

**REPORTS ON BOVINE
TUBERCULOSIS
AND PUBLIC HEALTH**

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Reports on Bovine Tuberculosis and Public Health by D. E. Salmon

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TUBERCULOSIS
AND PUBLIC HEALTH**

U. S. DEPARTMENT OF AGRICULTURE,

BUREAU OF ANIMAL INDUSTRY—BULLETIN NO. 53.

D. E. SALMON, D. V. M., Chief of Bureau.

REPORTS

ON

BOVINE TUBERCULOSIS AND PUBLIC HEALTH.

BY

D. E. SALMON, D. V. M.,

*Chairman of the Committee on Animal Diseases and Animal Food
of the American Public Health Association.*



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LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
BUREAU OF ANIMAL INDUSTRY,
Washington, D. C., November 21, 1903.

SIR: I have the honor to transmit herewith a manuscript entitled "Reports on Bovine Tuberculosis and Public Health," and recommend that it be published as Bulletin No. 53 of the Bureau series. The subject-matter of this manuscript is the annual reports on the relationship between bovine and human tuberculosis made to the American Public Health Association for the years 1901, 1902, and 1903 by me as chairman of the committee on animal diseases and animal food, a position which I have held during these years.

The first of these reports was published as Bulletin No. 33 of this Bureau, but the supply is about exhausted. It is included herewith because of the demand for all three reports from a class of people who will make the best possible use of the information given.

Respectfully,

D. E. SALMON,
Chief of Bureau.

HON. JAMES WILSON,
Secretary.

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BOVINE TUBERCULOSIS AND PUBLIC HEALTH.

INTRODUCTION.

Owing to the interest manifested in recent years in the subject of bovine tuberculosis, and particularly in the danger of its being communicated to mankind, it devolved upon the writer, as chairman of the committee on animal diseases and animal food of the American Public Health Association, to prepare and submit reports covering the essential points of this subject and presenting the most striking evidence in his possession. These reports are published herewith. The more important points embraced in the discussion are as follows:

- (1) Extent of bovine tuberculosis in Europe and the United States.
- (2) Effect of products of diseased animals upon the health of consumers, without reference to the direct transmission of a contagious disease.
- (3) The accidental infection of man by inoculation with bovine bacilli.
- (4) The infection of man by consuming the milk of tuberculous cows.
- (5) The results of scientific experiments with regard to the transmission of tuberculosis from man to bovine animals and vice versa.

The results of recent experiments, both in Europe and in the United States, demonstrate that quite frequently tuberculosis bacilli are found in the human subject which are virulent for bovine animals. It must be admitted, therefore, that either the human bacillus under certain conditions takes on an unusual virulence and is then practically identical with the bovine bacillus, or that these especially active bacilli have originated in cattle and caused disease in man. In either case the arguments which have been particularly urged during the last few years against the danger from bovine tuberculosis are shown to be weak and out of harmony with clearly established facts.

The development of our knowledge concerning this question has been rapid, and the facts brought together in these reports will give those interested in the subject a fairly clear idea of its present status.

D. E. SALMON.

BOVINE TUBERCULOSIS AFFECTING THE PUBLIC HEALTH. (First report.)^a

By D. E. SALMON, D. V. M.,

Chief of the Bureau of Animal Industry and Chairman of the Committee on Animal Diseases and Animal Food of the American Public Health Association.

Your committee on animal diseases and animal food has been impressed with the importance of the discussions which occurred at the recent British Congress on Tuberculosis concerning bovine tuberculosis and its effects upon the public health. Some of the opinions expressed at that congress have aroused the most extended interest among physicians and among laymen, and it seems appropriate that your committee should at this time review the subject at some length, in order to make clear what is already known, preparatory to taking steps definitely to settle contested questions by experimentation.

EXTENT OF BOVINE TUBERCULOSIS.

The extent and rapid increase of bovine tuberculosis in various countries has during recent years caused alarm, both because of its effects in reducing the general food supply and its supposed danger to human health.

The slaughterhouse statistics of Prussia show 14.6 per cent of the cattle and 2.14 per cent of the hogs to be tuberculous. In Saxony the percentage is 29.13 for cattle and 3.10 for hogs. In the city of Leipzig the figures are 36.4 for cattle and 2.17 for hogs. (Siedamgrotzky.) Of 20,850 animals in Belgium tested with tuberculin in 1896, 48.88 per cent reacted. (Stubbe.) Of 25,439 tested in Denmark from 1893 to 1895, 49.3 per cent reacted; and of 67,263 tested from 1896 to 1898, 32.8 per cent reacted. (Bang.) An examination of 20,930 cattle in Great Britain, either slaughtered and examined post-mortem or tested with tuberculin, showed 5,441, or 26 per cent, affected with tuberculosis. McFadyean estimates that 30 per cent of the cows in Great Britain are tuberculous.

Figures available in the United States do not cover a sufficient area of our territory to allow us to make a reliable estimate of the extent of tuberculosis with milch cows. There is little doubt, however, but that the disease has been increasing both with dairy cattle and hogs.

^a Report of committee on animal diseases and animal food to the American Public Health Association, at Buffalo, N. Y., September 16-20, 1901. Published also as Bulletin No. 33 of the Bureau of Animal Industry.

From a recent review by Russell and Hastings, of the Wisconsin Agricultural Experiment Station, of tests of cattle for tuberculosis which have been made in the United States, the following summary is presented:^{1a}

Statistics of tests for tuberculosis in the United States.

State.	Number tested.	Number tubercular.	Per cent tubercular.
Vermont	60,000	2,390	3.9
Massachusetts	24,685	12,443	50.0
Massachusetts, entire herds	4,093	1,080	26.4
Connecticut	5,300	.....	14.2
New York, 1894	947	66	6.9
New York, 1897-98	1,200	163	18.4
Pennsylvania	34,000	4,800	14.1
New Jersey	2,500	.....	21.4
Illinois, 1897-98	929	.....	12.0
Illinois, 1899	3,655	560	15.32
Michigan .....	.....	.....	13.0
Minnesota	3,430	.....	11.1
Iowa	873	122	13.8
Wisconsin:			
Experiment station tests—			
Suspected herds	323	115	35.6
Nonsuspected herds	935	84	9.0
State veterinarian's tests—			
Suspected herds	588	191	32.5
Tests of local veterinarians under State veterinarian (cattle intended for shipment to States requiring tuberculin certificate).....	3,421	76	2.2

The State veterinarian of Pennsylvania, Dr. Pearson, thinks that not over 2 per cent of the cattle of that State are tuberculous, and probably if a general test of all the cattle of the other States mentioned were made we should find a very much smaller proportion tuberculous than is indicated by this tabular statement. The explanation of the high percentages that have been given is found in the fact that it has been for the most part suspected herds which have been tested. Admitting that the greater part of these percentages are too high, they are still sufficient to demonstrate the wide distribution of tuberculosis and its comparative frequency.

Our beef cattle, as they come to the large packing houses, are yet comparatively free from tuberculosis. Of 4,841,166 cattle slaughtered in the year 1900 under Federal inspection, but 5,279, or 0.11 per cent, were sufficiently affected to cause the condemnation of any part of the carcass. Of 23,336,884 hogs similarly inspected, 5,440 were sufficiently affected to cause condemnation of some part of the carcass. This is equal to 0.023 per cent, or slightly more than one-fifth the proportion found in beef cattle.

^aReferences are to bibliography at end of bulletin.