

# MAINE STATE LEGISLATURE

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PUBLIC DOCUMENTS OF MAINE

1914

BEING THE

ANNUAL REPORTS

OF THE VARIOUS

Departments and Institutions

For the Year 1913

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VOLUME III.

# REPORT

OF THE

## Live Stock Sanitary Commissioner

OF THE

## STATE OF MAINE

ON

## CONTAGIOUS DISEASES OF ANIMALS

1913

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DR. A. JOLY

Live Stock Sanitary Commissioner

WATERVILLE, MAINE



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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 1913.

Very respectfully,

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

FINANCIAL STATEMENT FOR THE YEAR 1913.

Appropriation ..... \$50,000 00

EXPENDITURES.

Animals condemned .....	\$41,448	37
Salary—Live Stock Sanitary Commissioner.....	1,500	00
"    Clerk .....	500	00
Veterinary services and traveling expenses.....	2,785	17
Disinfection—Stables and cars.....	1,257	00
Hog cholera serum .....	780	20
Miscellaneous—Commissioner's traveling expenses, printing, express, telephone and telegraph, post- age and office supplies.....	1,589	65
Balance undrawn .....		139 61

RECEIPTS.

Net proceeds from sale of hides and carcasses .....	\$8,637	05
Total amount reverted to State Treasurer.....		\$8,776 66

STATISTICS OF CONDEMNED ANIMALS, 1913.

	No.	Amount	Average
			per head.
Pure bred cattle condemned for tuberculosis...	59	\$4,796 00	\$81 28
Grade cattle condemned for tuberculosis.....	650	28,003 25	43 08
Cattle slaughtered for beef, and carcasses con- demned for tuberculosis.....	109	2,467 93	22 64
Grade cattle condemned at Brighton, Mass., for tuberculosis; appraisal \$6,633.00, after deduct- ing \$3,386.81, amount received for hides and carcasses, leaving the net amount paid of....	136	3,246 19	23 86
Horses condemned for Glanders .....	67	2,935 00	43 80
	1021	\$41,448 37	



## INTRODUCTION.

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The Census published by the United States Department of Agriculture, on January 1, 1913, in relation with the number and estimated value of Maine live stock, furnishes us with the following figures, viz:

Horses, 110,000 @ \$139 per head.....	\$15,290,000 00
Milch cows, 157,000 @ \$46 per head.....	7,222,000 00
Other cattle, 99,000 @ \$21.20 per head.....	2,098,800 00
Sheep, 186,000 @ \$4.20 per head.....	781,200 00
Swine, 101,000 @ \$12.90 per head.....	1,302,900 00
<hr/>	
Total .....	\$26,694,900 00

In 1911, the Cattle Commission was abolished, and by an act of Legislature our Sanitary Laws were amended; creating the office of a Live Stock Sanitary Commissioner.

Upon entering the duties of the office, I easily discovered that our Sanitary Laws could not be carried out properly with the amount of money appropriated for that purpose by the Legislature of 1911; consequently, a resolve was presented asking for an appropriation of \$50,000 a year which was unanimously recommended by the Committee of Agriculture and voted by the Legislature of 1913.

Accompanied with the resolve were the following statements of facts:

The Legislature of 1911, appropriated, \$25,000 a year to be used for the control of contagious diseases among domestic animals. For animals condemned the State allows the owner the market value, limited as follows:

For pure blooded cattle.....	\$100
For grade cattle.....	50
For horses .....	50
For other animals half value .....	

In 1911, from May 1st, to December 31st, during eight (8) months, 451 head of cattle.

29 horses were condemned and the total expense amounted to .....	\$21,416 00
In 1912, during the year 721 head of cattle.	
73 horses	
223 sheep were condemned and the total amounted to	36,806 45
<hr/>	
Total .....	\$58,222 45
Amount exceeding the appropriation of .....	\$8,222 45

Milch cows shipped to Brighton by our cattle dealers are tested with tuberculin, upon their arrival, and if any react, the owner is entitled to an indemnity, provided he reports the name of the former owner and his address.

Butchers in our State, when slaughtering beef animals, if tuberculosis is found by a competent inspector, the owner is entitled to an indemnity, provided also, that he reports the name of the former owner and his address.

Through these two sources, information has been received and reveals the fact that we have at the present time 313 infected herds in the State.

If enough money had been appropriated by the Legislature of 1911 and the work of the Department performed as it should have been, these 313 infected herds would have been tested with tuberculin and the barns properly disinfected. The cost of testing 313 herds at an average of \$10 per herd would have amounted to .....

.....	\$3,130 00
The disinfecting of 313 barns at an average cost of \$5 per barn would have amount to.....	1,565 00

These herds being infected, it would be proper to suppose that an average of one more cow per herd would have been found diseased. The appraisal of 313 head at an average appraisal of \$40 per head would have amounted to .....	12,520 00
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a total of .....	\$17,215 00
Amount expended .....	\$58,222 45

Amount that should have been expended.....	\$75,437 45
--------------------------------------------	-------------

Consequently, from May 1st, 1911, to November 31st, 1912, in twenty (20) months the sum of \$75,437.45 (at a rate of

\$3,771.87 per month) should have been expended, in order to have carried out our sanitary laws as they read.

In 1912, \$36,806 was expended and the information was received that 208 herds had been discovered infected.

Upon the basis of calculation as illustrated above, it would have required the sum of \$48,246, to accomplish this work with proper economy.

Now the question arises, as to how much money we need for the next two (2) years.

To start with we need \$17,215.00 to clean our 313 infected herds that we know of, and provided that tuberculosis is not on the increase, and I am more than afraid that it is, we need at least \$50,000 a year to carry out this important work properly and in accordance with the meaning of our sanitary laws relating to the control of contagious diseases.

Glanders has increased from 29 cases in 1911 to 73 cases in the year 1912.

Hog cholera is within our border, and many farmers have suffered great losses during the last two (2) years. In Bar Harbor, one farmer alone lost \$2000.00. Something ought to be done, and it seems to me that the State should at least furnish hog cholera serum free, with proper literature and other assistance.

The serum should be manufactured by our State Laboratory.

One of the greatest problems of today, for the veterinary profession and stock owners is how to prevent, to treat, and control contagious abortion which has caused, to the farmers of Maine more losses than has tuberculosis. Unfortunately the veterinary science has as yet failed to come to our assistance with any kind of practical and successful treatments.

To carry out the policy, along the lines as mentioned in the above statement of facts, the first action of your commissioner was to assure his office with a corp of competent veterinarians; and fifty graduate men were appointed as agents, ready to answer any call under his direction. We have in our State 110 non-graduates; men who have been registered as veterinarians by the fact that they were in practice when the veterinary bill was enacted in 1905. These men had no examination to take, they had only to produce sworn affidavits that they had been practicing veterinary science, prior to the passage of the veteri-

nary bill. In order to ascertain whether those persons were competent to apply the tuberculin test, the Legislature of 1913, through the committee on agriculture, enacted a law that any non-graduate veterinarian wishing to have his work recognized as official by the Live Stock Sanitary Commissioner, must submit himself to an examination before the State Board of Veterinary Examiners.

We felt that such a law would enable the Live Stock Commissioner to eliminate the non-competent; at the same time render justice to the capable men who could be recommended to owners of live stock.

Thirty-five non-graduates presented themselves for examination; thirteen passed and were added to the list of inspectors.

The following questions were asked and I am sure that no farmer would care to employ any man, to test his herd of cattle, who could not answer them properly. Seventy per cent were required.

No. 1 What is tuberculosis?

No. 2 Describe the different methods of detecting tuberculosis?

No. 3 Give normal temperature, pulse and respiration in a cow?

No. 4 Name and describe diseases which might be mistaken for tuberculosis?

No. 5 What are the signs of tuberculosis which may be detected by a physical examination?

No. 6 Name the various conditions which might occur in a cow after injection with tuberculin which might vitiate the temperature curve?

No. 7 Name three different tests which might be used in the detection of tuberculosis?

No. 8 What is tuberculin?

No. 9 Describe your method of applying the tuberculin test in detail?

No. 10 How does tuberculin cause a rise of temperature in a cow which has tuberculosis? And why does a sound cow fail to react?

## ANNUAL REPORT.

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With sixty-three veterinarians under my direction the work began in earnest early last spring, in investigating the 313 infected herds which had been reported during the years 1911 and 1912. The investigation consisted in applying the tuberculin test to the herd and disinfecting the premises. The information received being so remote in many cases it was impossible to trace the herd; but we succeeded in locating 188 herds.

During this year, the cases of tuberculosis reported from Brighton Market also those from our Maine butchers, were attended to promptly and practically, no difficulty was encountered in locating the herds where the animals originated and in every instance, investigation was ordered and carried out.

We have this year investigated from these two sources of information 245 infected herds, with 188 herds of the last administration, a total in all of 433 infected herds, that we have cleaned out. Beside, veterinarians have reported 210 herds where tuberculosis was found, upon being called by owners.

The farmer who raises his stock must believe in the tuberculin test, judging from the large number of cattle which have been inspected during this year, amounting to nearly 20,000 head; about 15% of our total number of milch cows. Our pure bred cattle, I believe have all been tested; but the greatest proposition for the ordinary milkman is how to keep his herd clean, when he has to shift cattle, most every week in order to keep up his milk supply and satisfy his customers; the average milkman will not be interested in the tuberculin test, for the main reason that he has no herd to preserve. Cities and towns desiring to have their milk supply from tested herds, must depend upon their local Board of Health for action. I believe that if all our milkmen throughout the State would have their cows tested once a year, we would in five years reduce Bovine Tuberculosis in our State to less than one per cent. But the consumers must be aware that it costs more to produce a clean milk from healthy

animals, than where neither pains are taken nor extra money is expended, and they must be ready to pay the price.

Policy followed:—Police control sanitary work, is performed by prompt action upon the part of efficient workers, who should be always careful to avoid publicity. Our mission has been carried out on the quiet, with courtesy, consistency, firmness and our honest efforts have been to give everybody a square deal, following the Golden Rule.

Many are under the impression that whoever has a sick animal can call upon the State for assistance, and whoever has an animal succumbing to a contagious disease, can receive an indemnity from the State. That is a wrong interpretation of our Sanitary Laws. Public money is expended for the protection of its people, and when a diseased animal is a menace to the public health, or to the live stock industry, it is condemned and its owner is entitled to an indemnity. While in no case the State should pay for any animal dying of a contagious disease, no more than any person has a claim against the State for the loss of a member of his family.

It is expected by this office that whoever has a sick animal should call a veterinarian, and if the case is of a contagious nature the Live Stock Sanitary Commissioner is notified, and takes charge of the case.

The cost of inspection of animals is paid by the owner, with the exception when an investigation is ordered by the State, which is done whenever there is reason to believe that a contagious disease exists in a herd. Upon complaint of a local Board of Health of a negligent farmer, investigations are made and paid by the State; also in cases of poor people, whenever so requested by the selectmen of the town.

In cases of hog cholera the serum has been furnished by the State, the owner paying for the services of a veterinarian.

#### IMPORTATION OF HORSES.

In round numbers, some 8000 head, mostly draft horses, were imported into our State, at estimated value of \$1,500,000.

The larger number came from the west and were young horses; very few second hand, generally so called, were brought in.

## **CORRECTION**

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On page 13 under the heading of "Importation of Cattle," next to the last line, reading "grade cows" etc., the number imported reads 15561, it should read 1556.





On account of our rigid laws which require an inspection at place of destination, only one case of glanders was discovered.

A large percentage of these horses have been submitted to a double examination; at the shipping point as well as place of destination.

Why Maine should buy so many horses is beyond comprehension, when they can be raised at home and at a profit. More mares have been imported this year than any year previous, I am told by horse dealers. Aroostook County has received a larger part of them.

Six pure bred Percheron mares and one year old stallion have been imported directly from France, by Harvey D. Eaton, Esq. of Waterville.

#### IMPORTATION OF CATTLE.

We have received 226 head of pure bred cattle during the year, bought from different parts of the United States and Canada. Maine is the only State which requires the tuberculin test at place of destination, regardless of any previous examination, and it has proved to be a wise measure.

Fifteen head of pure bred Short Horn cattle were imported from the province of Ontario, Canada, and placed in quarantine upon their arrival. They were retested and eleven reacted; they were condemned, slaughtered and every one showed tuberculous lesions; in some cases advanced stages of tuberculosis.

Two thoroughbred Holstein cows which were bought at an auction in Utica, N. Y., came in the State accompanied by a health certificate. They were quarantined and reacted under a retest. Four others from New Hampshire were also condemned, thus causing the buyers heavy losses, because an animal has to be in the State a year, before an indemnity can be obtained. For breeding 155 grade cows were imported and 15561 for immediate slaughter.

#### IMPORTATION OF PIGS AND SHEEP.

According to report received sixty pigs and ten sheep were imported for breeding purposes, also 90 hogs and 1465 sheep for slaughter.

## EXPORTATION OF CATTLE.

Maine is still furnishing the Brighton market with milch cows and on account of the amount of control sanitary work done in the State, they command the top mark price. Many of our grade cows have been sold for prices varying from \$75 to \$100.

Upon their arrival in Brighton they are tested with tuberculin.

During the year 5572 milch cows were shipped and tested; only 136 reacted and were condemned. These 5572 head of cattle, I have reason to believe, came from as many different and scattered herds throughout the State. From this source of information, one might form an opinion of the percentage of tuberculosis in our dairies in Maine which figures about 2½ per cent.

By deducting 5572 milch cows from the total number of cattle shipped to Massachusetts, which numbers to 13,152, it will leave a balance of 7580 head of cattle which were sold for beef.

LIVE STOCK SHIPPED FROM MAINE, DURING THE YEAR  
1913, TO WATERTOWN AND BRIGHTON LIVE STOCK  
YARDS, MASSACHUSETTS.

Date	No.	No.	No.	No.
1913.	Cattle.	Calves.	Hogs.	Sheep.
Jan. 7.....	200	468	298	812
" 14.....	218	391	155	504
" 21.....	201	464	251	353
" 28.....	207	542	209	268
Feb. 4.....	121	340	222	116
" 11.....	185	703	214	261
" 18.....	237	490	289	108
" 25.....	274	728	332	99
March 4.....	290	402	377	46
" 11.....	183	420	274	55
" 18.....	360	617	567	103
" 25.....	287	601	500	69
April 1.....	281	355	387	40
" 8.....	257	715	449	26
" 15.....	283	866	484	31
" 22.....	151	699	257	24
" 29.....	217	661	385	43
May 6.....	180	654	281	35
" 13.....	183	888	272	28
" 20.....	170	864	127	37
" 27.....	199	858	273	79

June	3	206	919	176	63
"	10	207	784	148	22
"	17	167	597	258	38
"	24	308	941	280	116
July	1	155	748	427	36
"	8	170	834	165	146
"	15	165	684	194	39
"	22	252	722	127	72
"	29	168	775	186	47
Aug.	5	291	813	376	84
"	12	230	789	285	127
"	19	231	981	204	742
"	26	241	661	156	350
Sept.	2	234	665	302	1143
"	9	261	760	342	846
"	16	267	668	265	2302
"	23	434	850	387	2516
"	30	332	769	300	1437
Oct.	7	350	814	283	670
"	14	316	792	170	1174
"	21	318	513	877	402
"	28	364	718	224	1721
Nov.	4	313	826	211	1134
"	11	291	788	194	1014
"	18	367	790	143	1075
"	25	240	693	170	1256
Dec.	2	354	659	145	705
"	9	303	724	120	667
"	16	393	567	122	960
"	23	121	278	61	747
"	30	319	446	158	223
Total		13152	35294	14059	25011

## CONTAGIOUS DISEASES IN MAINE.

Each state in the union has its own problem to solve; in this State we have only four classes of infectious diseases to combat with,—tuberculosis, glanders, hog cholera, and contagious abortion.

For tuberculosis and glanders we have established policies, all cases are condemned and destroyed.

In hog cholera, which disease exists to a certain extent, a new policy has been followed during the year, consisting of treating infected herds with serum, the State furnishing the serum. The policy is experimental, while we feel that it is the right move at

the present time it might be changed in the future, according to the existing conditions.

In contagious abortion we have a problem, which is far from being solved. Several State Commissions and our Bureau of Animal Industry in Washington are at work on the subject. Let us hope that they will succeed in their research and come to our assistance.

In this report very interesting articles can be found on tuberculosis, glanders, hog cholera and contagious abortion, written by scientific men.

#### THE PORTLAND MILK SUPPLY.

Several milk producers around Portland, having sold cows to dealers at Brighton market furnish us the information that a number of herds were infected in that vicinity. After a conference with the Board of Health of Portland, it was decided to enforce their city ordinances, which had been dormant for seven years, requiring the testing of all herds furnishing the milk supply of the city. The work began the middle of November and is not completed. So far we have found fifty-two (52) infected herds and condemned one hundred ninety-two (192) head of cattle.

#### DISPOSAL OF TUBERCULOUS ANIMALS.

Reactors, according to an act passed in 1913, have been sent to either E. W. Penley of Auburn or to the Kern Packing Company of Portland, both establishments which maintain a United States government meat inspection service, and these animals have been killed under federal government inspection and disposed of according to the requirements of the government meat inspection laws.

#### MEAT INSPECTION.

The purpose of the meat inspection as conducted by the United States Bureau of Animal Industry is to prevent the use in interstate trade or export to foreign countries of meat or meat food products which are unsound, unhealthful, unwholesome, or otherwise unfit for human food. This inspection is

conducted under the authority of an Act of Congress approved June 30, 1906, which is usually known as the Meat Inspection Law. The scope of the inspection covers all food animals which are slaughtered and the preparation of all meat food products which are intended for use in interstate trade or for exportation to foreign countries. The latest statistics estimate that approximately 60% of the food animals slaughtered in the United States are subject to Federal Meat Inspection, of the remaining 40% probably one-half of the animals are within the jurisdiction of the state or municipal meat inspection legislation, while the remainder are handled without any scientific supervision whatsoever. One of the greatest effects of the Federal and other meat inspection, has been to cause the buyers for the large packing houses not to purchase any suspicious appearing, or dairy cattle subject to the results of a post mortem examination. This accounts for a large percentage of the probably diseased cattle passing into the hands of the local butchers who slaughter in towns and upon farms, thus frequently making the home dressed meat a dangerous article of food. During the year ending June 30, 1912, the United States Bureau of Animal Industry covered meat inspection in 259 cities and towns and in 940 establishments. Inspection during this year covered over 59,000,000 animals, of which there were condemned upon post mortem examination 203,778 entire carcasses, 463,859 parts of carcasses, making a total of 667,637 carcasses condemned wholly or in part.

Among those condemned tuberculosis claims 35,273 carcasses of cattle and 51,576 parts of cattle. Of the swine slaughtered, tuberculosis caused the condemnation of 42,267 carcasses and 314,581 parts of swine.

It is evident here that meat from more than 350,000 tuberculous cattle and swine were passed as healthful and fit for human food by the specially trained veterinary inspector of the Bureau of Animal Industry. The judgment of these carcasses is based upon two fundamental principles which have been issued for the guidance of inspectors:

Principle A. The fundamental thought is that meat should not be used for food if it contains tubercle bacilli or if it is impregnated with toxic substances of tubercle or associated septic infection.

Principle B. On the other hand if the lesions are localized and not numerous, if there is no evidence of the distribution of tubercle bacilli throughout the blood or by other means to the muscles or to parts that may be eaten with the muscles, and if an animal is well nourished and in good condition, there is no proof of even reason to suspect that the flesh is unwholesome.

That the establishment of these principles is possible requires the presupposition that the meat of every animal affected with one of the various stages of tuberculosis is not necessarily infected with the organisms of the disease. It has been demonstrated by numerous investigators of this country and of European countries that the blood of the tuberculous animals rarely carry tubercle bacilli, that when they do occur it is usually in small number and for but a short period of time. The muscle juice of tuberculous animals is usually free from tubercle bacilli as demonstrated by the experimental intraperitoneal inoculation of guinea pigs which are extremely susceptible to tuberculosis. As a result of these inoculations it has been found that the infectiveness of muscle juice is greatest in advanced generalized tuberculosis especially where there is a softening or suppuration of the lesions, also when there is evidence of an active, acute tuberculosis with numerous tubercles uniformly distributed throughout the lung tissues. The feeding of the guinea pigs with the meat of such animals is uniformly without results in producing their infection.

In accordance with the meat inspection regulations of the Bureau of Animal Industry all such carcasses are condemned and converted into fertilizer. The carcasses of well nourished animals if the lesions are limited to a single or several parts or organs of the body without evidence of recent invasion of tubercle bacilli into the systemic circulation are passed for food, after the parts or organs affected have been removed and destroyed.

Finally it should be thoroughly understood that the United States Bureau of Animal Industry does not pass diseased meat for food but in all cases only the sound and wholesome meat of an animal showing localized lesions is passed after removing and condemning the affected parts which most frequently consist of lymphatic glands or an organ.

The great economic importance of saving this wholesome meat from slightly diseased animals can be appreciated by computing the value of 350,000 head of stock which have been destroyed in Federal establishments last year and by the fact that in the last six (6) years the beef cattle in this country have decreased 27.74% in their numbers, accounting in one respect for the shortage of beef and its present high price to the consumer.

It is apparently the tendency of various states and municipalities to make and amend their meat inspection legislation to conform with that of the United States government which is recognized as the most efficient in the world.

#### MEAT INSPECTION AND TUBERCULOSIS.

The Government meat inspection service has been criticized for passing for food purposes the meat of animals that are slightly affected with localized tuberculosis. It is sometimes charged that diseased meat is passed for food.

"The only foundation for such statements is that the healthy and wholesome meat of an animal affected slightly and locally with some disease is passed, after the affected portion has been removed and condemned. The meat or flesh may not be affected in any particular, the disease being usually confined to certain glands or organs. The diseased portion is condemned; *only* the healthy portion is passed for food.

"This procedure is justified and sustained by the highest scientific authorities not only in the United States but in all countries having an efficient meat inspection. Objections to it usually come from those who have not made a study of comparative pathology and who are not qualified to pass upon the question involved."

Dr. Melvin, Chief of Bureau of Animal Industry, says:

"The idea of eating the meat of a slightly diseased animal may be repulsive to some, but a little consideration should readily convince a reasonable person that there is no valid reason for condemning and wasting perfectly wholesome meat simply because there happened to be somewhere in the animal a gland or an organ showing a lesion, or a parasitic nodule, or some slight, local condition which does not extend to or effect in any way the

remainder of the carcass. The argument that all the meat of an animal affected to even the slightest degree with any disease should be totally and utterly condemned, if carried to the extreme and to its logical end, would result in the condemnation of practically every animal slaughtered and the abolition of meat as food.

"With the increasing cost of the necessaries of life it becomes more important that wholesome food should *not* be recklessly and needlessly destroyed, and it is the duty of this Department not only to protect the people against unwholesome meat, but to conserve the food supply. The only sensible course in meat inspection is to determine at just what stage a disease or abnormal condition becomes noxious, and where to draw the line between what should be condemned and what should be passed, always giving to the consumer the benefit of any doubt."

As showing that the Department *does* properly safeguard the consumer, Dr. Melvin refers to the report of a commission of eminent scientists outside the Department of Agriculture who were appointed in 1907 to consider and make recommendations with regard to certain features of the meat inspection, and who said on this point:

"The commission would invite attention to a very widespread misconception as to the significance of the word 'diseased' in connection with meat inspection. To the popular mind the idea of eating 'diseased' animals is abhorrent. From the standpoint of meat inspection, however, the term 'diseased' must be used in a sense not entirely in harmony with the popular conception of this word.

"The commission could easily undertake to show that not any single animal used for food in any part of the world would, upon microscopic study, be shown to be absolutely free from all infection, or lesion if said animal were presented to it for examination. \* \* \* There may be a strictly localized tuberculosis, consisting, for instance, of an insulated tuberculous nodule in the lungs, in the liver, or in some other portion of the body. Such nodule would make the particular point infected 'diseased' from the standpoint of meat inspection; in the opinion of some members of the laity, such nodule would also make the entire meat of the animal 'diseased' and call for the condemnation of the entire carcass; from the standpoint of meat inspection, the



carcass in general would *not* be 'diseased,' and there would be no justification in condemning it.

"The veterinary inspector, in judging whether a carcass is 'diseased' must do so upon the general principals of pathology in its relation to the public health, and not upon any preconceived, exaggerated, or sentimental idea.

"The commission would suggest that the coöperation of the public is most valuable in aiding in the suppression of frauds in the meat trade, but that it would be well for the public to have confidence in the ability of the veterinary inspectors to pass judgment upon the purely technical side of the questions involved, since such judgment can be of value only when expressed by persons especially trained for this purpose.

Dr. Melvin states that under the Federal inspection it is only when the disease is slight and localized or circumscribed that the unaffected portions of the carcass are passed for food. Whenever the disease is generalized or disseminated throughout the system, or is of such character or extent as to effect the wholesomeness of the meat, the entire carcass is condemned—and the consumer is given the benefit of every doubt. Careful experiments carried out by the Bureau and by scientists elsewhere have shown that the germs of tuberculosis are not carried in the blood circulation and distributed throughout the system until the disease has reached a very advanced stage. It is therefore considered perfectly safe, when the infection is clearly limited to a certain gland or group of glands or an organ, to remove these parts and pass the healthy parts which have not become affected in any way by the disease.

#### TUBERCULOUS CARCASSES CONDEMNED.

Maine has neither meat inspection laws, nor butcher's compensation act; but our statutes provide that the Live Stock Sanitary Commissioner can make rules and regulations in relation with the control of contagious diseases, and the writer thought it advisable to allow an indemnity for animals, found tuberculous when slaughtered for beef, believing that it would be a protection to public health, and furthermore a valuable source of information to trace the infected herd.

From a control point of view an animal condemned by the tuberculin test is worth twice as much as an animal found tuber-

culous after slaughtered, consequently, a limited appraisal of \$25 is allowed for a tuberculous carcass. But there must be no misunderstanding—the carcass must be in a beef condition. It does not apply to the case where the farmer has a run down cow with suspicious symptoms caused it to be slaughtered, or slaughtering it himself and then sending for a veterinarian to pronounce it tuberculous. If such was so there would be a natural tendency to be negligent and not to take the necessary steps to keep a herd free from tuberculosis.

#### OUTBREAK OF GLANDERS.

We have had an outbreak of glanders in lumber camps. With the able assistance of Dr. C. L. Blakeley, Dr. H. B. F. Jarvis and Dr. A. L. Murch it was under control in the short period of five days. After two cases of farcy had been discovered at Mount Katahdin, all horses which had come in contact with the disease, were tested with Mallein the Ophthalmic test being used. Seven were condemned out of 118 examined. Old hovels were burned, others properly disinfected. These horses will be re-examined next spring. With sixty-three inspectors scattered in different parts of the State, it has been possible to keep a close watch on suspected cases, and only sixty-seven horses have been condemned as glandered during the year.

We feel that we have glanders pretty well under control.

I have attended during the year three conventions, The International Veterinary Congress held in New York City, the Eastern Live Stock Association held in Boston and the United States Live Stock Sanitary Association held in Chicago.

In comparison with other states and countries, I believe that our Sanitary Laws are adequate and up to date. Our policy answers the purpose for the different problems that we have to handle, in the control of contagious diseases among our domestic animals.

In closing I wish to say that,—If I have achieved any success in the administration of my office it is due to the confidence that you always have had in me. I wish to thank the Committee on Agriculture which unanimously has recommended every measure that I submitted to them also to the honest and faithful veterinarians I owe them my sincere gratitude.

## TUBERCULOSIS.

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A PLAIN STATEMENT OF FACTS REGARDING THE DISEASE.

(By the International Commission of the American Veterinary Medical Association.)

Tuberculosis is a widespread disease affecting animals and also man.

Human beings and cattle are its chief victims, but there is no kind of animal that will not take it. Hogs and chickens are quite often affected; horses, sheep, and goats but seldom, while cattle are the most susceptible of all animals.

### NATURE OF THE DISEASE.

Tuberculosis is contagious, or "catching." It spreads from cow to cow in a herd until most of them are affected. This may not attract much notice from the owner, as the disease is slow to develop and a cow may be affected with it for several months and sometimes years before any signs of ill health are to be seen.

This slow development is the chief reason for the great loss it causes to the farmer. He does not suspect its presence in his herd until perhaps a large number are diseased. If the disease developed rapidly and caused death in a few days, the owner would soon take steps to check its progress and protect the rest of his herd. Tuberculosis is slow and hidden in its course and thus arouses no suspicion until great damage is done.

### HISTORY.

Where did tuberculosis come from? We do not know. History records it from the earliest times.

Over a century ago its contagious nature was suspected and many facts were recorded to prove that it must be "catching." Doctors differed about it and for a long time the question was hotly disputed. Finally it was settled by Dr. Robert Koch, a

distinguished German physician, who discovered the germ of the disease in the year 1882, and named it *Bacillus Tuberculosis*. He proved by experiment that the disease is produced by these germs and without them the disease cannot be produced. It is now universally admitted that tuberculosis is a contagious disease and may be transmitted from animal to man.

In America the disease was introduced with early importations of cattle and has been with us ever since. Modern methods of transportation by rail and water have spread the disease from one end of the continent to the other. No part of the country is entirely free from it, but it is more prevalent near the great centers of population than in the remote parts.

#### IMPORTANCE.

The importance of the disease must be estimated from two points of view, first, the loss it entails upon the cattle owner, and, second, the danger of communication to human beings.

Consider first its effect upon the pocket of the owner of cattle, whether farmer, breeder, or dairyman. A serious percentage of the dairy cows of the continent are affected, and the disease is found in even a larger percentage of dairy herds. The disease is commoner in some regions than in others.

It is no uncommon thing to find as many as 70 or 80 per cent of the cows in a herd diseased. These animals will be in various stages of the disease, some recently infected showing no sign of ill health, others badly diseased, but outwardly appearing healthy, while a few are evidently breaking down and wasting away.

The loss to the owner is evident when a cow dies of the disease, or when an apparently healthy cow is slaughtered for beef and found so badly affected as to be unfit for food.

The calves in such a herd do not long remain healthy. They catch the disease before they are many months old and are a source of loss instead of gain.

Although the disease is most frequently found in herds that are more or less closely confined, such as dairy herds and pure-bred cattle, other herds are by no means free from it. Even range cattle are sometimes affected, and the infection spreads in spite of the open-air life of the cattle.

Tuberculosis is common among hogs. The public abattoirs report that a serious percentage of all hogs inspected is found to be tuberculous.

The aggregate of these losses among cattle and hogs is enormous, amounting to millions of dollars every year, besides materially decreasing the food supply of the country.

Turning to the other aspect of the case, the danger of infection of human beings with tuberculosis from cattle, we have only to consider a few facts to realize its vital importance to every community.

Milk is the staple food of infants and young children and is usually taken in the raw state. If this milk is from a tuberculous cow, it may contain millions of living tubercle germs. Young children fed on such milk often contract the disease, and it is a frequent cause of death among them.

Meat from tuberculous cattle is not so likely to convey the infection, for several reasons. It does not so frequently contain the germs, cooking destroys those that may be present, and lastly, meat is not consumed by very young children.

#### SYMPTOMS.

Before describing the symptoms or signs by which tuberculosis is recognized or suspected in a living animal it is well to state that there is no symptom that can be relied on with certainty. Any of the symptoms may sometimes be caused by some other disease, and not one of them is characteristic of tuberculosis alone.

Many of the symptoms that are relied on by the human physician in reaching his opinion are not available in examining cattle. The thickness of the skin and chest wall, for instance, makes it difficult to detect a diseased condition of their lungs by listening to the sounds made in breathing, whereas that is comparatively easy in human beings.

It must also be clearly remembered that cattle may be very badly diseased and yet show no symptoms of ill health. They may be fat and sleek, looking the picture of health, while their lungs and other organs are full of tubercles. Such cases can only be detected by the tuberculin test.

As tuberculosis may attack almost any organ of the body, we may have in each case the symptoms connected with the part

affected as well as those affecting the general state of the body as a whole. We will take up in detail each of the more important symptoms suggestive of the disease:

*Unthriftiness.*—The animal is not doing as well as it should for the care and feed it is getting. Its coat is rough and its skin has lost its suppleness and feels harsh and thick.

*Loss of Flesh.*—Along with the unthriftiness is noticed a gradual loss of flesh; the animal gets thinner from week to week. It appears to be pining away, and such cows have been known to dairymen for a long time under the name of “piners” or “wasters.” After a time they are reduced almost to skin and bone.

*Cough.*—This symptom is only present when the disease is attacking the lungs or some part of the breathing organs. It is not a loud, sonorous cough, but rather a subdued and infrequent one, and may be heard only at such times as when the stable is first opened in the morning or when the animal is driven. At a later stage of the disease it may be heard at any time of the day. Cows do not usually appear to cough up anything. This is because they do not spit. Most of the material coughed up from the lungs is swallowed, but many tuberculosis germs escape from the mouth in the form of spray or are discharged from the nose.

*Enlarged Glands.*—Enlargements in the region of the throat, especially when they cause difficulty in breathing, are very apt to be due to tuberculosis.

*Loss of Appetite.*—This symptom is not seen until the later stages of the disease, when the animal is evidently wasting.

*Bloating.*—Sometimes the diseased glands in the chest prevent the usual passage of gas from the paunch to the mouth by pressing on the gullet. In this case the cow suffers from bloating, and the paunch is often greatly distended with gas. This, however, is not a very frequent symptom.

*Diarrhea.*—Looseness of the bowels or “scouring” is seen in cattle affected with the disease in the bowels. This kind of scouring can not be cured by any known treatment.

*Hard Lumps in the Udder.*—When tuberculosis attacks the udder no change can be detected at first, but after a time hard lumps can be felt in some parts of the organ, after it is milked out. Milk from such an udder must not be used, as it is almost certain to be teeming with germs of the disease.

## POST-MORTEM APPEARANCES.

When the carcass of a cow affected with tuberculosis is opened the disease may be found in any part of the body. Lumps (tubercles) may be present in the substance of an organ such as the lung or liver, or they may be growing on the surface. These lumps may be so small as to be scarcely noticeable, or they may be as large as the closed fist, or even larger. If one of the lumps is cut open, the inside is yellowish and grits on the knife like sand, or else is of a cheesy nature, soft and creamy, or hard and dry.

The lung is a favorite place for tubercles, and should always be examined. Lymph glands are often the seat of tuberculous changes. When healthy, a lymph gland is a little rounded body not much larger than a good-sized bean, the largest only the size of one's thumb. They are found all through the body, and when healthy are so small as to attract very little attention. Tuberculosis may cause them to grow to an enormous size, sometimes as large as a child's head. In this condition they are similar to the tuberculous lumps already described. These lying between the lungs and in the throat are the most frequently affected.

Tubercles may be found in any part of the body—glands, lungs, liver, bowels, kidneys, womb, udder, and even bones. The muscles and skin are seldom affected.

## THE TUBERCLE BACILLUS.

The germ of the disease, the tubercle bacillus, is a tiny, slender, rod-shaped body. Several thousands of them placed end to end would be needed to measure an inch, so that they are quite invisible to the naked eye. A powerful microscope is needed to see them.

Once the bacillus has gained lodgment inside the body of an animal, it begins to grow and multiply. It gets longer, and when full grown divides crosswise, making two out of one. Each of these goes through the same process, the two becomes four, the four eight, the eight sixteen, and so on indefinitely.

This multiplication takes place quite rapidly when conditions are favorable, a few hours only being required for the birth of each generation. Nature, however, does not permit this process to continue long without offering some resistance. The forces

of the body are roused to action and a battle begins between the tissues of the body and the army of the invaders.

The first line of defense is composed of the white cells of the blood, which hurry to the scene of action and endeavor to destroy the invaders by eating them up. Sometimes they are successful and the bacilli are destroyed, the infection checked. Often they fail in their object are themselves destroyed and the multiplication of the germs continues.

The second line of defense is formed by the cells of the tissue invaded by the germs. These cells arrange themselves in a circle around the germs and try to form a living wall between them and the rest of the body. This barrier gradually becomes thicker and thicker and forms a little hard lump or tubercle, from which the disease gets its name. If this wall is complete and successfully imprisons the bacilli, these gradually die and the disease in that particular spot is arrested.

Frequently, however, both these safeguards are overcome. The germs break through the barriers and are carried in the blood stream or lymph channels to other parts of the body. New points of attack are selected and the process begins again but with less chance on the side of the animal. As the tubercles increase in number the power of the body to grapple with them becomes less and less, and gradually the animal falls prey to the disease.

The tubercle bacillus does not multiply outside the body of an animal. It can live for a long time in favorable surroundings, such as dark and dirty stables. Sunlight soon destroys it. Freezing does not hurt it, but it can only stand a moderate amount of heat. Exposure of 149 degrees F. for 20 minutes kills it. Protected by a layer of dried mucus, such as is coughed up from the lungs, it withstands drying, light, and ordinary disinfectants, but is readily killed by steam or boiling water.

#### HOW THE DISEASE SPREADS.

Sooner or later the tuberculous cow begins to give off the germs of the disease. The germs escape by the mouth and nose, the bowels, in the milk, and in discharges from the genital organs. When the germs are being given off in any of these ways, the disease is known as *open* tuberculosis.



Germs discharged from the mouth and nose are coughed up from the lungs and are sprayed over the food in front of the cow or are carried in the air for a time until they fall to the ground. Cows in adjoining stalls may take in these germs in the air they breathe or in the food they eat and so contract the disease.

Germs discharged from the bowels are mixed with the manure, and may infect cattle and hogs that are allowed to pick over the dung heap. The practice of having hogs and cattle together in the same yard is sure to result in the infection of the hogs if any of the cattle are affected. The germs in the manure come from matter that is coughed up and swallowed, and in some cases from tuberculosis in the bowels themselves. Manure containing tubercle germs may easily infect the milk. Particles of dried manure may fall into the milk pail from the skin of a dirty cow or be accidentally flicked off from the tail and fall into the milk. Straining the milk afterwards only removes the larger particles. The smaller ones, including the germs, remain in the milk.

When the udder is tuberculous the milk contains the germs in vast numbers. Such milk may look and taste perfectly good, but readily transmits the disease to young animals. It is very dangerous to children. Hogs and calves are very readily infected by it.

#### HOW A HERD IS INFECTED.

Tuberculosis may be introduced into a healthy herd in a number of ways:

1. By the purchase of a bull or other animal that is infected with the disease. This animal may be apparently healthy at the time of purchase, but if it contains the germs, the disease may develop and spread to other cattle. New animals should be bought from a herd that is known to be healthy.

2. By feeding calves with milk, buttermilk, or whey that has come from tuberculous cows. A farmer may have a healthy herd, but if he brings home skim milk from a creamery and feeds it to his calves he may give them the disease. Such milk should be rendered safe by boiling or pasteurizing it.

3. By showing cattle at fairs and exhibitions where no proper care is taken to keep out diseased stock or to disinfect the stables.

4. By shipping animals in cars that have not been disinfected, as these may have recently carried diseased cattle.
5. By allowing cattle to graze with diseased ones, or to come in contact with them over fences.

#### THE TUBERCULIN TEST.

Tuberculosis develops so slowly that in many cases it is months and sometimes years before any symptoms are shown. During this period the infected animals cannot be distinguished from the healthy in any ordinary way. There is a test, however, which does no harm to the healthy yet detects the diseased practically without fail. This is known as the tuberculin test, because the substance used in making it is called tuberculin.

#### WHAT IS TUBERCULIN?

Tuberculin is a fluid containing the products of the tubercle germ without the germs themselves. As it contains no living germs, it can not convey the disease. Great skill is required in its preparation. A special fluid (or culture medium) is prepared and the tubercle bacilli planted in it, great care being taken to keep all other germs out. The fluid is then placed in a special kind of incubator and kept at the temperature of the animal body. Under these conditions the germs grow and multiply. Gradually the fluid becomes filled with the products of the germs. When the right point is reached the fluid is heated sufficiently to kill the germs, which are then strained out. The remaining fluid is tuberculin.

Tuberculin does not harm healthy cattle, even in larger doses, but on diseased animals it produces a marked effect. This is shown by a feverish attack which comes on about 8 to 12 hours after the tuberculin is administered, lasts a few hours, and then subsides. This temporary fever is called the reaction, and animals which show it are called reactors. The value of the test lies in the fact that diseased animals react, while healthy ones do not.

#### RELIABILITY OF THE TEST.

The tuberculin test in the hands of a competent and experienced man is much more accurate than any other method of

detecting tuberculosis. The records of large numbers of tests made by Government officials show that with certain precautions it is accurate in 98 per cent of the reactions obtained. This gives a margin of a possible 2 per cent of error, and this small number may be still further lessened by care in making the test. For practical purposes any animal that reacts must be considered tuberculous.

#### LIMITATIONS OF THE TEST.

The test fails to detect the presence of the disease in the animal that is very recently infected. The disease has to make a little progress before the test reveals its presence, and in the beginning of each case there is a period between the entrance of the germs into the body and the time when they have multiplied sufficiently for the test to reveal their presence. This is called the period of incubation and lasts from ten days to two months.

When the disease is far advanced and the animal is wasting, the test sometimes fails to detect it. This is of not much practical importance, as such cases can generally be recognized without the aid of tuberculin.

## THE SANITARY BARN AND VENTILATION.

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By DR. CASSIUS WAY, Veterinarian and Sanitary Expert.

During the past few years the careful housing of dairy cows has received more scientific consideration than ever before. Investigations have been made by men who are thoroughly conversant with the subject from a practical as well as a scientific standpoint. Thorough, conscientious and capable scientific men have planned out various campaigns of dairy inspection in order to obtain a cleaner milk supply, each in accordance with certain definite personal ideas and certain definite local conditions. The result has been that all over this country, yes, all over the world, there has been started a campaign of education for a cleaner, safer, better milk. In every instance the work has started at the fountain head, the dairy, and proceeded along the various lines of production, transportation and distribution until the product has reached the consumer's door. Today the milk supply of the majority of large cities is well supervised. To my mind there are many points of interest in this particular line of sanitary work and my only excuse for presenting this elementary paper is to point out some of the important fundamentals of sanitary construction and present some of the phases in which the veterinarian may play such an important part in watching over the health of the consumer and guiding the destinies of the producer.

In our northern climate warmer stables have for years occupied the attention of our best farmers and stockmen. Bank barns were the outgrowth of the desire to provide comfortable stables that were both warmer and supposedly better. The convenience of having all stock under one roof tucked carefully away from the cold was very alluring to ambitious farmers. But animals housed in these expensive dungeons were not happy and showed their discomfiture in watery eyes, lusterless hair, hot noses and hot, feverish breath, with fitful, quarrelsome actions together with their inability to grow or fatten. Frequently animals thus housed were subject to various bovine diseases which were materially assisted in their work of destruction by condi-

tions so expensively though unintentionally provided. Experience told the observing dairyman that under such conditions his animals were not at their best and the gradual evolution of the sanitary barn took place, until now it is the exception, rather than the rule in the large dairy districts, for a dairyman to build other than up-to-date sanitary stables.

The proper location of a dairy stable is the first important consideration. Good air, good drainage, plenty of sunlight and an abundant water supply are all essential features. The stable should be situated among surroundings that afford a good natural drainage and should be equipped with a good cement floor, tight walls, and ceiling, ample light (four square feet per cow), plenty of air space (500 cubic feet per animal), and finally, and most essential of all, it should be equipped with efficient ventilating system. I have studied this matter from a great many viewpoints and have made many observations concerning the proper ventilation of dairy barns, and I am of the opinion that if a sanitary stable can have but one sanitary equipment, that one should be ventilation, all others are secondary. Essential as pure, wholesome food is to both man and animals, just as essential, and I dare say more so, is pure wholesome air. This great natural agent stands first in the treatment of tuberculosis, and it is equally as important in the prevention of disease and in assisting the body in the various physiological processes of metabolism, assimilation and nutrition. Hippocrates taught twenty-three centuries ago the importance of recognizing natural laws in medicine, he said, "It is to the effort of nature that the attentive and able physician looks for guidance."

In ventilating a cow stable, we should provide for fresh air to enter the stable in front of the cows and disseminate without creating drafts through the stable, passing out through an outlet of ample size behind the cows, thus giving the animals the best air in the stable to breathe, and taking out the odors and steam from the manure and urine without carrying it by their heads. One large outlet shaft of sufficient size to ventilate a stable, being constructed on the ratio of 5 or 6 cows to the square foot is far more practical, much cheaper and easier to build, and from results obtained is infinitely better than enough small chutes a foot or a foot and a half square to make up the required amount of ventilation area. There should be intakes enough not exceed-

ing individually one-half a square foot in area, to nearly equal the area of the out-take chute. For example: A stable to accommodate 54 cows would require an outlet shaft three feet square, containing 9 square feet ventilation area, and 16 or 18 one-half square feet intakes distributed evenly around the outer walls would be required to secure enough fresh air in the stable; these can be regulated to suit the atmospheric conditions, but we must have almost as much inlet area as we have outlet.

The top cap on the outlet chute should be at least 18 inches above the chute. This is to allow for ample capacity of the large outlet shaft. Many make the mistake in putting the cap on the ventilator or putting it 6 or 8 inches above the body of the chute thus cutting down the capacity and when the warm air laden with moisture gets into the chute it cannot get out fast enough, therefore condenses on the upper portion of the shaft. The large chute is not necessary if the capacity is to be reduced at the top or outlet, the result of which is inefficient and inadequate ventilation. The stable should be tight and the chutes closed except when in use. Under these conditions this ventilation will work admirably and save the dairyman many dollars in protecting the roof and timbers from frosting and rotting out.

I cannot too strongly urge the importance of liberal sunlight in stables not only for its warmth but for its cheer and assistance in carrying on the daily work during the winter months. When new buildings are to be erected, I would suggest, where possible that the barn run east and west, thus providing for a south exposure, which is so very desirable during the winter months. The hovel as a dairy stable is a relic of bygone days. No dairyman can afford to house his cows in an underground, dark, damp or forbidding stable, if he is in the business for profit and satisfactory results. The cow, above all other domestic animals, responds quickly to the kind of treatment she received. The limit of her profit is measured by the care and surroundings given her.

A properly constructed floor is of vital importance in a sanitary barn. It should be constructed of non-absorbent material, preferably cement, and the cow bed may be covered with cork brick if desired. The manger should be from 30 to 36 inches wide and 10 to 13 inches deep. The platform should be just wide enough to accommodate the animals, a platform 4 ft. 6 in.

wide will accommodate Jerseys, 4 ft. 7 or 8 in. will accommodate Guernseys, Ayreshires and average sized animals with 4 ft. 8 in. to 5 ft. for Holsteins, depending entirely upon their size, and the gutter should be 8 to 10 inches deep and 18 to 20 inches wide and 3 or 4 inches deep on the driveway or walk side. This will keep the cows clean, which is the first essential in clean milk production.

A cement floor where animals walk should never be troweled with steel or creased in any way, but should be finished with a wooden float, as the masons say, or brushed lightly with a broom. A floor that is finished with a steel trowel is smooth and very slippery and creases fill up with manure and stable filth and become almost as slippery as the very smooth floor.

A sanitary stable to be clean and up-to-date these days must be whitewashed at least two or three times a year, oftener if necessary. The contrast between the old time stable, where the spider has hung his drapery of cobwebs from every projection and in every nook and corner, and the modern, clean whitewashed, convenient stable is very marked. Whitewash is an abomination to the spider and is of inestimable value in dairy sanitation.

These are a few practical, everyday points which should be considered by every progressive dairyman.

The careful and scientific application of fertilizers is of vital importance to the dairyman. He should save every particle of manure which is received from the dairy barn and his floor should be so constructed that, with the use of absorbants, this conservation may be made possible. The great wheat raising districts of the West are coming to realize that the constant removal of crops without the application of fertilizers is slowly and surely depleting the soil.

For the dairy farmer, the field of profit and usefulness is wonderful and the first necessary consideration is the proper care and housing of the dairy cows.

## GLANDERS.

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By DR. V. A. MOORE, Professor at Cornell University.

## CHARACTERIZATION.

Glanders is one of the most important diseases of horses, asses and mules and when transmitted to man, one of the most fatal diseases of the human species. It runs an acute or chronic course, attacking the lymphatic system more especially in the upper air passages, lungs or skin. The disease is characterized by a strong tendency to the formation of small neoplasms or nodules which are likely to degenerate into ulcers from which exudes a peculiar sticky discharge. In the very acute cases a considerable rise of temperature and general debility may accompany the formation of the lesions. Glanders of the skin is known as farcy.

By direct inoculation several species of animals may be infected. Thus the disease has been reported in goats, rabbits, sheep, guinea pigs, field mice, and several of the wild animals, especially those of the cat tribe. Swine and pigeons are very slightly susceptible. Cattle, white mice, rats, and domestic fowls seem to be immune.

## ETIOLOGY.

*Bacterium mallei*, the specific cause of glanders, was discovered and isolated in pure culture almost at the same time (1882) by Loeffler, Schütz, Israel, Bouchard, Charrin, Weichselbaum, Kauzfeld, and Kitt. It is found in the recent nodules, in the discharge from the nostrils, pus from the specific ulcers, and occasionally in the blood of animals affected with glanders.

## SYMPTOMS.

Two forms of glanders have been recognized, namely, acute and chronic.



*Acute Glanders.*—Acute glanders is common in the ass and mule, but infrequent in the horse. After a short period of incubation the animal has a chill, elevation of temperature, a profuse muco-purulent, sticky discharge, sometimes mixed with blood, from the nose. Particles of food arrested in the pharynx occasionally appear in the nasal discharge. If unilateral the margin of the nostril swells, the mucosa is dark red, infiltrated, marked with pea-like, yellowish elevations with red areolæ, which in a few days become eroded, thus forming spreading ulcers. The submaxillary lymphatic glands on the affected side become enlarged. There may, however, be a uniform swelling of the intermaxillary space. The course is rapid and death ensues in from the sixth to the fifteenth day. The acute form rarely if ever becomes chronic.

*Chronic Glanders.*—In the horse, this form of the disease may begin with a chill but usually the onset is very insidious. There may be a muco-purulent, sticky discharge, sometimes streaked with blood, from one or both nostrils. There may be intermittent or continued lameness, arthritis, edema of a limb, swelling of a testicle, cough or epistaxis. There is usually a nodular but comparatively painless swelling of the submaxillary lymph gland on the affected side. On palpation the swelling imparts a sensation suggestive of a number of peas. They are adherent to the adjacent structures. The nasal mucosa is congested, of a dark reddish color and sprinkled with superficial or deep ulcers either clean or covered with crusts.

Rarely the submaxillary glands only are apparently diseased. In other cases, there is only a cough, the latent lesions being confined to the lungs. In still other cases, the lesions are restricted to one or both testicles, the spleen, or some other internal organ. Objective symptoms may or may not be present. Chronic glanders may terminate in the acute form.

In chronic, cutaneous glanders, with or without edema of the limbs, there may be one or more nodules on the fetlock, or elsewhere on the line of the lymphatic vessels, with induration of the lymphatics extending from it. The nodules may be suppurating and discharging, or they may be closed.

## GLANDERS IN MAN.

The symptoms of glanders in man are of much importance to the veterinarian. Although the susceptibility to the disease is usually not very great, cases of human glanders unfortunately occur, especially among veterinary surgeons and those having the care of horses. Human glanders is reported to be quite common in Russia. The parts usually first affected are the hands, nasal mucous membrane, lips and conjunctiva. After a period of incubation of from three to five days the infected part becomes swollen and painful, with subsequent inflammation of the lymph vessels and swelling of the glands. Fever is often the first symptom, and it is nearly always followed by a nasal discharge, ulcers on the nasal mucous membrane, pustules and abscesses in the skin, ulcers in the oral cavity, larynx, and conjunctiva, articular swellings, and grave general disturbances. Sometimes there is intense gastro-intestinal trouble. Nodules occur in the lungs in some cases. As a rule, death takes place in from two to four weeks, and occasionally in a few days. In other instances, the disease becomes chronic, lasting for months or years. *Bact. Mellei* has been found in the blood in cases of acute glanders. The positive diagnosis depends on the possibility of infection having taken place, on inoculation in guinea pigs, or the proof of the presence of *bact. mallei*. Treatment is usually of no avail. The only hopeful cases are those that are purely local in their manifestation. A few of these are reported to have been cured by applying deep cauterization.

## DIFFERENTIAL DIAGNOSIS.

Glanders is to be differentiated from a variety of nasal and lymphatic disorders more or less common in the horse kind. Before the discovery of the specific bacterium of glanders or of mallein, it was necessary to determine as closely as possible the differential anatomical characters between glanders and those of their affections, such as chronic nasal catarrh, strangles, lymphangitics, follicular ulceration of the nasal, muscosa, cancer, sarcoma, actinomycosis, malenosis and the like. Strong has described a disease in the Philippine Islands, which first appears in nodules, that resemble those of glanders very closely. It is caused by a blastomyces. It occasionally attacks cattle as well

as horses. The disease most liable to be mistaken for farcy or skin glanders is epizootic lymphangitis caused by a yeast-like fungus (*Saccharomyces farciminosus*). This disease has recently been discovered by Pearson in Pennsylvania.

Since the discovery of practically positive means of diagnosis, it does not seem wise to speculate upon the chances of a correct differential determination by obscure clinical evidences. If the diagnosis of glanders can not be made from the symptoms and lesions in evidence three reliable diagnostic procedures are available. These are animal inoculation, the use of mallein and the agglutination or serum test.

## HOG CHOLERA.

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(Bulletin published by the Pitman-Myers Co. of Indianapolis, Indiana.)

Hog cholera is a highly contagious and infectious disease of swine, caused by a filterable virus. The exact nature of this virus or causative agent is not definitely known since it can not be examined under the microscope and can not be grown artificially, as is the case with most of the other agents causing disease in animals.

### SYMPTOMS.

One of the first indications of the presence of cholera in a herd will be a loss of appetite and an indisposition to move. The hogs will stand with back arched, head lowered and ears drooped. Later on an inflammation around the eyes with a gumming of the lids will be noticed. Diarrhoea will usually be present and in the later stages of the disease, dark red patches may appear on the skin, most noticeable around the ears and on the abdomen. These symptoms will vary slightly in different herds, and it is always advisable for the stock raiser to call a veterinarian at the first indication of illness and if there is any doubt as to the presence of cholera, a post mortem examination will always lead to a correct diagnosis.

### HOW DISEASE IS SPREAD.

Although the nature of the virus to which the disease is attributed is not definitely known, its existence in the blood, urine and feces of cholera sick hogs has been definitely proven; and because of this fact, the cholera sick hog is the principal agent in the spreading of the disease. From the yard or pen where cholera exists or has existed the virus may be carried to other herds in the following manner. On the feet of men or dogs; on the feet of newly purchased animals; by flies and birds (es-

pecially pigeons, chicken hawks and buzzards); by a small creek or river and by the wind.

#### HOW TO GUARD AGAINST THE OUTBREAK.

While under ordinary farm conditions it is hardly possible for the stock raiser to protect himself against an outbreak from all these sources, a few measures of caution will greatly lessen the chances of infection. Hogs should be kept off the public roads and if possible out of fields adjoining public roads, since the dust from these roads may be laden with the infection due to the passage of diseased animals over them. It is also advisable that they should be kept out of fields through which small creeks pass, since the infection may be carried down stream from cholera infected farms further up. All animals and chickens that have died should be immediately burned or otherwise disposed of according to law, since the dead bodies will attract chicken hawks and buzzards which may have previously visited a farm where cholera exists. In addition to this it is very important that the pens and yards where the hogs run be kept clean and the sleeping places provided with plenty of fresh straw. As a disinfectant, large quantities of fresh lime should be scattered around the pens and yards.

#### VALUE OF SERUM AS A PREVENTATIVE AND CURE.

The only remedy that has proven of any value whatever in the treatment of hogs, that show the early symptoms of cholera and those that have been exposed to cholera, is the Hog Cholera Serum, made according to the method of Doctors Dorset, McBride and Niles of the United States Department of Agriculture. This serum is the only remedy recommended by this Department. All other preparations such as condition, tonic or worm powders, etc., claimed to act as a cure for hog cholera, are to be classed as unreliable and dangerous agents.

The serum is intended as a preventive of hog cholera rather than a cure, although in many cases where the serum is used on a sick herd, from 95% to 100% of the animals recover. In these cases, however, the disease has not gone beyond the early stage. If the animals have temperatures of 107 degrees to 108 degrees, walk with a staggering gait and show signs of difficult breathing,

then the serum treatment will be of little benefit. If the stock raiser wishes to gain the greatest benefit that can be derived from the serum treatment he will have his hogs vaccinated early in the season or as soon as they weigh 50 pounds. The expense of the treatment will be much less than it will be after the hogs weigh 150 pounds or 200 pounds, and in addition to this, the stock raiser can rest assured that no matter how general the spread of cholera may be and no matter how many hogs his neighbor may lose during the summer months, fully 95% to 100% of his hogs will remain well throughout the season.

All pigs weighing less than 50 pounds in infected herds or in neighborhoods where cholera is present should be given a protective dose of serum alone, they can then be vaccinated by the double method as soon as they weigh 50 to 60 pounds. If the pigs are vaccinated too young they will outgrow their immunity before they weigh 120 pounds.

#### METHODS OF TREATMENT.

There are in use, two methods of using this serum. The "Serum Alone" method and the Serum Simultaneous Method. The latter method consists of the injection of both cholera blood and serum. If the animal which is to be treated has become infected with cholera as shown by high temperatures or any other symptoms than the virulent blood should not be used, but the serum alone should be injected. In all cases where the hogs show normal temperatures and no other symptoms of cholera, the simultaneous method should be used providing the stock raiser desires permanent immunity. The serum alone given to non-infected hogs will confer an immunity which lasts from three weeks to three months. It should be noted, however, that the "Serum Simultaneous" method involves the use of a disease producing blood and is followed by the danger of a loss of a portion of the herd. To overcome this danger four things are necessary.

1. Hogs that are to be treated should be placed in comfortable quarters that have been previously cleaned of all debris, thoroughly disinfected and well bedded in straw, at least twelve to twenty-four hours previous to injection.
2. Proper care of the hogs during treatment.

3. The proper administration of the serum.
4. The use of a serum that has been properly made and tested and upon test found to be highly potent.

#### CARE OF ANIMAL DURING TREATMENT.

Before the hogs have received the serum treatment the pens and yards should be placed in as sanitary a condition as possible. This is best accomplished by the use of plenty of fresh straw and the scattering of slaked lime. Do not allow your hogs to have access to any field or pen where they can wallow in mud. Abscesses may develop at the site of injection if the animals are not placed in clean, dry quarters. On the day of injection no food should be given to the treated animals and for ten or fourteen days following they should be fed on a moistened mixture of bran and shorts only and the animals carefully watched.

#### PRECAUTIONS IN ADMINISTRATION OF SERUM.

In the administration of serum and virulent blood, many detail steps are necessary; such as, the sterilization of the skin at the point of injection, the sterilization of the syringe and needles, and the accurate measuring of both serum and virulent blood. These and many other important details make it necessary for the stock raiser to procure the services of a veterinarian experienced in this line of work if the best results are to be expected.

ABORTION.

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By DR. JOHN F. DEVINE, Consulting Veterinarian of New York State.

Generally speaking, we understand that abortion means the expulsion of the fetus from the uterus at such a stage of its existence that, if still living, it is not sufficiently developed to live outside of the mother's body; whereas when the fetus is sufficiently developed to live in the external, the accident is designated premature birth.

In human obstetrics an attempt has been made to fix a period which would constitute the dividing line between abortion and premature birth. It is not practical to so fix any definite period. In fact, in the human family, with the introduction of incubators, it has been possible to save the lives of infants born at a stage of development which in previous years would have led to their death.

There is another condition which is spoken of as "still-birth," and is applied to those young which are born at an age when they are so developed that they might have lived, but have perished in the mother's womb.

All these conditions in animals have led us to recognize three classes of abortion:

First, sporadic or accidental abortion, in which, owing to disease of, or accident to the fetus or mother, the fetus may be expelled dead or in a state which renders it impossible to live. This may be due to injury to the mother, mechanical violence, slipping, certain operations, such as spaying, severe hemorrhages, or acute digestive disturbances, colic, etc. Abortion under these conditions occurs more frequently in the mare than the cow, but due precaution should always be exercised in handling or medicating sick animals that are in advanced in pregnancy. Certain drugs and mouldy foods, and the like, have been accused of causing abortion, and while the weight of evidence seemed to be contrary to this belief, this should in no way encourage carelessness along these lines.



Second, enzoötic abortion, due to some infectious disease of the mother which brings about the death and expulsion of the fetus as a complication of the maternal disease. To illustrate: There is sometimes an unusual loss of undeveloped calves in a herd, but instead of the trouble being an independent disease known as infectious abortion, it is rather the result of some other specific disease which has weakened the mother and the generative organs so as to cause death or expulsion of the fetus. This is not an uncommon condition when contagious cellulitis attacks a band of brood mares, or foot and mouth disease or contagious pleuro-pneumonia a herd of cows. In sheep pox abortion is said to be frequent, and pregnant sows suffering from hog cholera often abort.

Third, infectious abortion. Our belief as to the modes of transmission and methods of control of infectious abortion, as with any other communicable disease the causative factor of which has not been determined, was more or less oscillating and uncertain until very recently, but the knowledge given to us by Professor Bang of Denmark, and the Department of Agriculture, Washington, D. C., again demonstrates that the advancement in controlling any scourge is only proportionate to our ability to lift it out of the realm of empiricism and superstition and place it on a scientific basis.

Infectious abortion of cattle is now defined as a specific infectious disease produced by the *Bacillus abortus* of Bang, and characterized by inflammatory changes of the mucous membrane of the uterus and fetal membranes, resulting, as a rule, in the premature expulsion of the fetus. Other names by which this affection is known are contagious abortion, epizoötic abortion and slinking of calves.

A vast majority of all abortions in domestic animals is due to infection, and therefore this is the form of abortion which concerns us most at present. From the viewpoint of economic importance, abortion among cattle ranks with bovine tuberculosis as a dairy scourge. Aside from the loss of the calves, the loss occasioned by the reduction in milk supply, together with the failure to conceive for several months, or forever, after the abortion, and the frequency of retained placenta, are some of the things that dairymen know only too well. It would be difficult to even approximately estimate the financial loss occasioned

anually by this disease, but it is known to exist in all sections of the country, both in dairy and range cattle, and judging from the cases that come to official notice, it can be safely stated that the loss in our own State reaches into the hundreds of thousands of dollars annually.

Infectious abortion is insidious in character and may be brought into a herd by an unsuspected animal without attracting attention, inasmuch as usually there are no pronounced symptoms present in the diseased animal. Cows of all ages are more or less susceptible to the disease. Animals in the first or second pregnancy are more apt to abort if exposed than at any other time. Cows that have aborted once may abort a second time. Abortion in the same cow more than twice is not the rule. Heifers from aborting mothers may be less susceptible than those born of non-infected dams.

#### MANNER OF INFECTION.

By interchange of cattle, by visiting neighbors, or the custom of one neighbor assisting another in delivering a fetus or removing fetal membranes without the use of disinfectants to control the infection; careless veterinarians attending an abortion case and not using the proper outer clothing, rubbers, etc., which should be removed and disinfected before visiting another herd; likewise carelessness in not properly cleansing the hands, thermometers, or anything coming in direct contact with the infected parts that would be equally in prominence in the examination of the next animal or herd; failure to properly dispose of the aborted fetus and membranes, which may be carried from place to place by scavengers, such as birds, dogs, foxes, skunks, etc. It is not known whether the disease can be spread through the air without an intermediary bearer.

It is now pretty well determined that infection through the gastro-intestinal tract is one of the most common methods of infection; therefore any fodder or substance which has come in contact with infected material by careless attendants getting the discharges of an infected animal on the shoes, and then walking in the mangers or in the hay mow, silo or feed bin, without first disinfecting the shoes, might carry contagion enough to infect several animals. The bull is likewise looked upon as a very

potent factor in the distribution of this disease. Paulsen cites a case where, on a farm that had always been free from the disease, seven out of a herd of sixteen cows were served by a bull from an infected premises, causing abortion in five cows within ten weeks, one in three months, and one in four and one-half months after service.

#### THE PERIOD OF INCUBATION.

Since it is generally regarded that this period extends from the date of exposure to the expulsion of the fetus, it really takes in the time of incubation and duration of the disease. This is very irregular, but it is safe to say that under ordinary farm conditions infectious abortion occurs from the second to the eighth month of pregnancy. Abortion rarely occurs under three months, and any fetus expelled later than eight months, if it lives, should rightly be called premature birth.

#### SYMPTOMS.

The symptoms depend largely on the stage of gestation at which the disease appears; those exhibited in the early months of pregnancy by a cow about to abort are usually so slight as to pass unnoticed. When premonitory symptoms are observed they are usually manifested for two or three days before the expulsion of the fetus, by a swelling of the udder and of the external genital organs, and the appearance of a mucous discharge from the vagina. In addition to these symptoms the animal oftentimes manifests a restless condition, moving about and switching the tail very much as if suffering colicky pains. This is particularly true with young heifers, but is more apt to attend such cases of abortion as are classified as sporadic. These symptoms, however, are not positive proof that abortion will occur. The increased size of the udder would of course be noticed in non-milking females only, and the other symptoms are sometimes quite prominent in an animal that is simply in heat. It is quite probable that many of the animals which dairymen look upon as having "failed to catch" have conceived and aborted without the animals being noticed. This is true where animals abort early in gestation, since the fetus and membranes are readily expelled at the same time and leave no evidence of the abortion. Following the abortion of a fairly well-developed fetus there is a dirty yel-

lowish-gray discharge described as muco-purulent. The retained placenta, if not removed in a few days, or the animal not properly douched, will necrose (rot) and extend to the lining of the uterus, which will cause more or less systemic disturbance and may cause a thickening or diseased condition of the walls of the uterus. This neglected condition is apt to interfere with subsequent conception.

It is pretty safe to regard all cases of abortion in a dairy as suspicious and treat it as infectious, particularly if the disease exists in the vicinity, or if any new animals have been added. Williams, of Cornell, states:

"Infectious abortion is to be carefully differentiated from the granular venereal disease, which, although causing abortion in 50 to 70% of the pregnant cows attacked, is nevertheless a quite distinct malady and offers a different problem in handling."

In valuable herds, where conditions seem confusing, resort can be had to bacteriological examinations. Smears can be made from the contents of the fetal intestinal tract or from the vaginal discharge of the dam soon after abortion; or blood may be drawn from the jugular vein of the animal in question, in a sterile bottle, and sent to the State Veterinary College for examination by what is termed the agglutination and the complement-fixation tests. While these tests are not infallible, still experience is increasing their value as diagnostic agents. As a herd test rather than any conclusive evidence on any individual.

#### PREVENTION AND TREATMENT.

The treatment of the case termed "sporadic abortion," to be of any value, must be applied promptly as soon as any symptoms make their appearance. The writer has been successful, in both mares and cattle, in allaying symptoms where, to all appearances, sporadic abortion was indicated, by immediately removing the animal to a well-bedded box stall and quieting as quickly as possible. This is oftentimes accomplished by giving an ounce and a half to two ounces of chloral hydrate dissolved in a quart of water, for the cow, and about an ounce dissolved in the same amount of water for the mare. An examination should be made, and if the neck of the womb is not perceptibly dilated a douche of two ounces of laudanum in a quart of warm water will soothe

and allay the pains in this region. This treatment may be repeated two or three times during twenty-four hours if indicated. If, however, the maternal organs have been sufficiently disturbed to create strong labor pains, the probabilities are that the animal will abort under most any treatment.

In treating enzoötic abortion, our efforts must, of course, be directed toward controlling the disease that is causing abortion.

#### INFECTIOUS ABORTION.

Since it has been determined that with this disease, like most infectious diseases, one or more attacks produce a certain amount of immunity against a subsequent attack, an attempt is being made by several laboratory workers to prepare a vaccine composed of dead Bang bacilli or attenuated (weakened) live bacilli, with the hope of producing immunity, such as, for instance, is now enjoyed in that common disease known as smallpox in the human family. No definite results have as yet been obtained along these lines, and it would be the writer's opinion that our hopes can hardly be as sanguine as they might be if *one* abortion established a more satisfactory immunity again subsequent abortion.

In relation to the prevention and treatment: In a bulletin published by the United States Department of Agriculture, Mohler, who has made an exhaustive study on this subject, states the following:

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

"When the disease has made its appearance in a stable the healthy cows should be changed preferably to an uninfected stable or premises. This is frequently difficult to carry out, and where it is not possible the aborting cows should be kept by themselves in another stable, or in an isolated portion of the stable with a temporary partition separating them from the healthy animals. Separate attendants should be provided for

each herd, and there should be no communication of any kind between the two herds. If a cow develops prodromal symptoms of abortion she should be removed at once to the infected stable.

“As soon as an animal has aborted, the fetus and membranes should be immediately carried away and destroyed by either burning or deep burial after covering with lime, as the abortion bacilli are extremely numerous in these tissues. The vaginal discharge which follows is likewise very virulent and therefore should be disinfected, while the genital passages of the cow should be irrigated with an antiseptic solution and the animal kept from coming in contact with healthy cattle. The afterbirth, which is retained in most abortions occurring during the later months of pregnancy, should be removed within a few days. If it does not come away readily, do not forcibly remove it, but irrigate the uterus with a gallon or two of a warm disinfectant solution twice daily. This irrigation of the genitals is best accomplished by means of a soft rubber tube introduced into the vagina, and if possible into the uterus, with a funnel in its outer elevated end. About 1 gallon or more of a one-half to one-quarter per cent solution of liquor cresolis compositus, lysol, or trikresol, 1 per cent solution of creolin or carbolic acid, or 1 to 1,000 potassium permanganate solution, should be introduced into the womb, and this treatment should be repeated every day so long as any discharge is observed from the cow. Afterwards it should be used once weekly until it is time to breed the animal. In addition this cow, as well as every cow in the stable, should be sponged every morning around the vulva, anus, perineum, and root of the tail with a disinfectant solution twice as strong as that used for irrigating the genitals. Furthermore, every cow in an infected herd should have the genital tract irrigated as above, even after an apparently normal parturition. W. L. Williams reports very good results from using one-fourth to one-half per cent Lugol's solution for irrigating the vagina during one estrual interval—that is, a period of 21 days—before breeding. The use of this solution is said not to prevent conception even if used one hour before service.

“It is not advisable to breed a cow for at least two months after she has aborted, and not even then if the discharge has not ceased. If these precautions are neglected and the bull is allowed to serve the cow as soon as she comes in heat after aborting, the

uterus will not be normal, and the animal will not conceive or the fetus will be expelled when quite small, while in a short time the cow comes in heat again. These very early abortions are as a rule not noticed, but as the system of the cow adapts itself to the infection, either through tolerance, immunity, or a loss of virulence of the bacilli, the period of retention becomes longer and longer, until finally the cow is immune and carries the fetus the full term of gestation. It generally requires from two to three years for the cow to become immune and even then there is a possibility of the cow acting as a carrier of the virus, and the bull which during that time serves this cow may transmit the infection to all other cows that he may cover if precautions are not taken to prevent it. For this reason it is not advisable to sell or otherwise dispose of the animals that abort and replace them with new cows, as such new animals are very likely to become infected. (See Table 6.) Only those which after treatment prove to be permanently sterile should be prepared for the butcher.

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

“When a stable has become infected, it should be carefully and thoroughly disinfected. The cattle should be removed and the stable kept empty for two or more days. The walls, floors, and gutters should be scrubbed and the ceiling brushed clean of dust and cobwebs, and then a 3 per cent solution of liquor cresolis compositus, lysol, carbolic acid, etc., should be applied with a force or spray pump so as to force the disinfectant into the cracks and crevices. This disinfection should be repeated after each abortion. In addition to the above measures it is

necessary to clean out the barnyard, removing the manure and contaminated litter to some field not accessible to cattle, where it is plowed under. The surface of the yard should be sprinkled with a solution of copper sulphate, 5 ounces to a gallon of water. Milking stools and other implements should also be thoroughly disinfected.

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

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With reference to medicinal treatment, various agents have been recommended and heralded as specifics from time to time, but the beneficial results attending their use may be attributed more to the nature of the disease or errors of diagnosis than to the therapeutic action of the drugs. In some cases similar to those cited in the chapter on symptoms it appears that the cows are preparing to abort, and if any drug should be used at this time, credit would probably be given the remedy as the cause of the continuation of pregnancy, whereas such symptoms may abate without medication. Carbolic acid has been the most widely recommended agent in the treatment of this disease, and good results have been reported by subcutaneous injections of 2 drams of a 2 per cent solution every week until 12 injections have been made. The most suitable place for the injection is on the side of the neck. Range cattle may be more readily treated by the use of medicated salt placed in troughs accessible to the cattle. This salt may be prepared by pouring 4 ounces of liquefied crude carbolic acid upon 12 quarts of ordinary barrel salt and mixing thoroughly. The reported success of their carbolic acid treatment is probably more the result of the tolerance or immunity to the disease which occurs after several abortions rather than the effect of the remedy itself.”



A very recent publication of the Vermont Experiment Station, from the pen of Dr. F. A. Rich, contains some very promising results for methylene blue in the treatment of contagious abortion. He states, in part:

"Prior to the detailed discussion as to the use of methylene blue for this purpose, it may be worth while briefly to make clear certain points. It is entirely safe to say:

"1. That infectious bovine abortion seems to be an omnipresent malady wherever dairying obtains; throughout this country, Canada, Europe, and elsewhere.

"2. That the waste due to the loss of calves, to the shrinkage in milk, to subsequent abortions, to the probably contingent failure to breed, are beyond calculation, mounting far into the millions annually.

"3. That the claim that 1 per cent of Vermont cows abort annually is probably an understatement. This means 3,500 less living calves born annually in Vermont, fully 150,000 pounds less butter made annually, 3,500 cows less serviceable each year and less serviceable in future years. It is entirely safe to say the yearly damage in Vermont is not less than \$75,000; and Vermont is but a speck on the map.

"4. That studies at this and other institutions in this and other countries have served to prove the bacterial origin of this malady, to develop means of detecting in advance the cows which will probably abort, and to direct efforts toward the discovery of simple, safe, cheap and sure remedies.

"5. That the only remedies thus far proposed which have been brought to the writer's attention (other than patent medicines of doubtful efficacy) are:

- (a) Carbolic acid; internally.
- (b) Carbolic acid and other antiseptics for vaginal douche.
- (c) Cultures of bacillus abortus (living or dead).

"In the writer's search for a satisfactory remedy several chemicals possessing germicidal powers were used with varying success on the laboratory cultures of the organism, including carbolic acid, salicylic acid, boric acid, methylene blue, mercuric chlorid, thymol, lysol, iodine, iron sulphate, argyrol, ichthyol, formaldehyde, not to speak of many other similar materials. Many showed marked lethal powers; several promised success. One of these, methylene blue, stood out prominently and con-

stantly proved more effective than its fellows (excepting mercuric chlorid which is necessarily out of the question with living animals) especially in the crucial points of rapidity and completeness of destruction of the organism under laboratory conditions. Compared with carbolic acid as a destroyer of the bacillus abortus the writer found methylene blue to be from 20 to 50 times more effective. It was then tried under stable conditions with very satisfactory results, using several cows which reacted to the agglutination test which indicated that they were harboring the abortion organism.

"It would now seem in order in this preliminary statement, in which as has already been remarked it is not designed to discuss the nature or ravages of the disease or to describe the causal organism to outline the nature and application of the remedy. Methylene blue is a well known, though not widely used, antiseptic. Its penetrability and activity have long been recognized in bacteriological laboratories. Its use as an internal antiseptic in human medicine is thoroughly established. The highest purity medicinal grade is best adapted to internal use, since it is guaranteed to be free from zinc and arsenic; and only this medicinal grade should be used. Do not confound with methyl blue which is an utterly different thing.

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"After determining the specific bactericidal effect of methylene blue upon the abortion organism in the laboratory, the writer tried divers experiments with the chemical upon different cows in the experiment farm herd, in order to ascertain the effect upon the animals and their products, and to determine the proper dose of the medicine and the best way to administer it.

"The powder was fed in the grain, and upon the silage, and saline solutions thereof were injected under the skin, into the gravid uterus and into the jugular vein. It has been fed in small doses and in mammoth doses, fed occasionally, intermittently, constantly, fed to cows that reacted to the special test and to those which did not, fed to young and to old, to sick and to well, to cows of all breeds and of no breed, to calves, bulls, steers, to human beings. No ill effects whatever have followed the use even of several times the necessary amount continued beyond the necessary length of time. Indeed, methylene blue was fed to 4

healthy cows in exorbitant amounts and for 16 consecutive days. They liked it, they increased in weight, their appetities were if anything sharpened and their milk yields were entirely normal. No stress is laid on these occurrences, no claim is made that this material is a wonder working feed or tonic. Reference is made to them simply to emphasize the harmlessness of the remedy. When thus fed in extraordinary amounts, several times what we believe is needed to accomplish the desired end, in a few cases the milk has been slightly tinged. This color does not appear in the butter nor is the taste of the milk altered. No harm can come from the use of such milk, since methylene blue is freely given by medical practitioners as an antiseptic of the human urinary tract. Furthermore, there is no need of giving a dosage sufficient to be manifested in the milk."

It would be well for all who are interested in this question to secure a copy of this bulletin, as it is quite probable that subsequent findings will be published from time to time on the efficacy of methylene blue. Evidence of wide systemic distribution and internal antiseptic properties is set forth in the bulletin by Dr. Rich. Still it is the writer's opinion that our lack of sufficient evidence of its merit, coupled with the fact that according to our present knowledge the Bang bacillus is located in the walls of the uterus and that the blood stream is not a natural habitat for this organism any more than it is for certain other diseases, such as tuberculosis, and also the fact that there seems to be considerable diversity of opinion among authorities as to whether or not it is possible for any medicinal agent given by the mouth to act as a germicide in the intestinal tract or upon any mucous membrane, or that any such drug can make the blood more germicidal than it is normally, would not warrant the abandonment of such methods as have proved fairly satisfactory and reliable in the control of the scourge, even if the older methods are more laborious.

The writer has had occasion to give advice where contagious abortion has appeared in several large herds with no uncertain violence. In such cases for several years past it has been our custom to follow out the methods here quoted as recommended by the Department of Agriculture in their recent bulletin; and the immediate abatement in all herds and the positive cessation of abortion in others where in some cases several animals had

aborted weekly up to the beginning of the treatment, leaves no question in the writer's mind as to the merit of this method of control. We, however, prefer carbolic acid for both douching and washing the animals. It can be used with safety for douching, beginning with a one-half of one per cent solution (one ounce to about six quarts of water). The douche should always be a little warmer than the body temperature, as it cools while passing through the funnel and tube, or hose and pump, whichever is used. It will cause little or no straining, and after a few days can be doubled in strength, and as the parts acquire tolerance it can be used still stronger. Even in a two or a two and one-half per cent solution we have rarely experienced any burning of the mucous membranes, and very little uneasiness or straining, as compared with any of the coal tar products. There is no question but that the careful disinfection of the external genitals, and parts which may be reached by the tail, is nearly as important as the douching. The light sponging of the entire cow, stanchion, etc. adds but very little labor and is of much advantage. The washing of the hinder parts automatically takes care of the disinfecting of the stable and drop. Occasionally, burning of the bedding and disinfecting of the mangers should also be carried out. For this work, again we prefer carbolic acid in a three per cent solution, owing both to its efficiency and its lack of objection in fine dairies where there is danger of the odor produced by disinfectants affecting the milk.

If methylene blue will control abortion as well as this form of treatment, its simplicity of application over this method would by far offset the additional expense; but the writer would suggest that where valuable animals are concerned, and there is a desire to determine the virtue of methylene blue, with our present limited knowledge of its efficacy it would perhaps be better to put half of the herd under *each form* of treatment, so that definite conclusions might be drawn from a number of animals treated by the different methods under similar environment.

*References:* Williams Obstetrics, Mohler Circular 216 U. S. Dept. of Agriculture, Rich Bulletin No. 174 Vermont Experiment Station.

## WHY AND HOW MAINE SHOULD RAISE DRAFT HORSES.

(By PROF. F. L. RUSSELL, U. of M.)

It is quite evident that we ought to be raising our own draft horses in the State of Maine. They are costing us altogether too much, and we are suffering for need of more good horses. Some farmers who have really good draft mares hesitate to breed them because they cannot understand how they can spare the mares, they are needed so constantly to do the work of the farm. However, it is quite possible to raise colts without seriously interfering with the use of the mare in doing the work on the farm. To do this successfully so that the colt shall not be stunted or the mare overworked requires exercise of judgment in breeding at the right time so that the colts will be foaled at a season of the year when the mare can be spared for a few days.

A number of things have to be taken into consideration. It is desirable to give the mare two weeks' rest after she foals. The last month or two before she foals she is heavy and awkward and not in the best condition for the hardest kind of work. As a general thing the mare can be bred most successfully when she is in fairly good flesh and is not worn out with overwork. If we were only to consider the mare and her relations to the work of the farm, it might be best to breed her to foal in January or February, but many farm teams are kept busy when there is any sledding in the winter, and certainly it is difficult in this climate in the dead of winter to give a young colt the exercise that he needs without danger of unduly exposing him.

When a colt is eating so that he will gain not less than three pounds a day on an average during the time he is sucking his dam, a box stall or even a small sheltered yard does not furnish room enough for him to take the exercise needed to harden his rapidly growing muscles and to develop his heart and lungs. If he makes a good growth, he is likely to be weak and soft; if he

does not make good growth while he is with the mare, he will always be undersized.

When conditions are such that only light work is required of the brood mare from the first to the middle of May, then is the ideal time to have the foal appear. The warm weather, young grass, and the absence of flies furnish the most favorable conditions; but because of the scarcity and high price of horses and the short season for seeding, cultivating, and harvesting crops, every available draft mare ought to be at work at this season, and even a vacation of a week is expensive. May is often the most inconvenient month of the year for draft mares to foal. Work is sure to be crowding and all the horses must work to the limit or the entire season's operations of the farm are affected. When all conditions are taken into consideration, sometime between the middle of March and the middle of April seems to be the most favorable for the draft mare to foal. A mare that foals the last of March can have a two weeks' rest, and two weeks more of light work before the busiest season comes on. By the first of May the colt is old enough so that he does not suffer seriously if kept away from his dam half a day at a time while she is at work.

It is very little use to attempt to raise a colt unless we are prepared to follow a course that will enable us to raise a good colt. The quality of the colt should be the first consideration when the draft mare is bred.

At the present time the profit from raising good draft horses is large enough so that it may pay to devote the mare to that purpose without much regard to the work she might do. But if she can raise the colt and do her regular work, the cost of raising the colt will be correspondingly reduced. By breeding the mare to foal in March or April, this can be accomplished. Until we have more than 10 times as many big draft colts on our Maine farms as we have at present, we shall be in no danger of oversupplying the demand and every branch of the farming industry will be strengthened in proportion to the number of the right kind of colts that are available for farm work. So we may say breed young draft mares as soon as possible, and, when the colts appear, take the best of care of them.

A word of caution should go in here. Most of the horse breeding states have driven out the unsound, poorly bred,

undersized stallions from their states by stallion license laws. Unfortunately we have no such law, and many of their rejected stallions have already found their way here. As our State has taken no measures to guarantee the quality of the breeding of stallions, each breeder must look out for his own interests. Be sure the stallion you use is sound, a sure breeder, and of at least standard size for the breed you select. You can much better afford to drive your mare 20 miles or more and pay a good service fee for the use of a first-class stallion than to take the gift of the service of an inferior nearby horse. Scarce as horses are, there is still a high premium on quality and it pays to raise the best. Make all conditions as favorable as possible and the raising of good draft colts is a safe, profitable business.

## SYSTEMS OF BEEF PRODUCTION FOR MAINE FARMERS.

By P. A. CAMPBELL, Professor of Animal Industry.

There is no question but Maine can grow beef. According to government figures, since 1900 the supply of beef cattle has decreased 20 per cent and the population has increased 26 per cent. The United States is in a way recuperating, but the fact nevertheless remains that the day of cheap beef is over, and the extra supply as it matures will be needed for the extra consumption.

Competition was, until recently, such that Maine could not profitably grow beef. Now, with intensive conditions applied, Maine is on an equal basis with many of the beef states, and while a few years ago Maine was forced out of the beef industry, she will be forced to take it up again in a few years, for economic reasons. The methods which the western beef grower has been forced to adopt as a means of self-preservation are equally applicable to our conditions here. The selection of the low-set, blocky type, that matures early and carries a high dressing percentage, is absolutely essential if success is to be attained. It may be said, and correctly, that for the man who contemplates growing beef, the first thing to do is to dispose of any inferior animals, whether they be of inferior beef type or of dairy type, and put in their place animals of good breeding that represent the correct type. Very little success will come to the man who contemplates bridging the space from an inferior dairy herd to that of beef herd by crossing beef bulls on the dairy stock; too many inferior animals must necessarily result, animals that are neither milkers nor economical beef producers. Animals that are bound to run their owners into debt and bring discouragement and ruin before he can make a sufficient number of crosses to attain an animal of good beef type. The restless, long-legged, narrow-headed, shallow-bodied steer that is light in the hind quarters and cut high in the twist will never make money.



The systems of feeding which the western grower has been forced to adopt can well be followed. The silo has now become a valuable addition in the way of providing supplemental succulent feed for both the breeding and fattening stock. It is also rather interesting to note that the grand champion fat steers at both the International Fat Stock Show held at Chicago in December, and the Denver Fat Stock Show, were steers that never had any corn, but had been grown and fitted under conditions no better than ours here in Maine. There is no question but what Maine can successfully grow beef. There is ample opportunity for a large number of well-finished beef steers to be grown in Maine each year, without in any way upsetting any of the industries now established. In fact, more stock will mean more crops grown and fed on the land, consequently greater soil fertility and larger yields of the so-termed money crops. The day of the large beef carcass has passed and the handy weight carcass is now what is desired. The grower realizes that as he gets farther away from the birth period of an animal that each pound of gain costs more, so it is his intention to get the animal ready for market in as short a time as possible.

There are two systems which are adapted to Maine conditions, and either will prove successful if given a fair trial. Which system one should adopt will depend largely upon location and labor conditions. One system is a milk and beef combination; the other tends more towards baby beef production. The objection to the milk and beef proposition is the same for dairying; namely, it takes more help and more labor is involved, and where there are strenuous objections to milking, the other scheme had better be adopted.

If dairying and beef raising are to be combined, as is possible on many of our Maine farms, it means the selection of cows which show the dairy tendencies, but at the same time are of good size and show a good square conformation. These cows should be bred to a thick-meated sire; but if possible, one that has some production in its ancestry, in order that enough heifers may be selected from among the calves with sufficient production to keep up the breeding herd. The dairy products made from a herd of this kind should at least pay for the up-keep of the herd, so that the beef steer may not start off with the initial charge of the dam's maintenance for the year. It of course means that the

calves be reared on skim milk, supplemented with grain, which should bring the calf to a weight of about 700 pounds when a year old, and permit marketing when about two years old with a weight on the hoof of from 1200 to 1400 pounds.

In order to make this method the most successful, the cows should calve in the fall, thus permitting the greater amount of labor to come in the winter time, and also give the calves sufficient size for turning to pasture the following spring. It will not do to turn them onto a scanty pasture if the desired growth is to be attained; or if the pasture is scanty it will pay to have some supplemental feed which can be given them rather than permit growing to stop.

As the steers come to the barn or sheds the second winter, they will be ready to handle corn silage, clover hay, oat and pea hay, and should make satisfactory gains, especially if the silage carries considerable corn. If they are slow in getting started, grain in limited quantities may be added to the ration; a portion of it should be rich in protein like cottonseed meal; because the steer at this time should be making growth rather than fattening too much.

As the pasture season approaches, they may be turned once more to pasture, but plans should be laid for having them in marketable condition by the beginning of winter at the latest. Consequently, if because of drouth or any other reason the pasture begins to get short, supplemental feeds must be provided; and, in fact, in the latter part of the summer it will be well to gradually warm up and work the steer on to a full feed for the final finishing. Green corn fodder with some ears in it may be used to start with, gradually working in five or six weeks, to a full grain ration.

## CONTAGIOUS DISEASES OF ANIMALS.

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

## 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.

## ANNUAL REPORT OF INSPECTORS.

The following letter was sent to veterinarians appointed as inspectors, and their reports, I have no doubt, will be read with interest:

OFFICE OF THE LIVE STOCK SANITARY COMMISSIONER,  
WATERVILLE, MAINE, December 15th, 1913.

*Dear Doctor:—*

On January 1st, 1914, I wish you would make your annual report and address same to this office. Report should be made in typewriting and along the following lines, viz:

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 numbers 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.

It is the intention of this office to publish these reports separately in the annual report of the Live Stock Sanitary Commis-

sioner; so it is a matter of great importance and justice to yourself that such reports should be a subject by itself, in other words, the above questions should not be answered on this circular letter.

It is up to you, to the veterinary profession of Maine, to treat this subject in a business-like manner and prove to the citizens of our State that the control of contagious diseases, can be properly handled by its veterinarians.

Thanking you for the interest that you have taken in our work, and for the patience that I might have overtaxed, during the past year, I remain,

Yours respectfully,

A. JOLY,

*Live Stock Sanitary Commissioner.*

AUGUSTA, ME., Jan. 1, 1914.

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

DEAR SIR:—I herewith submit the following report as agent for the Live Stock Sanitary Commissioner, for the year ending December 31st, 1913. As I consider that all cases of search for contagious disease rightfully come under the control of the Live Stock Sanitary Commissioner, the following report includes examinations by request of the owners of animals and examinations by request of the Live Stock Sanitary Commissioner.

#### INSPECTION OF CATTLE.

During the year I have tested with tuberculin 37 herds containing 435 head of cattle, of which number 45 head were condemned as tubercular. The total number of herds where disease was found was 13.

#### INSPECTION OF HORSES.

The law requiring the inspection of horses brought into the State of Maine is not a popular one, consequently many owners are negligent in reporting the purchase of out of State animals for home use or purposes of sale. I have personally inspected 39 head by physical examination, of which number none were found to be suffering from contagious disease. I have also applied the

mallein test (Ophthalmic) to 10 horses, of which number one was condemned. It has been my experience that there is little chance of finding glanders among green horses coming into this State, but that the second handed horses and woods horses should be most carefully inspected and I believe the Ophthalmic test should be applied to all imported horses other than green ones.

#### HOG CHOLERA.

It is my belief that many small outbreaks of hog cholera are never reported, because the owners do not appreciate the assistance which the Live Stock Sanitary Commissioner and the veterinary profession are capable of extending to them. Many times hog cholera makes its appearance and causes the death of a small herd of hogs before the owner has awakened to the fact that there is a contagious disease among his hogs. So far as I know there were only 4 outbreaks of hog cholera in my locality the past year; 3 herds, containing 396 hogs, were treated with hog cholera serum. In the herds where treatment was applied some 60 hogs died before treatment, and 66 hogs died after treatment. The fourth outbreak was in a small herd of four or five hogs which increased three or four days afterwards to 21 by the birth of some little pigs. Before it was possible to obtain hog cholera serum all but one died.

#### CONTAGIOUS ABORTION.

No case of contagious abortion has come to my notice during the past year, yet I believe it does exist in some localities and that the owners are concealing its presence because of the fear of interference by State authorities.

#### MILK SUPPLY.

The people of Augusta and vicinity are furnished with a high grade of milk so far as its percentage of butter fat is concerned. I believe that five per cent is not too high an estimate for the average percentage of butter fat found in the milk delivered by some 25 herds about the city of Augusta. When we come to the question of how many herds supplying milk are tuberculin

tested, we find that 4 herds only have been tested. This is a deplorable condition of affairs, but one which I have been unable to overcome. From my observation I believe that a small percentage of the cattle supplying milk to this city are tubercular, but the owners will not have their herds tested except at the expense of the State, or by order of the local Board of Health.

#### THE LOCAL SLAUGHTER HOUSES.

The local slaughter houses, although few in number, are for the most part places of filth, with no attempt to improve conditions which have existed for the past fifteen years.

I have received very few complaints from the public concerning the sanitary laws, and there is a feeling of greater confidence among the stock raisers. For my part, I assure you that I appreciate the business-like manner in which you have discharged the duties of your office, and I bespeak for you a new year of still greater achievement.

Respectfully submitted,

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

*Inspector.*

PITTSFIELD, MAINE, Jan. 5, 1914.

*Live Stock Sanitary Commissioner, Augusta, Maine.*

DEAR SIR:—This is the report taken from my practice of the year, 1913.

Tested in about 50 herds for tuberculosis. Found tuberculosis in 5 herds. The total number of cattle I tested was 286. Condemned 5 cows in 1913.

Inspected 19 imported horses. I tested only 1 horse with mallein. Did not condemn any horses with the mallein test. Did not condemn any horses on physical examination.

There was about 4 outbreaks of hog cholera in my locality. I treated 2 herds with hog cholera serum. Treated 14 hogs with hog cholera serum. The number of hogs dying before treatment were 3. The number of hogs dying after treatment were 9.

I know of but 3 herds of cattle infected with contagious abortion.



Approximately there was about 100 herds supplying milk to this town. About 6 of the herds have been tested with tuberculin.

The slaughtering houses are in bad shape in this town.

Yours truly,

J. NORMAN BROWN,

*Inspector.*

WILTON, MAINE, January 1, 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, 46.

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

Total number of cattle tested with tuberculin, 411.

Total number of cattle condemned, 14.

Number of outbreaks of hog cholera in this locality, none.

Number of herds found infected with contagious abortion, 3.

Approximate number of herds supplying milk to your city, 14.

Approximate numbers of these herds which have been tuberculin tested, 6.

The general condition of the local slaughtering houses is none too good.

I believe, Doctor, that when the people understand the legislation that was passed last winter through your efforts, that they will become convinced that the law is none too stringent, and I might offer as a suggestion that I believe it would be well if there was a law compelling every milk dealer to have his cows tested before he could sell milk to the public.

As a further suggestion I believe that all creatures slaughtered for home consumption should be tested before being slaughtered and inspected after slaughter.

Yours truly,

E. E. BUBIER,

*Inspector.*

STANDISH, MAINE, Jan. 1, 1914.

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

DEAR DOCTOR:—The following is my annual report for the year 1913.

- Number of herds of cattle treated with tuberculin, 35.
- Number of herds of cattle where suberculosis was found, 8.
- Total number of cattle tested, 218.
- Total number of cattle condemned, 10.
- Number of outbreaks of hog cholera, 1.
- Number of hogs infected, 4.
- Number of hogs dying before treatment, 2.
- Number of hogs dying after treatment, 2.
- Our milk supply comes from all tested herds.
- The general condition of our slaughtering houses is good.

Yours very truly,

(Signed) DR. C. W. BOOTHBY,

*Inspector.*

BATH, MAINE, December 31, 1913.

*Live Stock Sanitary Commissioner, Waterville, Maine.*

Following is my annual report for 1913.

- Number of herds tested with tuberculin, 7.
- Number of herds of cattle where tuberculosis was found, 3.
- Total number of cattle tested with tuberculin, 60.
- Total number of cattle condemned, 3.
- Number of imported horses inspected, 5.
- Number of outbreaks of hog cholera in this locality, 4.
- Number of herds treated with hog cholera serum, 2.
- Number of hogs treated, 18.
- Number of hogs dying before treatment, 5.
- Number of hogs dying after treatment, 0.
- Number of herds found infected with contagious abortion, 2.
- Approximate number of herds supplying milk to Bath, 28.

Approximate number of these herds tuberculin tested, 1.  
 General condition of local slaughter houses bad.

Respectfully yours,

DR. J. F. BUTLER,

*Inspector.*

WASHINGTON, D. C., Jan. 7, 1914.

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

DEAR DOCTOR:—Your favor of January 3rd, at hand. As you see, I am back here in Washington, and all my data in regard to the examination of horses (imported) are in my safe in Bar Harbor.

Dr. Alonzo Cleaves has all the data on the hog work, as we did that work together, and he kept the data.

I examined about one hundred and twenty-five horses shipped into the State. That is the extent of my work in that line.

Regretting that I cannot make a more satisfactory report, I beg to remain,

Yours sincerely,

(Signed) DR. L. SHERMAN CLEAVES,

*Inspector.*

BLUEHILL, Jan. 1, 1914.

Annual report to Live Stock Sanitary Commissioner.  
 Number of herds of cattle tested with tuberculin, 11.  
 Number of herds where tuberculosis was found, 1.  
 Number of cattle tested with tuberculin, 36.  
 Number of cattle condemned, 1.  
 Number of herds supplying milk to village, 3.  
 Number of these herds tuberculin tested, 2.  
 General condition of slaughter houses good.

Will say that we should have a law compelling all herds, from which milk or its products are sold, to be subjected to the tuberculin test.

I am yours very truly,

G. F. CANDAGE, V. S.,

*Inspector.*

NEWPORT, MAINE, Dec. 30, 1913.

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

DEAR DOCTOR:—Referring to your letter of the 15th inst., I beg to make the following report:

Number of herds of cattle tested with tuberculin, 9.

Number of herds of cattle where tuberculosis was found, 3.

Total number of cattle condemned, 10.

Number of imported horses inspected, 141.

Number of horses tested with mallein, 2.

Number of horses condemned by mallein test, 2.

Number of outbreaks of hog cholera in our locality, 3.

Number of herds found infected with contagious abortion, 1.

Approximate number of herds supplying milk to our city, 6.

Approximate number of these herds which have been tuberculin tested, none.

The general condition of our local slaughter house is very poor.

• Very respectfully,

(Signed) DR. W. H. COREY,

*Inspector.*

RUMFORD, MAINE, January 1, 1914.

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

Since locating in Rumford the 26th of last August, I have tested 13 herds (106 head) with tuberculin and found tuberculosis in six of these herds. Eleven cows were condemned and sent to Auburn.

I have tested three horses with mallein and got a negative reaction in each case.

There has been six outbreaks of hog cholera in this locality. Five herds (15 head) have been treated with hog cholera serum. Twenty head died before treatment and four after receiving the serum.

There are about 40 dairies that supply milk to Rumford, 20 of which have been tuberculin tested.

Soon after arriving here, I found one herd of 14 infected with contagious abortion. About half of the cows had lost their calves and as near as I could find out, the herd had been infected about six months. I thoroughly disinfected the cow stable; started the carbolic acid treatment on one-half the herd, and methylene blue treatment on the remainder.

There has been only one case of abortion since (that taking place one week after treatment was started) and three of the cows are past the eighth month of pregnancy; consequently at the present time, I feel well repaid for the time and money spent on this herd.

The local slaughter houses are not in the best of condition, and I hope the citizens of Maine will soon provide for some better system of meat inspection in her cities and towns.

Thanking you for your promptness and beneficial advice, I remain,

Yours respectfully,

C. F. DAVIS,

*Inspector.*

Mt. VERNON, ME., Jan. 6, 1914.

*Dr. A. Joly, Waterville, Maine.*

DEAR SIR:—I have the honor to submit herewith my report of the work done for your department for the year last past.

Number of herds tested with tuberculin, 3.

Number of herds where tuberculosis was found, none.

Total number of cattle tested with tuberculin, 16.

Total number of cattle condemned, none.

Number of outbreaks of hog cholera, 1.

Number of herds treated with hog cholera serum, 1.

Number of hogs treated, 24.

Number of hogs dying before treatment, 4.

Number of hogs dying after treatment, 4.

The milk supply of the small village of Mount Vernon comes from two or three local herds, part of which have to my knowledge been tuberculin tested in past years, and it is my opinion that there is a marked absence of tuberculosis in this vicinity.

Respectfully submitted,

GEO. G. DOWNS, V. S.,

*Inspector.*

BANGOR, MAINE, Jan. 1, 1914.

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

DEAR DOCTOR:—Number of herds of cattle tested with tuberculin, 10.

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

Total number of cattle tested with tuberculin, 83.

Total number of cattle condemned, 9.

Number of horses tested with mallein, 20.

Number of horses condemned by mallein test, 3.

Number of horses condemned by physical examination, 0.

Number of imported horses inspected, 1025.

Number of outbreaks of hog cholera in this locality, 1.

Number of herds treated with hog cholera serum, 1.

Number of hogs treated, 42.

Number of hogs dying before treatment, 8.

Number of hogs dying after treatment (5 killed), 19.

Number of herds found infected with contagious abortion, 0.

Approximate number of herds supplying milk in this city, 35.

Approximate number of these herds which have been tested with tuberculin, one-eighth.

General condition of local slaughter houses fair.

Very respectfully,

(Signed) DR. C. F. DWINAL,

*Inspector.*

CORNISH, MAINE, Dec. 30, 1913.

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

DEAR DOCTOR:—I herewith submit my report as directed.  
Number of herds tested with tuberculin, 39.  
Number of herds tested where tuberculosis was found, 3.  
Total number of cattle tested with tuberculin, 238.  
Total number of cattle condemned, 11.  
Number of herds supplying milk to Cornish, 2.  
Number of herds which have been tuberculin tested, 1.  
The condition of the local slaughtering house is very good.

Respectfully yours,

(Signed) DR. A. A. DYER,

*Inspector.*

LIVERMORE FALLS, MAINE, Dec. 31, 1913.

*To the Live Stock Sanitary Commissioner, Waterville, Maine:*

I herewith make my annual report as veterinarian at Livermore Falls, Androscoggin County, Maine.

In this year that has just passed by I have tuberculin tested 322 cattle, comprising 34 herds. In six of these I condemned a total of 12 head, which the State paid for and were shipped to E. W. Penley's Packing House, Auburn. Now at quick glance, one would think that 332 cattle were a large number, but for this district I do not call it so. I find as a rule the farmers are afraid to have their cows tested, fearing that, if they are free from tuberculosis, that they are likely to get it from the tuberculin. Now I believe that we should try hard to enlighten the farmer that there is no danger from the use of tuberculin in the hands of a veterinarian. In this testing work I have taken pains to notice the temperature at which they keep their stables, and I find most of them are too warm, in which cases I have advised putting common cheese cloth over say two windows and not shutting the windows at all, this allowing no draught and plenty of fresh air.

In regard to glanders I think this section is practically free from any horses having it at this time. During the year I applied the mallein test to 35 horses and had no reactions. There were seventy-eight horses imported into this locality and none showed signs of glanders. I condemned 2 horses on physical examination and shot and buried them, the State paying for said horses according to the State laws.

I have had 11 outbreaks of hog cholera, and in nine of these the source of infection could be traced either to feed and swill from hotels, etc., or from infected hogs on adjoining farms. I used the serum treatment on one herd which had six pigs, two pigs were sick at the time I was first called. They died and two others. All six received the serum treatment.

This section has a lot of herds affected with contagious abortion and the owners of such herds are not doing anything to stop it. Some sell their affected cows for what they can get, thus selling them at a great loss. I have one herd of pure bred Holsteins, that have just shown signs of abortion, two having aborted within the last month. I am treating that herd, using all antiseptic measures possible and each cow receives 10cc of a 2% solution of carbolic acid once a week, so far no more cows have aborted.

In regard to the milk supply of this town, approximately somewhere between 15 to 18 herds supply the milk and only two herds are tuberculin tested. We have no milk inspection, which is a sad failing and I hope will be looked after in the coming year. The surroundings under which some of these cows are kept are not the best along sanitary lines.

For a rural district our slaughter houses are very good, the waste material being well taken care of.

On the whole I feel that this year, ending Dec. 31, 1913, had made a marked advancement in our stock sanitary laws, and I also feel that the farmers have been helped and let us continue to help them and show them that we, and we alone can only help them when these various contagious diseases appear among their live stock.

Respectfully submitted,

H. M. EAMES, V. M. D.,

*Inspector.*



LEWISTON, MAINE, Jan. 1, 1914.

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

DEAR SIR:—In 1913 I tuberculin tested, 54 herds of cattle, containing 446 animals. In 16 of these herds I found 35 tubercular animals, or nearly eight per cent of the whole number tested. These were shipped to E. W. Penley's abattoir of Auburn.

During the past year I have inspected 917 imported horses, of this number I mallein tested 62. I did not condemn any under the mallein test, but did condemn three on physical examination.

To my knowledge there were only three outbreaks of hog cholera in this section. Two of these herds I treated with hog cholera serum. These two herds contained 91 hogs, eight of these died before they were inoculated and 16 after inoculation. My attention has been called to 10 herds infected with contagious abortion.

I should say there are about 100 herds of cows furnishing milk in Lewiston, of which about six per cent have been tuberculin tested.

Yours respectfully,

W. E. FAIRBANKS,

*Inspector.*

BANGOR, MAINE, Jan. 1, 1914.

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

DEAR DOCTOR:—I hereby submit my annual report of work done through your office during year of 1913.

Number of herds tested with tuberculin, 27.

Number of herds where tuberculosis was found, 9.

Total number of cattle tested with tuberculin, 123.

Total number of cattle condemned, 9.

Number of horses (imported) inspected, 117.

Number of horses tested with mallein, 10.

Number of horses condemned by the mallerin test, 0.  
 Number of horses condemned by physical examination, 0.  
 Number of outbreaks of hog cholera, 7.  
 Number of herds treated with serum, 1.  
 Number of hogs treated, 45.  
 Number of hogs dying before treatment, 3.  
 Number of hogs dying after treatment, 15.  
 Number of herds affected with contagious abortion, 6.  
 Number of herds supplying milk to city, 35 to 40.  
 Number of herds tested with tuberculin, 50%.  
 General condition of slaughtering houses good.

Remarks: I think that our present Live Stock Sanitary Commissioner has handled the work of his office in a far more satisfactory way and at less expense to the State than it has ever been done before.

Respectfully submitted,

(Signed) DR. R. E. FREEMAN,

*Inspector.*

ROCKLAND, ME., Dec. 31, 1913.

*To the Live Stock Sanitary Commissioner, State of Maine.*

DEAR DOCTOR:—I herewith submit my report for the year ending 1913.

Number of horses physically examined, 200.  
 Number of horses condemned by physical examination, none.  
 Number of horses tested with mallein, one.  
 Number of horses condemned with mallein, one.  
 Number of herds tested with tuberculin, two.  
 Number of cows tested with tuberculin, four.  
 Number of cows condemned, none.

Respectfully submitted,

C. F. FRENCH, V. S.,

*Inspector.*

SACO, MAINE, Jan. 4, 1914.

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

DEAR DOCTOR:—My report of the year 1913 is as follows:

Number of herds tested with tuberculin, 7.

Number of herds where tuberculosis was found, 2.

Number of cattle tested, 59.

Number of cattle condemned, 4.

Number of horses inspected, 4.

Number of herds supplying milk to Saco, approximately 100.

Number of herds tested with tuberculin less than 5%.

General condition of slaughter houses.—The majority of slaughter houses in this part of the country constitute barns. I only know of one that was built for that purpose. Therefore the surroundings are not sanitary in general.

In regard to the sanitary laws, I will say that, in my opinion, they are, this year, a great improvement over the years before. But I would suggest that every herd that furnishes milk and butter to the public, be tested with tuberculin.

Respectfully yours,

(Signed) DR. E. E. GIBBS,

*Inspector.*

PORTLAND, MAINE, January 10, 1914.

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

SIR:—Referring to your letter of the 9th inst., relative to my opinion as to the good work of the Portland Board of Health in requiring that the milk supply of the city of Portland coming from inspected and tested cattle, I think it was about time this was done, as previous to this being enforced we must have been getting some fearful milk if the number of tested cows condemned is any criterion. I find by my records for the past five months at the Kern Packing Co. that there has been slaughtered under Federal inspection 114 reacting cows, of this number 38 cows have been condemned for food purposes, and were sent to the fertilizer tank, these were cattle which had been tested for

our milk supply. I should think that the Boards of Health of the different cities would take a pattern from our own Board of Health and do likewise. If they did so we would be able to rid our State of the tubercular animals with which it is infested.

As to the condition of the local slaughter houses they are rotten, and some move should be made by the next legislature to make the places come under some form of sanitary inspection, so that the animals slaughtered are handled in a cleanly manner, and the meat from the same is guaranteed to be fit for human consumption. I have yet to know of any animal which has been condemned and destroyed for food purposes from any of these places.

Very respectfully,

F. W. HUNTINGTON,

*Inspector in charge.*

HOULTON, MAINE, January 1, 1914.

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

DEAR DOCTOR:—During the year ending December 31, 1913, I have examined 11 horses, part of an interstate shipment, and found them healthy.

One herd, 13 head, of dairy cattle was tested with tuberculin. None condemned.

One case of suspected glanders was investigated; the disease was not found.

Very respectfully,

E. P. HENDERSON,

*Inspector.*

PRESQUE ISLE, MAINE, Jan. 6, 1914.

*Live Stock Sanitary Commissioner, Waterville, Maine.*

DEAR DOCTOR:—I have tested 20 herds of cattle with tuberculin and I find five herds diseased. I have tested 200 cattle with tuberculin and condemned five.

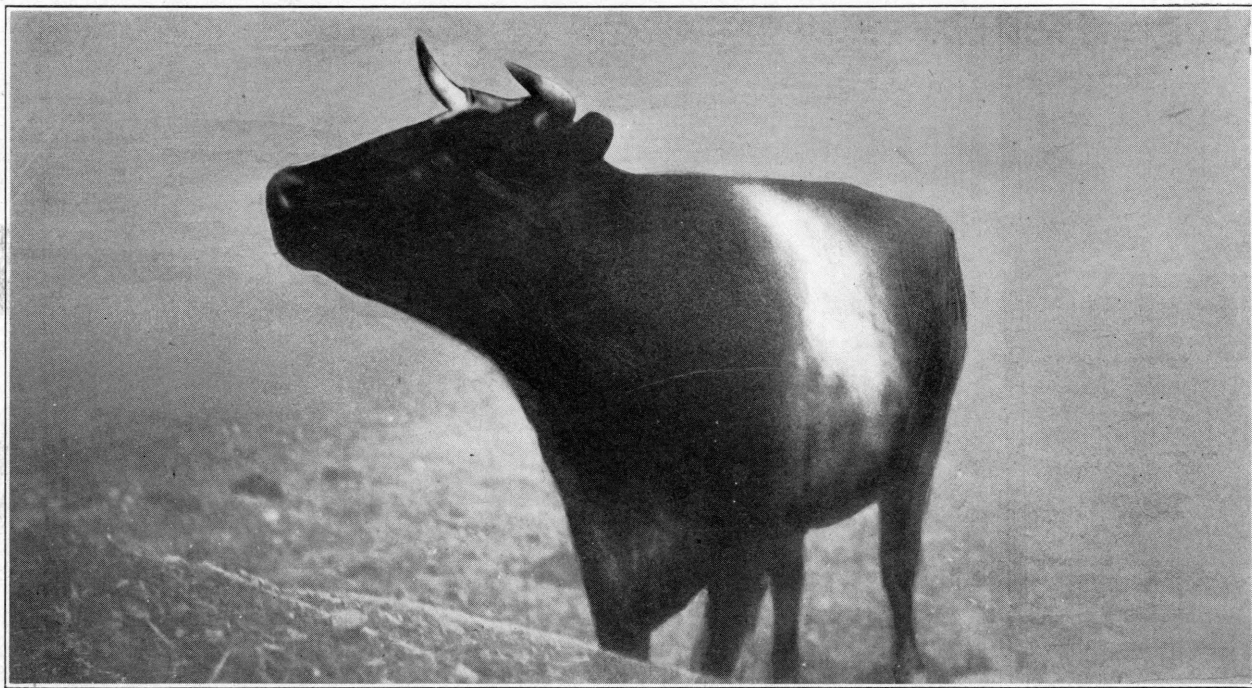


FIG. 1.—An apparently healthy heifer affected with tuberculosis. This 15 months old heifer was bought at auction for \$150 in Ontario, Canada, retested in Maine and condemned. May 16, 1913.



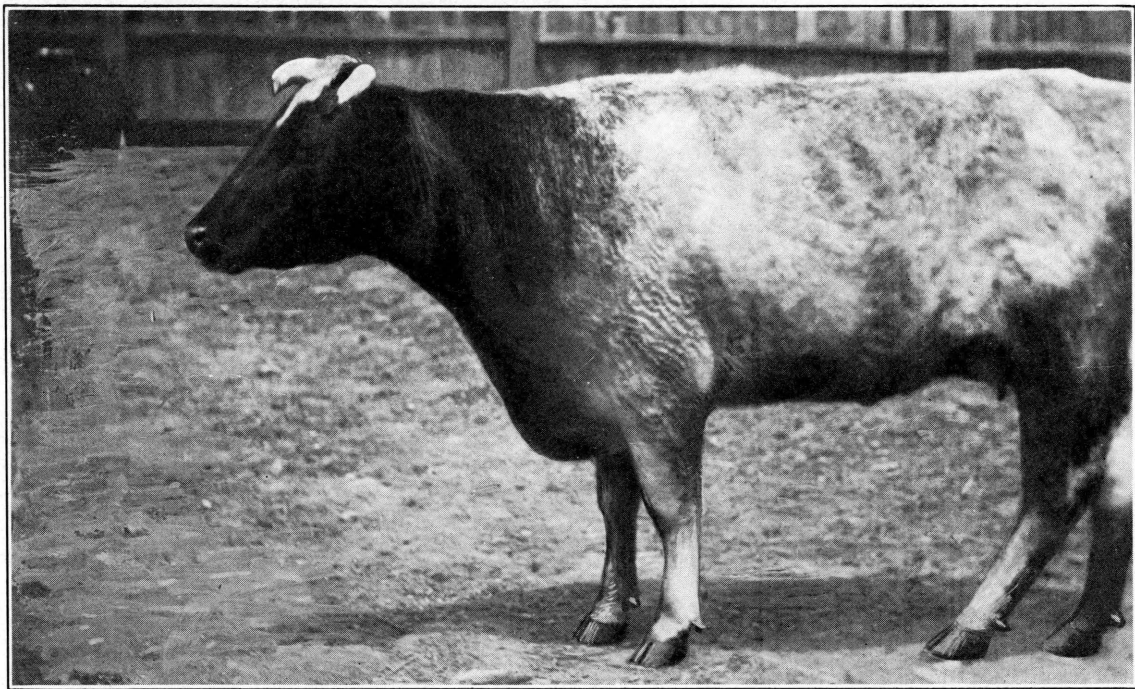
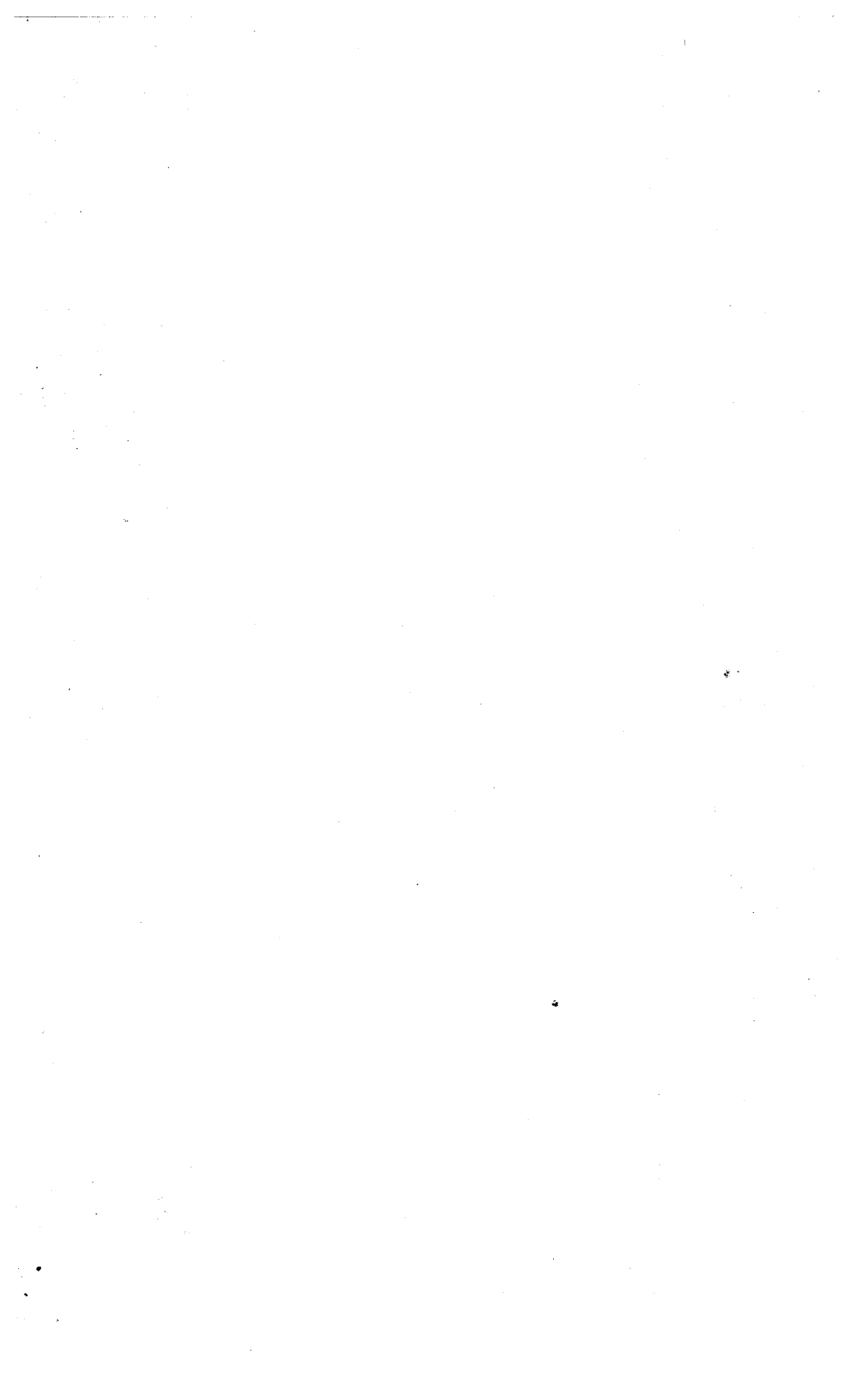


FIG. 2.—Two years old heifer bought for \$165 at auction in Ontario, Canada, came into this State with a certificate of health. After 40 days quarantine she was retested, reacted and condemned. May 16, 1913. Post-mortem revealed an advanced case of tuberculosis.





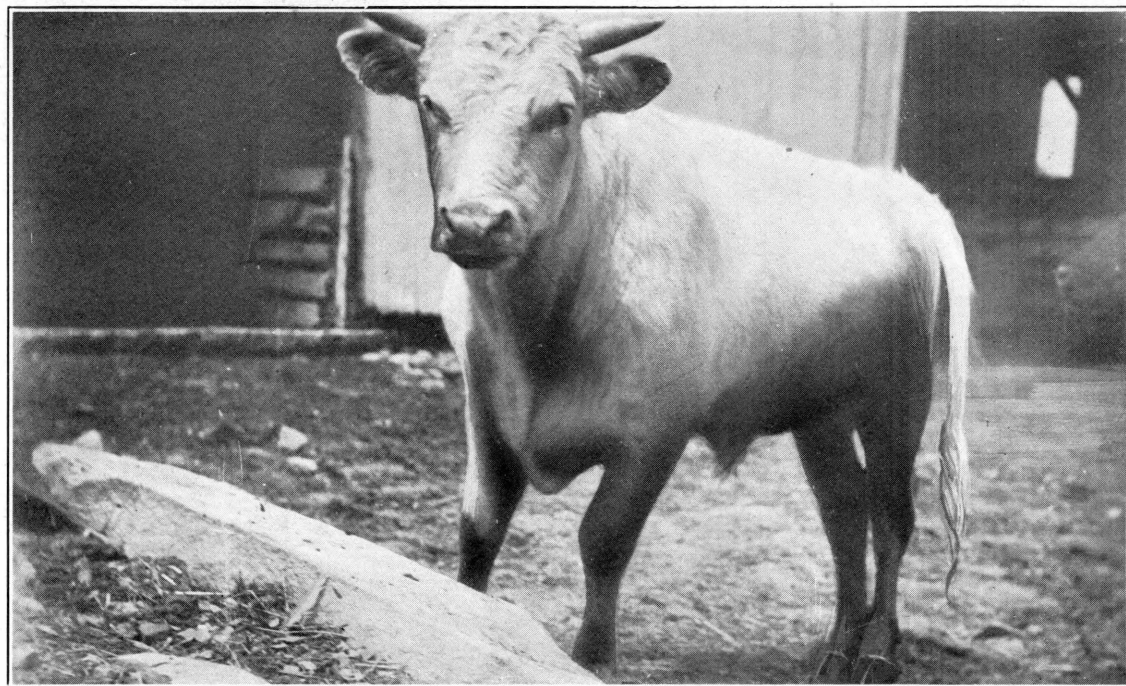


FIG. 3—Sixteen months old Bull bought at auction in Ontario, Canada, for \$210,—was retested at place of destination, found tuberculous and condemned May 16, 1913.



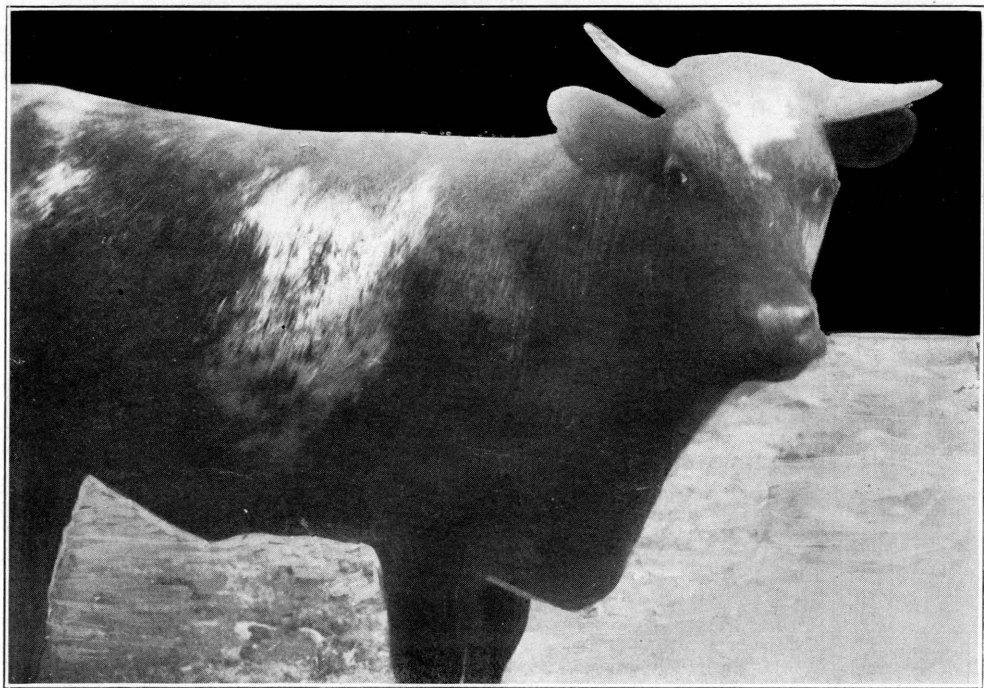
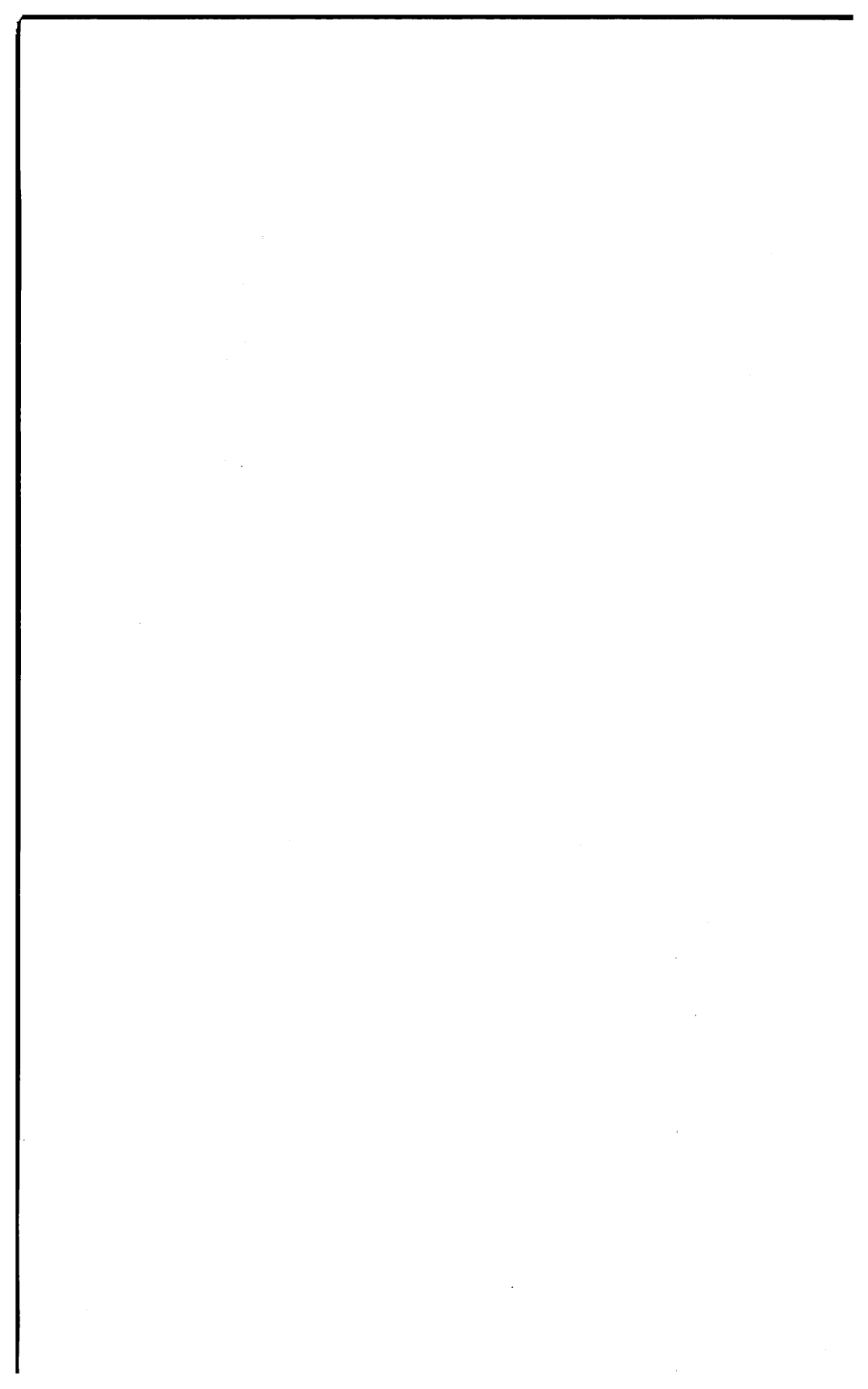


FIG. 4. One year old heifer imported from Ontario, Canada, price paid \$100. Found tuberculous on a retest by a Maine Inspector. May 16, 1913.



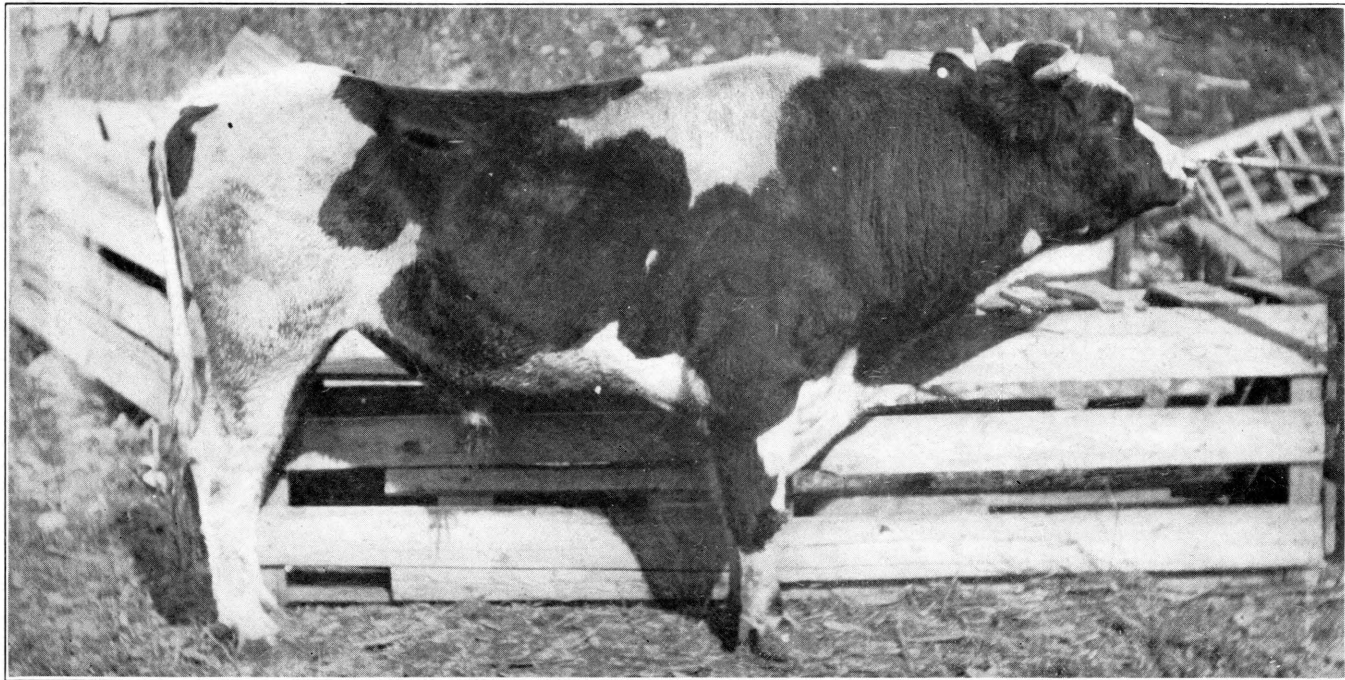


FIG. 5.—Tuberculous Bull—Head of a herd of 29 head of cattle. Milk had been sold in Portland.—The tuberculin test was applied and nineteen were found tuberculous. November 16, 1913.



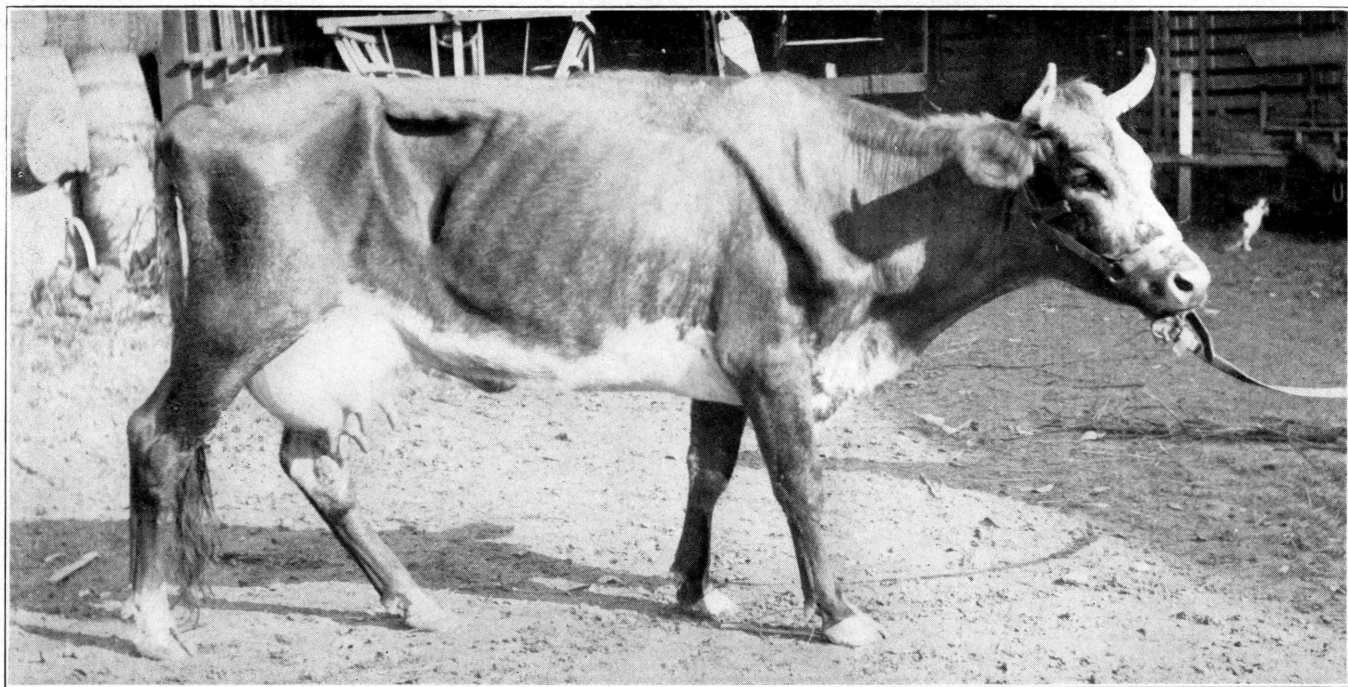


FIG. 6.—An advanced case of tuberculosis in a herd of 20 head, where the whole herd was condemned and post-mortem revealed in every one tuberculous lesions. December 3, 1913.





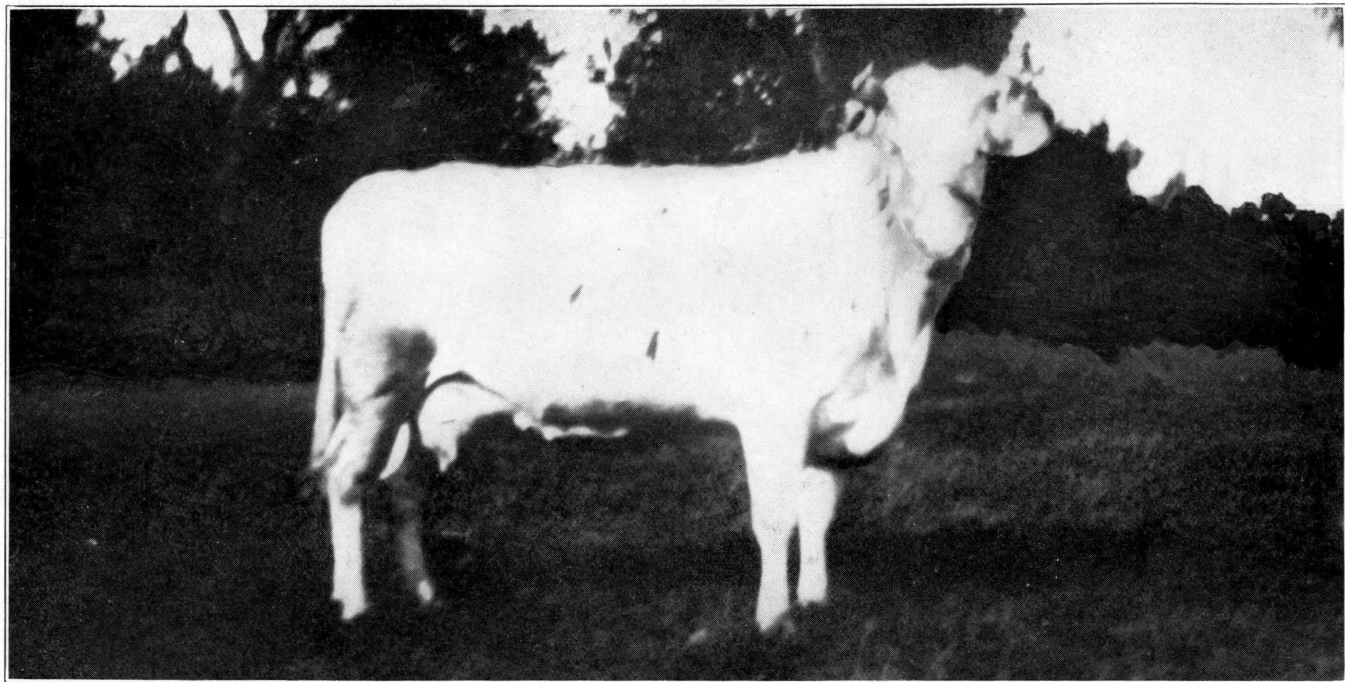


FIG. 7.—Pure bred Holstein cow, bought at auction in New York State for \$410. Was retested in Maine and condemned as tuberculous. May 2, 1913.



I have tested 28 imported horses and tested 40 with mallein and found one glandered, and condemned none by physical examination.

I have found one herd of 50 hogs infected with cholera, six dying before treatment, 25 afterwards.

I found 10 herds infected with contagious abortion.

There are eight herds supplying milk in this town and three have been tested with tuberculin.

The conditions of the slaughtering houses are not sanitary.

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

Yours truly,

A. D. HOWDEN,

*Inspector.*

WESTBROOK, ME., Dec. 31, 1913.

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

DEAR SIR:—Following is my report as per request of the 15th inst.

Number of herds of cattle tested with tuberculin, 6.

Number of herds of cattle where tuberculosis was found, 3.

Total number of cattle tested with tuberculin, 36.

Total number of cattle condemned, 6.

Approximate number of herds supplying milk to this city, 25 (estimated).

Approximate number of these herds which have been tuberculin tested, none.

What is the general condition of your local slaughtering houses? (None.)

I have had no cases relative to other questions asked. Trusting that the above report will be satisfactory, I remain,

Respectfully yours,

DR. H. S. IRISH,

*Inspector.*

AUBURN, ME., Jan. 1, 1914.

*The Live Stock Sanitary Commissioner, Augusta, Me.*

DEAR SIR:—I herewith submit my annual report as agent for you in the care and control of contagious diseases in my district in the State of Maine.

I have tested during the year 434 herds of cattle in which there were 3594 head of cattle. Some of these herds were as large as 48, while others there were only one. The barns and tie-ups where stock are kept are not what they ought to be, but there are a few that are in excellent condition. But on a whole these conditions are 50% better than what they were 10 years ago. As for the feeding and general care of stock to-day it is much better than it used to be, as the farmers realize it is not profitable to neglect and improperly care for stock.

Another great thing I have noticed for the betterment of general conditions of stock is the cow testing associations. These young men who have been doing the work have advanced a great many good ideas in regard to feeding and general care of cows, so as to get them on a better paying basis.

The different creameries have done lots to help clean up tuberculosis in this section of the State, in paying extra for the product from tested herds. This with the State paying a full appraisal for condemned cattle is certainly the means of a great many herds being tested which would not have been tested under ordinary conditions.

In the 434 herds I tested last year, disease was found in 16 herds, with a total of 33 condemned animals, but this small per cent of condemned animals is explained in that about 400 of these herds I have tested once a year anywhere from one to 10 years, and about the only chance for disease to get into such herds is the owner buying it in during the year, and they have done this some in years past and are now very careful what they buy.

#### HORSES.

I have not inspected any imported horses during the year, but have mallein tested five, all of which did not react. I did condemn two horses with glanders under physical examination, and had them destroyed and buried and the barns disinfected.

## HOGS.

I have been called to 19 herds of hogs in which hog cholera was found, only two of which was treated with hog cholera serum. In these cases none of the well ones were taken sick after the injection, but the sick ones all died within a few days. In the two herds there were 24 hogs treated, nine had died before I was called and four died after being treated with the serum.

## CONTAGIOUS ABORTION.

I have in the course of my practice run onto about 60 herds of cows that were infected with contagious abortion, these were mostly found in certain sections, within a radius of 1 to 5 miles and most every herd in this section will be found infected. It seems to be a long, slow job to get rid of the infection, it means a lot of injecting and washing with disinfectants and cleaning and disinfecting barns, dressing, clothing, etc.

I should say there were about 150 herds of cows supplying the cities of Lewiston and Auburn with milk, and I do not think there are five herds that are tuberculin tested. The reason for this seems to be in that the public have not demanded it and the officials have been very slow and negligent on this important subject of health.

The slaughter houses in Auburn are conducted in a very sanitary manner on a whole. One E. W. Penley Co. is under Federal Inspection and is under Inspector Dr. L. K. Green, who is a very efficient inspector and nothing is sold from this house but has been under his watchful eye.

The other houses have no inspection, but are kept clean and sanitary, they do not pay any attention to inspection, and only when they slaughter an animal which is so badly diseased with tuberculosis that it is grown to the ribs and other places so they cannot sell it, do they notify an inspector. They say they do not want to lose money in having an animal condemned which is worth \$50 or more and that the State will only pay them \$25.

I would suggest that the State pay a full appraisal for cattle slaughtered and found tubercular as when tuberculin tested, then when they find a diseased animal they will notify an inspector instead of putting such diseased meat on the market for the public to eat. Then again if such was the case we would be able

to find out a great many more herds which are diseased, as when an animal comes out of a herd and is condemned it is almost certain there are others in that herd that is diseased. Then the State can test such herds as it does now, and be able to clean up a great many more herds which are now left to disease other cattle and a menace to health.

Yours respectfully,

GEO. R. INGLIS, V. S.,

*Inspector.*

SANFORD, MAINE, January 1st, 1914.

*Live Stock Sanitary Commissioner, Waterville, Maine.*

DEAR SIR:—Following is my annual report for the year ending January 1st, 1914:

Forty-two herds of cattle were tested with tuberculin and tuberculosis was found in 21 of these herds. A total of 263 cattle were tested with tuberculin, 55 of which were condemned.

One horse was tested with mallein and was condemned. No horses were condemned by physical examination.

There was but one outbreak of hog cholera in our locality. Eight hogs were treated with hog cholera serum. Three had already died before treatment and only one died after treatment. No contagious abortion was found.

There are now about twenty-four herds of cattle which supply our town with milk and of this number four have been tested with tuberculin. Our local slaughtering houses are kept in a fairly good condition.

Yours respectfully,

W. R. JACKSON, V. S.,

*Inspector.*

HOULTON, ME., December 24th, 1913.

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

DEAR SIR:—I herewith present you with my report, as your deputy, for the year 1913. On the whole, this district is lucky

in regard to contagious diseases of animals, and very little trouble has been met with in this particular section of Aroostook County. Of course I am alluding to the section closely surrounding Houlton, largely. In regard to tuberculosis, this disease is by no means rampant here, as in other sections of the State. Our local Board of Health have formulated a town ordinance, requiring that all cattle supplying milk to the public must be tuberculin tested by the veterinary inspector of that board. Before this town ordinance became law, several of the milk vendors had seen for themselves, that it was to their own interest to know in just what condition their herds were in, and these several voluntarily had their herds tested, and so continue to do every year. During this year twenty-two herds have been tested, which practically covers the whole source of the milk supply to this town. There are one or two small herds to be looked after before the new year in all, amounting to seven or eight head, and when these are gone through, we shall have been through the entire source of our milk supply. This number of herds comprises 260 head of cows tested, and the number of reactors found out of this number was 4. So that we certainly had a fairly small percentage up here. This is no reason for the ceasing of vigilance, and it will be to the dairyman's own interest, each one individually, in cases where no disease was found, to test every new purchase, before, and not after, they are allowed to mingle with the rest of the herd. I am hoping that our local board of health will, in the near future, take hold of the competent, and periodical inspection of all cow barns, etc., and so have a check upon conditions in existence at places where this valuable food material, milk, is prepared for human consumption.

#### RECAPITULATION.

Number of herds tested, 22.

Herds where disease was found, 4.

Number of head tested, 260.

Total number condemned, 4.

In regard to the importation of horses into this section, many of them are inspected at other points than here. A good many of them are drafted from Bangor, where they are inspected upon arrival.

I have inspected, approximately, 67 head of horses imported from outside the State. Out of this number I found no cases of glanders at all, in fact they were the cleanest lot of horses that have come under my observation in quite a number of years.

Since our laws have been amended, as they are now, shippers are pretty careful what they ship up here. In the old days, when there was no supervision of this branch of importations, the tendency was for shippers to put aside any thing that looked doubtful, and save them for shipment into Maine.

During the last year, I have tested, with mallein, 52 horses, 36 of these being in connection with an outbreak of glanders discovered in a well known lumbering concern. These thirty-six horses were all "contact" horses, and out of that number one reacted, and was destroyed in the usual manner. I also investigated a case of glanders in Presque Isle, which had been already diagnosed, and I verified the previous diagnosis, and this horse was destroyed.

Number of horses tested with mallein, 52.

Number condemned, 1.

Number condemned by physical examination, none.

A suspected case of glanders was reported to me by federal authorities in East Hodgson, but upon investigation, it proved to be a false alarm. In regard to hog cholera, we have had no outbreaks in this section at all. We have had several cases of an autointoxication, which post mortem so closely simulates hog cholera, that I have condemned the carcasses as being unfit for human consumption. In one particular instance the carcass of a hog, which I had condemned, after slaughter was removed by night out of my jurisdiction and taken home and consumed by a poor man. Shortly after, this man was taken very sick, and there is no doubt but that he had a severe attack of meat poisoning.

Our herds of cattle, seemingly, are free from contagious abortion, and in this respect, again, we are lucky. Now that this disease has to be reported, the minute that it shows itself, no doubt should it be heard from, we shall be able to cope with it much more effectively.

Approximate number of herds supplying milk to Houlton, 22.

Approximate number tested, 22.



## GENERAL CONDITION OF SLAUGHTERING HOUSES.

We have dwindled the number of these establishments, from several, down to just one, so enabling us to supervise the production of meat food products.

The present condition of this one place cannot be described in any other way than abominable. The place is small, wrongly situated, most improperly run, and around which, sanitation is an unknown quantity. The Federal authorities stepped in, and forbid the shipment of meat food products, prepared in this establishment, in interstate trade. Before the advent of next summer, the local Board of Health feels that something must be done, as this place is quite inadequate, and far too unsanitary, to carry on the large amount of slaughtering that is done in the course of a year.

In this town we have a town ordinance, which calls for the inspection of all meat sold in any of the local markets. This has been in force for a year, and the people of Houlton have been getting meat inspection, in accordance with our Federal meat inspection laws.

We have had some fights, and are having some yet, with the meat men, who resented it right from the start, but the people of this town want this inspection, and as a rule the public get whatever they want. The fact of Houlton being the only place in the State which has meat inspection is to be deplored, and I trust that ere long, other cities and towns may follow suit, and that gradually meat inspection will be universal throughout the State. Any city or town can have it, and can have it done properly, provided they will provide sufficient salary, to a competent veterinarian, and most of our cities, and many of our towns have such men in their midst, and if a suitable salary were provided, some of them would take the matter up, and give their full time and attention to it.

In regard to the present Live Stock Sanitary Laws I can see no room for any improvement. It would seem to me that our present laws are quite adequate to combat any outbreak of contagious disease which may at any time strike us. I think that the office of the Live Stock Sanitary Commissioner is to be congratulated upon the year's record, and I feel sure that the State

inspectors will all agree that the work has been done better in every way, than in any other year in the history of the State.

Respectfully submitted,

HORACE B. F. JERVIS,

*Inspector.*

PORTLAND, MAINE, January 9th, 1914.

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

I herewith submit my report for the year 1913.

I have tested 23 herds of cattle, finding tuberculosis in 20 of these; and, in all, I have tested 215 head with tuberculin. I have condemned 65 head.

I have found contagious abortion in two herds; lost three cows out of one herd and two out of another. I did not consider it a malignant type especially—probably outcropping of local condition.

I have inspected 165 head of imported horses. I have condemned six cases of glanders; one by mallein test, and five that were advanced cases.

There were seven outbreaks of hog cholera in this locality that were brought to my attention. I treated two herds with hog cholera serum—in all 191 hogs; of which six died after treatment. 65 died before being treated.

I find there was 500 herds of cows supplying milk to the city of Portland, and 350 of these herds have been tested with tuberculin. The remainder will be tested.

The local public slaughter houses are in very poor condition.

I believe that the present Live Stock Sanitary Commission Laws are the most competent yet devised in the State of Maine and in my opinion, they have been carried out better the past year than any year I have known before since I have resided in the State.

We must not forget there is still a large territory lying ahead of us to be gone over, with the coöperation of the farmer, stock raiser and people of the State; this to be accomplished with a minimum hardship to all concerned—the ultimate goal being

perfection of methods or approximately so. I do not need to say to you that the onus of the situation lies in the competency and good faith of the veterinarian; whose training and education equip him in all ways for this work. It is a truism that a veterinarian is as necessary for Live Stock Sanitary Commissioner, as a lawyer for State Attorney General. Efficiency might be a good word to concentrate upon in 1914.

With the pleasantest recollections of our association together in the work throughout 1913, and my best wishes for the coming year, I am very cordially yours,

W. H. LYNCH,

*Inspector.*

LIMESTONE, ME., Jan. 1st, 1914.

*To the Live Stock Sanitary Commissioner, Waterville, Maine:*

Number of herds tested with tuberculin, 11.  
 Number of herds of cattle where tuberculosis was found, 1.  
 Total number of cattle tested with tuberculin, 40.  
 Total number condemned, 1.  
 Number of herds supplying milk to this town, 6.  
 Approximate number of these herds tested for tuberculin, 1.  
 General condition of local slaughter house, very poor.

Respectfully submitted,

A. C. LEIGHTON,

*Inspector.*

SOUTH PARIS, MAINE, December 30, 1913.

*To Dr. A. Joly, Live Stock Sanitary Commissioner:*

Number of herds of cattle tested with tuberculin, 82.  
 Number of herds of cattle where tuberculosis was found, 5.  
 Total number of cattle tested with tuberculin, 662.  
 Total number of cattle condemned, 5.  
 Number of imported horses inspected, 96.

Number of horses tested by complement-fixation test through B. A. I., Washington, D. C., 3.

Number of horses condemned by a complement-fixation test for glanders, 1.

One case of hog cholera came under my personal observation; other cases heard of indirectly.

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

Approximate number of herds which have been tuberculin tested, 3 within the past two years.

The general condition of the local slaughter house is good. The owner trying to keep the place clean and observing the laws of sanitation.

C. M. MERRILL, D. V. S.,

*Inspector.*

ST. ALBANS, MAINE, Jan. 2, 1914.

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

DEAR DOCTOR:—Replying to your of December 15th, 1913, I submit the following as my annual report.

Number of herds tested with tuberculin, 13.

Number of herds of cattle where tuberculosis was found, 3.

Number of cattle tested, 97.

Number of cattle condemned, 7.

Number of imported horses inspected, 236.

Number of horses tested with mallein, 1.

Number of horses condemned, 0.

Number of herds infected with contagious abortion, 4.

Number of herds supplying milk to this town, 3.

Number of herds tested by tuberculin, 0.

Condition of slaughter houses unsanitary, due mostly to not properly disposing of offal.

Very sincerely,

(Signed) DR. W. L. MEBANE,

*Inspector..*

BANGOR, MAINE, Jan. 1, 1914.

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

DEAR DOCTOR:—During the year 1913, I have examined but one herd of cows by the tuberculin test. They had been tested by an unauthorized person and I found them both diseased. I have also condemned three other cows by physical examination which proved tuberculous on post-mortem.

I have examined approximately 350 imported horses during the past year.

I have applied the mallein test to 46 horses during the year, the most important instance being 44 horses for a lumber company, where I was called to see some sick horses and found two that had just died with acute glanders and farcy. I found one other horse well advanced with the disease, and two more diseased on application of the Ophthalmic mallein.

Quick and stringent measures under your direction resulted in quarantine work and disinfection; hovels were burned, mangers and loose wood-work removed and burned, and whitewash and carbolic acid applied by means of a force-pump in a thorough manner. I am of the belief that this outbreak has been arrested.

I have also had two other horses destroyed on physical examination.

I have no personal knowledge of hog cholera but have inoculated 30 pigs with preventative serum, where cholera had existed in previous years. There has been no outbreak among these pigs.

There are approximately 150 herds of cattle supplying milk to Bangor and for the past two years, there has been very little testing done. Prior to that time, testing was very generally done as it is a matter that lies with the milk inspector.

The general conditions of the local slaughter houses is about on par with those existing in the greater part of the State. There is no inspection and animals are slaughtered in different localities where the surroundings are filthy in the extreme. Rumors, more or less authentic, are rife of the dressing and selling of dead and sick animals.

Our present sanitary laws, as far as I can ascertain, are equal in some, and superior in the majority of cases, to those of the other states of the Union.

Yours truly,

(Signed) DR. A. L. MURCH,

*Inspector.*

ST. ALBANS, MAINE, Jan. 1, 1914.

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

DEAR DOCTOR:—Number of herds tested, 44.  
 Number of cattle tested with tuberculin, 126.  
 Number of cattle condemned, 11.  
 Number of herds of cattle where tuberculosis was found, 8.  
 Number of imported horses inspected, 1.  
 Number of horses tested with mallein, 2.  
 Number of horses condemned, 0.  
 Number of herds infected with contagious abortion, 1.  
 Number of herds supplying milk, 2.  
 Number of herds supplying milk which have been tuberculin tested, 2.

The condition of local slaughter houses is very good.

Yours very truly,

(Signed) DR. S. A. McDANIEL,

*Inspector.*

AUBURN, MAINE, Jan. 1, 1914.

*To Dr. Achille Joly, Live Stock Sanitary Commissioner, Waterville, Maine.*

DEAR SIR:—I herewith submit the following report for the year ending December 31, 1913.

The Live Stock Sanitary Laws of the State of Maine and enforcement of same, I consider from observation second to none in the country.

Our method of valuation of cattle I consider wrong, and an injustice to the owner of good cattle. It is "recognition of inferiority." The owner of an inferior herd of cattle gets full value, while the owner of a superior herd gets a limit of fifty dollars.

I would suggest full valuation and the payment of two-thirds of said full valuation.

There are a great many herds of cattle supplying milk to our cities of Auburn and Lewiston, and I should estimate 50% or more have been tested with tuberculin.

The disease of contagious abortion I believe to be prevalent in this section and is the worst of diseases to the dairyman. It should be under State control.

Number of herds of cattle tested with tuberculin, 14.

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

Total number of cattle tested with tuberculin, 432.

Total number of cattle condemned, 14.

Yours very truly,

JOHN A. NESS,

*Inspector.*

FOXCROFT, MAINE, Jan. 5, 1914.

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

DEAR SIR:—I beg to submit the following report for the year ending Jan. 1, A. D. 1914.

Number of herds of cattle tested with tuberculin, 33.

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

Total number of cattle tested with tuberculin, 170.

Total number of cattle condemned, 16.

Number of imported horses inspected, 49.

Approximate number of herds supplying milk to this city, 5.

Number of these herds which have been tuberculin tested, 1.

I believe our present Live Stock Sanitary Laws are the best ever, and if properly handled are of inestimable value to the State. With competent veterinarians looking after the conditions of stables, barns and slaughter houses there should be

marked improvement in the near future. In this locality, for instance, the slaughter houses are unsanitary, but I think you can so regulate them that there will be no occasion for future complaint.

Respectfully submitted,

C. H. NEWTON,

*Inspector.*

CALAIS, MAINE, January 8, 1914.

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

DEAR SIR:—The following summary of live stock imports from Canada into Maine is respectfully submitted.

Horses.—195, permanent stay; 562, temporary stay, (lumber operations); 25, racing purposes.

Mules.—4, temporary stay, (Lumber operations).

Cattle.—1336, immediate slaughter; 130, dairy and breeding.

Sheep.—1465, immediate slaughter; 2, breeding.

Swine.—90, immediate slaughter; 3, breeding.

A few outbreaks of hog cholera have come under the observation of this office. No serum has been used. Intestinal antiseptics has been advised, and resulted in a large percentage of recoveries.

Dairies are as a rule, unsanitary, and very few dairymen have had their animals tested with tuberculin. All cattle coming from Canada for dairy purposes are quarantined for a stated period and tested before they are allowed to go to destination.

Slaughter houses, except those under municipal or federal control are decidedly unsanitary, some, of course, worse than others. It may be said that none of them would pass the requirements under which official abattoirs operate.

Very respectfully,

H. T. POTTER,

*Inspector in Charge, B. A. I.*



FORT FAIRFIELD, MAINE, Dec. 31, 1913.

*To the Live Stock Sanitary Commissioner, Waterville, Maine:*

During the year of 1913 I have tested with tuberculin 15 herds, with a total of 47 cattle. Of this number I have found two herds affected with tuberculosis and condemned three cattle.

The number of horses entering this State from other states, and inspected by me was 380. The mallein test was not applied this year, and none were condemned on physical test.

Have not known of an outbreak of hog cholera in this vicinity, and have used no serum.

Contagious abortion has not appeared in this section.

Approximately five herds furnish the milk of this town. I have tested two of these herds. There are a number of individuals having one or two cows that sell milk, and about 50% of these animals have been tested.

There are several slaughter houses in this town, two of which do most of the slaughtering. None of these houses are in a sanitary condition, and only one has adequate water supply. Hogs are fed on all of the premises.

The present Live Stock Sanitary Laws fully meet the conditions in this State, and if properly carried out, will control any contagious disease that might appear, and in the majority of cases, prevent any outbreak.

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

*Inspector.*

CARIBOU, MAINE, Jan. 3, 1914.

*Live Stock Sanitary Commissioner.*

DEAR SIR:—Inclose please find my report of the amount of State work from January 1st, 1913 to January 1st, 1914, which is a small amount compared with other towns in different sections of the State, but as you are aware, dairying is not carried on to any great extent in this locality.

In 1912 I tested most of the herds in this town and vicinity, so that in the last year there has not been many farmers wanting their herds tested.

Whole number of herds tested, five, having found two cases of tuberculosis among them. Total number of cows tested, 12.

There has been 60 horses imported into this town, most of them coming from Illinois. I tested 35 with mallein, found them all in good condition, no signs of glanders. No horses condemned on physical examination.

Have had only one outbreak of hog cholera, being four in all, two of these died before being injected with hog cholera serum, the other two died a few days later.

In regard to contagious abortion, I have not heard of any around this locality.

It is my opinion the number of herds supplying milk to our village is between 15 and 20, most of these animals were tested in 1912.

In regard to slaughtering houses, they are in fair condition.

DR. B. L. PRATT,

*Inspector.*

BIDDEFORD, MAINE, January 1, 1914.

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

DEAR SIR:—Herewith please find a report of the work done during the year 1913.

Number of herds tested with tuberculin, 143.

Number of herds where tuberculosis was found, 23 or 16%.

Herds tested for first time, 29.

Herds tested for first time and tuberculosis found, 13 or 45%.

Herds tested regularly each year, 114.

Herds tested regularly each year and tuberculosis found, 10 or 8 $\frac{1}{4}$ %.

Total number of cattle tested with tuberculin, 1373.

Total number of cattle condemned, 47 or 3 $\frac{1}{2}$ %.

Number of horses condemned for glanders, physical examination, 3.

As I have no practice in the city, I am unable to say anything about the hog cholera situation; personally I have no knowledge of any during the year 1913.

Also as to the matter of contagious abortion, I have no knowledge of the trouble in the various herds into which I go, as I go

only to test for tuberculosis and make no talk of other matters, but in the nature of things there must be a lot of this trouble, and from general information I feel satisfied that the trouble is still rampant in the State. I should not be surprised to hear that 20% of the herds of the State were suffering from the trouble, and I try to keep free from knowledge of the matter, as I am satisfied that if all the herds affected were placed in quarantine, as the law directs, there would be a riot in the State.

There are approximately 150 herds supplying milk to this city and practically none of them have been tested with tuberculin.

The slaughter houses are few in number, probably less than half a dozen, and but one has any convenience except what are contained in the end of the barn. Such conditions can be guessed at but not spoken about.

Under the head of remarks in relation to our present Live Stock Sanitary Laws, I would say, that as far as they go, they are good laws only the law does not go far enough.

For some years I have been outspoken in favor of "meat inspection" so that all locally dressed meat should be as well inspected and come from as healthy cattle as any offered in the markets.

There seems to be a belief that "inspection" means only looking out for tuberculous cattle, when as a matter of fact, tuberculosis constitutes but a small fraction of the reasons for condemning a carcass at time of slaughter.

Inspected meats have a better market open to them, sell for better prices, and in every way are better money makers than uninspected meats, which can only be sold in the local markets, outside of which they are always under suspicion.

Farmers are as a class, opposed to meat inspection, but it is a big economic mistake on their part.

As to the laws regarding tuberculosis, I have believed for a number of years that it was time that the State took hold of the matter in earnest and tested every cow in the State, and paid for the testing as well as the cows that react.

Under the present arrangement, the testing is a helter-skelter affair, one man testing and his neighbor not; leaving the seed of disease in the neighborhood to propagate and be bought in by the unsuspecting party who is obliged to renew the losses in his herd annually from this source.

Practically all the tuberculin testing is done in herds furnishing milk and none in the butter herds, for which no good reason can be given, as butter is just as good a carrier of disease as milk.

There is no good reason why the producer should be called upon annually to pay for testing his herd, when as a matter of fact the consumer is most to be benefitted; neither is the consumer objecting to pay his proportionate part, as all expense has to be paid ultimately by him.

So if the State paid for all the testing and made a clean sweep, the expense would be equally borne by everybody; every animal would be subjected to the test, the disease practically eradicated, and the annual loss of cattle reduced to the minimum, saving in the end a large amount of money.

This reasoning may appear radical at first sight; but from \$50,000 to \$60,000 yearly as attribute to a helter-skelter arrangement, is certainly too large a price to pay.

If you add to this, the money the producer is paying in addition for testing you have a sum of approximately \$100,000 yearly for half doing a thing. There is no way out of it under the present laws.

Maine as a State is freer from tuberculosis than any other in the Union, with possibly the exception of Vermont, and it should be kept so, for the day of reckoning is at hand in this matter of bovine tuberculosis.

I am very truly yours,

C. W. PURCELL,

*Inspector.*

ORONO, MAINE, January 5, 1914.

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

DEAR SIR:—During the past year I have tested ten hundred and twenty-one (1021) cattle with tuberculin in 79 different herds. I have found 27 tuberculous animals and these 27 cattle were found in 19 different herds.

The milk dealers who supply half the people of this village with milk, keep their herds tested. In the neighboring city of Old Town, practically few of the cows have been tested. In the

city of Bangor, the municipal law requiring the milk men to have their herds tested annually, has been almost totally disregarded during the term of office of the present milk inspector and that of his immediate predecessor.

I find it to be the general complaint on the part of the milk men in this section of the State, who keep their herds tuberculin tested, that they have difficulty in buying tested cows, but conditions are improving somewhat in this respect. We believe it would be for the general good of the cattle industry and certainly it would benefit the consumers of milk if a law similar to that relating to the sale of pure bred cattle, was made to include all the dairy animals in the State. I have come in personal contact with but two herds during the past year that were affected with contagious abortion. I have had correspondence with four other different parties who owned infected herds.

We have treated one herd of eight hogs with hog cholera serum. Of these, one died soon after the treatment, seven continued well. A positive diagnosis was not made to determine if hog cholera was present.

Respectfully submitted,

F. L. RUSSELL,

*Inspector.*

FARMINGTON, MAINE, Jan. 1, 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, 99.

Number of herds of cattle where tuberculosis was found, 11.

Total number of cattle tested with tuberculin, 748.

Total number of cattle condemned, 17.

Number of horses inspected, 16.

Number of horses tested with mallein, 10.

Number of horses condemned by the mallein test, 0.

Number of horses condemned by physical examination, 0.

Number of outbreaks of hog cholera in locality, 4.

Number of herds treated with hog cholera serum, 2.  
 Number of hogs treated, 10.  
 Number of hogs dying before treatment, 6.  
 Number of hogs dying after treatment, 0.  
 Number of herds found infected with contagious abortion, 12.  
 Approximate number of herds supplying milk to this town, 8.  
 Approximate number of these herds which have been tuberculin tested, 1.  
 General condition of local slaughtering houses, fair.

Very respectfully yours,

E. E. RUSSELL, V. S.,

*Inspector.*

DEXTER, MAINE, Jan. 1, 1914.

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

Report for year 1913.

Number of herds of cattle tested with tuberculin, 51.

Number of herds of cattle where tuberculosis was found, 12.

Total number of cattle tested with tuberculin, 315.

Total number of cattle condemned, 21.

Number of horses tested with mallein, 5.

Number of horses condemned by the mallein test, 2.

I have had no outbreaks of hog cholera in this locality. Also no contagious abortion.

Approximate number of herds which supply milk in Dexter to the creameries and town, 250.

Approximate number of herds tuberculin tested, 25%.

General condition of slaughter houses are very poor.

Yours truly,

C. L. RYAN,

*Inspector.*

SKOWHEGAN, MAINE, Dec. 29, 1913.

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

DEAR DOCTOR:—In accord with your request please find below report of the work done by me in the year 1913 in assisting you

to execute the law and rules pertaining to your office.

Number of herds of cattle tested with tuberculin, 37.

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

Total number of cattle tested with tuberculin, 312.

Total number of cattle condemned, 19.

Number of imported horses inspected, 297.

Number of horses tested with mallein, 3.

Number of horses condemned by physical examination, 1.

Approximate number of herds supplying milk to Skowhegan,  
12.

Approximate number of these herds which have been tub  
tested, 4.

No cases of hog cholera have been reported and no cases of  
contagious abortion.

The slaughtering houses have been improved some in the last  
few years, but they are still far from a sanitary and clean con-  
dition.

Yours respectfully,

I. L. SALLEY,

*Inspector.*

PORTLAND, MAINE, January 5, 1914.

*Dr. A. Joly, Waterville, Maine.*

MY DEAR DOCTOR JOLY:—In reply to your request of December  
15th, 1913, I submit the following report:

Number of herds of cattle tested with tuberculin, 13.

Number of herds of cattle where tuberculosis was found, 7.

Total number of cattle tested with tuberculin, 156.

Total number of cattle condemned, 24.

Number of horses tested with mallein, 3.

Number of horses condemned by the mallein test, 2.

The general condition of the local slaughter house is very  
good.

Very truly yours,

WM. H. SPEAR,

*Inspector.*

ROCKLAND, MAINE, January 1, 1914.

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

SIR:—I herewith submit to you my annual report of the work I have done pertaining to your department for the year ending December 31st, 1913.

I have tested with tuberculin 11 herds of cows, and five individual cows, i. e., family cows, being located one in a place, and being the only cow possessed by the owner. I have found two herds in which tuberculosis was present, one reacting cow in each herd. Total number of cattle tested, 127. This gives a percentage of about one and two-thirds per cent of tuberculous cows out of this limited number tested. Both of these reacting cows were shipped to E. W. Penley Co., Auburn.

I have inspected or tested with mallein no imported horses. I have tested five native horses with mallein, and inspected one by physical examination for glanders. None were found diseased.

I have seen but one outbreak of hog cholera. There were only two hogs in this pen, both died before I was called, consequently none were treated with hog cholera serum or otherwise.

No case of contagious abortion has been found during the past year.

There are approximately 50 herds of cows supplying milk and cream to the city of Rockland. I have tested none of these herds the past year, and so far as I know, none of them have been tested.

I have tested several herds supplying milk to the town of Camden and of the two herds in which the reactors were found, both were located in Camden. One was supplying market milk and the other butter.

The sanitary condition of our local slaughtering houses, in general, is very bad. Our live stock sanitary laws need amending so as to provide a general tuberculin test, so far as the stock owners are willing to accept a free test, and a compulsory test to all cows supplying the public with milk, cream, and butter. And nearly as important is the need of municipal meat inspection.

Respectfully submitted,

H. L. STEVENS,

*Inspector.*



BRUNSWICK, MAINE, Jan. 1, 1914.

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

DEAR DOCTOR:—Number of herds of cattle tested, 7.  
Number of herds where tuberculosis was found, 2.  
Number of cattle tested, 99.  
Number of cattle condemned, 2.  
Number of imported horses inspected, 98.  
Number of horses condemned, 0.  
Number of herds supplying milk to city, 20.  
Number of these herds which have been tested, 6.  
Condition of slaughtering houses, fair.

Yours truly,

(Signed) DR. C. W. WATSON,

*Inspector.*

AUGUSTA, Jan. 6, 1914.

*Dr. Joly, Live Stock Sanitary Commissioner, Waterville, Me.*

SIR:—I herewith submit my report for work done by your orders in your department for the year ending December 31st last. While there are over thirty herds of cows supplying the city of Augusta with milk and cream a very small per cent of the cows have been tuberculin tested. The owners do not take kindly to inspection and testing of their herds preferring to destroy any animal that shows physical signs of infection and not call on the State for remuneration for same; the herd owners should be brought nearer the veterinary, as by coöperation the two can work wonders in stamping out tuberculosis and all infectious diseases. There is lack of confidence which must be removed before the herd owners will appreciate the veterinary with his tuberculin and test sheet. There has been a great deal of humbug and graft in cow testing in years gone. Your office will be able to remedy this as your last season's work has proved very successful along these lines, bringing the veterinary and owner near together. To do this the owner must have confidence, the veterinary must supply it.

Herds tested with tuberculin, 6.  
 Herds infected, 1.  
 Total cattle tested, 20.  
 Cattle condemned, 1.  
 Horses tested with mallein, 2.  
 Condemned by mallein test, 2.  
 Imported horses inspected, 60.  
 Horses condemned by physical examination, 4.  
 Hog cholera, small outbreaks, most of the stock being untreated.

A few isolated cases of abortion in cows, Augusta and vicinity being very free from this contagion.

About 30 herds supply Augusta with milk and cream. There are quite a large number of one cow dealers who sell milk from the door. From six to eight hundred cows are used for the milk and cream supply for Augusta. My impression is that a very small per cent of these cows are regularly tested with tuberculin, or otherwise examined as to sanitary conditions.

Condition of slaughter houses in and around Augusta are very satisfactory, most of the slaughter houses being provided with refrigerators which means much in the warm months.

Very respectfully,

DR. C. L. WAKEFIELD,

*Inspector.*

BELFAST, MAINE, Dec. 24th, 1913.

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

DEAR SIR:—I herewith submit a brief report of my activities in the live stock field for the year 1913.

As this is largely memory I hope you will correct errors if they appear.

Report of contagious diseases in Waldo county for 1913.

Number of herds tested with tuberculin, 71.

Number herds where disease found, 4.

Number of cattle tested, 1101.

Number of cattle condemned, 4.

Number of imported horses inspected, 11.  
 Number of horses tested with mallein, 7.  
 Number of horses condemned by mallein test, 3.  
 Number of horses condemned by physical examination, 2.  
 Outbreaks of hog cholera, 2.  
 Herds treated with serum, 2.  
 Hogs treated, 29.  
 Number which died before treatment, 12.  
 Number which died after treatment, 16.  
 Number of herds of cattle effected with contagious abortion, 1.  
 Approximate number of milk herds supplying Belfast city, 20.  
 Number of these tested with tuberculin, 1 herd.  
 Condition of local slaughtering places, unsanitary.  
 I have no suggestions to make.

Yours very respectfully,

W. L. WEST,

*Agent.*

EASTON, MAINE, Jan. 1, 1914.

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

DEAR DOCTOR:—The following is my report for the year ending December 31st, 1913.

Number of herds of cattle tested with tuberculin, 14.  
 Number of herds of cattle where tuberculosis was found, 2.  
 Total number of cattle tested with tuberculin, 36.  
 Total number of cattle condemned, 2.  
 Number of herds found infected with contagious abortion, 1.  
 Approximate number of herds supplying milk to this village, 4.  
 Number of these herds tuberculin tested, 1.  
 No local slaughtering houses.

Respectfully submitted,

(Signed) DR. S. C. WHEELER,

*Inspector.*

## 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:

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

The barn or stable where such animals are now kept, is declared to be a quarantined station, from which no animal 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 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.

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.*

## GRADUATE VETERINARIANS.

List of graduate veterinarians registered by this office and authorized to inspect horses and cattle, under the direction of the Live Stock Sanitary Commissioner.

(At any time names may be added or removed.)

- Dr. C. L. Blakely, Augusta, Maine.
- Dr. J. N. Brown, Pittsfield, Maine.
- Dr. G. F. Candage, Bluehill Falls, Maine.
- Dr. F. T. Cheney, Houlton, Maine.
- Dr. S. L. Cleaves, Bar Harbor, Maine.
- Dr. A. W. Cleaves, Bar Harbor, Maine.
- Dr. W. H. Corey, Newport, Maine.
- Dr. J. B. Darling, Belfast, Maine.
- Dr. Carl F. Davis, Rumford, Maine.
- Dr. C. F. Dwinal, Bangor, Maine.
- Dr. H. N. Eames, Livermore Falls, Maine.
- Dr. E. V. Estes, Portland, Maine.
- Dr. W. E. Fairbanks, Lewiston, Maine.
- Dr. P. J. Flagg, Belfast, Maine.
- Dr. R. E. Freeman, Bangor, Maine.
- Dr. C. E. French, Rockland, Maine.
- Dr. E. E. Gibbs, Saco, Maine.
- Dr. J. H. Goddard, Lewiston, Maine.
- Dr. E. P. Henderson, Houlton, Maine.
- Dr. A. D. Howden, Presque Isle, Maine.
- Dr. F. W. Huntington, Portland, Maine.
- Dr. H. S. Irish, Westbrook, Maine.
- Dr. George R. Inglis, Auburn, Maine.
- Dr. W. R. Jackson, Sanford, Maine.
- Dr. H. B. F. Jervis, Houlton, Maine.
- Dr. W. S. Lord, West Baldwin, Maine.
- Dr. W. H. Lynch, Portland, Maine.
- Dr. M. E. Maddocks, Augusta, Maine.
- Dr. W. L. Mebane, St. Albans, Maine.
- Dr. C. W. McGillicuddy, Bath, Maine.



- Dr. C. M. Merrill, South Paris, Maine.  
Dr. A. L. Murch, Bangor, Maine.  
Dr. J. A. Ness, Auburn, Maine.  
Dr. C. H. Newton, Forxcroft, Maine.  
Dr. J. L. Parks, Fort Fairfield, Maine.  
Dr. A. W. Peabody, Thomaston, Maine.  
Dr. H. T. Potter, Calais, Maine.  
Dr. B. L. Pratt, Caribou, Maine.  
Dr. C. W. Purcell, Biddeford, Maine.  
Dr. W. H. Robinson, Woodfords, Maine.  
Dr. F. L. Russell, Orono, Maine.  
Dr. E. E. Russell, Farmington, Maine.  
Dr. C. L. Ryan, Dexter, Maine.  
Dr. I. L. Salley, Skowhegan, Maine.  
Dr. W. H. Spear, Portland, Maine.  
Dr. H. L. Stevens, Rockland, Maine.  
Dr. H. S. Usher, Bonney Eagle, Maine.  
Dr. C. W. Watson, Brunswick, Maine.  
Dr. G. F. Wescott, Portland, Maine.

## NON-GRADUATE VETERINARIANS.

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List of non-graduate veterinarians registered by this office and authorized to inspect cattle under the direction of the Live Stock Sanitary Commissioner.

(At any time names may be added or removed.)

- C. W. Boothby, Standish, Maine.
- E. M. Bradley, Pemaquid, Maine.
- E. E. Bubier, North Jay, Maine.
- J. F. Butler, Bath, Maine.
- George G. Downs, Mt. Vernon, Maine.
- A. A. Dyer, Cornish, Maine.
- Willis S. Leighton, Biddeford, Maine.
- C. H. Leighton, Cumberland, Mills, Maine.
- A. C. Leighton, Limestone, Maine.
- S. A. McDaniel, Kezar Falls, Maine.
- C. L. Wakefield, Augusta, Maine.
- S. C. Wheeler, Easton, Maine.
- J. W. Wild, Rockland, Maine.

MAINE SANITARY LAWS ON CONTAGIOUS  
DISEASES OF ANIMALS.

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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 speci-

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

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

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

Section 7. That no person owning or operating a railroad, nor the owner or owners or masters, of any steam, sailing or other vessel, within the state, shall receive for transportation, or transport from one part of the state to another part of the state, or to bring from any other state or foreign country, any 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 establishment, and be killed under federal government inspection, and

be disposed of according to the requirement of the Government Meat Inspection Act.

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

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

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

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

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

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



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

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

Section 14. That the live stock sanitary commissioner shall thoroughly disinfect all stables and premises where condemned animals were found or cause the same to be done by a competent agent in the employ of such commissioner and the expense incurred on account of such 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 employes 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 owners 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 way-bill.

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 commissioner, 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, Kans.

#### 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 inspector 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 1 cent per cubic centi-



meter, as fixed by law, upon application to the experiment station, and said serum will be administered at the fair grounds.

No public sale of purebred 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 10 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 tuberculosis 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, Waterville, 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.*—Mr. Fred F. Walker, 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 stallion 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.

*Why may inspect.*—Qualified veterinarians.

*Official.*—N. J. Bachelder, secretary, board of cattle commissioners, 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 tuberculin-test record, such test to be made by a veterinarian approved by proper official of his State, or if not so accompanied must be held in quarantine at destination within State until duly examined by a representative of the State department of agriculture and released.

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

*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. Dak.; L. Van Es, bacteriologist, State live stock sanitary board, Fargo, N. Dak.

## 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 mal-lein 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. Dak.

## 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, traileed, 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 State 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 sani-

tary 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-MIBride-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, Fort Worth, Tex.; Dr. E. R. Forbes, State veterinarian, Fort 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 veteri-

narians 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.