

# MAINE STATE LEGISLATURE

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PUBLIC DOCUMENTS OF MAINE:

BEING THE

ANNUAL REPORTS

OF THE VARIOUS

Public Officers  Institutions

FOR THE YEAR

1894.

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VOLUME I.

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AUGUSTA:

BURLEIGH & FLYNT, PRINTERS TO THE STATE.

1894.

REPORT OF COMMISSIONERS

ON

# Contagious Diseases of Animals.

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Under the Law of 1887, Chapter 138 of Public  
Laws of Maine.

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**THOMAS DAGGETT**, President.  
**F. O. BEAL**, Secretary and Treasurer.  
**GEO. H. BAILEY**, State Veterinarian.

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AUGUSTA:  
BURLEIGH & FLYNT, PRINTERS TO THE STATE.  
1894.



# REPORT.

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*To His Excellency, the Governor of Maine:*

We present our annual report for the year closing December 31, 1893, together with an account of our expenditures and other proceedings under provisions of the law of 1847, chapter 177, relating to contagious diseases in this State, and as amended in 1892, chapter 194:

The first inspection of 1893 was ordered at Belfast, where a herd of cattle were found to be free from contagious disease.

January 9th. Inspection of cattle at Cornish. No appraisal.

January 11th. Inspection of cattle at St. Albans, but no contagious disease discovered.

January 12th. A grade Jersey cow was condemned at Cape Elizabeth. Appraisal \$12.

January 13th. Glanders was discovered at Bath in a gelding brought from Boston. No appraisal.

January 14th. Glanders was discovered at Kennebunkport, horse destroyed, with no appraisal.

January 16th. Glanders was reported at Abbot village, which proved to be chronic catarrh.

January 18th. A herd of cattle were inspected at Canton, and placed in quarantine.

January 20th. Inspection of cattle at Freeport, but no contagious disease discovered.

January 21st. Glanders was reported at Sangerville, which proved to be chronic catarrh.

January 23d. Inspection of cattle was held at South Dover, but no contagious disease found.

January 24th. Tuberculosis was discovered at St. Albans in a grade Jersey cow, condemned and destroyed. Appraisal \$25.00.

January 25th. Inspection of cattle was held at Palmyra, but no contagious disease found.

January 31st. Glanders was reported at North Berwick, which proved to be catarrh.

February 2d. Inspection of cattle was held at Sebec, but no contagious disease was discovered.

February 10th. Inspection of cattle was held at Hallowell, but no contagious disease discovered.

February 11th. Inspection of cattle was held at West Auburn, but no contagious disease discovered.

February 16th. Glanders was reported at Whitefield, which proved to be chronic catarrh.

February 28th. A case of tuberculosis was discovered at Bangor in a grade Jersey cow. Condemned and appraised \$40.

March 1st. Glanders was reported at Fairfield, which proved to be a case of chronic catarrh.

March 7th. Glanders was discovered at Bethel. Horse condemned, appraisal \$100.

March 11th. Inspection of cattle was held at South Monmouth, but no contagious disease found.

March 13th. Glanders was reported at Fryeburg, which proved to be chronic catarrh.

March 15th. Tuberculosis was discovered in a grade Jersey cow at Turner Center. Appraisal \$40.

March 16th. Inspection of cattle was ordered at Foxcroft, but no contagious disease discovered.

March 17th. Glanders was reported at Kennebunkport, but no contagious disease found.

March 17th. Inspection of cattle was ordered at Foxcroft, but no contagious disease found.

March 18th. Inspection of cattle was ordered at Dover, but no contagious disease found.

March 20th. Glanders was reported at Orneville, which proved to be chronic catarrh.

March 22d. Inspection of cattle was ordered at Dover, but no contagious disease discovered.

March 25th. Glanders was discovered in a livery stable at Portland, and two horses which had been bought in Boston the previous May, were condemned and destroyed. Appraisal \$200.

March 27th. Inspection of cattle was held at Corinna, but no contagious disease discovered.

March 29th. Tuberculosis was discovered in an ox at Edes' Falls, condemned and appraised \$75.

April 6th. Inspection of cattle was ordered at Lamb's Corner, but no contagious disease discovered.

April 7th. Glanders was reported at South Lincoln, which proved a case of polypus.

April 8th. Inspection of cattle was ordered at Brunswick, but no contagious disease discovered.

April 10th. Glanders was discovered at West Gorham. Horse condemned and appraised \$25.

April 12th. A second inspection of cattle at Canton resulted in condemning a "Herd-book" Jersey cow affected with tuberculosis. Appraisal \$50.

April 17th. Inspection of cattle was ordered at Atkinson, but no contagious disease was discovered.

April 20th. Glanders was reported at Portland, which proved to be chronic catarrh.

April 22d. Tuberculosis was discovered at Hermon, and a cow condemned. Appraisal \$30.

May 3d. Glanders was reported at South Berwick, which proved to be chronic catarrh.

May 4th. Inspection of cattle was ordered at Brownville, but no contagious disease discovered.

May 8th. Inspection of cattle at Deering resulted in finding no contagious disease.

May 9th. Glanders was discovered at Topsham and a horse was condemned and appraised at \$50.

May 10th. Glanders was reported at Portland, but no contagious disease discovered.

May 12th. A flock of sheep were inspected at East Baldwin, but no contagious disease discovered.

May 15th. Inspection of cattle was ordered at North Dixmont, but no contagious disease discovered.

May 17th. Inspection of cattle at Plymouth resulted in finding no contagious disease.

May 18th. Inspection of cattle at Vassalboro was ordered, but no contagious disease discovered.

May 19th. Inspection of cattle was ordered at East Hiram, but no contagious disease discovered.

May 20th. A herd of cattle were inspected at South Paris and a quarantine ordered.

May 21st. Inspected and condemned three "Herd-book" Jersey cows at South Paris, where one of the Massachusetts Cattle Com-

missioners was present, the cattle having come from that state. Appraisal \$130

May 22d. A flock of sheep were inspected and condemned at Buckfield. Appraisal \$32.

May 23d. A third inspection of cattle at Canton, resulted in condemning two 'Herd-book' Jerseys, a three-year-old and a yearling heifer. Appraisal \$75.

May 23d. Glanders was reported at Rumford Falls, which proved to be chronic catarrh.

May 24th. Inspection of cattle was ordered at Kenduskeag, but no contagious disease found.

May 27th. Inspection of cattle was ordered at Randolph, but no contagious disease discovered.

June 3d. Inspection of cattle was ordered at Hampden, but no contagious disease discovered.

June 4th. Glanders was reported at Foxcroft, but nothing contagious discovered.

June 7th. Inspection of cattle was ordered at Phillips, but no contagious disease found.

June 13th. Glanders was reported at Sebec, which proved to be a case of chronic catarrh.

June 19th. Tuberculosis was discovered in a "Herd-book" Jersey Lull at Fort Fairfield, the bull coming from the Canton herd. Appraisal \$60.

June 21st. A herd of cattle were inspected at Orient, Aroostook county, but no disease discovered.

June 22d. Inspection of cattle was ordered at Leeds, but no contagious disease discovered.

June 24th. Inspection of cattle was ordered at Sangerville, but no contagious disease found.

June 26th. Inspection of cattle was ordered at East Sumner, which proved to be emphysema.

June 28th. Glanders was discovered at West Gardiner, and horse condemned. Appraisal \$40.

June 30th. Glanders was discovered in a Western horse at Camden. Appraisal \$50.

July 3d. Glanders was reported at Kennebunk, which proved to be chronic catarrh.

July 7th. Glanders was reported at Dover, but no contagious disease discovered.



July 8th. Inspection of cattle was ordered at Barnard, but no contagious disease discovered.

July 9th. Inspection of oxen was ordered at Jackman, but no contagious disease discovered.

July 10th. Glanders, in a broncho, was reported at Canaan, which proved to be chronic catarrh.

July 12th. Inspection of cattle was ordered at Troy, but no contagious disease discovered.

July 12th. Glanders was discovered at Bangor, and a Western horse condemned. Appraisal \$50.

July 13th. Inspection of cattle was ordered at St. Albans, but no contagious disease discovered.

July 14th. Glanders was reported at Abbot, but proved to be a case of catarrh.

July 18th. Glanders was reported at Scarboro, which proved to be chronic catarrh.

July 19th. Glanders was discovered in a Western horse at South Berwick. Appraisal \$50.

July 21st. Glanders was reported at Sebago lake, which proved to be chronic catarrh.

July 22d. Glanders was reported at Munroe, which proved to be chronic catarrh.

July 24th. Glanders was reported at South Dover, but no contagious disease discovered.

July 28th. Glanders was reported at Wells, which proved to be chronic catarrh.

July 29th. Glanders was reported at East Corinth, but no contagious disease found.

July 30th. Inspection of cattle was ordered at West Dover, but no contagious disease found.

July 31st. Inspection of a dairy herd was ordered at Livermore Falls, but no contagious disease was found to exist.

August 1st. A herd of cattle was inspected at Livermore, and a quarantine ordered.

August 5th. Glanders was reported at East Lebanon, but no contagious disease found.

August 8th. A second inspection was held at Livermore, and two grade Jersey cows condemned and destroyed. Appraisal \$60.

August 15th. Inspection of cattle was ordered at North Belgrade, but no disease discovered.

August 18th. Inspection of cattle was ordered at Willimantic, but no contagious disease found.

August 22d. A flock of sheep were inspected at East Jefferson, but no disease found.

August 24 h. Inspection of cattle was ordered at Skowhegan, disclosed no disease.

August 25th. Glanders was discovered at East Friendship. Horse condemned. Appraisal \$40.

August 26th. Tuberculosis was discovered at St. Albans, and a cow condemned. Appraisal \$25.

August 27th. Glanders was discovered at Portland and a Canadian horse destroyed. Appraisal \$50.

August 29th. Tuberculosis was discovered in an old Jersey cow at Veazie. Appraisal \$20.

September 4th. Glanders was reported at Kennebunk, which proved to be chronic catarrh.

September 10th. A herd of cattle were inspected at West Bath, but no contagious disease found.

September 11th. Inspection of cattle was ordered at Mariaville, but no contagious disease found.

September 12th. Tuberculosis was discovered in a Jersey cow at West Winterport, cow came from Massachusetts, condemned. Appraised \$25.

September 19th. Glanders was reported at Greenville, but proved to be chronic catarrh.

September 23d. Inspection of cattle was ordered at Buxton Center, but no contagious disease found.

September 25th. Glanders and farcy was discovered at Portland, and a Canadian horse destroyed. Appraisal \$50.

September 26th. Glanders was reported at Winterport, but no contagious disease discovered.

September 27th. Inspection of cattle was ordered at China, but no contagious disease discovered.

September 30th. Tuberculosis was discovered in a grade cow at Foxcroft. Appraisal \$24.

October 2d. Glanders was reported at Bangor, which proved to be chronic catarrh.

October 9th. Glanders was reported at South Berwick, which proved to be catarrh.

October 16th. Glanders was reported at Woolwich, but no contagious disease discovered.

October 13th. Tuberculosis was discovered in a grade bull at Exeter and condemned. Appraisal \$22.

October 14th. Glanders was discovered in Portland, in a gray mare bought in Boston last May. Mare destroyed and no appraisal made.

October 15th. Glanders was discovered at Winterport. Horse condemned and appraised \$10.

October 16th. Glanders was reported at Gardiner, which proved to be chronic catarrh.

October 17th. Glanders was discovered in a livery stable at Portland and horse destroyed. The animal had been secretly brought from Boston. No appraisal.

October 18th. Glanders was discovered at South Bethel. Mare destroyed and appraised \$50.

October 24th. Glanders and farcy was discovered in two horses in Brownville. Both horses were destroyed. Appraisal \$100.

October 28th. Glanders was discovered at Augusta. Horse condemned. Appraisal \$50.

October 29th. Tuberculosis was discovered in a large ox at Duck Pond. Appraisal \$50.

October 30th. Tuberculosis was discovered at Mechanic Falls. Cow bought in Massachusetts. Appraisal \$40.

November 7th. Glanders was reported at Dover, but no contagious disease discovered.

November 10th. Glanders was reported at Augusta, which proved to be chronic catarrh.

November 11th. Tuberculosis was discovered at East Jefferson, and a Jersey cow destroyed. Appraisal \$30.

November 13th. Glanders was reported at Bar Mills, which proved to be chronic catarrh.

November 14th. Inspection of oxen was ordered at Garland, but no contagious disease found.

November 15th. Tuberculosis was discovered at Pishon's Ferry. Appraisal \$30.

November 20th. Glanders was discovered at Portland in a gray horse bought in Boston. Condemned and appraised \$50.

November 25th. Inspection of cattle was ordered at New Vineyard, but no contagious disease was discovered.

November 27th. Tuberculosis was discovered in an old "Herd-book" Jersey cow at East Baldwin. Cow destroyed and appraised \$40.

December 1st. Inspection of cattle was ordered at Hermon, but no disease discovered.

December 2d. Glanders was reported at Portland, which proved to be chronic catarrh.

December 4th. Glanders was reported at Winn, but no contagious disease discovered.

December 5 h. Inspection of oxen was ordered at Sebec, but no disease discovered.

December 15th. Inspection of cattle was ordered at Kennebunk, but no disease discovered.

December 16 h. Glanders was reported at Pennelsville, which proved to be catarrh.

December 18th. Glanders was reported at Portland, but no contagious disease found.

December 19th. Tuberculosis was discovered in a grade bull at North Carmel. Bull destroyed and appraised at \$24.

December 21st. Inspection of a cow was held at Portland, but no contagious disease discovered.

December 23d. Glanders was reported at Kingman, but no case was made out.

December 26th. Glanders was reported at Corinna, which proved to be chronic catarrh.

It will be seen by the above summaries that 143 inspections were made during 1893, seventy eight herds of cattle and sixty-two stables were examined, also three flocks of sheep. Twenty-six head of cattle were condemned and destroyed at an appraisal of \$927, and twenty-two horses were found affected with glanders and condemned at an appraisal of \$995, and sixteen sheep appraised \$32, making a total of \$1,954. Among the horses destroyed four were not appraised, as not having been owned in Maine the required time under the amended law of 1892. But six of the whole number destroyed were State of Maine horses, sixteen of the number being Canadian and Western bred horses, the larger portion of them having been purchased in Boston market.

Among the cattle destroyed seven cows came to us out of Massachusetts herds, as opposed to sixteen from the same state condemned the previous year.

Early in December, 1891, our board received notice that a cheap class of cattle were being brought into Maine from Brighton, Mass., and either sold for beef to low-priced consumers or disposed of to farmers in Eastern Maine. Our first notice was received from Lisbon, and on December 11th, Dr. Bailey visited the farm of Horace Jordan, and found two cows badly diseased with tuberculosis. These cows were a part of a car load of twenty-three brought here by Fred and William Crowley of Lisbon, twelve of which had been slaughtered and the beef sold in Lewiston and Auburn before we knew they were in the State, and the other eleven were found upon eight different farms, where they had been sold or traded for other cattle. Another of the lot was found to be badly diseased upon the farm of Nathan Bucknam, who had bought the animal for twelve dollars.

Following these cases, notice was received that similar car loads had recently been brought into Maine and shipped to different points, at Burnham Junction, Clinton, Unity, North Jay and Oxford county, and our board followed up the several lots only to find they had recently been sold for cheap beef about Waterville and vicinity, or sold on foot and lost track of, although what few were identified were very suspicious cases, if not actually diseased. Prompt action upon our part resulted, and further importations were forbidden to take effect from January 1, 1892, and with what facts and information, upon investigation, have since been disclosed, our board relies for the fullest justification and legality of our acts, and in the Massachusetts Report for 1894, the cattle commissioners complain of this very class of cattle, (that were then being brought into Maine by the car load), being now bought up by unprincipled butchers in their own state, and disposing of the meat, and other products of the carcass throughout their State. The report says:

#### BUTCHERS.

“One of the most serious obstacles to the working out of the law regarding tuberculous animals has been encountered through unprincipled butchers, many of whom are established throughout Massachusetts, as they are throughout many other states. These men make a business of buying up old worn-out or sick cows, many of them tuberculous, for a few dollars each, killing them, and disposing of the meat and other products of the carcass to the best advantage possible to them. In this way a considerable quantity of

the meat of tuberculous animals is sold, under various forms, to unsuspecting persons to be used as food. The fact that these men are allowed to continue in this business, practically without restriction, makes it exceedingly easy for those cow owners who are disposed to do so to realize some few dollars each for their consumptive cattle; and, perhaps not unnaturally, certain owners prefer to do this rather than to have the animals seized and killed by the State authorities, from whom they receive nothing in the way of remuneration for the animal."

In the Maine Report of 1891, we had to say, we claim, without fear of contradiction, that the two classes of cattle of which we complain, viz., "high-bred" and "high-priced" cows and bulls, like those that have come to us from North Andover, Wayland and other parts of Massachusetts, which have heretofore been brought into Maine for breeding purposes; and "cheap cattle" such as are exposed weekly for sale in Brighton market, from which were selected the several car loads recently brought here, (and which precipitated the action of our Board to quarantine against Massachusetts,) *never reached the abattoir at all*, the latter class being sold to local butchers, in small lots, to be either retailed as "chop-beef," or manufactured into Bolognas and Frankfort sausage, "where there is no system of inspection" and entirely outside the jurisdiction of the Board of Health.

This is just the class of cattle our dealers have been buying in Brighton, and that are offered there every week for sale, old and young, the lame and the blind, discarded from milk farms around Boston, "*for cause*," some dry, some farrow, some diseased, and only last week offered to us for four and five to six dollars a head, and it is a matter of fact that a car load of them was landed in Maine just before our notice of quarantine, that cost but \$6 35 per head, freight all paid to "Burnham Junction." Now, we maintain, that if every one of them were perfectly sound, they would still be an unprofitable and worthless lot of worn out brutes for our farmers to invest in, and furnish a parallel case to the miserable lot of bronchos that infested our State a few years ago, and among whom glanders was so prevalent, that we found thirteen cases within a year. Owing to the system of contracts to furnish so many cans of milk per day, some of these cows are sent to Brighton by milkmen in surrounding towns, only because they can no longer furnish their quota of milk, and have been "pumped dry," but the fact develops,

that no matter for what cause they were weeded out, when slaughtered, a large percentage of them prove to be diseased, and we certainly have no use for them in Maine.

This is the class of cattle so well described by Dr. Barr himself, where he says "that when the condition of the old, unthrifty cows in this city and neighborhood is studied, and the class of people to whom their milk and other products are distributed are taken into account, the subject becomes a very serious one, and well worth the immediate attention of our Health Authorities;" all of which we believe offers abundant proof of the value and necessity of the continuance of quarantine regulations against Massachusetts, which has been in force since January 1, 1892. The summary of our business during 1893, discloses the fact that the total appraisals of the year, of all animals condemned and destroyed, was \$1,954, which together with the expense account of our board, will exceed the amount appropriated by the last legislature, as per vouchers furnished and audited by the treasurer of our Commission and we again take occasion to say that the present annual appropriation for carrying on the work will have to be increased, if the service is to be faithfully performed, and the high standard of health among our "flocks and herds" which we now enjoy is to be maintained. At the last session of the legislature, in view of the fact that the actual expenditures of 1891 and 1892 had exceeded the bi-annual appropriation, our board asked for an increased amount, not only to enable us promptly to meet our obligations and payments to those whose animals were destroyed, but also to prevent a recurrence of a deficiency which now exists, and we are forced to apply a portion of the appropriation of 1894, to the payment of liabilities incurred during 1893, in many instances, where parties to whom money was due have been kept waiting several months. Instead of increasing the appropriation, the *amount of appraisals was reduced one-half*, by which the limit for which any non-registered animal, whether equine or bovine, could be appraised was fifty dollars, of which the State pays one-half.

It must be apparent that there are many high-bred cattle in this State, even if non-registered, whose value "as determined upon the basis of health before infection" is much more than fifty dollars, while in the case of horses that are always more or less exposed to the dreaded disease of glanders, the compensation of twenty-five dollars, to an owner of a horse worth in his business several hun-

dred dollars, is too small a compensation in depriving him of an animal oftentimes perfectly well able to perform the work and duties of a sound horse, were it not that the Commissioners demand his destruction for the public good; and we have encountered the protest of several owners of such horses, within the past year, that if they had known they were to receive such a meagre sum from the State, "*their cases would never have been reported to our board,*" the horses thus remaining a constant menace to the health and safety of every man, woman and child in the community.

We believe this enactment to have been false economy and a mistake, as aside of its not being a fair business proposition towards those who are so unfortunate as to possess diseased animals, we are of opinion that it retards and disables the work of our Commission, and reduces our law too near the level of the law of Massachusetts, which *provides no indemnity whatever* to owners whose diseased animals are condemned and destroyed by order of their cattle commissioners.

Section 13 of the Massachusetts law says: "When the commissioners, by an examination of a case of contagious disease among domestic animals, become satisfied that it has been contracted by intention or negligence on the part of the owner, or of a person in his employ, or by his consent, or by the use of food material liable to contain the germs of contagion, they shall cause such animals to be securely isolated at the expense of the owner, or they shall cause them to be killed *without appraisal or payment*; and in all cases of tuberculosis, farcy or glanders, the commissioner having condemned the animal infected therewith, *shall cause such animal to be killed without an appraisal*, but may pay the owner or any other person an equitable sum for the killing and burial thereof, and may also pay a reasonable sum for the animal destroyed should a post mortem examination prove that *said animal was free from the disease for which it was condemned.*"

In other words, unless the commissioners make a mistake, and kill a sound animal, the owner is entitled to no compensation.

Section 2 of the Maine Law provides that our board are authorized and required to establish and maintain such quarantine of animals, places, premises or localities as they 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 by them as hereinafter



authorized and provided, and also to cause the same to be destroyed, and to pay the owner or owners thereof one-half of their value, as determined upon the basis of health before infection, out of any moneys appropriated by the legislature for that purpose.

And we again suggest our belief that the efficacy of the law requires that the owners of diseased animals should not have to run too much counter to *their own interests* in submitting to the *obligations to report*. *The only means of diminishing their resistance is to establish the principle of a fair compensation in the case of slaughter*. It is to the principle of mutuality that recourse must be had—a principle which should be applied under the control of the State.

The law does not require the performance of a duty, and at the same time withhold the means reasonably necessary for its performance. In 1892, the Massachusetts Commissioners reported, "Glanders has been quite prevalent during the year, and with the same peculiarities of locality that have been noted in former reports. The number of animals destroyed has been 134, which is less than the number killed in 1891," and in their report of 1893, again say:

"There are good reasons for believing that many cases of glanders exist in the State that are not reported either to the local boards of health, or to the Commissioners; and so long as the law is allowed to remain as now, so that it becomes the duty only of such persons as have good reason to suspect the existence of the disease to report to the proper authorities, this same difficulty will be felt. The greatest part of the difficulty is now found to exist among a certain class of horse dealers and stable keepers who sell horses, as well as among some of those who practice medicine among animals. The first named of these hides the disease so that he may sell the horse to some unsuspecting person; the second sort do not report the case because of indifference, or else because by not doing so they are able to get a few dollars for continuing its treatment for a time, which money would be lost to them were the case reported to the authorities and the animal killed. To be sure, the present law provides a penalty for doing this sort of work; but in order that the penalty may be applied it is necessary to prove beyond a reasonable doubt that the owner or doctor "had good reason to suspect" that glanders existed; and this proof is so difficult to get that the law really amounts to nothing."

The same difficulty exists in the case of tuberculous cattle, as in glanders among horses, their horse dealers and stable keepers "con-

tinue to hide the disease," (so say their commissioners,) when they know that if reported, *they will be destroyed without any compensation*, and accounts for the large number that annually evade coming to the notice of their officials, many of whom continue to come into this State from the Boston market. We believe the trouble to be all with the law and not with their overworked commissioners, who have just reported in 1893.

#### TOO MUCH WORK.

And say "as the organization of the work of the inspectors has become more and more perfect throughout the State, the amount of work coming to the Commission has grown until at the present time it is perfectly overwhelming, and cannot possibly be done with anything like the promptness which its importance demands, and which any just consideration of the interests of the owners of animals requires. The work of the office takes the whole time of the clerk, and the greater part of that of the secretary. Calls to examine suspected quarantined animals are being received at the rate of something over seven a day. These animals are so scattered over the State, and take so much time to reach and examine carefully, that it is impossible for the two remaining Commissioners to average to reach more than six of them each a week. As a result, inspectors are harshly criticised by owners; town officers are threatened with suits at law for damages, arising from a prolonged quarantine; and the Commissioners are attacked by all three for not properly attending to their duties. Unless some remedy can be found for this state of matters, before very long, the result will be disastrous. And some further immediate legislation in this direction will be necessary, if we are to continue the work on tuberculosis. It is true that a great many of the calls turn out to be 'false alarms,' as a matter of fact, out of *four hundred and ninety-nine cases recently examined*, one hundred and four proved to be of this character."

Their commissioners fully raise the question of indemnity, and after offering various objections against compensation, say:

"Further very serious objection, and one that experience has always shown to be inseparable from any law which pays indemnity, is that sooner or later the State treasury goes into the business of buying diseased animals that are collected for the purpose not only from within its own borders, but from the herds of neighboring states as well; and one of two things happens,—either the amount

of money expended is so large that the law becomes too much of a burden to the tax payers, and has to be abandoned, or else the state maintaining the law has to institute a quarantine against the animals coming in from another state or states, according to the drift of the incoming cattle trade."

After considering all the objections of the Massachusetts board, we are still of the opinion that any law of non-compensation that seeks to govern or control the contagious diseases of a state, resolves itself into one of *self preservation* among the very class of men the law seeks to reach, the *producers* and *dealers* in diseased milk and meat; so that if an owner has animals in his possession of which he is himself suspicious, his utmost efforts are directed towards *concealment of the facts* and *evasion of the law* that affords him *no compensation if his animals are condemned*.

There is one other significant feature in the failure of the old Bay State, to successfully cope with tuberculosis, (under their law of no indemnity) to which we wish to call attention, that fortifies our opinion that if the same law was in force in this State, and no quarantine against Massachusetts, we should be soon over-run with the disease, which is embodied in their report of 1893, that "another serious objection to any system that attempts to eradicate tuberculosis by relying upon owners of animals to report its existence, either with or without indemnity, is to be found in the nature itself of the disease. The contagious principle is not as freely communicated from one animal to another, nor is it by any means as commonly productive of pronounced symptoms of disorder among those which have become its victims, as is that of contagious pleuro-pneumonia, or, in fact, any other of the known contagious diseases of cattle. On the contrary, as has already been shown, it exists over and over again in animals that are to all ordinary appearances in a most perfect state of health; and, further than this, even with such weakly marked indications as to oftentimes baffle the discovery of the most expert practitioner, until by repeated careful examinations it is finally detected. Any law, therefore, that does not recognize this feature of tuberculosis, and meet it, so far as possible, by providing for repeated careful examinations of all the animals by those who have been more or less drilled in its detection, and that animals in which the disease has been discovered shall alone be killed, will most assuredly fail of accomplishing its object. There is no such

thing as *stamping* out tuberculosis, it must be *weeded* out; and this process, we all know, needs care, time and patience."

"The Massachusetts law avoids these evils, but in so doing sets up another to its full extent, which has but a, so to say, half existence in the law that pays a half indemnity. It is true that it oftentimes is very hard for an owner to be obliged to lose an animal that he has always regarded as being healthy, because she is found to have tuberculosis; it is hard for men to lose property from any cause; but when it is considered that the use of the milk from such a cow may be a constant source of danger to the members of his family who use it as food, or that the meat if eaten, may sow the seed of such a disastrous disease as consumption in the bodies of those who may unwittingly eat it, the question is at once changed; and a decision must be made as to whether it is a greater hardship to deprive a man of a piece of property which has cost him forty or fifty dollars, or to allow him to retain it, or sell it, when by so doing the health of many, many people may be irrevocably ruined. If indemnity is to be paid at all, it should be full; half measures produce generally, half results; and if it were possible to limit the expenditure in this direction to within proper bounds, it might safely be considered that the benefit to the community would offset its cost to them. But it has been so often found that this payment is accompanied by a carelessness on the part of owners, which really nourishes the disease, and that diseased animals are actually imported on purpose to be sold to the State, that such a law defeats itself and becomes impracticable.

"Massachusetts is a large distributing center for the cattle trade; animals go from here to all parts of New England and to Europe, and its supplies are drawn from a great variety of sources. Were the State to quarantine against all of the sources from which animals with tuberculosis are known to come to us, this valuable trade, which now gives profitable employment to so many, would be ruined. This quarantine, for Massachusetts, is not practicable."

Commissioner Stockbridge, in a recent interview in the Boston Herald, has to say of the history of tuberculosis and contagious pleuro-pneumonia in Massachusetts. The Herald says: "Commissioner Stockbridge is an earnest worker for the state, and as he has for many years been connected with the commission, and is well acquainted with all the laws, he will figure prominently in the struggle to formulate laws which will enable the commission to pre-

vent any spread of tuberculosis in the commonwealth. To use Commissioner Stockbridge's words: 'The amount of work coming to the commission has grown until at the present time it is perfectly overwhelming and cannot possibly be done with anything like the promptness which its importance demands.'

"All through the year which has just come to a close the commissioners have struggled with the work which the new laws made for them, in hopes that in time they might be able to do it all without assistance, but at the close of the year they deemed it unwise, and in a report just issued they call the attention of the legislature to the fact that the present board is far too small and earnestly pray that some definite action be taken at once.

"In order that the board may continue the fight against that dreaded disease—tuberculosis—it is absolutely necessary that the board's working efficiency be increased, either by enlarging the board by the addition of a sufficient number of new commissioners, or by devising some plan by which agents of the board can be allowed such freedom of action that the present condition of affairs will not be likely to occur again."

In speaking of contagious pleuro-pneumonia, Professor Stockbridge says: "It was found existing in the state in secluded spots, and in 1862 the board of agriculture memorialized the legislature, setting forth the facts in the case and asking for another appropriation for the purpose of finishing the disease.

"An appropriation was made and the work went on. Now, then, let me make this statement, because I find that the people of the commonwealth, the farmers of the commonwealth, have not taken it in fully. There has never been a case of contagious pleuro-pneumonia in the state of Massachusetts since the year of 1864. That ended it; it was stamped out. The work of stamping it out cost the state of Massachusetts near'y \$100,000, but it cost private individuals a very much larger sum."

In 1883, by an appropriation of \$5,000, Maine *stamped out* a far more contagious disease than tuberculosis, when an English steamer at Portland, landed eighteen head of Hereford cattle affected with "foot and mouth disease," and in 1886 another appropriation of \$5,000 *stamped out* the violent outbreak of tuberculosis upon the State College Farm, by not only paying for that herd and disinfecting the premises, but also following up and destroying all the pro-

duce of that herd that had been sold and scattered throughout this State.

The last report of the Bureau of Animal Industry, United States Department of Agriculture, "says of the danger of using the milk of tuberculous cows:"

"This disease occupies at the present time a very prominent place in the public mind, and rightly so, for it is identical with tuberculosis in man, of which vital statistics claim that it is responsible for the death of fully one-seventh of the human race. The problem now before us, which has been advanced considerably by investigations over the whole world, is to determine the extent to which the milk of tuberculous cows is infected with the bacilli of this disease and the readiest means of detecting such infection. By examining the milk of presumably tuberculous cows at different stages of the disease we hope to gain some definite ideas as to the conditions under which milk must be regarded as positively dangerous. It is true that many sanitarians now regard the milk of tuberculous cattle in all stages of the disease as dangerous, and such a position is undoubtedly the safest. But until more stringent regulations are enforced concerning the regular inspection of dairy cows we must content ourselves with defining, if possible, the limits of danger. All authorities are, however, agreed that the milk of tuberculous cows, suffering with tuberculosis of the udder or bag is positively dangerous, and from this point of view alone, if from none other, the careful inspection of dairy cows for any diseased condition of the udder becomes imperative. Our own investigations have shown that in cows in an advanced stage of tuberculosis the milk may contain tubercle bacilli, although the udder is free from any tubercular changes which can be detected by the naked eye at the autopsy."

"Another problem depending on the former for its importance concerns the easiest and surest means of detecting tuberculosis in cattle. Koch's tuberculin seems to have largely bridged over the difficulty, and we shall, whenever opportunity presents, make test inoculations with tuberculin and endeavor to confirm by post mortem examination the accuracy of the diagnosis. Preliminary trials have been sufficiently favorable to induce us to agree with former experimenters in regarding tuberculin as the best means at hand for the diagnosis of tuberculosis in cattle."

ALARMING DEVELOPMENT OF TUBERCULOSIS IN VIRGINIA  
HERDS.

Washington, D. C., May 31.—As soon as the appropriation of \$100,000 in the agricultural bill becomes available the Bureau of Animal Industry of the Agricultural Department will begin an investigation of the prevalence of tuberculosis among cattle. The first work will be done among herds from which Washington gets its milk supply. Various herds in this section of the country have been inspected and tested from time to time and shown to be diseased.

Some of the scientists attached to the Animal Industry Laboratory recently inoculated a guinea pig with fresh milk delivered in Washington, and within the prescribed period the little animal developed tuberculosis in a pronounced form.

Very little is known at present of this disease, but a great many herds have been discovered in which from 60 to 75 per cent. of the animals were infected. Should it be decided that an attempt to extirpate tuberculosis is practicable it will be necessary to call upon Congress for large additional appropriations to put the project into execution.

It cost the government \$1,500,000 to eradicate contagious pleuro-pneumonia, and Great Britain is still engaged in a hard fight to accomplish the same object.

Compared with the magnitude of the labor required to stamp out tuberculosis, the pleuro-pneumonia work sinks into insignificance. All the animals infected with pleuro-pneumonia or that had been exposed to the disease were slaughtered, and Dr. Salmon says if all the cows affected with tuberculosis are killed, fresh milk will cost as much as champagne.

By the use of tuberculin, discovered by Professor Koch, it may readily be determined whether an animal is affected with tuberculosis. The market price of this preparation in Germany is eight dollars a teaspoonful. It is prepared in the United States only at the agricultural department, whence it is distributed free to the authorities of various State boards of health and live stock sanitary commissioners. The department has furnished tuberculin to the officials of twenty-three different states, and over 1,000 blanks

recording the tests made have been returned. About 500 came from Vermont, and 200 from Massachusetts. A special bulletin on tuberculosis is being prepared by Dr. Salmon, chief of the bureau of animal industry, and will shortly be published.

A recent number of the Boston Herald publishes a strong case in point on the "Milk Question:"

"With the approach of summer the question of the milk supply comes to the front. It may come earlier than usual into the arena of discussion this year, from the publicity which has been given to the death of Colonel Beecher's grandchild. This was a boy of four, whose fatal attack of tubercular meningitis was traced to the presence of tuberculosis in the system of two fine Alderney cows. There was no tendency to tubercular disease in the family of either of the child's parents, and the attendant physicians were driven to the conclusion that the infection came in the milk. But two expert veterinary surgeons failed to discover any unsoundness in the cows, and it was only after the application of Koch's lymph test that they were found to be infected, and the cause of the child's death was traced to them. And yet Colonel Beecher kept these fine bred cows that he might be perfectly sure of having a supply of pure milk in his family, of which his grandchild had been from infancy a member. The reflection will be made that if, under such exceptionally favorable circumstances, there may be death in the milk, how hopeless it is to expect by any ingenuity to find a guarantee of its absolute wholesomeness.

In the first place, however, the circumstances were not so favorable as they appear. It is not generally known that thoroughbred cattle are especially prone to be attacked by tuberculosis. The curious in such matters can find this point ably discussed in the Dietetic and Hygienic Gazette (1893, p. 195), by Dr. I. W. Stickler. His conclusion is that the bovine race is pre-eminently disposed to tubercles—equally so with man—and he agrees with the statement that no predisposing cause exercised such potent influence as heredity. 'Breeding in and in predisposed. Jerseys, Guernseys and Shorthorns were especially prone to the disease in Scotland, and Jerseys in this country. Early, late and over breeding predisposed.' Other investigators have pointed out that it is impossible to conceive a more pernicious practice than that of keeping thoroughbred cows, possibly in a horse barn, and under the care of one



who is employed in attending on horses, for supplying the household with milk.

So much for the danger to life and health from what may be called the personally superintended sources of milk supply. The investigations of Professor Sedgwick into the milk supply of Boston some four years ago showed how little the prevailing system of milk inspection does toward guaranteeing its healthfulness. It should hardly be necessary to premise that while milk is the most ideally perfect of all forms of food, it is one of the most effective agents for the propagation of disease. It contains, when perfectly sound, not only the proper elements to complete nutriment, but it contains these already mixed in the right proportions. But while it is the only complete food that nature supplies to us in the liquid state, it is also the most perfect 'culture fluid' for bacteria. Some of these are harmless, but others are in a very high degree harmful. Professor Sedgwick found in fifty-seven samples of Boston milk an average of 2 355,500 bacteria per cubic centimeter—say, one small thimbleful. When it is remembered that the sewage of American cities seldom contains, on the average, more than 1,000,000 bacteria per cubic centimeter, the significance of this statement will be readily recognized. Dr. Albert R. Leeds found that while a short time after milking there might be found in the contents of the pail from 10,000 to 100,000 bacteria to the cubic centimeter, this number increases so rapidly that in a few hours they may reach 2,000,000 to 5,000,000 per cubic centimeter. The length of time before the milk sours depends upon the rapidity of the multiplication of the organisms. Professor Sedgwick ascertained that in Boston milk was regularly and systematically delivered to the great majority of consumers comparatively well advanced toward this condition of sourness. Considering that it was usually from thirty-six to forty-eight hours old before being thus delivered, the fact is not surprising. In fact, it is rather a testimony to the comparative purity of the original supply that it had not completely soured.

The infant mortality directly traceable to impure milk is simply appalling. Of the annual mortality of the great cities of this continent an average of 35 per cent is that of children under five years of age. Of nearly one-half of these milk is or ought to be the food. Up to one year, it is certainly the sole food, and within this limit the average city mortality is 25 per cent of the whole. In New York, where the highest average of infant mortality has been

reached, the percentage of deaths under five years of age does not exceed 230 in a thousand, while in the summer months it is as high as 700 in a thousand. The percentage of infant mortality varies, in fact, very much in proportion to the difficulty of keeping milk from souring. That the diarrhoeal diseases which make so much havoc among children are due to impure milk, is shown by the fact that they are not frequent where infants get their food free from germs, such as breast milk, 'even though,' says the standard authority on the diseases of children, 'the other conditions, hygienic and atmospheric, may be very unfavorable.' They are not frequent among infants in the country, who get for their food fresh cow's milk, nor among city children in winter, which shows conclusively that it is not the chemical composition of cow's milk that is the difficulty."

Among other causes for the spread of the disease, it is claimed, consumption now carries off five per thousand persons in France, or one hundred and seventy thousand a year, says the London Dispatch. In England the mortality has fallen to two per thousand. The towns where this scourge is most intense are Paris, where the mortality from it is one out of five deaths; Dijon and Nancy, where it is one out of seven, and Marseilles, where it is one out of six. At the Protestant congress at Havre, held to study special questions in a practical manner, Dr. Gilbert, who is a consumptive specialist, said that drunkards are particularly subject to it. There is a drunkard's phthisis. Now, the inhabitations of inebriates are dirty and ill-kept, and cleanliness is a great obstacle to the spread of contagious diseases. In La Cite Havraise, or mansions built for working-class tenants, the mortality from consumption is very high, notwithstanding the hygienic principles according to which the architect worked. There were five out of twelve deaths from consumption. This might be explained from the tenants' habit of spitting about. A woman's dress that swept the sputa of a consumptive on the stairs picked up the germs, which she inhaled when brushing the garment. Dr. Gilbert is, for this reason, against tenement houses or mansions for the poor. The shaking of clothes and bedding from the windows and balconies was another source of contagion. The subject of dogs as a means of propagating consumption was also gone into. A report of Prof. Cadiot, of the veterinary school of Alford, shows that they must often be a vehicle for spreading it. He had long treated dogs suffering from tuberculosis for cancer, but latterly the microscope showed him what their disease was. Between the 14th

of last March and the 7th of April eight dogs died at Alford of tuberculosis. From the 1st of October, 1891, to the 1st of August, 1893, he made forty post mortems out of nine thousand, and found in all the forty cases tuberculosis to be the cause of death. The disease is very catching from a dog. It originates in the intestinal mucus, because dogs eat bones picked by tubercular patients and lick up what they leave on plates. They also keep about them if attached to them and in this way some get affected through the lungs. If the dog is often contaminated by the human patient he in turn spreads the disease to other human beings.

Prominent among other distinguished authorities, we quote a few extracts from the recently published paper of Dr. Billings on "Tuberculosis in Man and Cattle, and their Mutual Relations."

"Diseases cannot be prevented by laws and sanitary organizations alone, any more than people can be made moral by laws, police courts and policemen's clubs. The intelligent co-operation of the people is an absolute necessity to any successful accomplishment of a public purpose. To this end, however, the first thing necessary is that the people shall understand the nature of the work they are expected to co-operate in, and what they have to do, and how they are to do it. For all concerned the Davy Crockett motto is always appropriate—'Be sure you're right, then go ahead.' The most dangerous factor with which we have to contend is surely our own ignorance. Nowhere is this more apparent than in the relation which the public bears to the diseases which threaten its life and health."

"Nowhere can instruction of the public work more profoundly for the protection of future generations from the miseries of disease than in consumption. Nowhere can the casual importance of ignorance in the genesis of a disease be so directly established. To meet an enemy or suppress or ward off a danger it is absolutely necessary that we become accurately acquainted with the true nature of that which threatens."

"In regard to tubercular consumption, a critical study of the history of the disease and its course in civilized people; the important fact that five-sevenths are practically exempt, in such, and especially that a total immunity exists among wild and uncontaminated people; the comparative history of bovine tuberculosis in the same direction indicates that the essential environment to the production and support of a constitution insusceptible to the action of the tubercle bacilli is one which offers the freest possible exposure to the ele-

ments, an abundance of exercise and a sufficiency of strong food, though the latter is the least important of the three factors. The conditions of untrammelled and wild people offer such an environment, and heredity keeps up the constitution supported by it. The modern tendency to the freest possible life in the open air, cold baths and the large sleeping rooms of those having the means, are all environmental conditions having a favorable tendency against consumption. Poverty and ignorance have the opposite history, and present observation teaches, that when men changed from a nomadic life to village communal existence, and the less intelligent and active become differentiated into a class of 'home workers' in confinement; and with the increase of indoor confinement and the limitations on female movement, and physical vigor become an indication of immodesty, with the continued augmentation of people in cities and terrible increase of confinement and sedentary lives, to which must be added insufficient and unsuitable food, under such conditions and in such an environment there gradually developed general constitutional weaknesses, at first only in the weakest individuals, particularly in the systems of circulation and respiration, which were continually increased in intensity by the perfectly unintelligent and virtually insane custom of marriage regardless of physical fitness to bear healthy children, thus continually increasing the tendency to the weaknesses mentioned. The same has occurred in cattle, particularly the Jerseys, Guernseys and Shorthorns, which have been man's fancy breeds, and which have been bred for certain points regardless of physique in other directions. To obtain great yields of milk or beef production, they have been stabled and coddled, fed and forced, utterly regardless of general physique, until the animals have become so refined that, like the women of the past, exercise is the very last thing they are able to undergo. Such conditions necessarily lead to a stagnation of the circulation, and such always finds in the lungs the most favorable point. The final result is what may be termed weak lung tissues, weak circulation, bronchial irritation, with a tendency to bronchial catarrh, weak heart and a generally weak constitution—in other words, exactly the conditions favorable to the lodgment and future development and ravages of the tubercle bacillus. It needs no emphasis from me to the intelligent layman or woman, for in their own families they can probably find evidence enough that no one thinks of any moral responsibility to offspring in the selection of those whom they are to marry. No

one thinks of barring 'lover or love' for any such cause as physical unfitness. Thus has environment and heredity done its work, aided and abetted by ignorance, until two-sevenths of our own race, among them those among whom we live, those we admire, or have around us, are inevitably damned to either become consumptive or die of that disease; while the more fortunate wild man, uncursed by the white man's religion or his refinements and vices, enjoys absolute exemption."

"It is a fact that no native or wild people, who have in no way ever come in contact with the so-called refinements or vices of civilization have been found, which were not always totally exempt from tuberculosis.

"The same is true in the comparison of uncontaminated or absolutely wild cattle, and our refined and domesticated breeds. It is well known that the appearance and extension of tuberculosis in cattle, as in man, bears direct relation to the length of time they have been pampered, and the closeness with which their movements have been confined from exposure to the natural vicissitudes of the climate and the weather. Compare the unfortunate with the fortunate classes in our densely populated cities in this regard. Tuberculosis in a long-horned Texan is almost, if not entirely, unknown. It is exceedingly rare among the range cattle of the West, and it is doubtful if it will extend to any degree in cattle exposed continually to the elements as those are. Compare these facts with the assertion, whether exaggerated or not makes little difference, that "35 per cent of the cattle in Massachusetts," and a very large percentage in other Eastern States, but especially among the Jerseys and fancy breeds, are tuberculous. Compare the percentage in the ordinary "native cattle," and the fancy and pampered breeds. The greatest percentage of tuberculosis in cattle is, as in people, among the poorly strawed cows in the confines of our cities."

"'Tis true that we must all eventually die, but the fact that wild people have no consumption emphatically says that it is false that any one of us should die of consumption. The same is true of insanity, where inherited. We must come down to the hard, dry facts of common sense. We should apply the golden rule to posterity, as many of us wish our parents had. Every child born has a right to demand of its parents to be born so as to be physically and mentally able to meet the vicissitudes of life as the acme of human intelligence could make it. Every parent who brings a child

into the world possessing weaknesses predisposing it to end in consumption is indescribably more guilty than one who commits child-murder.

“Marriages must be removed from all the evils of romantic nonsense. Infatuated lovers and illogical friends may assume ‘Marriage is made in heaven,’ but the fatal facts of hereditary weaknesses in the result, more often introduce innocent children to satanic and long-drawn miseries.

“This being so, it must be considered nothing less than criminal for any person having the responsibilities of a physician, and above all, those making pretensions of being investigators into the causes of disease, to publish such totally unwarranted nonsense as the dangerous transmissibility of tuberculosis from diseased to healthy individuals, and thus to detract the attention of the public from their individual responsibility in the matter. Remember, the responsibility is that of possible parents. Think of it, reader! Think of the curse thousands of us bear in the name of love. Let us no longer be led to blame a comparatively innocent bacillus, even if it does bear a frightfully long name. Let us blame our parents, and their parents. Centuries ago an ancient observer recorded this great sin of humanity. If any disease is paradigmatic that ‘the sins of the father are visited on the children’ for generations, that disease is consumption.”

The responsibility is that of parents. The only relief must be sought in the broadest education as to the terrible responsibilities of life. Do all of them combined rival in pregnant magnitude the production of a child to suffer and die of a disease due to ignorance of the most common experiences of life? But there is still another responsibility. Children eventually make up society. There is a terribly impressive lesson in the fact that uncontaminated wild people are free from consumption, while two-sevenths of us die of it. Society must protect itself. Parents die! Consumptive children are a burden on the community that it should not have. Ignorance is annually increasing the burden numerically and in intensity. Society has the might, and must make it its right, to protect itself against the ignorant and indifferent responsibility of its individuals. Marriages are completed on earth, whatever opinion there may be as to the locality of their primary genesis. It is high time that society, represented by its best and broadest intelligence, took this question of fitness to marry in relation to offspring (valu-

able as pecuniary fitness is, it bears no comparison with this: a healthy, rugged bastard child is more fortunate than a consumptive millionaire and more useful to itself and others) most determinedly in hand. The number of those with constitutional predisposing weaknesses to consumption and mental weakness or other evils is constantly increasing and becoming a vital menace to the welfare of all. It is time this evil were controlled by law for all, rich and poor alike. None should be allowed to marry who could not produce an unquestionable pedigree of physical fitness for man and woman for not less than three generations in each individual.

It is high time that individual liberty to curse the innocent receive a sudden check. If child-murder be punishable by imprisonment, he or she, who should produce a child in the face of the above law, should be peremptorily unsexed. Infanticide is a virtue in comparison to damning the innocent to the life of a consumptive. The germ of human ignorance is a thousand-fold more the cause of consumption than bacillus tuberculosis Kochii. Thinking women are taking up this and kindred questions. It is time the clergy paid more attention to the responsibilities of life for life and let the dead take care of the dead in the unknown. Once priest and physician were one. It is time that the office were again made somewhat communal in both professions. The clergy require more biological knowledge in order to be of service to man living. The medical profession needs some kind of legal or other stirring up to make it see its responsibilities. Even now the physician should find public support among intelligent people when he forbids the bans between people unfitted to become parents from hereditary weaknesses. Let the pulpits once more reverberate with the thunders of salvation, but on earth. Then shall the children be born in a heaven of physical endurance instead of a purgatory of hereditary weaknesses."

A continuance of the absolute control of the contagious diseases of this State, depends upon increased appropriation and a fair appraisal of all animals destroyed, in the opinion of our board, and with these assured, Maine will continue to "lead the way" in protecting the public health, for which no money could be better appropriated.

THOMAS DAGGETT, *President.*

F. O. BEAL, *Secretary and Treasurer.*

GEORGE H. BAILEY, *State Veterinarian.*





## TUBERCULOSIS IN CATTLE.

Read before the Norfolk District Medical Society at Brookline, by  
FREDERICK H. OSGOOD, M. R. C. V. S., March 27, 1894.

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By the kind permission of Dr. F. H. Osgood, we are enabled to publish his recent valuable paper on Tuberculosis. Dr. Osgood is one of the most earnest and active members of the Veterinary profession, and the paper should interest our farming communities as well as the general public.

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Tuberculosis in cattle is a subject of equal importance not only to the veterinarian but to the medical men and public generally. Its eradication from the animals from which we derive so large a portion of our nutrition is of the utmost importance from the standpoint of public health. The subject has not been considered of enough importance in our own State, until 1892, to receive even passing attention from the government when a bill was passed entitled "An Act to more Effectually Prevent the Spread of Tuberculosis among Cattle;" under the provisions of this act an earnest endeavor has been made by the "State Cattle Commission" to do all in their power towards the prevention of the disease; but as in all matters of public health the community from which the legislators are drawn are not sufficiently informed upon the subject to fully understand or appreciate the importance of radical measures in such a disease. Consequently the officers upon whom the enforcement of this law depends are prevented by lack of efficient legislation from carrying on the work in a manner by which the best results could be obtained.

The insidious nature of the disease has much to do with the comparative slowness with which professional and public attention has been directed to it; but the strides which it has made, and the hold which it has gained upon our neat stock render it the most important question affecting the future well-being of the bovine species.

## PREVALENCE.

Owing to the facts that up to within a very short time we have been unable to make a reasonably sure diagnosis, and that we have no systematic inspection of our abattoirs and slaughter houses, there are no available statistics as to the prevalence in our immediate vicinity. All we can do is to reason by analogy from such statistics as are obtainable. The following abattoir statistics showing the percentage of tuberculous animals are of value in this connection: Prussia, 6.3 per cent; Berlin, 12 per cent; Dresden, 14.4 per cent; Bromberg, 26.2 per cent; Upper Silesia, 9.5 per cent.

In England during an outbreak of contagious pleuro-pneumonia, extending over a period of sixteen months (1890-'91) during which period there were slaughtered as being infected, or having been exposed, 12,000 animals all of which under the direction of the Department of Agriculture, were subjected to a critical post mortem examination by skilled veterinary surgeons for the purpose of ascertaining the prevalence of tuberculosis from which were derived the following results: cows, 16.09 per cent; bulls, 1.53 per cent; cattle over one year, 2.77 per cent; cattle under one year, 1 2 per cent.

Of the 12,000 examined 12.22 per cent were found tuberculous. In some herds the rate was as high as 75 per cent and only a few herds were entirely free. Earl Spencer's herd of Jersey's containing twenty odd animals were tested by tuberculin and all reacted. Post mortem examination of the entire herd confirmed the diagnosis. Report P. H. Brice M. S. (P.)

At a recent conference of the Sanitary Association of Scotland, Professor Wright presented estimates that tuberculosis in cows causes an annual loss to the owners of dairy stock in Scotland of 440,000 sterling or \$2,200,000. *Veterinary Journal* (page 391) November, 1893.

Professor Janson of Tokio Veterinary School in his report of the contagious diseases of the domestic animals in Japan, says, tuberculosis is very frequent in mankind but it has never been witnessed among the native cattle though it prevails among those imported into the country especially in the Devons, Ayrshires, Americans, and their crossings with the indigenous breed. According to the abattoir statistics he says 50 per cent of the American cattle and their crossings are tuberculous. *Flemings Journal* (page 45) January, 1894.

From November 1, 1888 to November 1, 1889, Dr. Faville examined 5,297 cattle killed in the vicinity of Baltimore 159 of which were tuberculous; more than 3 per cent.

(From Inspection of Meat and Milk by A. W. Clement, Maryland Medical Journal, February 1, 1890:)

Any reliable estimate of the percentage of tuberculous animals in a given area can not be given for reasons before mentioned; but that it exists to an alarming extent none deny. From my own experience the percentage is variable in different herds bearing a direct ratio to the surroundings and conditions under which such animals have been perpetuated and kept. From the results of 163 examinations by tuberculin test, which I have recently made among cattle widely distributed, which had been periodically examined by physical examination (at which time any animals manifesting marked symptoms of tuberculosis had been destroyed,) twenty-nine showed marked reactions, sixteen of which were apparently in the pink of condition.

In one instance, a family herd of five animals kept especially to provide the children with a pure milk supply, all reacted and post mortem examination confirmed the diagnosis. The causes are exciting and predisposing, both of which seem in a manner to be essential, owing to the fact that the bacillus is so exacting as to suitable conditions for its development and propagation, and each of which must be provided against in so far as possible, in any plans before it will prove efficacious in the suppression of this disease. Koch has demonstrated that the sole exciting cause is the bacillus, but there are many accessory or predisposing causes which are important to consider.

While the preponderance of evidence points clearly to the conclusion that tuberculosis is not as a rule congenital, we recognize at the same time, that it may be, and occasionally is. So much can not be said as to the transmission of a predisposition or diathesis.

Injection may, and usually does, occur either through the respiratory or digestive tract, while it is not impossible through the sexual organs or skin. That any portion of a tuberculous animal or any secretion of such animal, if it contained the bacilli, would be a source of danger, all agree.

That the milk from any animal suffering from tubercular mammitis always contains the bacillus. The result of scientific experiment

shows that the milk of an animal suffering from tuberculosis even though the udder is not involved, may, and occasionally does contain the bacilli. It is not uncommon to find tuberculosis in calves in which cases the lesions are far more common in the digestive than in the respiratory tract, leading us to the conclusion that infection took place through this channel.

#### DISSEMINATION AND PROPAGATION.

Infection by direct inhalation is, I believe, the most common among cattle regardless of the numerous statements of those who have confined their observations principally to the human family. If such is not the case, through what channel does the germ gain entrance, for certain it is that it is only a matter of time, under suitable conditions, after the introduction of a tuberculous animal into a supposedly healthy herd, before a large percentage become victims of the disease. Since by far the greatest number of cases of tuberculosis in milch cows apparently begin in the lungs it is fair to presume that infection occurs as frequently if not more so, from inhalation of dust charged with germ.

Koch says: "Animals produce no sputum so that during their life no tuberculous bacilli gets from them into the outer world, by means of the respiratory passage. Also that in the excrement of tuberculous animals, the bacilli appear to be only exceptionally present. On the contrary, it is a fact that the milk of tuberculous animals can cause infection. With the exception of this one way, therefore, (*i. e.* through the milk) the tuberculous virus can only have effect after the death of the animal and can only cause infection by the eating of the meat;" but the veterinarian who is familiar with the lesions in the respiratory organs, and the general symptoms presented, must take exception to any such misleading statement capable of doing incalculable harm if allowed of application in practice, in the arrangement of our cattle.

The lesions in the lungs not infrequently show ulceration of the wall of the tubercular nodule, by which a communication is formed with the nearest bronchial tube, into which portions of the contents are evacuated and subsequently expelled through the nostrils.

The M. M. of the larynx, trachea, and bronchial tubes may all be the seat of tubercular nodules which undergo softening when they are expelled through the same channels. From the anatomical con-

struction and position in which the head is held it is not uncommon to find a profuse discharge of semi-purulent mucus from such animals. Again experiments made by equally careful investigators seem to point to the fact that the nasal, vaginal and fæcal discharges frequently contain the bacilli when the respective organs are tubercular. In six cows suspected of intestinal tuberculosis 'siegen' has in four of them detected Koch's bacillus in the fæces. In examining the muco-purulent discharge from the vagina of four cows suspected of suffering from uterine tuberculosis in two of which he found Koch's bacillus and the autopsy of the animal fully confirmed the diagnosis."

Report of Paris Congress for the study of Tuberculosis, 1893.

Such infected discharges having gained exit from the body are lodged upon the floor manger or other fittings of the stable where they remain until they become thoroughly dry (retaining at the same time their virulence) when they become pulverized and float about as dust in the atmosphere and liable at any moment to gain access to the system of other animals where if conditions are favorable, the same process is repeated.

Further, it is not at all unusual in our modern stables to see a common trough running in front of the animals from which they all drink. This can be easily remedied if its importance is realized. Observations have led me to believe that cattle tied in rows together are more frequently affected than those confined in boxes. Tuberculosis spreads more rapidly in winter when animals are housed than during the pasturing season.

The following table prepared by "Rock" is of interest in this connection: Of 51,427 cattle slaughtered in 1888-89 in abattoirs and butcher shops in Germany the percentage of infection according to age was as follows: Up to six weeks old, 0.6 per cent; from six weeks to one year, 0.6 per cent; from one year to three years, 11.4 per cent; from three years to six years, 33.1 per cent; over six years, 43.4 per cent; account not given, 11.2 per cent.

(Report of P. H. Bryce, M. D., to the Provincial Board of Health, Toronto, Page 25.)

Such statistics are the very high percentage of infection in milch cows confined in city dairies where they are constantly housed as against the relative freedom of young cattle, as well as the cattle on our Western plains (who lead an outdoor life,) point to the conclusion that atmospheric infection as a result of prolonged and

intimate contact, rather than the milk supply from mother to calf, is the common cause.

Inhalation experiments have been repeatedly made with positive results in a large percentage of cases. Professor Arloing, Director of the Lyons Veterinary School, says: "It is no longer possible to entertain any doubt as to the dangers with which tuberculous cattle threaten their neighbors and descendants. Such animals expel the virus by the respiratory and digestive passages and by the mammary secretions. The virus may infect healthy creatures when introduced into their digestive apparatus with the food or drink, or through the respiratory organs with the air." Oft repeated experiments made by men in whom confidence can be placed, have put these facts beyond all dispute, and various governments both at home and abroad have recognized this by placing tuberculosis upon their list of the contagious diseases of animals. France being the first to do this in 1887.

Of the predisposing causes hereditary predisposition is the most potent. For some reason or other, the bovine species is apparently more predisposed than any other class of animals, whether this is due to the conditions to which they are subjected, or is a natural result of the normal high temperature, is an open question.

It is observed that an animal is not at every time an equally favorable subject for the development of the bacillus for we often observe upon post mortem examination, old points of infection where the nodule had become calcified or encysted pointing to the belief that at time of infection the system was in such a condition as to furnish a suitable breeding ground so that they could multiply and spread, but the tone of the system being improved by the early removal of the predisposing cause. It gradually loses these favorable properties, changes itself into a bad breeding ground and so sets a boundary to the further growth of the bacilli.

The effect of the present system of management of our dairy stock is to deprive them of their natural resisting power against disease. This is due largely to the fact that the price received by the farmers for milk is so low that in order to produce it at a profit he is obliged to force his animals to their extreme limit by constant breeding, abnormally prolonged lactation, and over stimulating food which undermines the constitution and renders the tissues prone to degenerative change.

## DIAGNOSIS.

The only positive means of diagnosis up to within a very short time was microscopic examination of or inoculative experiments with the nasal, vaginal, or mammary secretions whereby the presence of the infective germ could be demonstrated; which methods could not be put into general application.

Physical examination is very difficult and unsatisfactory in a disease which may affect so many organs and tissues. The recognition of disease in the early stages, is almost impossible because in whatever organ it may be situated, the changes are so slight that the functions of the organs are not seriously interfered with, and consequently no marked symptoms are developed.

There are certain anatomical difficulties in the way of making a perfect physical examination of cattle that are not met with in man. In cattle fed for milk or beef the digestive function is all important, and the abdominal organs have been developed by nature and breeding until they encroach upon the thoracic cavity. The first stomach or rumen with a capacity of fifty-five gallons distended with food fluids or gas pressed forward against the diaphragm crowding it into the thorax thereby materially altering the sounds elicited upon percussion over the posterior portion of the lungs. This influence is so irregular and at times so great as to render the results obtained by percussion in this region of but little value. Auscultation is also interfered with, by the soft breathing of cattle, by the thick layer of interlobular connective tissue, by the confusing sounds which originate in the rumen, as well as by the thick skin and mass of muscular tissue interposed between the ear and lung. When the tubercular lesions are located in the liver, intestines, mesenteric and mediastinal glands, it is impossible to make a positive diagnosis till after death, but fortunately we now have an agent by the use of which the disease can be detected in its early stages.

As a result of the researches of Dr. Koch, Professor Gutman of the Veterinary Institute of Dorpat, Russia, experimented on cattle and found the high reaction in tubercular animals equally constant since which time tuberculin has been used with almost uniform satisfaction in the detection of tuberculosis in cattle. "Bollinger says tuberculin is a most valuable aid to diagnosis in the case of cattle suspected of tuberculosis."

London Veterinary Journal, February, 1891.

Satisfactory results have been reported by the imperial sanitary office of Berlin, by the Toulouse Veterinary School, and by the Copenhagen Veterinary School.

The Belgium Minister of Agriculture issued a circular November 22, 1892, giving official sanction to test inoculation for tuberculosis.

Professor Duckerhorf says: "The results are absolute, and gratifying, and show that tuberculin is a reliable agent for determining the presence of tuberculosis in cattle."

Journal Comparative Medicine, October, 1892, page 637.

The conclusions arrived at by the Paris Congress of 1893, for the study of tuberculosis were: "That notwithstanding the negative results which are happily very rare, it is an undeniable fact that the use of tuberculin constitutes by far the best means for detecting the existence of tuberculosis in the domestic animals."

Page 411 F. Journal, December, 1893.

The value of tuberculin as a diagnostic agent in our own country is vouched for by the Bureau of Animal Industry, Prof. Law of Cornell University, Pierson of the University of Pennsylvania, Drs. Peters, Faust, and Cooper Curtis, inspectors for the New York State Board of Health, and J. J. McKenzie of the Provincial Board of Health. Regarding my own feeling in the matter, based upon the results of 163 test inoculations I believe that in it (as the means whereby we can recognize the disease in its early stages) we have the solution of the problem whereby we can not only prevent the spread, but very materially reduce the prevalence of the disease.

In the inoculations which I have lately made, the temperature of the animals in one hundred and eighteen cases, was taken every two hours from 8 A. M. to 8 P. M., after which an injection of 2 c. c. of prepared tuberculin was injected (in ordinary sized animals). The temperature being again taken at 6 A. M. and once in two hours to 6 P. M.

I have observed that animals after a marked reaction when being tested a second time, three weeks later, did not show so high a temperature. Two cases of interest have occurred both of which by physical examination would be immediately condemned as tubercular but much to my surprise neither of them showed any reaction upon inoculation, whereupon I inoculated them a second time at the expiration of three weeks with a second negative result, but so certain was the owner that the one of the animals was tubercular that



he ordered her destroyed. An autopsy was made and the diseased organs sent to Prof. Wm. Whitney of the Harvard Medical School who, after a thorough investigation, pronounced the organs free from tuberculosis. At the expiration of two weeks the second animal died and was subjected to the same examination with like result.

This together with the fact that I have never made an autopsy where I had obtained a positive reaction by this test, where the presence of the bacillus in the diseased tissues was not demonstrated either by a microscopic examination or by inoculation into guinea pigs, lead me to believe that its practical value is such that it should be taken advantage of by every owner of animals kept for the production of milk.

#### ITS RELATION TO THE PUBLIC HEALTH.

Dr. Brush who is a physician and cattle breeder in his paper on the "Coincident Geographical Distribution of Tuberculosis and Dairy Cattle" read before the New York State Medical Society, February 5th, 1894, calls attention to the fact that in lands like Egypt the indigenous inhabitants retain immunity while associating for a long period with consumptive immigrants; while on the other hand in regions like Australia and the Sandwich Islands the inhabitants have become infected after the introduction of dairy cattle. The best dairy cattle breeds he argues, are the tubercular breeds, while others not classed as dairy cattle are exempt from tuberculosis, owing to their vigor and health. Again in all dairy countries the prevalence of tubercular consumption is a settled fact, while the only countries at all in doubt are those where the dairy products are supplied from other sources than our domestic cows. Referring to China he spoke of the pure Chinese as a people who did not use milk, while the Tartars in that country were meat and milk consumers, and therefore the observations of medical men are very confusing, and they confess that they can not understand why the disease prevails among the dominant Tartar class, and not among the poorer Chinese who, according to all preconceived notions, ought to be tubercular.

The doctor then contrasts the conditions in Spain and Morocco where the climatic conditions are about the same. "Morocco where there are no European dairy cows is exempt from tuberculosis while in Spain and Portugal where dairying is carried on in the European style, tuberculosis prevails."

The question of the infection of tuberculosis being conveyed by the milk is often of even greater importance than is infection by flesh for the two-fold reason that the former is largely consumed by infants and is taken generally in an uncooked state; second, the cream and butter from such milk is as dangerous, if not more so, than the milk itself. All agree that the sole exciting cause of tuberculosis is the bacillus or spores.

2nd. Tuberculosis prevails to an alarming extent among our dairy cattle.

3d. While it may occur in any organ or tissue of the body some one or other of the glandular structures is almost universally involved.

4th. The tubercle bacillus is constantly present in the diseased tissue.

5th. If conveyed into the system of men or animals under suitable conditions, tuberculosis with the characteristic tissue change, is sure to follow.

6th. Tuberculosis localized in the mammary gland is of not uncommon occurrence in cattle. Milk from such animals is found to contain the bacilli and is capable of producing the disease.

Unlike other affections of the mammary gland, tuberculosis does not at once change the appearance and quality of the milk secreted. It is a fact that for months after the disease has appeared in the gland the milk is to all appearances normal, and may be sold and consumed without arousing the least suspicion. Authorities are, however, not fully agreed as to whether the milk from tubercular cows in which the udder is not involved, should be considered dangerous; but the results of experiment have been positive in a large number of cases where no recognizable disease of the udder was manifest.

Prof. Ernst and Dr. Peters report from the result of their experiments conducted under the most exacting conditions and with every possible precaution against contamination, that the proportion of positive results in a lot of cows affected with a high degree of general tuberculosis was 80 per cent; in a lot affected with only a moderate degree 66 per cent; and a lot in which the disease was localized in the lungs 33 per cent.

The bacilli could only be demonstrated in one specimen of the milk, showing that inoculation experiments, are the most certain guide as to whether the milk is infectious or not. In conclusion Dr. Ernst says:

1st, and emphatically, that the milk from cows affected with tuberculosis in any part of the body may contain the virus of the disease.

2d. That the virus is present whether there is disease of the udder or not.

3d. That there is no ground for the assertion that there must be a lesion of the udder before the milk can contain the infection of tuberculosis.

4th. That on the contrary the bacilli of tuberculosis are present but with no discoverable udder lesions.

In Bulletin No. 3 of the United States Bureau of Animal Industry (1893) is the report of the inoculation of guinea pigs with milk from six tuberculous cows, where the udder was not visibly diseased, in which positive results were obtained in two cases and negative in four. J. J. McKenzie reports 40 per cent contained bacilli; in animals where no lesions could be found in udder by post mortem examination.

Some authorities, however, still contend that the udder is diseased when the milk is infected, but that the disease escapes observation. However this may be, if such is the case, the mere fact that the udder may be diseased and the disease not recognizable, simply casts suspicion upon all milk from tuberculous animals. When we consider, therefore, the prevalence of tuberculosis and take into account the hidden character of the disease, a certain amount of suspicion rests upon all milk while these conditions exist.

While I do not for a moment contend that animal tuberculosis is the main cause of consumption in the human family, it is, however, an element of danger that should be removed.

#### PROPHYLAXIS.

The remedy for such a condition of affairs can only be provided by legislation which to be efficient must be stimulated by public opinion.

It has recently been demonstrated in the eradication of contagious pleuro-pneumonia, that half measures are of no use in dealing with contagious disease. The only hope of eradicating the disease from a herd and rendering the use of the products safe is the prompt destruction of all infected animals. The diagnosis is now made possible by the use of tuberculin after which the premises

should be thoroughly disinfected. Tubercular attendants should not be allowed to care for dairy cattle.

It is useless for us to think of stamping out the disease by separation and slaughter of the affected animals alone. Although this step must be taken it would be simply so much money thrown away, did we not go further, and look to the hygienic surroundings; taking into consideration what changes were necessary in our present system of breeding and management to enable us to raise a class of animals free from this fatal predisposition and capable of withstanding the effect of the bacillus. Radical changes should be made in a large majority of the stables where animals are confined thus providing suitable ventilation and drainage. The periodical examination of all herds by men of technical skill who will take advantage of the modern scientific methods, and the restriction by law so that no animal should be brought into a stable until it had been submitted to the tuberculin test, except it be vouched for by the inspector of a surrounding district.

Quarantine measures are feasible against cattle coming into the State to remain (since a satisfactory examination can now be made and completed without detaining the animal over twenty-four hours). The national government should enforce the law so that all conveyances in which animals are transported should be thoroughly disinfected after each shipment.

## NOTICE OF QUARANTINE.

TO WHOM IT MAY CONCERN.

Public notice is hereby given, that in consequence of the prevalence of tuberculosis among Massachusetts cattle, as disclosed by the official reports of their authorities, supplemented by post mortems held in Maine of cattle purchased in that state for dairying and breeding purposes, the Cattle Commissioners of the State of Maine believe that the public health of its citizens and the welfare of this commonwealth demand that a rigid quarantine (against all cows whether in milk or dry, and all bulls for breeding purposes) be maintained on and after January 1, 1892, until further notice, and all such cattle entering the State of Maine thereafter will be subject to quarantine at the owner's expense; provided, however, that the above regulations shall not apply to Western cattle coming through Massachusetts into Maine for the purpose of slaughter.

The attention of all persons is directed to sections 2, 3, 4, 5 and 7, of chapter 138, of the Public Laws of Maine, 1887, applying to cattle affected with contagious diseases, and which will hereafter be rigidly enforced.

[Signed]

THOMAS DAGGETT, *President.*F. O. BEAL, *Treasurer.*GEORGE H. BAILEY, *D. V. S.*

A quarantine station will be provided near Morrill's Corner, Deering, where all cattle brought into Maine in violation of the above notice will be kept until discharged, at the expense of the owner or owners; and particular attention is called to the full reprint of the law relating to contagious diseases upon the following pages of this circular-letter, which will be rigidly enforced after this date.

PORTLAND, January 1, 1892.



LAW RELATING TO CONTAGIOUS CATTLE  
DISEASES AS AMENDED IN 1893.

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CHAPTER 194.

An Act to amend an act entitled "An Act to extirpate  
Contagious Diseases among Cattle."

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

SECT. 1. Section one of chapter one hundred and seventy-seven of public laws of eighteen hundred and eighty-nine, is hereby amended by striking out the words, "and other live stock" in the fourth line, and inserting instead the words 'horses and sheep,' so that said section as amended, shall read as follows :

SECT. 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 and sheep, and especially tuberculosis, the governor of the state is hereby authorized and required, immediately after the passage of this act, to appoint a board of cattle commissioners consisting of three persons of known executive ability, who shall be charged with the execution of the provisions of this act, and who shall be known and designated as the State of Maine Cattle Commission, and whose powers and duties shall be those provided for in this act, and whose tenure of office shall be at the option of the governor. The compensation of said commissioners shall be at the rate of three dollars per day during the time they are actually engaged in the discharge of their duties as commissioners. The said commissioners shall respectively take an oath to faithfully perform the duties of their office, and shall immediately organize as such commission by the election of one of their number as president thereof, and proceed forthwith to the discharge of the duties devolved upon them by the provisions of this act.'

SECT. 2. Section two of said act is hereby amended by striking out the word "two" in the twenty-ninth line and inserting instead thereof the word 'one;' and by striking out the words "one hundred" in the thirtieth and thirty-first lines and inserting instead thereof the word 'fifty;' also by striking out the word "one" in the thirty-sixth line, and inserting instead thereof the word 'three;' also by inserting after the word "disease" in the thirty-seventh line the words 'and the owner or owners shall furnish satisfactory evidence as to the time such animal or animals shall have been owned in the state,' so that said section two as amended, shall read as follows:

SECT. 2. That it shall be the duties of the said commissioners to cause investigation to be made as to the existence of tuberculosis, pleuro-pneumonia, foot and mouth disease, and any other infectious or contagious diseases. And such commissioners or their duly constituted agent, are hereby authorized to enter any premises or places, including stock yards, cars and vessels within any county or part of the State in or at which they have reason to believe there exists any such diseases. 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 said commissioners are hereby authorized to give notice, by publication, of the existence of such disease, and the locality thereof, in such newspapers as they may select, and to notify in writing the officials or agents of any railroad, steamboat or other transportation company, doing business in or through such infected locality, of the existence of such disease; and are hereby authorized and required to establish and maintain such quarantine of animals, places, premises or localities as they 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 by them as hereinafter authorized and provided, and also to cause the same to be destroyed, and to pay the owner or owners thereof one-half of their value, as determined upon the basis of health before infection, 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 an animal with pedigree recorded or recordable in the recognized herd-books of the breed in which the animal destroyed may belong, nor more than fifty dollars for an animal which has no recordable pedigree; provided, further, that in no case shall compensation be



allowed for an 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 three years previous to such animals showing evidence of such disease, and the owner or owners 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.'

Approved March 10, 1893.