owe to the consumers. It cannot be denied that bovine infection is transmissible to man, and principally to infant through tuberculous milk. This fact has been established. No local board of health should allow milk sold unless produced by a tuberculin tested animal; and no man has a right to claim that his cows are free from tuberculosis, unless he has had them tested. So it is up to you, business men of the State Board of Trade, to see that your respective localities elect men on your local boards of health who understand their duties, and see that such laws are carried out.

Maine with 60,000 farms and with 3,000,000 acres of tillable land,—an average per capita of about four acres, it would seem, should produce at least what it consumes. Yet statistics show that we import over seven million dollars and a half worth of western grain, yearly; we import butter, cheese and even cream.

We import 650 carcasses of beef a week, an approximate cost of \$2,839,200 a year. With the importation of mutton, pork and canned meat, it would figure out to over three million dollars a year.

During 1913, we imported 8,000 horses, mostly draft horses, at a cost of \$1,500,000. Our importation in grain, in cattle, and in horses, amounts to \$12,000,000 a year.

Maine should raise its own horses. Reports have been received from about 10,000 correspondents of the Bureau of Statistics of the Department of Agriculture, upon the cost of raising colts on farms to the age of three years. The average for the United States is found to be \$104. Even at this apparently high cost, it would be profitable.

To begin with, it would mean \$104 saved, \$208 on a pair; and at the age of three, a pair of draft horses will earn far more than their living, and at the age of four or five, they would be worth at least \$500.

Farmers should buy mares instead of geldings. They do not cost any more to feed, and they can be bred at such a time of the year as not to interfere much with the work on the farms.

To encourage horse breeding, perhaps it might be advisable for the State to own a few stallions, systematically distributed throughout the breeding districts during the season as is done in France, where all breeding stallions are either owned by the government or have government authority to stand for service.

Thirty years ago, Maine had 351,000 head of cattle; 105,000 more head than she has at the present time. Thirty years ago, Maine had 577,000 sheep; 457,000 more than she has today. We have 40,000 swine compared with 71,000 in 1884. With the decrease in live stock, the improved land has been reduced by 124,000 acres.

In order to render justice to our tilling land, we must raise more live stock, and with more live stock, it means more fertilization, which would allow us to raise our own grain.

"Of all the various kinds of stock raising, dairying is the most profitable, and it pays a higher possible income when properly conducted, than any customary vocation on the farm. At the same time, it will put the farm in a higher state of cultivation." But every farmer in Maine cannot be a dairyman; a man has to have some adaptation in that direction. While a man might fail as a dairyman, he might be successful as a raiser of beef animals.

Beef can be raised at a profit in Maine; there is no question about it, and why not? Our predecessors, thirty-five years ago, raised beef and were prosperous and raised large families, and Maine was richer by 124,000 acres of improved land than she is today.

"The raising and fattening of prime beef is the perpetual asset and industry of the farmers of England and Scotland, and has been for 150 years. All the world knows to what degree these British farmers have been successful, and they can raise beef at a profit, even on high priced land.

Canada, with its cold climate and long winters exported to this country during 1913, 210,978 head of cattle valued at \$6,871,667.

If there was no profit for the Canadian farmers in raising beef animals, the small province of Saskatchewan would not have appropriated \$500,000 to foster its live stock industry.

Beef and dairy cattle, hogs and the mutton breed of sheep are to be accepted as security by the provincial government, provided all males are pure bred, and females are high grades.

The Grand Championship of the International Live Stock Show held in Chicago last December, was awarded to a steer, fed on anything but corn, and which was raised by J. D. McGregor of Manitoba.

The same can be done in Maine; but we must improve our method of farming and adopt the system of crop by rotation. Much of our land, it is true, is too rough for the cultivation of crops and must be kept in permanent pastures; but these same pastures could be improved with little work. Our farms should be fenced and cross-fenced, so that hay fields could be used as pastures at certain times of the season when the grass begins to fail.

On the 8th of last December, on my way from Chicago to Montreal, I noticed, going through Michigan and the Province of Ontario, herds of cattle, hogs and flocks of sheep grazing in hay fields, well fenced.

Our sheep industry is deplorably on the decrease, when sheep can be raised at a profit and with hardly any labor.

Swine industry is also neglected when it should be considered as a mortgage lifter.

“Live stock upon the farm should be regarded as machines for manufacturing agricultural products into forms more concentrated and possessed of a higher value. These products can be shipped to better advantage than the materials could be from which they are made, since, ordinarily, the cost of shipping decreases with the increase in the concentration of the product shipped. The concentration thus secured, is usually very marked, as for instance, when bulky foods are turned into milk and flesh. In addition to the freight thus saved, much coarse and bulk food grown upon the farm, otherwise largely wasted, is given a money value.

“The straw of what is termed the small grains and corn stover, that is, corn stalks without corn, would be turned into money.”

While the animals are thus employed, so to speak, in manufacturing food into more concentrated products, they give back to the farms the greater part of the fertility contained in the food, where the management is correct.

Whenever, therefore, the living animal is used as a machine, it is important that this living machine do its work to the best advantage and for that reason, animals of the right type should be chosen for the purpose when once decided upon.

For dairy purposes, we have the Jersey, the Holstein, the Guernsey, the Ayrshire and the Dutch Belted; and for the beef type of cattle, we must choose from the Shorthorn, the Hereford, the Polled Durham, the Aberdeen Angus, the Galloway and the Sussex.

We must improve our breed of cattle, and get rid of our scrubs as fast as possible. We should have more pure bred animals, and it does seem that the time has come for Maine to go into raising beef and more sheep and more hogs, when one takes into consideration the shortage of meat animals all through

the United States. According to estimate by the Department of Agriculture, a shortage is shown of 18,259,000 meat animals, in the United States since 1910. Combined exports of cattle, hogs and sheep during 1913 were valued at only \$895,603, compared with \$3,553,349, in 1912 and \$14,289,509 in 1911, and all prospects are that export trade in live stock during 1914 will be even lighter than that of 1913.

Maine should begin to produce what it consumes and supply its home market. In 1913 we imported 33,800 head of cattle in carcasses to supply our meat market. On the other hand, we shipped to Watertown and Brighton stock yards 35,924 calves. These 35,000 calves should have been kept and raised on our Maine farms for our own consumption. To control our market we must have state meat inspection; for our people want the best and will not buy uninspected meat. During 1913, Maine shipped 7580 head of beef animals to Watertown and Brighton stock yards. It is true that a large amount were bologna cows, but there were some 2,500 fat animals from Maine slaughtered in Massachusetts, under United States Government Meat Inspection, and part of it was shipped right back to our local market, and forced us to pay freight both ways.

To increase our live stock industry, more capital is needed; according to our bank commissioner's report, two-thirds of our 60,000 farmers are free from mortgages, so that our capitalists could be easily secured and there could be no trouble in raising funds. Mr. G. A. Ryther, Vice President of the National Live Stock Bank of Chicago says:

"There can be no more desirable loan than one on cattle in the feed lot, making daily gains in weight, as each pound added increases the value of the security. Even in the West, the element of risk has been largely decreased in recent years, as the practice of winter feeding has become general.

"During the past quarter of a century, the nature of the business of financing and grazing operations has undergone a radical change and today we find cattle and sheep paper acceptable by banks in every part of the country. At such live stock centers as Chicago, Kansas City and Omaha, it is standard, but even in New York and New England banking centers, this class of security finds keen purchasers. The country banker carries it among his assets with confidence and private individuals seek it as a means of incrative investment."

In North Dakota, if a farmer desiring a loan can show he has milch cows and is raising feed, he stands a better chance to get what he wants than the farmer who is growing grain only. Some banks even offer special inducements to settlers to buy cows. One of these banks owns a tract of land which they offer for sale on a milch cow basis. The scheme is novel and interesting, as it shows how much confidence is had in the future dairying and stock raising possibilities. The terms which the bankers offer to settlers are as follows:

He must have five milch cows, two mares and enough machinery to grow a crop of alfalfa, corn, millet or other fodder. Nothing else is demanded. With the cows, mares and machinery, he may move onto the land without paying a dollar and live on it two years. At the end of that time, he agrees to pay \$100 of the principal and \$100 each year afterwards with interest at the rate of 6%. When 60% of the principal has been paid, the purchaser is given a deed and the banks take a mortgage for the balance."

Maine Live Stock Industry is the most vital industry of our state, of all other industries combined, and in order to give it a renewed activity, and all the necessary encouragement, gentlemen of the State Board of Trade, it demands your moral and financial support, by assuring the farmers who have to take chances with the uncertainty of the weather, that whenever the crops are not adequate to the requirements, they can step in any of our banks, and feel that they will be welcomed and readily assisted.

THE BREEDING AND TRAINING OF DRAFT HORSES.

By DR. JOHN A. NESS, of Auburn.

Eighth Annual Farmer's Week at the University of Maine,
March 12th, 1914.

The breeding of domesticated animals for the various purposes to which they are adapted has been practiced from the earliest times. The oldest writers on Agriculture gave directions for the breeding and improvement of live stock, and many of their maxims are repeated today as the best practical guides to the breeder. The breeding of draft horses in our State of Maine and all over New England demands much greater recognition among our farmers than it is receiving at the present time.

Let us consider a few of the principles which underlie successful breeding. Essentially we have heredity, breeding and feeding.

Heredity so well expounded by Darwin is the perpetuation of like characteristics in parent and offspring. The general principles which govern the transmission of hereditary qualities from parent to offspring are without doubt the same throughout all animal life, and forcibly expressed in the familiar saying "Like begets like," and as an influence of this generally accepted law of the animal organism, we would naturally breed from the best. This selection of the "Best" must not continually change, else no progress can be made. Good breeding and good feeding are very necessary in the successful production of the draft horse. Each of these factors are absolutely helpless without the other. The breeding of a horse of course means his pedigree, which, as you all know, consists of the names of the ancestors for a greater or less number of generations. Its value consists not so much in the number of generations through which the

ancestry can be traced to some progenitor, as in the quality or character of the ancestry, or the merits of the individuals that compose it.

Of equal importance is the feeding. It is of the greatest importance in the production of draft horses to give the colt every chance to grow and develop, especially during his first year and a half. With good breeding all that is needed is that the colts be given a chance to make something of themselves.

There are several recognized breeds of draft horses for the intending breeder to choose from. We have the Percheron, the draft horse of France, the Belgian draft, the Clydesdale of Scotland, the Shire and Suffolk Punch of England, and others, but the above mentioned are the breeds imported mostly to this country. It is not the purpose here to dwell on any one breed, as they all, like ourselves, have their qualities and faults, and we all have our likes and dislikes. For the purpose of description, I will try to enumerate the points necessary in a good draft horse of any of the breeds.

SELECTION OF SIRE.

Having made your decision of "breed," you set about for the individual of that breed that is your ideal as near as possible. Investigate his pedigree and individuality.

A general inspection or walk around the horse will tell a horseman at a glance if he is anything you want. Then, the most important point in close inspection is the foot. It is a generally accepted fact "No foot, no horse." In shape, the medium between a flat and a mule foot is preferable, of good size, with a large degree of concavity in the bottom. They must be firm and elastic, without cracks and free from brittleness.

The fore and hind legs must be set on straight, as an in or out toed horse is very objectionable. The pasterns of medium length and set on oblique, so as to give the necessary elasticity to counteract the concussion caused by the firm step. If long, they are weak; if short and upright, they are liable to knuckling. The knee joint should be broad and flat. The hock wide from before backwards, giving the leg a somewhat crooked appearance rather than straight, the former giving strength. Length of bone short from the knee and hock to the pastern.

When standing the hocks should tend to be close together. The indication of a good leg is firmness, hardness and smoothness to the touch, showing the entire absence of adipose tissue, large and well defined joints entirely free from any abnormal appendages.

The head should be of medium size in proportion to that of the body, forehead broad between the eyes, tapering upwards in the direction of the ears. The jaw broad and not loaded with flesh. The nasal bones if not straight slightly arched; but not dish-faced. The muzzle not too refined or tapering with a well dilated nostril. The eye bright and dark, full and vigorous, yet mild. The ears of good size tapering to a point; neither hanging, showing sluggishness, nor prick eared, but with frequent action, indicative of a good disposition. Such a description of the head rarely finds a vicious temperament, which latter must be detested in a breeding sire.

The neck of good length, clean cut at the jaws and well set on at the shoulders, with a gradual tapering but slight arch from the occiput to the highest point of the withers. The chest must be broad, deep and full; a hollow chest suggesting weakness. The shoulder sloping and well set on at the withers. The back short and strong, ribs good depth and rounded barrel shaped. He should be full at the heart, and girth well, allowing plenty of room for the expansion of healthy lungs. The length or depth of the body at the last rib should be great, as this is too often a defect in draft horses and a serious one, as it suggests a poor feeder and also gives him a leggy appearance. The hind quarters of good length, level and well muscled, thigh being well developed and strong with high tail setting. Finally and very important is his *action*. First at the walk, then slow trot led straight away from you. He must go straight on his legs with a frictionless, easy, graceful motion.

The general management of the sire is of the greatest importance. It is a great mistake to have the sire in fine show condition when the season opens, and apparently in the pink of condition. He is not so well fitted for service in the stud as he would have been had his extra feeding been dispensed with. Such treatment is a drawback to a horse as a foal getter. The point to be arrived at in the stable management of the sire, is so to *feed, groom and exercise* as to keep the horse up to the

highest pitch of strength and vigor. He must be well and regularly fed on healthy, nutritious feed, with daily exercise, well groomed, the skin kept clean by frequent brushing and rubbing, which also keeps the circulation in good order; the skin being an essential excretory organ of the body. A healthy animal needs nothing but good food, pure air and plenty of exercise, with due attention to cleanliness and regularity of feeding and watering. If such be attended to, but little will befall him unless by accident.

He should be kept in a loose box twelve by sixteen feet or larger if possible, admitting plenty of sunlight and well ventilated, containing internally as few projections as possible upon which he may injure himself. It is a good plan to have the stall lined with heavy material, projecting out from the wall at the floor about one foot and sloping upwards to the wall about three feet. By so doing it will be almost impossible for him to injure himself by rubbing or in any other way. He can then be loose without a halter, and the owner may be assured that liability of injury is reduced to a minimum.

In the *selection* of the *dam*, the same general points may be looked for as in the sire except the lack more or less of masculinity, as the dam, or female of any breed seldom reaches the weight of the sire. It is desirable she should have great depth of body with well sprung ribs. She must, as in the sire, be sound and free from vicious temperament. The age for breeding is usually three years, except in the case of an extra well grown filly when she can be bred late in the summer at two and have liberal feeding during the winter. The feeding, exercise and general care is as essential, or more so, in the dam as

Today in the West and Canada, the farmer who is making the most money out of the horse business is the one who keeps one or two pairs of good draft mares, good grade or registered mares, which he breeds to some good registered draft stallion. He keeps only as many mares as he can profitably work and works them well up to foaling time; using due care not to overtax them by too heavy work. He feeds well, never allowing them to get thin in flesh, because the good drafter is produced by starting to feed him, even before he is born. As the colts come to almost three years old they are broken and put to work judiciously. At four their labor is increased and any time on sold or kept until five and specially fitted for sale.

When the time of foaling approaches, the dam should be turned loose in a large box stall, or, if weather permitting, be turned out in a paddock. She should be closely watched when she is a valuable mare especially. A little assistance at the right time may save a valuable colt which otherwise would be lost.

At all times during pregnancy she should be fed soft feed to keep the bowels acting well, and more especially the two weeks previous to giving birth, as constipation is quite serious. Many mares at best are poor nurses, but her food may be made to greatly influence her yield of milk.

THE FOAL.

The giving birth of the foal is a very quick operation; anywhere from five to twenty minutes, providing all is well. If the foal is all right he is on his feet inside of half an hour and nursing very soon. It is essential he should have the first flow of milk from the mare, as nature provides this a laxative necessary for the foal. Should he survive the first three days, generally all is well; if not, chances are not good to raise him.

Those first three days are the most important in the life of the colt. Just as soon as the colt takes notice, which is very soon after birth or after he gets on his feet and a feed into him, you can begin handling him. He learns then quickly to have confidence in you if patted and treated kindly. He can be mastered into subjection and be halter broke by the time he is three days old, by kindness which is never forgotten; providing, of course, you make a friend of him and handle him a little every day—if nothing more than a scratch of the back and pat on the neck. With the arm around the neck you can generally lead him around the box stall and very soon put on a small halter and use it gradually. When weaned if treated so you will have no trouble handling him. He should have free access to the dam the first ten days, after which, if necessary the mare can be used to light work on the farm—the foal left in the stall. At ten days old usually the foal will eat grain with the dam, and very soon content himself alone in the stall, awaiting the return of the dam for a feed. When the dam is worked, you seldom know weaning time, and in our State with poor pastures the best way to raise colts is by working the dam and keeping

the foal in the stall until a month or so old—with the exception of a run in a paddock occasionally. Exercise is essential in the foal and the sooner turned out to run in a paddock the better, and better still in a small pasture near the barns if possible; just a little green grass does a heap of good. When the dam is worked, at first on the return to the barn a little milk should be drawn as the excitement working the mare renders the milk injurious to the foal, and he should not get too big a feed. Later, this does not matter so much.

Now is the time for good judicious feed, feed for results, keep the mare in good flesh and keep the colt growing. Oats, wheat, bran and carrots are the best feeds after weaning—of course with good hay. Be sure to see results from feeding by a healthy growing colt. More colts are injured by too scanty feed the first year than overfeeding.

Pay great attention to the feet the first year. They should be examined regularly, kept clean and free from “thrush” and kept level. The training of the draft horse is practically done if handled as above the first year, i. e.—well halter broke, feet handled for cleanliness and at the same time teaching him for the blacksmith. A little time biting is good, teaching him to start, stop, back and stand, but a well halter broke colt can be hitched by the side of a steady old horse or his dam and driven a little, and soon put to light work. Care must be exercised so not to injure the mouth or shoulders, as a sore mouth or shoulder will injure the temperament by causing pain, and if high lived could be easily made a balky horse.

With good breeding, systematic, sufficient feeding to keep them growing, good care, kind treatment, the raising of a draft colt here in Maine will prove as profitable an investment as the average farmer can undertake.

BOVINE TUBERCULOSIS AND ITS CONTROL.

By DR. A. JOLY, Live Stock Sanitary Commissioner.

Eighth Annual Farmer's Week Given by the College of Agriculture of the University of Maine, March 12th, 1914.

Mr. President:

After accepting the kind invitation of the Dean of our College of Agriculture, Dr. Merrill, I began immediately to realize what it meant by undertaking to discuss Bovine Tuberculosis and Its Control.

The subject has been presented, discussed and analyzed by scientific men from all over the world;—bacteriologists, sanitarians, eminent physicians from every country have been heard; and I am asking myself what is expected from a country practitioner. I will admit that it is with a feeling of timidity that I enterprise the task, and I wish, before beginning, to apologize for my defective pronunciation of the English language. Knowing the generosity of the American people, I am sure that I can rely upon your indulgence, for I want you to take in consideration and give me credit for my persistency. Twenty-four years ago I came here to Maine and settled in Waterville, with the firm purpose to learn the language of Shakespeare. I am still at it, and my friends have convinced me to give up all hope of returning to my native land.

In presence of professors, bacteriologists, and well learned farmers, I propose to avoid technical expressions; for I am afraid that I may become confused as the Irishman who had made up his mind to study bacteriology, but gave it up at his first obstacle. He never could understand why bacteria were called germs in Germany, parasites in Paris, and in Ireland, Mike Robes.

BOVINE TUBERCULOSIS.

Bovine tuberculosis is one of the oldest diseases of cattle. It was recognized as early as the ninth century by the Franks and was called the French disease. Its causes were unknown until 1882 when Robert Koch of Germany discovered the bacterium of tuberculosis. Since then, it has been admitted as a specific, infectious disease, due to a single species of bacteria. All questions to its spread must be associated directly with the cause. Without this cause, there can be no tuberculosis.

Tuberculosis differs from many ordinary specific and communicable diseases. Its period of incubation, its slow development, its characteristics oblige us to classify it as the most redoubtable plague that sanitarians have ever had to combat.

“In order to have a clear understanding of the kind of disease tuberculosis is, it may be well to compare it with some affection that is more commonly recognized as infectious. For this we may take diphtheria in children. It is well known that diphtheria is caused by a micro-organism, *bacterium diphtheriae*. It is also known that when a healthy child is exposed (infected) by being brought in contact with a child sick with diphtheria, the period of incubation is but a few days, and that the duration of the disease is short, lasting but a few days or weeks at the longest. At the end of that short period, the entire course of the disease has been run and the child is either dead or well on the way to recovery.

In tuberculosis the periods in the course of the disease differ in detail from those in diphtheria in three very important points, namely, the length of the period of incubation the way in which the specific bacteria produce a toxin which poisons the tissues, and this toxin is the cause of the symptoms, and in fatal cases, of death. In tuberculosis, the specific bacteria do not produce such a toxin, but they live in one or more of the tissues of the body, multiply there, and by their multiplication, penetrate deeper and deeper into the organs of the body, destroying the tissues as they go. Finally the injured organs, because they cannot properly perform their functions, give rise to symptoms at first slight, but gradually becoming more and more serious. Death is produced because some organ or part necessary for the life of the individual has been destroyed. While diphtheria

completes its course in a few days or weeks, tuberculosis requires for the same purpose months and more often years."

"Cattle are infected for the greater part through the digestive and respiratory tracts. There is considerable doubt in the minds of certain pathologists as to which of these modes of entrance is the more common. They are occasionally infected through the generative organs.

With these general channels of infection it is not difficult to understand the many possible ways by which tuberculosis spreads. Practically, we have to consider its spread under two conditions, namely: (1) from one herd to another, and (2) from one animal to another in the same herd.

While there are many possibilities for tubercle bacteria to gain entrance to any herd, the usual and practically the only ways by which they are introduced are (1) by bringing infected animals into a sound herd and (2) by feeding unsterilized separated milk or whey from creameries or cheese factories where the milk from tuberculous cattle is received.

The "buying in" of disease has been a very common means of infecting previously sound herds. This has been brought by the purchase of animals in the various stages of the disease. Occasionally farmers have been careless and bought "open" cases of tuberculosis. These rapidly spread the bacteria to other animals in the herd. The diseased animals may be throwing off tubercle bacteria from the lungs; in this case they infect the mangers, stables and perhaps pastures. Watering troughs also become infected with saliva containing the tubercle organisms. This may remain on the surface of the water where a healthy animal may take it up. Cattle frequently "nose" each other and in various other ways come in direct contact. If the newly purchased animal is infected but is as yet a closed case, it may be weeks, months or even years before it spreads the virus and perhaps it never will. Many herds have become extensively diseased, however, from buying apparently healthy, but infected cattle. Because of the difficulty in detecting temporarily arrested cases, or those that in the period of incubation, it is not safe to buy from herds in which the disease exists.

Tuberculosis is spread very often through infected creamery and cheese factory by-products. Taking the separated milk from creameries where the milk from open cases of tuberculosis

is received to feed calves is one of the most prolific means of spreading the disease. The infection of calves is a very serious matter as usually they do not show the disease for some time. It often becomes arrested and lies dormant for a variable time. No one can afford to feed calves from a sound herd with the separated milk from a creamery unless he is sure the cattle in the dairies furnishing the milk are free from tuberculosis.

The spread of tuberculosis is not strange or contrary to the general laws that control the dissemination of pathogenic microorganisms. Because tuberculosis is usually localized and slow in its development, unexpected results are often encountered but they are readily explained. As we have no means of measuring the resistance of any animal to infection and as we can not determine the virulence of the germ in any particular case, the problem is difficult to elucidate but not so hard to understand if we appreciate the law of variation in the course of infectious disease. An active lesion may become arrested, or a dormant tubercle may become active and progress rapidly to a generalized and open case of the disease. The laws of chance may cause an open case to infect in an incredibly short time an entire herd. On the other hand very few animals may be infected from it."

SYMPTOMS.

In its incipency tuberculosis cannot be recognized by any reliable physical symptoms. In advanced cases, emaciation may be noticed while the appetite may continue to be good. This is always a suspicious indication and especially if accompanied by a cough, rough coat and tight, harsh skin.

Fortunately in 1890, Dr. Koch through the tuberculin test, came to our assistance and made it possible to diagnose the disease in its first stage, and when applied by a well trained veterinarian, it is practically infallible.

It will fail when the animal is in the incubative stage of the disease, or where lesions are encapsulated, so that the tuberculin cannot reach the diseased tissue, or when an animal is so generally affected that the small amount of tuberculin injected produce no effect, but in this last instance, the clinical symptoms are so apparent that it is not a great objection.

"The infection may result in the rapid spread of the disease within the body and in the course of a few weeks or months tuberculous areas may discharge into some channel of excretion and the organism be eliminated with either the saliva, feces, uterine discharges or the milk.

"It is impossible therefore, to predict when a cow that reacts to tuberculin, but appears to be perfectly well physically, will spread the virus."

"This difference in the rapidity with which the disease develops depends upon the virulence of the infecting organism and the resistance of the animal. Pathogenic bacteria such as those of tuberculosis are not always possessed of the same degree of disease producing power. The resisting power of different individuals and even of the same individual under different conditions varies. It is impossible in the natural course of infection to determine the degree or extent of either of these factors. If this phase of the disease is understood it will explain why some animals that react continue to remain apparently well, while others develop physical signs of the disease and infect many individuals in the herd within a period of a few months. While these facts pertain to the nature of the disease, they are important in this connection to explain why some herds become infected rapidly and others more slowly or not at all after the introduction of a reacting animal or animals."

CONTROL OF BOVINE TUBERCULOSIS.

The control of any contagious disease consists in two fundamental principles; quarantine and disinfection. I will not attempt to review with you what is done in European countries, nor what each state in the Union is endeavoring to do. While they are all working along the same lines, the proper method of controlling bovine tuberculosis depends wholly upon the existing conditions. Each government has a problem of its own, and I believe that we had better confine ourselves to our own situation (or solution).

I want to say right here that Maine has the most adequate sanitary laws of any state in the Union, and these laws intelligently enforced will keep Bovine Tuberculosis under control.

(1) No live stock (calves, cows, steers, oxen or bulls) of any age, neither for dairying purposes, breeding purposes, nor for slaughter can enter Maine without a permit and the application of the tuberculin test is required at place of destination.

(2) Investigations are ordered at the expense of the State, of herds where tuberculosis has been found according to information received from Massachusetts officials at Brighton.

(3) Investigations are ordered at the expense of the State of herds where a tuberculous carcass originated; such information being received from local abattoirs or butchers.

(4) Assisting owners in disposing of cattle that have reacted to private tuberculin test.

(5) The testing of cattle to be exhibited at our State fairs; also in the case of a sale of a pure bred animal.

(6) The coöperation with local boards of health in the inspection of dairies with the tuberculin test.

During the year 1913 and at this present time the above policy has been carried out.

Seventeen head of cattle were condemned out of 226 imported from different points in the United States and Canada. These seventeen head came into Maine accompanied with health certificates. They were quarantined and retested; condemned and slaughtered. Everyone showed tuberculous lesions at post-mortem.

Our Maine cattle dealers at Brighton have reported 136 infected herds and our Maine butchers, 109 herds. These 245 infected herds have been investigated by applying the tuberculin test, slaughtering the reactors and disinfecting the premises.

During the years 1911 and 1912, 313 herds had been reported as infected, and no action on the part of the State having been taken, on account, I suppose, of lack of appropriation, we went to work and tried to trace these cases. The information being so remote, we succeeded in locating only 188 herds.

So during the year 1913, from these sources of information, we cleaned up 433 infected herds. Besides 210 infected herds were cleaned up upon being discovered by the application of a private test. So in all, 643 infected herds were cleaned out.

More herds could have been cleaned out if our local boards of health had been more active.

The city of Portland took the initiative after I conferred with its board of health and satisfied them that their milk supply came from the most dangerous sources, to enforce their city ordinance which had been dormant for seven years. The work began the middle of November and in six weeks time, 52 herds were found infected and 192 head of cattle were condemned and slaughtered.

This serious condition does not prevail all over the State. We have other data which are more encouraging. For instance, out of 5572 milch cows which have been shipped to Brighton Market, and the tuberculin test applied upon their arrival, only 136 were condemned, a percentage of about 2½ per cent.

We have reason to believe that these 5572 milch cows came from as many different and scattered herds all over the State. This percentage is very gratifying. On account of the large amount of control sanitary work done in this State, our milch cows command the top-mark price at Brighton Market.

Our farmers must believe in the tuberculin test. During the year 1913, about 20,000 head of cattle have been tested, 5% having reacted.

Our work should continue in a consistent, systematic and business-like manner for years to come. Let us enforce our present laws before anyone suggests new regulations which would require more education and more money which the taxpayers have a right to question.

We pay more money for condemned cattle than any state in the Union, and the stock raisers should appreciate,—the fact is they do—what the citizens of Maine are doing for the live stock industry.

In order to continue to have the confidence of the cattle breeders, and the coöperation and support of the public at large, let us throw a glance upon the economic and sanitary importance of this great problem of controlling bovine tuberculosis.

“In 1908, Dr. Melvin, Chief of the Bureau of Animal Industry, made the following significant statement at the Congress on tuberculosis in Washington.

“While the saving of human life affords the highest motive for combatting tuberculosis, the prevention of financial loss

is alone a sufficient reason for undertaking the eradication of the disease from farm animals. Statistics of the United States Federal meat inspection for the fiscal year ending June 30, 1908, covering 53,973,337 animals, or more than one-half of all those slaughtered for food in the country, show the following percentage of tuberculosis: Adult cattle, 0.961; calves, 0.026; hogs, 2.049. The proportion of tuberculosis is probably higher in animals slaughtered without inspection. Reports of tuberculin tests made in the 15 years from 1893 to 1908 by Federal, State and other officers with tuberculin prepared by the Bureau of Animal Industry have been carefully analyzed and tabulated. Out of 400,000 cattle tested (mostly dairy cattle) there were 37,000 reactions, or 9.25 per cent. From these two classes of statistics it is concluded that on the average about 10 per cent of the milch cows, one per cent of other cattle, and two per cent of the hogs in the United States are affected with tuberculosis, the average percentage of all cattle being estimated at 3.5.

"The accuracy of the tuberculin test has been confirmed in a remarkable way by post-mortem examinations. Out of 23,869 reacting cattle slaughtered, lesions of tuberculosis were found in 23,585, a percentage of 98.81. Properly prepared tuberculin applied by a competent person is therefore shown to be a wonderfully reliable agent for diagnosing tuberculosis. In cases where the test appears to give unsatisfactory results, this is usually due to the use of a poor quality of tuberculin or to ignorance or carelessness in applying it.

"The economic loss on account of tuberculosis in food-producing animals is heavy. The loss on animals in which tuberculosis is found in the Federal meat inspection is estimated at \$2,382,433 annually, and if the same conditions were applied to animals slaughtered without Federal inspection the annual loss on all animals slaughtered for food in the United States would be increased to \$3,102,433. The stock of animals on hand is also depreciated in value because of tuberculosis. Assuming that living tuberculous milch cows are annually depreciated to the extent of one-tenth of what the loss would be if they were slaughtered, other cattle one-third, and hogs one-half, the total animal depreciation amounts to \$8,046,219. The annual loss from decrease in milk production is estimated at \$1,150,000, and there also is some loss from impairment of

breeding qualities. Taking all these items into account, the aggregate animal loss because of tuberculosis among farm animals in the United States is estimated at not less than \$14,000,000 annually.

"Such heavy financial losses make the eradication of tuberculosis from farm animals desirable purely as an economic matter."

SANITARY IMPORTANCE.

Previous to 1901, it was supposed the human tuberculosis and bovine tuberculosis were identical.

In his statement made at the International Congress in London in 1901, Dr. Koch must have been misunderstood, for he certainly corrected it or made it more plain in 1908 at Washington. During the discussion upon the subject here are his exact words: "I wish to state again on this occasion that I have never denied that bovine tuberculosis is found in man, but I contend that these cases are very rare."

At this same conference Prof. G. Sims Woodhead of the Royal Commission of England ended his remarks with the following words:

"Without going to any other points, and to bring to a conclusion my remarks, let me say that of one thing I am thoroughly convinced, and that is that until a clear negative is proved, those who take the risk of giving it out that there is no danger to the community, either directly or indirectly, through an increase of tuberculosis among cattle, and that there is no danger of infection from cattle to man, especially to the human infant, incur very great responsibility indeed. As for myself, I am so satisfied with the nature of the evidence that has already been obtained, not only in England, but in Germany, in France, in Denmark, not to speak of important investigations carried on in other countries, that I am unwilling to countenance the relaxation of a single regulation for the control of bovine tuberculosis. Indeed, I will go further, and state my strong conviction that in the interests of hygiene, and with a view to the final stamping out of tuberculosis from the human race, additional and more stringent regulations will undoubtedly have to be drawn up and applied."

At a meeting of the United States Live Stock Sanitary Association held in Chicago in 1912, the president, Dr. Ravenel of Madison, Wisconsin, one of the most eminent scientists of America, ended his address as follows:

“In conclusion, let me say as I have said so often before, that the facts which we now have before us force the conclusion that bovine tuberculosis is a real menace to public health. It makes no difference whether only one person in one thousand or one in ten thousand dies from bovine infection; I feel that they are entitled to protection just as much as though their number were greater. It is our duty, both as an association and as individuals to urge the passage of laws protecting citizens from this danger. It is also our duty to obtain health officers who will see that such laws are carried out. Let us continue this campaign and protect people from every source of infection. This can be done by recognizing the bovine source of the disease as well as the human.”

FOOT AND MOUTH DISEASE.

Foot and mouth disease is a highly infectious disease of animals, affecting small and large ruminants and swine. Man, however, is susceptible as are also horses, dogs, cats, and fowls, when they are inoculated or fed upon the infected milk or other products.

It is characterized by a high fever and is determined by the eruption of vesicles in the mouth, around the coronet of the foot, on the udder, teats, and between the toes.

HISTORY.

“Like other animal plagues, this invaded Europe from the East with every great war involving eastern and central Europe. It ravaged the continent during and after the 30 years war (17th century). Toward the middle of the eighteenth century it prevailed in central Europe and England. The latter country stamped out both this and the Rinderpest, but it continued to prevail on the continent and was re-imported into England in 1839. It reached America through an importation from England to Montreal in 1870, and swept over Quebec, Ontario, New York, New England and New Jersey, but owing to more or less effective quarantine, to the absence of cattle traffic from east to west, and above all to the prolonged confinement in yards and stables during our northern winter it burnt itself out in the course of the year. Another outbreak apparently from impure vaccine, started probably in June, 1902, near the docks, Chelsea, Mass., was discovered by the authorities on November 14th, and extended through shipments of cattle into Vermont, New Hampshire and Rhode Island. Unlike the invasion of 1870, this began at the terminus of cattle traffic, and failed to gain the alarming extension of the earlier plague, which had in succession swept into Quebec, Ontario, Central and Eastern New York, New Jersey, and every state in New England. Like

that it broke out in autumn when the seclusion in winter quarters and the absence of birds and flies as infection bearers counteracted extension. Then in place of trusting to the mere arrest of cattle traffic, etc., as in 1870-1, the invasion of 1902 was met by a vigorous slaughter of the affected herds, and indemnification of the owners. In all 4461 animals (cattle, sheep, swine, goats) were killed and the owners reimbursed to the amount of \$184,155.10, 70% paid by the United States and 30% by the State. The outbreak lasted eleven months, the stockmen having seen cases as early as June, 1902, and the last slaughter having been three herds of 59 cattle in May, 1903. The two outbreaks were equally virulent, equally contagious, and equally free from fatalities. Each was a fair sample of the disease as constantly seen in Europe. The first was more extensive because it first gained a status in Ontario and New York. Had the trend of cattle traffic been westward rather than eastward, in either case it would have swept the continent with the free headway at first allowed it.

The invasion of 1908 apparently by a similar method, involved Michigan, New York, Pennsylvania, and Maryland, and was quickly crushed out by isolation, slaughter and disinfection. The season (winter) as in 1870 and 1902, was especially favorable to a prompt success.

Several importations at different times have been reported in which the owners secluded the herds for some months and then disinfected the premises with complete success. One occurred at Portland, Maine, in 1884, in which cattle, supposedly recovered, traversed the highway to the quarantine station, and a team of oxen which followed them the same day contracted the disease. The seclusion of both put an end to the trouble. In Asia it has prevailed from time immemorial and it was imported into South America in 1870."

In 1883 Great Britain lost heavily from its ravage. Prussia is reported to have had eight million cattle affected.

The present outbreak (1914) is the most serious and extensive that has ever visited this country. It is claimed that the infection was introduced through infected hog cholera virus imported from Japan. It appears to have originated in the vicinity of Niles, Michigan. From this centre, the infection was carried to the Union Stock Yards, Chicago, and distributed

with shipments of stock to various other points. Chicago Stock Yards, being such a large clearing house of live stock, inside of three weeks, seventeen states were invaded with the disease, viz: Delaware, Connecticut, Illinois, Indiana, Kentucky, Washington, Maryland, Michigan, Rhode Island, Iowa, Massachusetts, Pennsylvania, Ohio, New York, Montana, New Jersey and Wisconsin.

Dec. 2nd, the State of New Hampshire was added to the list of infected states.

ETIOLOGY.

“The specific cause of foot and mouth disease has not been clearly demonstrated. It has been shown, however, that it is caused by a specific infection and that every outbreak starts from some previous case or cases. The virus is contained in the eruptions and given off from the mouth and feet, causing its wide distribution. Animals may be infected directly by coming in contact with the disease, or indirectly by being exposed to the virus in stables, cars, or other places recently occupied by infected animals. It is stated that the virus is destroyed in a short time by drying, but some writers maintain that it will persist for several months. Animals that have passed through the disease may carry the virus for several months. The infected matter may be carried on the clothing or hands of human beings and thus be transmitted to animals or men. Milk is often the carrier of the virus.

The period of incubation is shorter in hot than in cold weather and varying from 24 hours to 6 days (exceptionally 15 days).

SYMPTOMS.

“The symptoms of foot and mouth disease vary greatly in different epizootics, sometimes they are quite mild, and at others very severe. The first evidence of the disease is a rise of temperature which in cattle rarely exceeds 104 degrees F. The mucous membrane of the mouth becomes reddened, the appetite is diminished, and rumination ceases. The mouth is usually kept closed and the quantity of saliva is increased. A smacking sound is not infrequently made by the animal. The symp

toms are chiefly due to the pain accompanying the disease in the mouth. After two or three days the eruption appears. This consists of small yellowish white vesicles or blisters, varying in size from a hemp to a pea, on the gums and on the inner surface of the lips, the inside of the cheeks, the border and the under surface of the tongue. They may become half an inch or more in diameter. In some cases the back of the tongue may be the seat of large blisters.

These vesicles burst soon after their appearance, sometimes on the first day. More rarely they may persist for two or three days. After they have ruptured the grayish white membrane forming the blister they may remain for a day or more or disappear speedily and leave deeply reddened areas or erosions which are very painful. These exposed areas may soon become covered again with the normal epithelium or they may be converted into ulcers. In this stage the saliva forms in large quantities and hangs in strings from the mouth. In eight to fourteen days the disease may have entirely disappeared.

In addition to the changes in the mouth, one or more feet may become diseased. The skin around the coronet and in the cleft between the toes becomes hot and tender and may swell. Blisters appear as in the mouth, but they are speedily ruptured and the inflamed, exposed areas are covered with a viscid exudate.

The udder, more particularly the teats, may be the seat of lesions. Some authorities regard the udder disease merely as the result of infection during milking. The vesicles are broken by the hands of the milker and the teats become covered with reddened areas deprived of the superficial layer of the skin and are very tender. The healing, however, goes on quite rapidly. The milk is said to be somewhat changed in appearance and unfit for making butter or cheese. These are the main symptoms accompanying the uncomplicated cases of foot and mouth disease. In all such cases recovery is usually rapid and complete. In certain other cases, however, complications arise which are not only injurious but may be fatal. Thus the mouth lesions may be accompanied by nasal catarrh or pneumonia. The feet may become very much swollen and the inflammation and suppuration extend to the tendons and bones, resulting in the loss of the hoof. Such cases are usually fatal.

As a result of the general affection, young calves may succumb to a secondary inflammation of the stomach and bowels and older animals may abort or suffer from inflammation of the udder."

In sheep and swine the disease may be localized almost exclusively in the feet. Sheep will even walk on the knees.

SYMPTOMS IN MAN.

"In man there is observed the tendency to localization on the same spots as in animals. As the hands are naturally exposed to infection by milking or treating the diseased animals, they are especially obnoxious to the eruption and the same is true of the mouth when the infected milk or other dairy products are consumed. In cases due to the drinking of the milk, the early feorile symptoms are liable to be accompanied or followed by nausea, anorexia, abdominal pain and diarrhoea, and still later by the cutaneous and buccal eruption. The duration of the disease is from 10 to 15 days and as a rule no permanent scars are left on the skin or mucous membranes."

MORTALITY AND PROGNOSIS.

"While there are seasons of special pathogenic severity yet as a rule, the foot and mouth disease is a mild affection and unless neglected, the patients entirely recover in about fifteen days. The pecuniary loss in dairy and feeding cattle has been found to average in Great Britain about \$10 per head (in milch cows \$25), and as few animals escape, the consequences are usually very serious. In England, the losses from the disease in 1883 reached \$5,000,000, in France, those of 1870 were \$7,500,000, and in Switzerland, \$2,500,000. In Germany, over 7,000,000 animals suffered from 1889-94."

MEASURES FOR COMBATting THE DISEASE.

"In Europe the disease has usually been combatted by isolation and quarantine. But these measures have not been effective, as is shown by the continuous existence and wide dissemination of the contagion. In considering the question as to whether

quarantine would be practicable, it is well to inquire how long animals may spread the disease after they are affected by it, Hess, of Berne, at the Baden Baden Congress of 1899, contributed some observations of great interest in this connection. He said that with 370 cattle affected with foot and mouth disease in the autumn of 1898 on the pastures of the Bernese Overland, seven of them, or nearly two per cent propagated the disease in the course of the winter. From this he concluded that all cattle which recovered from foot and mouth disease should be, if possible, held in quarantine for five months, and that the owners of recovered cattle should not introduce new animals into their stables during the period of quarantine.

It has often been observed that cattle with chronic ulcers of the feet disseminate the disease a considerable time after they have apparently recovered; but this observation made by Hess, that recovered animals are safe only after a period of five months, makes the holding of diseased animals for recovery a much more serious matter than has heretofore been suspected. While diseased animals are alive they are constantly giving off the contagion by the saliva which escapes from the mouth and by the serum and pus which is excreted from the vesicles and ulcers of the udder and feet, and perhaps in other ways. While such animals are alive the stables are saturated with the contagion, and all persons or animals that leave such stables carry the contagion with them. When the animals are killed and the carcasses properly disposed of, the multiplication of the contagion ceases, and by ventilation and standing empty the stables become less and less infected, while if they are thoroughly disinfected with proper chemicals, the danger of the disease spreading from them is arrested. There is probably no disease which is spread more easily than foot and mouth disease, and possibly none which is spread so easily, and it has in many cases been found impossible to stop its spread by quarantine measures.

Dammann of Hanover, at the Baden Baden Congress, said that without an absolute quarantine of the infected farms, preventing even the movement of persons, the control of foot and mouth disease is not to be thought of; but this measure, he says, cannot be executed. He further said that the very severe requirements of the sanitary law have not succeeded in eradicating the disease, and notwithstanding the quarantine of the infected

stables, reinforced in many states by the quarantine of districts and often of a large zone around these; notwithstanding the very extended prohibition of animal markets and the supervision exercised over the abattoirs, dealers' stables, and railroad cars, the disease continued to prevail.

Dr. Loeffler at the same Congress said: Foot and mouth disease is spreading more and more every year; and every year it costs the German Empire enormous sums. Necessary measures have been taken with the greatest care; suspected grounds had been closely quarantined; this measure had been extended to whole communes and even to entire districts; disinfection had been carried out carefully, and notwithstanding all this the disease kept spreading.

Cope said that one of the most remarkable features of an outbreak which occurred in England "was the sudden appearance of the disease in Edinburgh, which is 400 miles distant from London, there being no center between London and that city. Every effort to trace how the virus of the disease was carried entirely failed, but the discovery of the fact that foot and mouth disease was capable of being conveyed for so great a distance by mediate contagion was one of the causes which led the board of agriculture to decide that the time had arrived for prohibiting the landing of animals from the whole of Europe, every other precaution which had been previously adopted to prevent its reproduction, having failed."

Sudden extensions of the disease, although not to this distance, have been common in all outbreaks, and have excited more or less comment and speculation as to how they have occurred. Undoubtedly, the contagion may be carried a long distance in the clothing of persons who have been near the animals, and Hecker has proved that the feathers of pigeons which had picked up their food among infected chaff were infectious twelve hours afterwards. He also produced the disease in dogs, cats and rabbits by inoculation. In the outbreak of 1902, it has been suspected that the disease was carried in some cases by pigeons and in others by dogs, cats and rats. These observations serve to explain to a certain extent the mysterious transmission of the disease from farm to farm over several miles of intervening territory."

SLAUGHTER OF DISEASED ANIMALS.

“With a contagion which is so easily and frequently carried from farm to farm, or from town to town, and in which efforts at control by quarantine have generally failed, it becomes an important object to lessen the period of existence of the contagion as much as possible by slaughtering the diseased animals. In Europe slaughter has not usually been attempted, because the disease had been so widespread that this would necessitate the destruction of nearly the entire stock of cattle. However, slaughter has been frequently resorted to, and sometimes with marked success.”

“The International Veterinary Congress held at Baden Baden in 1899, stated in one of its resolutions passed with reference to this disease that it was necessary to authorize slaughter and to establish uniform sanitary regulations. It is plain that in Europe the failure of efforts to control the disease by quarantine and isolation is recognized, and that slaughter of diseased animals is looked upon as the most efficacious measure that can be adopted. The disease has frequently been stamped out by this method when first introduced into a country. If slaughter is justified and recommended in Europe, where the disease so frequently occurs and is so prevalent, how much more is to be recommended in a country like the United States where it is confined to a small territory and where there is such an enormous number of animals to be affected by it if it spreads beyond control.

LOSSES BY THE DISEASE.

The disease is not one which produces a high fatality. The average loss by death in European countries has been from 2 to 5 per cent. The actual losses of cattle owners are, however, much greater than this. The high fever causes a rapid loss of flesh, which loss is augmented by the fact that owing to the large vesicles and resulting ulcers in the mouth the animals are not able to masticate their food. On account of this loss of flesh their value is decreased from 20 to 25 per cent. At the same time the milk secretion almost disappears, and the owner loses all revenue from his animals for from four to six weeks.

When the animals have recovered from the acute form of the disease many of them are found to be more or less injured,

some of them having lost the horn from their feet, others having ulcers of the feet which cause chronic lameness, a considerable proportion having abscesses in the udder which make them worthless for milk production, while numerous others abort and become emaciated and of little value."

HOG CHOLERA AND ITS HISTORY.

By DR. H. B. F. JERVIS, Houlton, Maine.

Synonyms:—Germany, Schweinepest—England, Swine Fever.

CAUSE OF THE DISEASE.

For a number of years a bacillus, which is readily cultivated from the bodies of hog cholera pigs, was generally accepted as the cause of the disease.

The evidence in favor of that view appeared to be complete, since it appeared to satisfy Koch's postulates.

According to these postulates, in order to prove that any particular organism was the cause of a particular disease it was necessary to accomplish the following:—

1. To show that this organism is always present in an animal suffering from the disease in question.
2. The organism must be obtained in pure culture, and it must be sub-cultured for several generations.
3. With a sub-culture of ascertained purity one must be able to reproduce the disease in a susceptible animal.
4. The identical organism must be recoverable from the experimentally infected animal.

It is indisputable that from the immense majority, if not from all hog cholera pigs, at the height of the disease this so called *Bacillus Cholerae Suis* can be obtained. In a great majority of acute cases it can be obtained in the blood in a state of purity.

With any of its sub-cultures, administered by the mouth, in sufficient quantity, one can kill susceptible pigs, and when these pigs are post-mortemed they show precisely the same lesions as are found in natural cases of the disease, or in pigs experimentally infected by feeding them with ulcerated hog cholera bowel.

The fact that in spite of this evidence the *Bacillus Cholerae Suis* is not the cause of hog cholera was discovered as follows:

In this country preventive inoculation with cultures of this bacillus was introduced and carried out on a very considerable scale. It was at first officially reported that the inoculations were yielding satisfactory results.

Subsequently the authorities became convinced that it was not protecting the pigs. Just about this time Loeffler and Frosch, in Germany, had discovered that the virus of foot and mouth disease is ultra visible, and in this country, De Schweinitz, in casting about for an explanation for the failure of the *Bacillus Cholerae Suis* inoculations, was moved to conduct a filtration experiment with hog cholera blood.

The result was positive; he found that the filtrate gave inoculated pigs hog cholera. This was in the year 1903. After De Schweinitz's death, which occurred soon after, Dorset, Bolton and McBride, of the Bureau of Animal Industry, continued the investigation, and provided corroborative evidence to show that the *Bacillus Cholerae Suis* was not the cause of the disease, and that the real cause was an invisible, filtrable and uncultivable virus.

Apparently the virus is very small for when blood serum is diluted with 10 volumes of water and passed through a Berkefeld or Chamberland F. or B. filter the filtrate is still deadly when inoculated into pigs.

At first, in this country, it was thought that possibly there were two distinct diseases of pigs mixed up under the term hog cholera, viz., one caused by the bacillus, frequently subacute or chronic, and another one, of a more acute character caused by the ultra visible virus.

That view has, for some time, been abandoned, and it is recognized, the world over, that hog cholera is caused by an ultra visible virus. The flaw in the evidence purporting to show that the so called *Bacillus Cholerae Suis* as the cause of the disease was detected by Dorset, Bolton and McBride as follows:

When a pig is infected by feeding with a culture of the bacillus the results are identical, except in one important respect, viz., the infected pig does not transmit the disease to others in contact with it.

This shows that in any experiment intended to prove that an artificial culture is capable of causing a particular disease, one must be careful that the disease so caused is, in all respects, identical with the natural disease.

Hog cholera, naturally contracted, is characterized, not merely by intestinal lesions of a particular character, but also by being highly contagious.

The experimental disease set up by feeding with *Bacillus Cholerae Suis* is not contagious and is therefore not hog cholera.

WHAT IS THE ROLE OF THE BACILLUS CHOLERAÆ SUIS?

When a pig is infected with filtrate one can get, with great constancy, the *Bacillus Cholerae Suis* in its blood and in its lesions. One is therefore compelled to believe that the bacillus must be a normal inhabitant of the alimentary canal of the pig, and, as a matter of fact, in Germany, what was identified as the *Bacillus Cholerae Suis* was cultivated from the bowel contents of many healthy pigs. There may be some question, in the minds of some investigators, as to whether the bacillus is, to any extent, responsible for the hog cholera lesions, or whether it merely represents a more or less harmless invader of the lesions caused by the ultra visible virus.

In all probability the bacillus, although not the cause of hog cholera, is the cause of the characteristic lesions found in hog cholera, and, especially of the diphtheretic and ulcerative lesions in the intestines. This seems to be a reasonable conclusion in view of the fact that one can cause identical lesions by feeding pigs with pure cultures of the bacillus.

This view may be reconciled by the constant presence of the bacillus in healthy pigs, either by supposing that the question of dose or number of bacilli is important, or that the invisible virus somewhat lowers the natural resistance of pigs, and enables the already present intestinal bacillus to invade the body and cause disease.

The *Bacillus Cholerae Suis* is a small, actively motile, and easily cultivated, Gram negative organism; it belongs to what, within recent years, are called the Para-typhoid group of bacteria, and is believed to be identical with the so called Para-typhoid *B. bacillus*.

The Para-typhoid *B. bacillus* has in some instances been isolated from human beings suffering from the so called neat poisoning.

TREATMENT.

In an article of this kind a detailed outline of the treatment of this disease would be out of place. Suffice to say that hog cholera serum has filled a long felt want in the therapeusis of this disease. In this matter, like everything new, one meets a certain number of ignorant men who are opposed to anything in the way of advance. These man must be patiently educated along these lines, and the few who will not be so educated must be handled roughly and, when refusing to comply with existing State laws in the matter, must be vigorously prosecuted and made an example of.

In the eradication of this disease in any community, unison is called for between the breeders, the State sanitary officials and the veterinarians, and failing this, much progress cannot be hoped for. In States where a good deal of serum is used it would seem that some arrangements ought to be made, at the State Experimental Farm, for the manufacture of serum. This product should be supplied to the live stock sanitary authorities at no cost to the breeder, he having only the cost of the scientific administration of the serum. It would seem that the University of Maine could, and ought to start the manufacture of the serum, and in this way aid the hog breeders of this great State.

EXAMINING A HORSE FOR SOUNDNESS.

By EDWARD HAMAN, (M. D., V. S.)

Examining a horse for soundness is a somewhat difficult task and requires a sharp eye that has been trained to look for the different defects and detect the various faults so often met with. The animals should be made to stand on level ground, and if first seen in the stall he should be moved around quickly, when signs of stringhalt will be detected by watching for the quick jerking up movement of the leg, so well known.

The manger and stall itself should both receive notice, as the crib-biter will leave his marks here. Weaving is a habit that is characterized by a constant swaying of the head from side to side, and is best looked for while the horse is at rest. If the examiner has had some experience, the pulse will prove a guide to the condition of the heart, an irregular pulse being found when the heart is diseased.

The eyes are best examined by standing the horse at the door of the stable with the door just opened enough to allow the light to fall straight on the head of the animal. Whitish spots on the cornea of the eye are to be looked for, and if found, the animal should be viewed with suspicion, as ophthalmia, a disease of the eye that finally develops into cataract, is or has been present. If suspicious of the presence of this disease, a black derby hat held over each eye separately will help the examiner detect the difference in color of the cornea of both eyes.

The membrane of the nostrils should be examined closely, and it should be of a bright pink color and free from any discharge.

In the mouth, we look for diseased or missing teeth, and by practice we also get a good idea of the age of the horse by the teeth. When fully developed, the mouth contains forty teeth, twelve incisors, four tushes and twenty-four molar teeth. In the mare, tushes are usually missing, making just thirty-six.

The incisor teeth are examined for evidences of crib-biting, the edges of these teeth being worn away when a horse is a confirmed crib-biter. Between the lower jaws, we find glands that should be examined for enlargements, and the top of the head, or poll, should be felt for the diseased condition known as poll-evil, and the withers should be examined for the same condition known as fistulae. After the shoulder has been examined for sweeney, a wasting condition of the muscles of this section, and the elbow for shoe boils, or other enlargements, we carefully examine the knee, particularly the front of the knee for scars or broken shin caused by stumbling. Just below the knee on the inside, we feel for splints, which are exostosis on the bones of the leg of this section. By allowing the fingers to pass down along the tendons, we get an idea of the tendons and the sheath that covers them. They should appear close to the bones and should not be bunched in any part. A contracted tendon causes a horse to be knee-sprung, or what is termed by horsemen as over on the knees. Marks left after a horse has been nerved are looked for on either side, just below the fetlock, and the fetlock joint itself is the seat of ringbones and also windpuffs. Side-bones are found on either side at the top of the hoof, being an ossification of the lateral cartilages and a decided unsoundness.

We now pick up the foot and look for dropped soles, corns, and thrush, and at the same time we notice whether or not the heels are well open and not contracted. On the wall of the hoof we look for ridges or circles left after attacks of laminitis, and we also note the general condition of the horn of the wall, and sandcracks and quartcracks are watched for.

We next come to the hip, and the first thing we do is to see that one hip is not lower than the other, as in the case when a horse has a hip down. The stifle joint should be examined, and we pass our hand down to the hock joint, which needs a thorough examination, as most of the lameness found in the hind legs arises in the hock. Curbs are found at the back of the hock joint, a little below it, and the point of the hock is often enlarged, which is a good sign that the animal is a kicker, either in or out of the stable. In front and a little above the front of the point of the hock, we find a similar condition to windpuffs, but when found here are known as thoroughpins. They cause a decided lameness when they first appear, but this lameness soon

passes off, and while they constitute an unsoundness in the proper sense, few horses that have been worked hard are without them.

Spavins are found at the hock joint on the upper and inner part, and when suspicious of a bone spavin, the hock of both legs should be felt and the difference in each, if any is noted. Bog spavin is an enlargement caused by an abnormal secretion of synovial fluid at this part, caused by a strain of the hock joint for some cause. They rarely yield to treatment of any kind, and while hardly ever accompanied by lameness they are a decided unsoundness.

After examining a horse thoroughly while standing still, he should be led by a halter rope so that the examiner may see him in action when any peculiarities of gait or action may be noticed. To test the wind of the horse, he should be driven at a quick pace some distance, preferably uphill if possible, and stopped suddenly when any abnormal breathing sounds are detected. A roarer or whistler will be detected by the peculiar sound made upon the inspiration or taking in of air.

REPORT OF INSPECTORS.

Veterinarians authorized to inspect horses and cattle, under the direction of the Live Stock Sanitary Commissioner are requested to make an annual report along the following lines:

Number of herds of cattle tested with tuberculin.

Number of herds of cattle where tuberculosis was found.

Total number of cattle tested with tuberculin.

Total number of cattle condemned.

Number of imported horses inspected.

Number of horses tested with mallein.

Number of horses condemned by the mallein test.

Number of horses condemned by physical examination.

Number of outbreaks of hog cholera in your locality.

Number of herds treated with hog cholera serum.

Number of hogs treated.

Number of hogs dying before treatment.

Number of hogs dying after treatment.

Number of herds found infected with contagious abortion.

Approximate number of herds supplying milk to your city.

Approximate number of these herds which have been tuberculin tested.

What is the general condition of your local slaughtering houses?

Remarks or suggestions in relation to our present live stock sanitary laws.

AUGUSTA, MAINE, January 1, 1915.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR SIR:—I herewith submit my report as agent for the Live Stock Sanitary Commission for the year ending Dec. 31, 1914.

During the year I have applied the tuberculin test to thirty (30) herds containing 361 head of cattle; tuberculosis was present in 8 different herds and 17 animals were condemned

and sent to government inspection at Auburn. As compared with the previous year, I have tested 20 per cent less cattle and found 50 per cent less tubercular cattle, which is an encouraging outlook from the standpoint of eradication of the disease.

I have personally inspected 72 horses shipped into Maine for sale purposes for summer use and for pasturage. Of this number 13 head received the Ophthalmic Mallein Test and one animal reacted and was destroyed.

I did not condemn any animals on a physical examination.

I find that shippers and owners are more careful in their selections of horses to bring into the State and consequently brought a better class of horses into this district.

I find that quite a few summer visitors bring their horses with them and leaving the boat or train go some distance from the point of unloading, leaving no definite address, consequently I was unable to trace several shipments during the summer months.

Hog cholera has not been quite as prevalent as in 1913, but made its appearance in one instance in the same herd as it did the previous year.

The number of outbreaks was three. Three herds containing 244 hogs were treated with hog cholera serum.

Thirty (30) hogs died before the serum was applied and 75 hogs died after the application of the serum. A large percentage of the animals dying had already contracted the disease, and many died with pneumonia and complication. The worst outbreak was in April and a few days of high wind and a snow-storm made it very uncomfortable for the sick hogs. The disease did not spread after the application of the serum, but was confined to the pens where the disease had existed for two weeks or more and where some 30 hogs had already died.

No cases of contagious abortion have come to my attention this year and I hope there were none in the locality.

The milk supply of Augusta and vicinity is of the same high standard as in the past.

As yet only four or five herds from which milk is sold have been tuberculin tested. Some 30 herds supply milk to Augusta. Quite a few local milkmen are remodelling their barns and handling their milk products in a more sanitary manner.

Local slaughter houses are perhaps a trifle more sanitary than in the past, but there is still much room for improvement,

but I do not look for any radical change until some form of municipal meat inspection is adopted.

This has been a year of very little dissatisfaction among the stock raisers of this vicinity and I have heard quite a few comments on the good work of the Live Stock Sanitary Commission, which leads me to believe that this section of Kennebec County is well satisfied with the work that has been done the past year.

Allow me to congratulate you on the success which has attended your efforts and assure you of my hearty support in the future.

Respectfully submitted,

C. L. BLAKELY, M. D. V.

PORTSMOUTH, N. H., Dec. 19, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I herewith submit the following report for the year the year ending December 31, 1914.

I have applied the Ophthalmic Test for glanders to 27 head of horses, all proved free of disease.

I have inspected 56 horses that were brought into the State of Maine from Ohio. These animals were in good condition.

I have tested two herds of cattle and failed to find any tuberculosis.

Have had two outbreaks of hog cholera. The first was in a herd of 30 hogs. Thirteen of them were sick and four had died when I applied serum.

I held post mortem and confirmed diagnosis. Of the 13 that were sick 9 died, the balance were in good condition. Had place thoroughly disinfected.

On the same farm, eight months later had another outbreak due to the importation of hogs. In the herd there were 106 hogs, about 15 had died, and 40 of herd were in poor physical condition and showing symptoms of hog cholera. I applied serum to all and the 40 that were sick died, the remainder of herd are in good condition.

Yours very truly,

FRED W. BOLAND, D. V. S.,

Inspector.

WATERVILLE, MAINE, Dec. 16, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR SIR:—Herein I submit my report for year ending Dec. 31, 1914.

Number of herds tuberculin tested, 24.

Number of cattle tuberculin tested, 272.

Number of cattle condemned, 5.

Number of hogs injected with hog cholera serum, 15.

Number of hogs died previous to injection, 6.

Number died after injection, none.

I wish to congratulate the Live Stock Sanitary office on its prompt and efficient business methods.

Respectively submitted,

P. R. BAIRD,

Inspector.

WILTON, MAINE, December 24th, 1914.

To Dr. A. Joly, Live Stock Sanitary Commissioner of the State of Maine.

DEAR SIR:—In compliance with your request of December 15th, I herewith make my report for the work performed by me during the past year, which is as follows:

Number of herds of cattle tested with tuberculin, 50.

Number of herds of cattle where tuberculosis was found, 8.

Total number of cattle tested with tuberculin, 442.

Total number of cattle condemned, 9.

Approximate number of herds supplying milk in your city, 16.

Approximate numbers of these herds which have been tuberculin tested, 4.

Yours truly,

E. E. BUBIER,

Inspector.

PEMAQUID, ME., Dec. 16, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I herewith submit my annual report.

During the year I have tested with tuberculin 88 herds containing 363 head of cattle, 15 head were condemned as tuberculous.

Total number of herds where the disease was found was ten.

Three cases of contagious abortion have come to my notice during the past year.

In this town we have nine milk dealers supplying milk. Only one herd has been tuberculin tested. I would like to ask any fair minded man what protection does the consumer have when he pays his good money for butter, milk or cream? He supposes the products are from healthy animals and does not have the satisfaction of knowing whether this is true or not. The only way to protect the consumer is to force upon the milk dealers to have their cattle tuberculin tested every year.

We have in this town five slaughtering houses. Two of this number are rotten to the core. I will say right here, there ought to be something done. This question appeals to families that buy meat and not knowing the condition where the meat was slaughtered. I would suggest public abattoirs in each town under state inspection. In regard to the live stock sanitary law I believe all bulls that stand for public service ought to be tuberculin tested each year, all cattle where the products are sold, such as butter, milk and cream ought to be tested each year. This would protect the consumer from eating the dairy products from tuberculous cattle.

This would mean nothing more than a square deal.

Respectively submitted,

E. M. BRADLEY,

Inspector.

BATH, MAINE, Dec. 28, 1914.

*Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville,
Maine.*

DEAR DOCTOR:—The following is my report for the year ending December 31, 1914:

Number horses examined for glanders, 20.

Number horses found diseased, 0.

Number hogs treated for cholera, 40.

Number hogs died, 12.

Number cows tuberculin tested, 96.

Number cows found diseased, 1.

Respectfully submitted,

J. F. BUTLER,

Inspector.

STANDISH, ME., Dec. 31, 1914.

*Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville,
Maine.*

DEAR DOCTOR:—The following is my annual report for the year 1914.

Number of herds of cattle treated with tuberculin, 19.

Number of herds where tuberculosis was found, 3.

Total number of cattle tested, 200.

Total number of cattle condemned, 9.

The general conditions of our slaughtering houses are good.

Yours very truly,

C. W. BOOTHBY,

Inspector.

PRESQUE ISLE, MAINE, Dec. 10, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—The following summary of live stock imports into Maine which came under my observation, respectively submitted. Year ending 1914, number of horses, 139, owned and used by private parties. Temporary stay of summer season only. Physical test, only, and none were condemned.

Number of green horses, 15. Physical test only, and none were condemned.

Number of cattle, tuberculin tested, six, comprising three herds. One condemned. One outbreak of hog cholera is all that has been called to my attention; there were twenty in number. One died before serum was used in the herd. Eighteen died after serum was used.

This is a new country to me, and I know very little about conditions of local slaughter houses.

In relation to the live stock sanitary laws, I have no suggestions to make.

Yours truly,

A. W. CLEAVES,

Inspector.

BAR HARBOR, ME., Dec. 29, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I have examined sixteen horses coming into the State the past year.

Tuberculin tested sixteen cows, one reactor.

No hog cholera.

Please pardon delay. I am on the road a great deal, will write later.

Sincerely,

L. SHERMAN CLEAVES,

Inspector.

NEWPORT, MAINE, Dec. 28, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—It gives me great pleasure to submit to you my annual report of 1914 at your request.

May I state first that your part of the work, I assure you, has been carried out satisfactorily to the State as well as to the respective veterinarians of the State of Maine. Better sanitary conditions among the dairymen begin to show and by your untiring efforts and assistance from every veterinary of the State, 1915 can't help being the banner year.

I have only tested seven herds, numbering 59 head, of which five were found tuberculous, by the tuberculin test. During the year 1914 I have examined 652 horses, applying the Ophthalmic test to 11. Only one reacted, and was destroyed and paid for by the State.

No outbreak of contagious abortion.

No outbreak of hog cholera in this vicinity.

Number of herds supplying milk to village, seven. Some of them only one or two cows. None have been tuberculin tested. Conditions of slaughter houses very unsanitary. May we hope for a sanitary law that will compel better conditions in our slaughtering houses as well as milk from tuberculin tested cows.

Respectfully submitted,

W. H. COREY,

Inspector.

BLUEHILL FALLS, ME., Dec. 10, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DR.:—The following is my annual report for the year 1914.

Number of herds of cattle tested with tuberculin, 9.

Number of cattle tested with tuberculin, 39.

Number of condemned tested with tuberculin, 1.
 Total number of cattle condemned, 2.
 Number of herds supplying milk to town, 2.
 Number of herds supplying milk to town tested, 1.

Respectfully submitted,

DR. G. F. CANDAGE,

Inspector.

HOULTON, ME., Dec. 26th, 1914.

Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR SIR:—I herewith submit my report for the year ending December 31st, 1914.

Number of horses physically examined, 28.

Number of horses condemned by physical examination, none.

Number of herds of cattle tested with tuberculin, 4.

Number of cows tested with tuberculin, 4.

Number of cows condemned, none.

One carcass of beef was examined and condemned, being affected with tuberculosis.

Condition of slaughter house good, also under Federal Inspection.

Yours respectfully,

F. T. CHENEY, V. S.,

Inspector.

RUMFORD, MAINE, December 18, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR SIR:—I herewith submit the following report for 1914:

During the year I have tested with tuberculin fifty-two herds, containing three hundred and three head of cattle. Tuberculosis was found in six herds, and nine cows were condemned. These figures show a smaller percentage of reactors in this section than do those of last year.

I have applied the Ophthalmic mallein test to nineteen horses, four of which were condemned. No animals were condemned on physical examination.

We have had no outbreak of hog cholera in this locality this year, which shows a decided improvement over last year.

The milk supply of Rumford is derived from about forty dairies, practically all of which have been tuberculin tested and scored. The scoring has been done by both the farmer and myself, after which the results were compared. I think this practice has proved beneficial to all concerned.

Contagious abortion is still quite prevalent in and around Rumford. I have treated two herds. In the former which was started during 1913, one-half the herd was given the methylene blue, the remainder the carbolic acid treatment. On the latter herd the carbolic acid treatment was used, being very particular with the disinfection of stables and utensils in both cases, also the animals themselves. The results have been more than gratifying, as we have had no cases of abortion among those that received the treatment regularly. Three cows of the last herd treated that had aborted once, as had most of the herd, were not giving milk at time treatment was started. These were turned in a separate pasture and kept under observation. They all aborted, showing the typical symptoms of the contagious form.

The local slaughter houses are in only fair condition but we are hoping for improvement when each and every town has its meat and milk inspector. Let us all get together and cause this to become a State law.

I am sure that the public are beginning to appreciate the business like manner in which you are conducting the State work.

Respectfully submitted,

C. F. DAVIS, V. M. D.

CORNISH, MAINE, Dec. 23, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR SIR:—I am enclosing you my report for the year 1914.
I tuberculin tested 457 head.
I condemned 19 head.

I tested for 77 different parties.

Ten of these were.

67 herd varied from 2 to 20 to each herd.

I was called in a number of times to examine horses thought to have glanders but they all had catarrh or some local disease.

Very Respectfully,

A. A. DYER,

Inspector.

BANGOR, MAINE, Dec. 30, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I herein submit a report of work done by me in the interest of Live Stock Sanitary Commission. Although I have not done so much testing of cattle due to the milk inspector of this city not demanding a tuberculin test of milkmen's herds and unless there were grave suspicions of tuberculosis no cattle owners are desirous of having their cows tested.

I think this section of country is much more free of tuberculosis than it has been since I have been in this locality. I have tested thirteen (13) herds and in this number there were one hundred and five (105) cows, only one (1) reacted.

No contagious abortion have I been called to treat or investigate.

There have been cases of hog cholera reported in this section, but so far I have seen no cases of pure hog cholera reported in the past year, all has *proved* to be something else.

I have inspected physically eight hundred and sixteen (816) green and second hand horses, mostly green ones, being shipped into State by several different men, among this number I have not found one affected with glanders, although I have tested both by Ophthalmic and Subcutaneous test, several I have tested in five different stables, horses in all seventeen (17) and from this number nine (9) reacted and were destroyed.

Th past year has not been so good for sale of western horses as the year previous, so I did not have occasion to inspect so many horses.

The horses being brought in are a nice grade of horses and contrary to former shipments there have been many mares which are to the farmer an addition to asset since we ought to raise more heavy horses in this state.

I do not think there is much glanders in this section of the state, but everyone who has a horse with a discharge from nose thinks it glanders, until proved not to be, thus there are some destroyed for this disease which if given a mallein test would not be diseased.

The test Ophthalmic is reliable so far as my observations go and the test should be given every horse before he is destroyed.

Respectfully submitted,

C. F. DWINAL,

Inspector.

MT. VERNON, ME., Dec. 30th, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR SIR:—I beg to submit my report for work done for your department for the year 1914, as follows:

Number of herds tested with tuberculin, 18.

Number of herds where tuberculosis was found, 5.

Total number of cattle tested with tuberculin, 158.

Total number of cattle condemned, 15.

Number of outbreaks of hog cholera, none.

Number of herds treated with hog cholera serum, none.

Number of horses examined for glanders, 10.

Number of horses tested with mallein, 1.

Number of horses condemned by mallein test, 1.

I would say that these several herds are scattered over a large territory, and I believe that the dairy animals in this section are remarkably free from tuberculosis.

I do believe, however, that we are in grave danger from contagious abortion, for I believe from observation that this disease is on the increase because of the fact that stock owners

fail to realize the seriousness of this trouble, and are slow to call the attention of the veterinarian to the presence of the disease.

I believe this State should take some measure to eradicate the trouble as soon as possible.

Please allow me to thank you for the assistance rendered to me in this year's work, and for all courtesies shown.

Respectfully submitted,

DR. GEO. G. DOWNS,

Inspector.

BELFAST, ME., Dec. 29, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I have during the year of 1914:

Inspected 127 cows, with one reactor.

Inspected 123 horses.

Inspected 123 horses, none condemned.

Respectfully submitted,

J. B. DARLING,

Inspector.

SANFORD, MAINE, Dec. 31, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR SIR:—I herewith submit my report for the year ending December 31, 1914.

Having made a change in my location the first of April I will submit a report from both places, Livermore Falls, Androscoggin County; and Sanford, York County.

At Livermore Falls and vicinity I tested with tuberculin this year twelve herds amounting to 95 head of cattle. Three herds were found to contain seven heads which were tuberculous.

I examined 24 head of green western horses and found them free from glanders, by physical examination.

Several herds were recorded as being affected with contagious abortion and were put under treatment. The result of the treatment was gratifying. The bull in each case was withheld from public service. There seems to be a large area around Livermore Falls that is troubled with contagious abortion.

About 25 per cent of the herds supplying the milk to the town of Livermore Falls are tuberculin tested. The slaughter houses are not very sanitary, the water supply in them is not plentiful and hogs are kept underneath.

At Sanford, beginning April 1, 1914:—The testing of cattle in this district is not very great. I have tested five head and found one cow diseased.

This territory seems to be free from contagious abortion for which we are thankful for there are many large herds and many herds are pure bred.

As near as I can judge there are about 50 to 60 herds that furnish milk to milk dealers that furnish the town with its milk supply and I venture to say that not two per cent are tuberculin tested.

The Board of Health is formulating a town ordinance to regulate the milk supply and have a uniform system of inspection, both the farms where the milk is raised and a chemical analysis of the milk and milk products made several times a year.

Our slaughter houses, I am very sorry to say, are not kept in a sanitary condition although they disinfect occasionally and for the most part the slaughter house consists wholly of the barn floor.

Yours respectfully,

DR. H. N. EAMES,

Inspector.

LEWISTON, MAINE, Dec. 31, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—During the year 1914, I tuberculin tested 107 herds of cattle, containing 863 animals.

In 31 of these herds I found 79 tubercular animals, or nearly 11% of the whole number tested.

This year I inspected 524 imported horses, of these I mallein tested 36.

Found three glandered horses on physical examination, but none by the mallein test.

Yours,

W. E. FAIRBANKS.

WEST BROOKSVILLE, MAINE, Jan. 5, 1915.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—Replying to your request of December 1st, to render you my annual report, I wish to submit the following:

Number of herds of cattle tested with tuberculin, 21.

Number of herds of cattle where tuberculosis was found, 1.

Total number of cattle tested with tuberculin, 88.

Total number of cattle condemned, 1.

Number of imported horses inspected, 4.

Number of horses tested with mallein, 4.

Number of herds supplying milk to this town, 2.

Both of these herds have been tuberculin tested.

The general condition of the local slaughter houses here is fair.

Very truly yours,

DR. P. J. FLAGG,

Inspector.

BANGOR, MAINE, January 1, 1915.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I hereby submit the following report for the year ending January 1, A. D., 1915:

Number of herds tested with tuberculin, 32.

Number of herds where tuberculosis was found, 11.

Total number of cattle tested with tuberculin, 490.

Total number of cattle condemned, 18.

Number of imported horses inspected, 158.

About 50% of these horses were tested with mallein (Ophthalmic).

Number of horses condemned, 4.

Number of herds supplying milk to city, approximately, 60.

Number of herds that have been tested, 60%.

Number of herds affected with contagious abortion, 9.

Number of outbreaks of hog cholera, 10.

Number of herds treated with serum, 4.

Number of hogs treated, 110.

Number of hogs dying before treatment, 20.

Number of hogs dying after treatment, 70.

General conditions of slaughter houses sanitary in most cases.

REMARKS.

I consider the present sanitary laws the best ever, and that the Live Stock Sanitary Commissioner has conducted the work more scientifically and at less expense to the State. But I think the law should be carried still further and be made compulsory: That all cattle kept for dairy purposes be tested with tuberculin at least once a year.

Respectfully submitted,

DR. R. E. FREEMAN,

Inspector.

ROCKLAND, MAINE, Dec. 18, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I herewith submit my report for the year ending 1914.

Number of herds of cattle tested with tuberculin, 2.

Number of herds of cattle where tuberculosis was found, 0.

Total number cattle tested with tuberculin, 28.

Total number cattle condemned tuberculous, 0.

Number imported horses inspected, 465.

Number horses tested mallein (Ophthalmic test), 6.

Number horses condemned, mallein (Ophthalmic test), 1.

Number horses condemned physical examination, 0.

No cases of hog cholera and no cases of contagious abortion have come under my observation.

Approximate number herds which supply milk in Rockland, 40.

The conditions of our local slaughtering houses are very bad. I can suggest no improvement in our sanitary laws.

Respectfully submitted,

C. F. FRENCH,

Inspector.

SACO, MAINE, Dec. 26, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—My annual report of the State work for the year 1914 is as follows:

Number of herds of cattle tested with tuberculin, 14.

Number of herds of cattle where tuberculosis was found, 4.

Total number of cattle tested, 102.

Total number of cattle condemned, 6.

Number of imported horses inspected, 40.

Number of horses tested with mallein, 40.

Number of horses condemned with mallein test, 3.

Number of horses condemned with physical examination, 0.

Approximate number of herds supplying milk to city, 100.

Approximate number of herds tuberculin tested, less than 10%.

Condition of slaughter houses, not good.

It is impossible to tell how many herds of cattle are supplying milk to Saco, as there are many farmers with but two or three cows that furnish milk to stores and milk men. I have reason to believe that there is contagious abortion around here,

but the farmers are keeping quiet for fear of interference.

In regard to the live stock sanitary laws, I consider them none too drastic, and will prevent this State from becoming the dumping ground for diseased cows and horses from other states.

Respectfully submitted,

E. E. GIBBS,

Inspector.

LEWISTON, MAINE, Jan. 7, 1915.

*Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville,
Maine.*

DEAR DOCTOR:—I have examined by physical examination, nineteen (19) carloads of horses, (532 in number) and have found them free from glanders.

Yours very truly,

J. H. GODDARD,

Inspector.

AUBURN, ME., January 1, 1915.

*Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville,
Maine.*

DEAR DOCTOR:—I have the honor to hand you the following report in regard to the coöperative work carried on between the local bureau office at Auburn and the office of the Live Stock Sanitary Commissioner of Maine during the period from January 1, to December 31, 1914.

During this period I have made post-mortem examinations of 443 cattle, 9 calves, and 159 hogs shipped to the establishment of E. W. Penley, Auburn, Maine, by members of your force.

The carcasses of these animals were disposed of as follows: Of the 443 cattle, 315 carcasses were passed for food, 35 carcasses passed for sterilization, and 93 carcasses condemned. Of the 9 calves, 4 carcasses were passed for food, and 5 car-

casses condemned. Of the 159 hogs, 129 carcasses were passed for food, and 30 carcasses condemned.

This office reported to you during the past year, for investigation by your office, 19 herds of tubercular cattle and 9 herds of tubercular swine owned within this State, which were discovered through post-mortem examination of supposed healthy animals shipped to the Penley establishment for slaughter.

Establishment 303 is the only slaughtering plant in this State operating under Federal inspection. Federal inspection is only maintained at establishments which do an interstate business, leaving the smaller slaughtering plants to be regulated by State laws. The finding of numerous diseased carcasses among animals thought by their owners to be free from disease, simply illustrates the necessity of a law providing for an efficient system of meat inspection, in order that diseased carcasses may be destroyed, and only meat that is "sound, healthful, and wholesome" be used for food.

Very respectfully,

L. K. GREEN,

Inspector in charge.

PRESQUE ISLE, MAINE, Dec. 24, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I have tested five herds of cattle and condemned none.

I found a tubercular carcass and it was properly disposed of.

I examined eighty green horses physically and condemned none. I tested one native horse with mallein and condemned it.

There was an outbreak of hog cholera. They were injected with hog cholera serum. They all died.

The majority of herds supplying milk to the town have been tested with tuberculin.

The slaughtering houses are not sanitary.

Respectfully submitted,

A. D. HOWDEN,

Inspector.

AUBURN, ME., Jan. 1, 1915.

The Live Stock Sanitary Commissioner.

DEAR SIR:—I herewith submit my annual report as your deputy for the year ending Dec. 31, 1914.

I have tested with tuberculin during the year 470 herds of cattle with 4027 head. The conditions in which cattle are kept are just fair, although they seem to be a little better every year.

I condemned during the year 80 head of cattle in 38 different herds, all of which re-acted except one, I condemned on physical examination.

The Board of Health of the city of Auburn this year demanded all the cattle tested with tuberculin, which were furnishing milk to this city, and I tested 140 herds with 1131 head of cattle, and condemned 53. This work is practically completed although there may be from 100 to 150 head not tested yet.

I have examined 66 head of horses and mallein tested 4, but found no animals suffering from glanders or farcy.

There have been six herds of hogs affected with hog cholera in my locality, with 51 animals, I treated 55 with serum. 12 were diseased when treated and 8 died after treatment.

Contagious abortion seems to be very much on the increase and should surely be under State control.

Yours respectfully,

GEO. R. INGLIS, V. S.

SOUTH WINDHAM, MAINE, Jan. 6, 1915.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—Following is my report as per request of the 5th instant.

Number of herds of cattle tested with tuberculin, 9.

Number of herds of cattle where tuberculosis was found, 5.

Total number of cattle tested with tuberculin, 61.

Total number of cattle condemned for tuberculosis, 8.

Total number of herds supplying milk to Westbrook and South Windham, 30.

Approximate number of these herds which have been tuberculin tested, 5.

I have tested two horses for glanders and got a negative reaction in each case.

I have had one outbreak of hog cholera in which, seven (7) pigs died. The pen was carefully disinfected and no further trouble has been reported.

The condition of the local slaughter houses is in fair shape. Hoping that this report will be satisfactory, I remain,

Yours very truly,

DR. H. S. IRISH,

Inspector.

LYNN, MASS., Dec. 31, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—Your letter of the 20th inst. received today, it having been forwarded to me, here, and I am sorry not to have a report for you, but got called off here and so hurriedly that all my plans were and are upset. If it is not too late, I can give you a rough estimate of the number of horses imported into my section, and without exceptions they were the best lot that were brought into Aroostook before. At a guess, I inspected about 250 in all, in the past year. Our milk supply in Houlton has been gone over again with the tuberculin test. Three cows were condemned, out of 300 head tested. In regard to conditions of slaughter houses, I beg to say that at last by the efforts of our Board of Health we have driven the meat men out of the vile phase that has been in use heretofore, into a nicely remodeled abattoir, under United States inspection, which speaks very well for our little town. I am sorry not to have been able to go into details, and I expect that even this little sketch will be too late for publication.

Yours truly,

H. B. F. JERVIS,

Inspector at Houlton, Me.

SANFORD, MAINE, Dec. 27, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR SIR:—Herewith please find report of work done the year 1914.

Number of herds tested with tuberculin, 17.

Number of herds where tuberculosis was found, 3.

Number of head tested, 55.

Total number of cattle condemned, 4.

Number of horses tested for glanders, 68.

Number of horses condemned, 1.

Have had only one outbreak of hog cholera, being 13 in all. The three that were affected died after being injected, the others did not contract the disease.

There have been no cases of contagious abortion.

Number of herds that supply milk to Sanford, 26.

Number of herds tested, 1.

General condition of slaughter houses very unsanitary.

Yours truly,

W. R. JACKSON, V. S.,

Inspector.

LEWISTON, ME., Dec. 18, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—In compliance with your request of Dec. 1st, I herewith submit my report for the year 1914, to date:

Number of herds tested with tuberculin, 40.

Number of herds where tuberculosis was found, 4.

Total number of cattle tested, 251.

Total number of cattle condemned, 5.

I should estimate there are one hundred and fifty to one hundred and seventy-five herds supplying Lewiston and Auburn with milk. Up to seven months ago it is doubtful if over 5% of these cows had been tuberculin tested. At the present time there are but few, if any, that have not been

tested. These conditions came about through the recommendation of the Live Stock Sanitary Commissioner and the action of the Boards of Health of these two cities. As soon as the dealers and producers realized the demand of the public for clean milk they were very prompt in complying with the request of the Boards of Health.

The slaughter houses in this section that have come under my observation I consider in a sanitary condition.

Yours very truly,

J. M. JOHNSON,

Inspector.

WEST BALDWIN, MAINE, Dec. 13, 1914.

Dr. Joly, Waterville, Maine.

DEAR SIR:—I herewith submit to you my annual report.

In the year 1914 I have tested about 150 cattle for the State. Have also immuned and injected with cholera serum about 110 hogs with good results. I believe it is for the best interests of both the State and the farmer to distribute hog cholera serum to competent veterinarians for use among our hogs.

I also wish to congratulate you on the efficient and business-like manner in which you have conducted the business of this office, and will say that the service to the veterinarians has been of the best.

With best wishes, I am,

Yours truly,

W. S. LORD, M. D. V.

PORTLAND, ME., Dec. 20, 1914.

Dr. A. Joly Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I have the pleasure of transmitting my report for 1914.

I have examined 165 horses and 1 donkey at the port of Portland and found them free from contagious disease.

Locally, I have found 11 cases of glanders in horses. Two of these were tested by me with mallein; 4 with Ophthalmic test; and 5 were advanced cases; all were disposed of in manner provided by the Commission.

I have tested 14 herds of cattle, finding tuberculosis in 3 of these. I have tested 128 head with tuberculin and condemned 9.

One outbreak of hog cholera was brought to my attention, and I injected 46 of these with hog cholera serum.

Conditions of local slaughtering houses show no improvement over 1913 and a pressing need of Portland is a public abattoir.

At present, the people have no protection regarding meat slaughtered in the State; but are safeguarded in buying imported meat by seeing the stamp or tag of the United States Government Inspector. There is little doubt that many persons would prefer to buy meat of home production, if it could be procured in sanitary conditions in slaughter houses where proper inspection was maintained.

Yours truly,

W. H. LYNCH,

Inspector.

BIDDEFORD, ME., Dec. 30, 1914.

Dr. A. Joly Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—Following is a report of the work I have done under your department.

I have tested eight herds of cattle, 49 in all, and 23 horses, of which I found two diseased, cows, and one horse.

The work done by this department is fast stamping out the disease. I think that the greatest trouble is in small slaughter houses, and exchanging animals from one stable to another.

Respectfully yours,

W. S. LEIGHTON,

Inspector.

LEWISTON, MAINE, Dec. 31, 1914.

Dr. A. Joly Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I herewith submit my report of work done by me through your office for the year A. D., 1914.

Number of herds tested with tuberculin, 8.

Number of herds where tuberculosis was found, 0.

Number of cattle tested with tuberculin, 23.

Total number condemned, 0.

Number of herds supplying milk in town, 6.

Approximate number of these herds tested with tuberculin, 1.

General condition of slaughtering very good with the aid of the local Board of Health. I have had a thorough cleaning out of the slaughtering houses, have had one new house built and the others all torn out and done over new which leaves them in good condition.

Respectfully submitted,

A. C. LEIGHTON,

Inspector.

WESTBROOK, ME., Dec. 29, 1914.

Dr. A. Joly Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—Number of cattle tested with tuberculin in 1914, to date, 2.

Number of herds of cattle where tuberculosis was found, 1.

Total number of cattle tested with tuberculin, 12.

Total number of cattle condemned, 2.

Approximate number of herds furnishing milk to this city, 25.

Approximate number of these herds which have been tested with tuberculin, 2.

We have no slaughter houses.

No cases of hog cholera, contagious abortion, or glanders

have come under my notice during the year now closing and I am

Sincerely yours,

C. H. LEIGHTON,

Inspector.

SOUTH PARIS, ME., December 22, 1916.

Dr. A. Joly Live Stock Sanitary Commissioner, Waterville, Maine.

Number of herds of cattle tested with tuberculin, 125.

Number of herds of cattle tested where tuberculosis was found, 5.

Total number of cattle tested with tuberculin, 913.

Total number of cattle condemned by test, 5.

Number of animals found tubercular upon post-mortem examination, 4.

Number of imported horses inspected, 143.

Number of imported mules inspected, 1.

Number of horses examined for glanders by subcutaneous mallein test, 3.

Number condemned by above test, 0.

Number of horses examined for glanders by Ophthalmic mallein test, 3.

Number condemned by above test, 0.

No cases of hog cholera came under my personal observation.

Approximate number of herds supplying milk to this town, 3.

Approximate number of herds which have been tuberculin tested this year, 1.

Two herds having contagious abortion came under my personal observation, and both are under Methylin Blue treatment, with what success I am unable to state at this time.

Respectfully submitted,

C. M. MERRILL,

Inspector.

AUGUSTA, ME., Dec. 26, 1914.

Dr. A. Joly, Waterville, Maine.

DEAR DOCTOR:—My work for your department has been confined to the months of October and November during which I have tested as follows:

Seven cows with tuberculin, none condemned.

Number of herds, 3.

Three horses with mallein, none condemned.

I have also inspected five horses, imported, and found no disease.

Very truly,

M. E. MADDOCKS, V. M. D.

BANGOR, ME., Dec. 31, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR SIR:—During the current year I have given a physical examination to 561 horses brought into the State and applied the mallein test to 12 horses brought into the State over eight years of age.

Have discovered and reported eight cases of glanders, two of which were the property of the Katahdin Pulp and Paper Co., of Lincoln. Last year seven horses of this company were found diseased and these two were horses that stood the test at that time.

Have applied the tuberculin test to 48 cows and no reaction.

Have given serum to 87 swine the past year and believe this section to be free from hog cholera at this time.

In regard to the outbreak of hog cholera at the Bangor State Hospital will say that the outbreak was checked by the serum treatment but some of the brood sows were inoculated while in advanced pregnancy. Some of their offspring developed the disease when about 3 weeks old. They were all treated with the minimum dosage, which resulted very satisfactorily. All

animals purchased since are inoculated and those born there are treated at 4 weeks of age. By this method they have been free from the disease for the last 11 months.

Yours very truly,

ALFRED L. MURCH,

Inspector.

KEZAR FALLS, ME., Dec. 22, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I respectfully submit my annual report for 1914.

Number of herds tested, 32.

Number of cattle tested with tuberculin, 132.

Number of herds where tuberculosis was found, 1.

Number of cattle condemned, 2.

Number of horses given Ophthalmic test, 1.

Number condemned, 1.

Number of hogs infected with contagious abortion, 0.

Number of herds supplying milk to Kezar Falls, 2.

Number of herds supplying milk tested, 2.

Local slaughter houses fairly sanitary.

Yours very truly,

S. A. McDANIEL,

Inspector.

AUBURN, MAINE, Dec. 19, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR SIR:—I herewith submit my report for the year, 1914. During the year I have examined and tested with tuberculin thirty-five herds of cattle. Total number of cows in these herds 614, out of which only 5 were condemned, a very low average. Many of these herds have been tested annually which accounts for it. I have been called to two herds with contagious abor-

tion, one of which I have treated with a vaccine, the other will be in a few days. In the one treated not one has aborted since treatment two months ago, previous to which four had aborted in ten days. I hope to have favorable report later.

You are to be congratulated that the foot and mouth disease has not entered Maine, so far, and we sincerely trust may not. From all over the State among breeders and dairymen I hear favorable comment upon your efficient administration and I consider it one of the best the State has known.

Yours very truly,

JOHN A. NESS,

Inspector.

FOXCROFT, ME., Jan. 1, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I beg to submit the following report for the year ending Jan. 1, A. D., 1915.

Number of herds tested with tuberculin, 15.

Number of herds of cattle where tuberculosis was found, 1.

Total number of cattle tested with tuberculin, 81.

Total number of cattle condemned, 1.

Number of imported horses inspected, 174.

Most of these horses were tested with mallein (Ophthalmic).
Number of horses condemned, 0.

Approximate number of herds supplying milk to Dover and Foxcroft, 15. None of these herds have been tested with tuberculin.

General condition of slaughter houses is unsanitary.

I believe our present Live Stock Sanitary Laws are a vast improvement and of much economic value to the State. The manner in which the work is being done is winning the confidence of stock breeders. I would suggest that the Live Stock Sanitary Commissioner be given power to regulate the condition of slaughter houses which are not under the Federal supervision.

Respectfully submitted,

C. H. NEWTON,

Inspector.

CALAIS, MAINE, Dec. 28, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—The following list of importations of live stock from Canada were inspected by the undersigned and by bureau of inspectors under his supervision during the year up to the 20th of December, 1914.

Horses, 365, permanent stay; 705, temporary stay, (Lumber operations).

Mules, 9, temporary stay, (lumber operations).

Cattle, 2936, immediate slaughter; 269, dairy and breeding.

Sheep, 2174, immediate slaughter; 2, breeding.

Swine, 211, immediate slaughter; 3, breeding.

On December 21 federal inspection was inaugurated at the Houlton Dressed Meat Co.'s Plant at Houlton, Me., C. W. Starkey, Prop., under the supervision of the Calais, Me., office.

Yours truly,

H. T. POTTER,

Inspector in charge.

FORT FAIRFIELD, ME., Dec. 31, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR SIR:—During the year of 1914 I have tested with tuberculin 8 herds, with a total of 79 cattle. Out of this number I have found one herd affected with tuberculosis and condemned one cow.

The number of horses entering the State from other states and inspected by me was 91.

Number of horses tested with mallein, 2.

Number of horses condemned, 1.

Have not known of any outbreak of hog cholera in this vicinity. Contagious abortion has not appeared in this section.

Approximately five herds furnish the milk of this town, about half of these have been tested. The slaughter houses in this town are decidedly unsanitary.

J. L. PARKS, D. V. S.,

Inspector.

CARIBOU, ME., Dec. 29th, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR SIR:—Inclosed please find my report of the amount of State work I have done during the year 1914.

Whole number of herds tested, 16.

Whole number of cows tested, 103.

Found 10 cases of tuberculosis, all of which were in one herd of 13 cows; also one Ayrshire bull calf coming from Massachusetts, which they said was too young to test before being shipped. On arriving, being seven months of age, I applied the tuberculin test which reacted, making a total of 11 animals condemned.

There have been 189 horses imported into this town that I have examined, most of them coming from Illinois; also 18 horses coming from Boston, to which I have applied the Ophthalmic test with no reactor, making a total of 207. No horses condemned on physical examination.

Have had one outbreak of hog cholera, most of them dying. I think the serum of not much value.

Not any cases of contagious abortion in this locality.

In my opinion the number of herds supplying milk to our village is about 20. Most of these have not been tested for three or four years.

Our slaughter houses are in fair condition.

Respectfully submitted.

DR. B. L. PRATT,

Inspector.

THOMASTON, ME., Jan. 1, 1915.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I have the pleasure to submit my annual report, which is as follows:

Number of horses tested with mallein, 84.

Number of horses condemned with mallein test, 0.

Number of horses given physical examination, 30.
 Number of horses condemned by physical examination, 0.
 Number of outbreaks of hog cholera in this locality, 0.
 Number of herds found infected with contagious abortion, 0.
 Approximate number of herds supplying milk to this town, 3.
 Approximate number of these herds which have been tuberculin tested, 0.
 General condition of local slaughter houses fair.

Respectfully submitted,

A. W. PEABODY,

Inspector.

BIDDEFORD, ME., Dec. 15, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I have tested with tuberculin, during the year as follows:

Number tested, 1476.

Number of herds, 197.

Number diseased, 45.

I have nothing in particular to add, more than I did last year. I am a firm believer in the opinion that the State should test every animal of the bovine tribe in the State, and pay for the same, as that is the only logical thing to do.

Yours truly,

C. W. PURCEL,

Inspector.

FARMINGTON, ME., Dec. 24, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I have the pleasure to submit my annual report which is as follows:

Number of herds of cattle tested with tuberculin, 71.

Number of herds of cattle where tuberculosis was found, 5.

- Total number of cattle tested with tuberculin, 627.
Total number of cattle condemned, 11.
Number of horses inspected, 67.
Number of horses tested with Ophthalmic mallein test, 30.
Number of horses condemned by Ophthalmic mallein test, 1.
Number of horses condemned by physical examination, 0.
Number of outbreaks of hog cholera in locality, 0.
Number of herds of hogs treated with hog cholera serum, 0.
Number of herds of cattle found infected with contagious abortion, 2.
Approximate number of herds supplying milk to town, 6.
Approximate number of herds which have been tuberculin tested, 1.
General condition of local slaughter houses, fair.

Very respectfully yours,

E. E. RUSSELL, V. S.

ORONO, ME., January 7, 1915.

Dr. A. Joly, Maine Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—During the year 1914 we have tested rather less than the usual number of cattle with tuberculin. But few of the men in this part of Penobscot County keep their herds tested. During the year we have tested eleven herds, one of them twice and a few single animals—293 head in all. We have condemned three head, one of them a pure-bred, which had been in the State less than one year.

The animals tested were most of them in herds that have been tested annually for years. One of these, a herd of pure-bred Guernseys, which was established more than ten years ago, has an entirely clean record, has been tested annually and no reacting animal has ever been found. Another herd, which now numbers over fifty head, has been tested annually or oftener since 1893. At that time it consisted of about forty head. Rather more than half of them were condemned and killed on the first test. Since 1896, this herd has had practically a clean record. One herd which in May, 1906, consisted of thirty-two head, mostly pure-bred Holsteins, lost nineteen animals by the

first test. The following November, the remnant of the herd was tested again and three animals were condemned. Since this second test the herd has been tested annually—eight times in all—and its record has been perfectly clean. When tested the 5th of last December, we congratulated the owner upon his remarkable success in freeing a badly infected herd from tuberculosis in six months' time and with only two tests.

We are called upon rather frequently to give advice in regard to the treatment of herds in this and other parts of the State, affected with contagious abortion. In some respects, this is the most serious disease our cattle breeders have to contend with. We have been consulted recently in regard to one herd in which there have been a number of calves lost from infectious scours.

Very truly yours,

F. W. RUSSELL.

DEXTER, ME., Dec. 25, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner.

DEAR SIR:—I herewith submit the following report for the year ending Dec. 25, 1914.

Number of herds of cattle tested with tuberculin, 31.

Number of herds where tuberculosis was found, 4.

Total number of cattle tested with tuberculin, 205.

Total number of cattle condemned, 7.

Number of horses tested with mallein (Ophthalmic), 22.

Number of horses condemned, 2.

Number of outbreaks of hog cholera, 1.

(But no serum was used as case was too far advanced.)

Approximate number of herds which supply milk to town, 8.

Approximate number of herds which have been tested, 1.

General condition of slaughter houses is *very poor*.

Yours truly,

C. L. RYAN,

Inspector.

SKOWHEGAN, ME., Dec. 25, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—Please find below report of work done by me in the year 1914 assisting you in the control of contagious diseases.

Number of herds of cattle tested with tuberculin, 55.

Number of herds where tuberculosis was found, 13.

Number of cattle condemned, 26.

Total number tested with tuberculin, 502.

Number of imported horses inspected, 54.

Number tested with mallein, 9.

Number condemned, 0.

Number of herds supplying milk to Skowhegan, 12.

Number of these herds tested, 3.

Number of cases of hog cholera and contagious abortion have been reported although I think we have little of both in this section.

The slaughter houses are far from what they should be and no improvement has been made in the last year.

Yours respectfully,

I. L. SALLEY,

Inspector.

ROCKLAND, ME., Dec. 14, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I have the honor to submit to you my report for the year ending December 14, 1914.

During the year I have tested with tuberculin ten herds of cattle, or a total of 77 head. Only one cow reacted to the test.

I have examined two cows post-mortem, which had been slaughtered for beef, and both were found to be tuberculous.

I have inspected 46 horses for glanders, 6 by physical examination, 40 by Ophthalmic test. One horse was found diseased by Ophthalmic test.

I have seen no cases of hog cholera or contagious abortion.

Respectfully submitted,

H. L. STEVENS,

Inspector.

BONNEY EAGLE, ME., Dec. 11, 1914.

Dr. A. Joly, Waterville, Maine.

DEAR DOCTOR:—I submit my report for year 1914.

Number horses examined, 92.

Number horses mallein tested, 1.

Number horses condemned, none.

Number cows tested, 36.

Number cows condemned, 4.

Number cases of hog cholera, 1.

Yours respectfully,

H. S. USHER, D. V. S.

BRUNSWICK, ME., Dec. 23, 1914.

Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville, Maine.

DEAR DOCTOR:—I submit my annual report for the year 1914.

Number of herds of cattle tested with tuberculin, 10.

Number of herds of cattle where tuberculosis was found, 5.

Total number of cattle tested with tuberculin, 149.

Total number of cattle condemned, 5.

Number of imported cattle inspected, 61.

Number of horses tested by the mallein test, 1.

(Ophthalmic mallein.)

Number of horses condemned by the mallein test, 1.

(Ophthalmic eye test.)

Number of outbreaks of hog cholera in our locality, 4.

Number of herds treated with hog cholera serum, 2.

Number of hogs treated, 12.

Approximate number of herds supplying milk to our city, 20.

Approximate number of herds which have been tuberculin tested, 3.

General condition of local slaughtering houses, poor.

Yours truly,

DR. C. W. WATSON,

Inspector.

AUGUSTA, ME., Dec. 29, 1914.

*Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville,
Maine.*

DEAR DOCTOR:—During the past year I have tested 12 herds with 80 head of cattle, have found 10 head tuberculous, have inspected 100 head of horses from different localities, found four horses affected with glanders, in each instance the infested horses were second hand stock, no glanders being found in fresh western horses. Cattle owners are taking more interest in the tuberculin test, this proves that in a short time every cow owner will test his milk herd at least once per year. I consider the work of your office the greatest uplift in the building up of milk herds free from tuberculosis by the system you have inaugurated. I trust you will have many years in this office to complete the good work already commenced.

Very respectfully yours,

C. L. WAKEFIELD,

Inspector.

EASTON, ME., Dec. 5, 1914.

*Dr. A. Joly, Live Stock Sanitary Commissioner, Waterville,
Maine.*

DEAR DOCTOR:—The following is my report for the year ending December 31, 1914:

Number of herds of cattle tested with tuberculin, 34.

Number of herds where tuberculosis was found, 3.

Total number of cattle tested with tuberculin, 155.

Total number of cattle condemned, 3.

Respectfully submitted,

S. C. WHEELER,

Inspector.

CONTAGIOUS DISEASES OF ANIMALS.

INSTRUCTION FOR PROPER DISINFECTION OF PREMISES.

In the eradication of tuberculosis or other communicable disease the thorough disinfection of premises is essential. This may be satisfactorily accomplished by carrying out the following directions:

1. Sweep ceilings, side walls, stall partitions, floors, and other surfaces until free from cobwebs and dust.

2. Remove all accumulations of filth by scraping, and if woodwork has become decayed, porous, or absorbent, it should be removed, burned, and replaced with new material.

3. If floor is of earth, remove four inches from the surface, and in places where it shows staining with urine a sufficient depth should be replaced to expose fresh earth. All earth removed should be replaced with earth from an uncontaminated source, or a new floor of concrete may be laid, which is very durable and easily cleaned.

4. All refuse and material from stable and barnyard should be removed to a place not accessible to cattle or hogs. The manure should be spread on fields and turned under, while the wood should be burned.

5. The entire interior of the stable, especially the feeding troughs and drains, should be saturated with a disinfectant, as liquor cresolis compositus (U. S. P.), or carbolic acid, 6 ounces to every gallon of water in each case. After this has dried, the stalls, walls, and ceilings may be covered with whitewash (lime $1\frac{1}{2}$ pound to 1 gallon of water), to each gallon of which should be added 4 ounces of chlorid of lime.

The best method of applying the disinfectant and the lime wash is by means of a strong spray pump, such as those used by orchardists.

This method is efficient in disinfection against most of the contagious and infectious diseases of animals, and should be applied immediately following any outbreak, and, as a matter

of precaution, it may be used once or twice yearly.

6. It is important that arrangements be made to admit a plentiful supply of sunlight and fresh air by providing an ample number of windows, thereby eliminating dampness, stuffiness, bad odor, and other insanitary conditions. Good drainage is also very necessary.

RULES AND REGULATIONS OF THE LIVE STOCK SANITARY COMMISSIONER.

(By authority of Chapter 195 of the Public Laws of 1911, and
as amended by Chapter 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:

“ToTown 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 other animals and the product
of said animals should 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 shall be allowed to depart, nor shall any animal be allowed to enter, 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. Inspectors employed to apply the tuberculin test, shall first make a physical examination of the animals to be tested and shall follow the rules established by the Bureau of Animal Industry of the United States Department of Agriculture.

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 a veterinarian recommended by the live stock sanitary commissioner. Upon application a list of veterinarians 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. Veterinarians applying the tuberculin or the 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), 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 con-

trol 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.

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 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 veterinarians to report to the live stock sanitary commissioner, within forty-eight hours

when he has knowledge as to the existence of tuberculosis, contagious pleuro 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. The above rule shall be published for three consecutive weeks in the official State newspaper.

Approved this the 9th day of May, 1913.

WILLIAM T. HAINES,

Governor of Maine.

ACHILLES JOLY, D. V. S.,

Live Stock Sanitary Commissioner, Waterville, Maine.

MAINE SANITARY LAWS ON CONTAGIOUS
DISEASES OF ANIMALS.

CHAPTER 195, PUBLIC LAWS OF 1911.

An Act to extirpate contagious diseases 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 diseases, 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.] 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 disease, 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 place 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, and 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 the 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 fifty 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 contracted 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 execution 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, obstruct 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 any 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 animal 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 animals 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.] 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 twenty 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 fifty 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, price paid for such animal, name of the person from whom said animal was purchased and such other information as the live stock sanitary commissioner may require; such claim shall be accompanied on every instance with a "sale-ticket" for such part of the animal as may have been sold, and the amount for 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 establish-

service, and be killed under federal government inspection, and be disposed of according to the requirement 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 veterinarian 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 disinfection one-half shall be paid from the appropriation allowed for the use of such commissioner and one-half by owner 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 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 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, and 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 a 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 215, RESOLVES OF 1913.

Resolved, that the sum of fifty thousand dollars for the year nineteen hundred and thirteen, and the same sum for the year nineteen hundred and fourteen, 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.

AN ACT TO REGULATE THE PRACTICE OF VETERINARY SURGERY, MEDICINE AND DENTISTRY.

Be it enacted by the Senate and House of Representatives in Legislature assembled, as follows:

SECTION 1. A board is hereby established to be known as the state board of veterinary examiners; said board shall be composed of three veterinary surgeons, residents in the state, who are graduates from some legally chartered veterinary college or university having the powers to confer degrees in veterinary surgery, and who shall have been actively employed in the practice of their profession for a period of at least five years. On or before May first, nineteen hundred five, the governor shall appoint the members of said board to serve as follows: One for one year, one for two years, and one for three years, and thereafter he shall annually appoint one member of said board for the term of three years. Any vacancy in said board shall be filled by appointment by the governor, within thirty days after such vacancy shall arise, of a person, qualified as aforesaid, to hold office during the unexpired term of the member whose place he fills. Any member of said board may be removed from office, for cause, by the governor, with the advice and consent of the council.

SECTION 2. Said board shall organize annually in the month of May by the election of one of its members as president, one as secretary, and another as treasurer, and may adopt such rules, not in conflict with the laws of the state, as they may deem proper to carry into effect the provisions of this act. They shall also adopt a seal which shall be affixed to all certificates issued by them in accordance with the provisions of this act, which certificate shall be signed by the president and secretary. The compensation of said veterinary examiners shall be five dollars a day for time actually employed in the performance of their official duties, and they shall be paid all necessary expenses incurred therein. The treasurer shall annually, on the first day of April, make written report to the governor and

council of all receipts and expenditures of said board. If any balance should then appear in his hands in excess of one hundred dollars, after paying all disbursements and expenses then incurred by the members of the board, he shall pay such balance to the treasurer of state, who shall apply the same to the permanent school fund.

SECTION 3. It shall be unlawful for any person not previously registered, to practice veterinary surgery, medicine, or dentistry, or any branch thereof, within the state, without having previously obtained a certificate from the state board of veterinary examiners and being registered as herein provided.

SECTION 4. Any person who was engaged in the practice of veterinary surgery, medicine, or dentistry, or any branch thereof in this state, on the twenty-second day of February, one thousand nine hundred and five, may, on or before the fifteenth day of September, one thousand nine hundred and eleven, register his name and address with the state board of veterinary examiners and give proof to said board that he was so in practice on said twenty-second day of February, one thousand nine hundred five, and be entitled to all rights and privileges granted by said act as he would or might have been if he had appeared before said board at the time stated in section four of the aforesaid act. Any person shall be regarded as practicing veterinary surgery, medicine, or dentistry, or any branch thereof, within the meaning of this act, who has publicly professed to be a veterinary surgeon, or has prescribed for sick or injured animals and accepted fees for such services, or has attached to his name the title "V. S." or "Veterinary Surgeon," or any veterinary title ordinarily used. Nothing in this act shall be construed as prohibiting the performance of services rendered by any one in case of emergency, nor prohibiting any person from practicing veterinary medicine, surgery, or dentistry, on any animal belonging to himself; nor shall this act be construed as prohibiting castration of animals by any resident of this state.

SECTION 5. All persons who shall commence the practice of veterinary surgery, medicine, or any branch thereof, within the state, after May first, nineteen hundred and five, shall pass an examination to the satisfaction of said board of examiners. Applicants for examination as herein provided shall file with

the secretary of the board their written request for such examination, and pay to the treasurer of said board a fee of five dollars before being permitted to take such examination.

SECTION 6. The board of examiners shall issue certificates to all persons qualified to receive them under the provisions of section four and to all persons passing the examination required under section five, authorizing the holder to practice veterinary surgery, medicine, or dentistry, or any branch thereof, within the state. Said certificate shall be recorded in the office of the clerk of the supreme judicial court in the county wherein the holder resides at the time of passing said examination. Said clerk shall be entitled to a fee of fifty cents for making such record and in the absence of the original certificate an attested copy of such record shall be received as evidence in all courts within the state of the right of the person therein named to practice veterinary surgery, medicine, or dentistry, or any branch thereof, within the state. Any veterinarian not a graduate desiring to render professional services for the state of Maine, in any of its departments, shall at the request of the live stock sanitary commissioner, submit himself to an examination before said board of examiners as to his fitness to perform the service.

SECTION 7. It shall be the duty of said board of examiners to keep a record of all practitioners who shall qualify under the provisions of this act, and to register therein the name, age, and time spent in study and practice of veterinary surgery, medicine, and dentistry, and, if a graduate, the name and location of the school or college granting his diploma. Such record shall be open to public inspection at all times, within reasonable hours, at the office of the secretary of the board.

SECTION 8. The president of said board shall have power to administer oaths and to take testimony for the proper enforcement of this act and the rules established by said board.

SECTION 9. Any person who shall practice veterinary surgery, medicine, or dentistry, or any branch thereof, in the state of Maine without complying with the provisions of this act shall be deemed guilty of misdemeanor, and upon conviction thereof shall be punished by a fine not exceeding one hundred dollars, or by imprisonment in the county jail for not more than thirty days.

SECTION 10. Said board shall meet as a board of examiners in the city of Augusta, on the second Monday in January and July of each and every year, when there are applicants for examination, and at such other times and places as they may find necessary for the performance of their duties.

The foregoing is a copy of Chapter 17 of the Public Laws of 1905 as amended by Chapter 89 of the Public Laws of 1907, and by Chapter 18 of the Public Laws of 1911, and by Chapter 208 of the Public Laws of 1913.

VARIOUS STATE SANITARY REQUIREMENTS GOVERNING ADMISSION OF LIVE STOCK.

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, except calves under 6 months old and cattle intended for immediate slaughter. Calves from tuberculous mothers not admitted. Cattle for feeding, affidavit by owner that he will keep them separate from other cattle during feeding period.

No ticky cattle, horses, or mules shall be brought into Alabama.

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.—Dr. C. A. Cary, 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.—Dr. W. E. Severn, State veterinarian, Phoenix, Ariz., to whom duplicate certificate should be sent in advance.

ARKANSAS.

Horses, mules, and asses.—Health certificate.

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.—Dr. R. M. Gow, agricultural experiment station, Fayetteville, Ark.

CALIFORNIA.

Horses, mules, and asses.—Health certificate.

Cattle.—Dairy or breeding cattle over 6 months of age must be accompanied by health certificate, including tuberculin test, showing each animal in the shipment to have been carefully examined and subjected to the tuberculin test, and, further, that they are free from any suspicious symptoms of contagious or infectious diseases. There must be attached to the health certificate a signed statement by the owner, consignor, or shipper certifying that none of the animals has previously reacted to the tuberculin test within three months, and that none has been subjected to any treatment designed to negative the action of the tuberculin test.

If for exhibition purposes, cattle may be shipped into California without tuberculin test on permit from the State veterinarian of California. Said permit must be attached to the waybill.

Cattle for slaughter or feeding purposes need not be accompanied by health certificate or tuberculin test, provided they do not originate in States or parts of States under Federal quarantine for southern cattle fever or other infectious or contagious diseases. A signed statement by the owner or shipper must accompany slaughter or feeding cattle showing purpose for which same cattle are being brought into the State.

Hogs.—Health certificate.

Sheep.—In accordance with Federal regulations.

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

Official.—Dr. Charles Keane, State veterinarian, Sacramento, Cal.

COLORADO.

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

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.—Dr. W. W. Yard, State veterinarian, Denver, Colo.

CONNECTICUT.

Horses, mules, and asses.—None.

Cattle.—For neat cattle over 6 months of age, 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 designed until examined and released by the commissioner or his agent.

Hogs.—None.

Sheep.—None.

Who may inspect.—Commissioner or his agent.

Official.—Hon. J. O. Phelps, commissioner on domestic animals, Simsbury, Conn.

DELAWARE.

Horses, mules, and asses.—None.

Cattle.—Cattle for dairy or breeding purposes admitted to the State on permit from the live-stock sanitary board or must be accompanied by certificate, including tuberculin-test chart, showing animals to be free from tuberculosis.

Hogs.—None.

Sheep.—None.

Who may inspect.—Federal or State inspector, or veterinarian whose certificate must be approved by State live stock sanitary board.

Official.—Dr. J. R. Kuhns, secretary State live stock sanitary board, Dover, Del.

DISTRICT OF COLUMBIA.

Horses, mules, and asses.—None.

Cattle.—Permit from Chief of Bureau of Animal Industry or health officer District of Columbia, and, except for cattle for

immediate slaughter, certificate of tuberculin test by a veterinary inspector of the Bureau of Animal Industry or an official veterinarian of the health department of the District of Columbia or of the State from which the animal is brought. Said certificate must show the place and the date of test and be issued within 30 days of date of entry; also temperature chart, description of the animal or animals, age, markings, and tag numbers if tagged.

Cattle for immediate slaughter may enter the District of Columbia without the tuberculin test, but must be accompanied by a permit as indicated above and tagged by an official of the Bureau of Animal Industry or of the District of Columbia before entry, except that cattle under 6 months old, castrated cattle, and cattle shipped in cars consigned to an establishment having United States meat inspection may enter the District of Columbia for immediate slaughter without permit or tagging.

Hogs.—None.

Sheep.—None.

Officials.—Dr. A. D. Melvin, Chief, Bureau of Animal Industry, Washington, D. C.; Dr. W. C. Woodward, health officer, Washington, D. C.

FLORIDA.

Horses, mules, and asses.—None.

Cattle.—None.

Hogs.—None.

Sheep.—None.

The State law provides that it shall be unlawful for any person to bring into the State or to offer for sale any live stock suffering from contagious or infectious diseases.

Who may inspect.—None needed.

Official.—Dr. Charles F. Dawson, veterinarian to State board of health, Jacksonville, Fla.

GEORGIA.

Horses, mules, and asses.—None.

Cattle.—All cows, heifers, or bulls shipped or driven into the State must be accompanied by a health certificate including tuberculin-test record, and on order of proper State official are subject to retest in from 30 to 60 days after arrival in the State.

Dairy and breeding cattle destined to the State of Georgia from the States of Illinois or New York must be held and tuberculin tested on arrival unless accompanied by a certificate of tuberculin test made and issued by a veterinarian of the United States Bureau of Animal Industry. Any cattle not accompanied by a certificate as above described must be held at the State line until inspected and certified to by the State veterinarian of Georgia or his duly accredited deputy, the expense of such inspection to be paid by the owner of said cattle.

All cattle destined to Georgia must be free of ticks and the owner or shipper must make the following affidavit:

.....Ga.,191 .
 I,, under oath, declare that I have carefully inspected and disinfected the following described cattle, complying with the provisions of the law regulating the suppression and control of infectious and contagious diseases of live stock in the State of Georgia, and the supplemental rules issued for this purpose by the Department of Agriculture, and offer them for shipment from, in County, to, in County, of Georgia, via Describe the cattle here

These cattle are free of ticks. Should they, upon inspection, while in transit, be found infested with ticks, I agree to pay all cost incidental to feeding and disinfection while these cattle are held in quarantine, this cost to be a bona fide lien upon these cattle which shall be paid before the cattle are delivered at destination.

(Owner)
 (Signed)
 (Agent)

Hogs.—None.
Sheep.—None.

Who may inspect.—Federal veterinarians, State veterinarians, or properly qualified deputies.

Official.—Dr. Peter F. Bahnsen, State veterinarian, Atlanta, Ga.

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 whence 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.—Dr. V. C. White, State veterinarian, Boise, Idaho.

ILLINOIS.

Horses, mules, and asses.—None.

Cattle.—None, except Texas fever.

Hogs.—None.

Who may inspect.—State veterinarian and his assistants.

Officials.—Dr. O. E. Dyson, State veterinarian, Live Stock Record Building, Union Stockyards, Chicago, Ill.; Mr. C. A. Lowery, secretary State board of live stock commissioners, Springfield, Ill.

INDIANA.

Horses, mules, and asses.—Certificate of soundness for stallions and jacks along with affidavit showing them to be free from contagious infections, or communicable diseases.

Cattle.—Cattle intended for breeding or dairy purposes must be tuberculin tested and tagged with Indiana State tags. If the cattle are from the State of Illinois, they must be held and tuberculin tested on arrival unless accompanied by a certificate of tuberculin test made and issued by a veterinarian of the United States Bureau of Animal Industry. Cattle for feeding purposes must be accompanied by affidavit to that effect.

Hogs.—Hogs shipped into the State for breeding purposes are required to have health certificate showing them to be free from infectious diseases or exposure thereto, and that they originated in territory where cholera did not exist. Feeding hogs subject to quarantine and vaccination after arriving at destination.

Sheep.—None.

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

Official.—D. A. F. Nelson, 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.—Dr. J. I. Gibson, State veterinarian, Des Moines, Iowa.

KANSAS.

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

Cattle.—Tuberculin test certificate for dairy and breeding cattle. Health certificate for cattle from territory under quarantine by Federal Government on account of Texas fever ticks or scabies.

Dairy or breeding cattle originating in the States of Illinois or New York must be accompanied by a tuberculin-test certificate issued by an inspector of the United States Bureau of Animal Industry, otherwise the shipment will be quarantined upon arrival in Kansas and inspected or tested by State officials at owner's expense.

Hogs.—Hogs for breeding and stocking purposes or for exhibition at any fair within the State must be accompanied by a certificate showing them to have been immunized by the Dorset-McBride-Niles serum method, unless otherwise provided for by the live-stock sanitary commissioner at time of shipment.

Sheep.—Health certificate from authorized inspector when from scabies-infected districts, unless intended for immediate slaughter.

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

Official.—Sam S. Graybill, live stock sanitary commissioner, Topeka, Kan.

KENTUCKY.

Horses, mules, and asses.—Health certificate issued within four days prior to date of shipment showing animals to be free from contagious and infectious diseases communicable to man.

Cattle.—Health certificate, including tuberculin test chart, except for cattle for immediate slaughter. Cattle originating in the State of Illinois destined to Kentucky must be accompanied by tuberculin test certificate issued by a veterinary inspector of the United States Bureau of Animal Industry. Southern cattle admitted for purposes other than immediate slaughter during January, November and December, on certification by an in-

spector of the Bureau of Animal Industry as being free from any symptoms of Texas fever.

Hogs.—All swine imported into the State of Kentucky, except for immediate slaughter, must be accompanied by a certificate of health stating that no infectious swine disease exists or has existed on the farm from which such shipment originated, within a period of six months, save where swine are certified by a duly accredited Federal or deputy State veterinarian as having been immunized by the Dorset-McBride-Niles hog-cholera serum; then such swine shall be admitted without hindrance and upon the above specified certificate only. Swine for exhibition purposes at State or county fairs must be accompanied by a certificate stating that such swine have been immunized by the Dorset-McBride-Niles hog-cholera serum prepared or approved by the United States Department of Agriculture. To prospective exhibitors from the State of Kentucky the required amount of serum will be furnished at the rate of one cent per cubic centimeter, as fixed by law, upon application to the experiment station, and said serum will be administered at the fair grounds.

No public sale of pure bred hogs shall be held within the State of Kentucky without the owner having first received a permit and certificate of health from the State veterinarian, or from a commissioned veterinarian of the State board of health.

Sheep.—Sheep intended for purposes other than immediate slaughter shall be accompanied by certificate from an inspector of the United States Bureau of Animal Industry showing them to have been dipped once within ten days of date of entry in either a lime and sulphur or a nicotine dip.

Who may inspect.—Veterinary inspectors of the United States Bureau of Animal Industry, State veterinarians, and assistants.

Officials.—Robert Graham, State veterinarian, Lexington, Ky.; Hon. J. W. Newman, chairman, State live stock sanitary board, 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 tuber-

culosis and must be tested with tuberculin before entering State. Owner or agent of cattle must mail certificate to secretary and executive officer for State live stock sanitary board immediately following arrival of cattle at destination. No tuberculin test required for cattle under six months old; calves from tuberculous cows shall be rejected.

Hogs.—Health certificate from qualified veterinarian 24 hours before shipping, showing freedom from infectious, contagious, or communicable disease.

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

Who may inspect.—All qualified veterinarians in the State deputized by board to make such inspections.

Official.—Dr. E. Pegram Flower, 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.—Dr. A. Joly, live stock sanitary commissioner, Waverille, Me.

MARYLAND.

Horses, mules, and asses.—Health certificate.

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

Hogs.—Health certificate.

Sheep.—Health certificate.

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

Official.—Dr. L. Hickman, chief veterinary inspector, 120 N. High St., Baltimore, Md.

MASSACHUSETTS.

Horses, mules, and asses.—None.

Cattle.—Health certificate, including tuberculin test, unless for immediate slaughter or calves under 6 months old. Certificates of test made by veterinarians in other States are accepted if approved by the proper live-stock sanitary authorities in those States.

Hogs.—None.

Sheep.—None.

Who may inspect.—Commissioner of Animal Industry or his agents.

Official.—Dr. Lester H. Howard, commissioner of animal industry, Boston, Mass.

MICHIGAN.

Horses, mules, and asses.—None.

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.

Official.—Dr. Geo. W. Dunphy, State veterinarian, Lansing, Mich.; Mr. H. H. Halladay, president, live stock sanitary commission, Clinton, 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 for dairy or breeding originating in the State of Illinois must be held and tuberculin tested on arrival unless accompanied by a certificate of tuberculin test made and issued by a veterinarian of the U. S. Bureau of Animal Industry.

Cattle of New York State must show certificate of health and tuberculin test issued and made by an inspector of the U. S. 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.—Dr. S. H. Ward, 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.—Prof. A. Smith, secretary, State live stock sanitary board, Agricultural College, Miss.

MISSOURI.

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

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.—Health certificate, except for immediate slaughter, including statement of non-exposure except where swine are certified by State or Federal veterinarians as having been immunized by the Dorset-McBride-Niles serum method.

Sheep.—Health certificate except when intended for immediate slaughter. Exposed sheep must be dipped twice at intervals of ten days in lime and sulphur or nicotine dip, under the supervision of Federal or State authorities.

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.—Dr. D. F. Luckey, State veterinarian, Columbia, Mo.

MONTANA.

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

Stallions.—Every person, firm, or company importing any stallion or jack into the State of Montana for breeding purposes shall first secure a certificate from a recognized State or Federal veterinarian, certifying that said animal is free from such diseases or unsoundness defined as infectious, contagious, or transmissible diseases or unsoundness.

One copy of the certificate of soundness must accompany the shipment and one copy must be mailed to the secretary of stal-

lion registration board, Bozeman, Mont., at least 10 days before the importation of said stallion or jack into the State. No stallion or jack which is neither purebred nor grade shall be imported into the State for breeding purposes. A grade is defined as an animal whose sire or dam, but not both, is a registered purebred animal.

Cattle.—For dairy or breeding purposes, health certificate, including tuberculin test. For feeding purposes, health certificate.

Swine.—Health certificate stating that no infectious swine disease has existed in the locality in which the swine originate for a period of six months prior to shipment, or a certificate by a duly accredited State or Federal veterinarian showing them to have been immunized by the Dorset-McBride-Niles serum for hog cholera.

Sheep.—For grazing purposes, health certificate by Federal inspector showing freedom from contagious diseases or exposure thereto and in addition a permit from the State veterinary surgeon of Montana. Bucks for breeding purposes shall be dipped twice in lime and sulphur or tobacco dip with an interval of 10 days between dippings and thereafter quarantined for a period of not less than 90 days, inspections and dippings to be at the expense of owner or shipper.

All live stock originating in the States of Illinois, South Dakota, and New York destined to Montana must be accompanied by health certificate, in accordance with above requirements, issued by a veterinary inspector of the United States Bureau of Animal Industry, otherwise they will be held at State line for inspection by a representative of the live stock sanitary board of Montana at the owner's expense.

Who may inspect.—Federal, State, and deputy State veterinarians.

Official.—Dr. W. J. Butler, 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 diseases. 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.—Dr. L. C. Kigin, deputy State veterinarian, Lincoln, Neb.

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. Dr. J. J. Gallagher, executive officer, State sheep commissioners, Lovelock, Nev., or Mr. G. D. Wolfensparger, secretary, State sheep commission, Reno, Nev.

NEW HAMPSHIRE.

Horses, mules, and asses.—None.

Cattle.—Health certificate, including tuberculin test.

Hogs.—None.

Sheep.—None.

Who may inspect.—Qualified veterinarians.

Official.—Andrew L. Felker, commissioner, 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 veterinarian whose health certificate is approved in writing by State officials.

Official.—Dr. Jacob C. Price, secretary, State board of health, 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.—None.

Sheep.—Health certificate. Bucks 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.—W. J. Linwood, secretary, cattle sanitary board, Albuquerque, N. Mex.; R. H. Crews, 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 animals into the State are held responsible.

Horses, mules, and asses.—Must be free from contagious or infectious disease.

Cattle.—Neat cattle for dairy or breeding purposes must be accompanied by certificate of health showing satisfactory tuber-

culin-test record, such test to be made by a veterinarian approved by proper official of this 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.—Dr. J. G. Willis, 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.

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

Official.—Dr. B. B. Flowe, 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, including tuberculin test for dairy and breeding cattle or calves, other than those classed as strictly range cattle.

Breeding or dairy cattle originating in the State of New York must be accompanied by a health certificate, including tuberculin test, issued by a veterinary inspector of the United States Bureau of Animal Industry. Live stock of any class originating in the State of Illinois and destined to North Dakota must be accompanied by a certificate issued by a veterinary inspector of the United States Bureau of Animal Industry.

Swine.—Health certificate stating that no infectious swine disease exists or has existed in locality from which the shipment originated within six 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.

Live stock destined to Canada.—All live stock from any State not accompanied by a certificate of health issued by a veterinary inspector of the United States Bureau of Animal Industry or a veterinarian registered with that bureau to test and inspect horses destined to Canada, must be held at the State line and inspected by an inspector of the United States Bureau of Animal Industry or an agent of the live stock sanitary board of North Dakota; the expense of said inspection to be paid by the owner of the stock.

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.

Officials.—Dr. W. F. Crewe, State veterinarian, Bismarck, N. D.; L. Van Es, bacteriologist, State live stock sanitary board, Fargo, N. D.

OHIO.

Horses, mules, and asses.—None.

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

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 live stock commissioners, 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 into Ohio.

Official.—Dr. Paul Fischer, State veterinarian, Columbus, Ohio.

OKLAHOMA.

Horses, mules, and asses.—Health certificate, 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 six 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; on arrival at destination they shall not be unloaded in railroad stockyards or stock pens.

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

Who may inspect.—Official veterinarian, Federal or State, or graduate licensed veterinarian.

Officials.—Leslie Bush, superintendent live stock inspection, Oklahoma, Okla.; Drs. Ben Dobkins and J. K. Callicotte, Oklahoma, Okla., veterinarians to the State board of agriculture.

OREGON.

Horses, mules, and asses.—Health certificate including the mallein, complement-fixation, or other officially accepted test.

Cattle.—Health certificate, except for immediate slaughter, including the tuberculin test for all dairy and breeding cattle and such dairy and breeding cattle as may be imported, directly or indirectly, from the State of Illinois into the State of Oregon, must be held and tuberculin tested on arrival unless accompanied by a certificate of tuberculin test made and issued by a veterinarian of the United States Bureau of Animal Industry.

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 six months prior to shipment, save and 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. All swine for other than immediate slaughter shipped or moved within or into the State of Oregon must be moved only in thoroughly cleaned and disinfected cars and loaded and unloaded through hog-cholera-free or disinfected yards, pens, corrals, and chutes.

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.

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 only, State or Federal.

Officials.—Dr. W. H. Lytle, State veterinarian and secretary State live stock sanitary board, Salem, Oregon.

PENNSYLVANIA.

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

Cattle.—Apparently healthy calves under six 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 diseases.

Sheep.—Must be free from transmissible diseases.

Who may inspect.—State veterinarian, officially certified inspectors in the State from which cattle originate, agents of the

Pennsylvania State live stock sanitary board, and inspectors of the United States Bureau of Animal Industry.

Official.—Dr. C. J. Marshall, State veterinarian and secretary State live stock sanitary board, Harrisburg, Pa.

RHODE ISLAND.

Horses, mules, and asses.—None.

Cattle.—Physical examination.

Hogs.—None.

Sheep.—None.

Who may inspect.—Cattle commissioners of Rhode Island.

Official.—Dr. John S. Pollard, 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 six 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.—Dr. M. Ray Powers, State veterinarian, Clemson College, S. C.

SOUTH DAKOTA.

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

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

Such dairy and breeding cattle as may be imported directly or indirectly into the State from Illinois or New York must be accompanied by certificate of tuberculin test made and issued by a veterinary inspector of the U. S. Bureau of Animal Industry.

Hogs.—Health certificate.

Sheep.—Health certificate.

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

Official.—Dr. J. L. Barber, State veterinarian, Pierre, S. D.

TENNESSEE.

Horses, mules, and asses.—Must be free from equine scabies, Texas-fever ticks, glanders, or other contagious, infectious, or communicable diseases. 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 six months old.

Hogs.—From public stockyards accepted for immediate slaughter only.

Sheep.—No sheep intended for purposes other than immediate slaughter shall be shipped, trailed, or otherwise removed or allowed to drift into the State of Tennessee, unless accompanied by a certificate of inspection issued by an inspector of the United States Bureau of Animal Industry certifying that the sheep have been dipped once, within 10 days of time of entry into the State, in either nicotine or lime-and-sulphur dip which has been approved by the United States Bureau of Animal Industry.

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. The above applies to all States except Illinois. Requirements for Illinois may be obtained from T. F. Peck, commissioner of agriculture, or Dr. G. R. White, State veterinarian, State Capitol, Nashville, Tenn.

TEXAS.

Horses, mules, and asses.—Health certificate.

Cattle.—Dairy and breeding cattle over six 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 showing them to have been immunized by the Dorset-McBride-Niles serum method.

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

Who may inspect.—Inspectors of the Bureau of Animal Industry; inspectors designated by the live stock sanitary commission; State veterinarian or State sheep inspector.

Officials.—Mr. W. N. Waddell, chairman, live stock sanitary commission, Forth Worth, Tex.; Dr. E. R. Forbes, State veterinarian, Forth Worth, Tex.; Mr. J. A. Whitten, State sheep inspector, Eldorado, 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 certificate 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 diseases 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.—Dr. A. Carrington Young, 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.

Officials.—C. W. Jones, president, and A. A. Callister, 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 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 country 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.—F. L. Davis, 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 six 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.—Dr. J. G. Ferneyhough, State veterinarian, Burkeville, Va.

WASHINGTON.

Horses, mules, and asses.—Physical inspection.

Cattle.—Tuberculin test for dairy and breeding cattle. Physical inspection for beef and feeding cattle.

Hogs.—Physical inspection.

Sheep.—Physical inspection.

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

Official.—J. H. Perkins, commissioner of agriculture, Olympia, Wash.

WEST VIRGINIA.

Horses, mules, and asses.—None.

Cattle.—None.

Hogs.—None.

Who may inspect.—None needed.

Official.—H. E. Williams, commissioner of agriculture, Charleston, W. Va.

WISCONSIN.

Horses, mules, and asses.—Health certificate, giving description of each animal. Those animals known to have been exposed to glanders should be mallein tested.

Cattle.—Health certificate, including tuberculin test for breeding and dairy cattle over six months old. Shippers must file with the bill of lading a copy of such inspection or a written or telegraphic permit from the Wisconsin State veterinarian to ship such animals into Wisconsin, subject to inspection. Railroads, steamship lines, and common carriers are prohibited from accepting such stock for shipment into Wisconsin except as above stated. Cattle for immediate slaughter may be shipped to destination when so designated by shipper, and such shipper and railroad or common carrier must notify the State veterinarian of such shipment.

Cattle for feeding and grazing purposes.—Owner must notify State authorities at once of such shipment. Railroads and common carriers must immediately notify the State veterinarian of the receipt of such shipment.

Sheep.—None.

Hogs.—Except for immediate slaughter, health certificate stating that the hogs have been immunized by serum and virus not less than 30 days prior to shipment or with serum alone not more than 7 days prior to shipment.

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

Official.—Dr. O. H. Eliason, State veterinarian and secretary of Wisconsin live stock sanitary board, Madison, Wis.

WYOMING.

Horses, mules, and asses.—Health certificate.

Cattle.—Neat cattle, health certificate. All dairy cattle, bulls, and female cattle, registered or purebred, over 6 months old, health certificate, including tuberculin test. 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 States of Illinois and New York must be accompanied by certificate of health or test chart issued by an inspector of the United States Bureau of Animal Industry, otherwise the shipment will be quarantined upon arrival in the State and inspected or tested at owner's expense.

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.—Dr. B. F. Davis, 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.—H. R. Millard, secretary-treasurer, State board of sheep commissioners, Cheyenne, Wyo.