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COLLEGE OF AGRICULTURE UNIVERSITY OF NEBRASKA
AGRICULTURAL EXPERIMENT STATION
RESEARCH BULLETIN 30

**An Inquiry Into the Cause of the Increase of
Tuberculosis of Swine**

By L. VAN ES AND H. M. MARTIN

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An Inquiry Into the Cause of the Increase of Tuberculosis of Swine

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Tuberculosis of swine has, as a rule, been looked upon as being transmitted from cattle either thru the feeding of milk products or thru the agency of the manure of feeding yards occupied by both hogs and cattle. This has been the accepted theory of the origin of swine tuberculosis and no doubt it was based upon substantial experimental evidence at the time of its conception and for a considerable period after that. While it was known for some years that swine were occasionally found to contract tuberculosis thru direct or indirect contact with tuberculous poultry, such occurrences, at least in this country, were looked upon as more or less infrequent incidences and even as late as 1923 Mohler (46) reported that: "It is believed that the area eradication work among cattle will eventually eliminate tuberculosis from swine as the greatest source of infection in swine is known to be through following diseased cattle or drinking unpasteurized skim milk from creameries."

In the face of a lack of any volume of evidence contrary to this view it was generally shared by animal pathologists and livestock sanitarians of this country, and the elimination of swine tuberculosis became a very important, altho somewhat secondary objective of the efforts looking forward to the eradication of the bovine disease.

The meat inspection returns for a number of years, however, pointed strongly to the possibility that some factor or factors other than bovine infection operating in the recognized manner may play an etiologic part in the production of swine tuberculosis. Not only do those data fail to show any degree of parallelism between the incidence of bovine and swine tuberculosis, but they present the picture of a very wide divergence for the two types of the disease which were thought to be so closely correlated.

As shown by the graphs represented in Figs. 1 and 2 which were projected from the data submitted in Tables 1 and 2, the curve representing the total retentions on account of tuberculosis in cattle, gently declining or inclining remains,

on the whole, close to a horizontal position and during no one year does the number of retentions amount to much more than 27 per thousand animals slaughtered. The curve showing the number of animals condemned, even more closely adhering to a certain level, on the whole follows the curve representing the retentions.

In the graph, based upon the tuberculosis data pertaining to swine, the curve representing the number of condemnations per thousand animals slaughtered is even more level and

TABLE 1.—*Number of cattle slaughtered during period 1907-1922 and number of animals retained and condemned. (Table prepared from data published in Yearbook of U. S. Department of Agriculture for 1922, p. 217.)*

Year	Slaughtered	Retained		Condemned	
		No.	Per 1000	No.	Per 1000
1907 ¹	5,867,642	24,876	4.23	17,117	2.91
1908.....	7,116,275	68,395	9.61	24,371	3.42
1909.....	7,325,337	100,650	13.74	24,525	3.34
1910.....	7,962,189	123,501	15.51	27,638	3.47
1911.....	7,781,030	133,551	17.16	27,186	3.49
1912.....	7,532,005	160,122	21.27	35,273	4.68
1913.....	7,155,816	152,560	21.31	33,001	4.61
1914.....	6,724,117	143,699	21.36	29,738	4.42
1915.....	6,964,402	158,239	22.72	32,644	4.68
1916.....	7,404,288	190,991	25.79	37,085	5.00
1917.....	9,299,489	218,928	23.53	46,351	4.98
1918.....	10,938,287	222,787	20.38	40,692	3.90
1919.....	11,241,991	205,698	18.31	37,600	3.35
1920.....	9,709,819	200,917	20.70	37,762	3.99
1921.....	8,179,572	173,658	21.35	33,328	4.19
1922.....	7,871,457	212,978	27.05	38,804	4.93

¹Covers 9 months from October 1, 1906, to June 30, 1907.

stable during the period studied than the same curve dealing with cattle tuberculosis, practically ranging only between one and two per thousand. On the other hand the curve pertaining to swine retained for tuberculosis shows a marked rise from the beginning of the period to the last, with the exception of the slight decline for the year 1919. The number of retentions of swine on account of tuberculosis per thousand animals slaughtered rose from 13.83 in 1907 to 163.87 in 1922. Thus there apparently took place in the period, 1907-1922, an increase of close to 150 per 1,000 hogs

slaughtered, of a type of tuberculosis not sufficiently progressive to lead to the condemnation of the carcasses.

No doubt improvements in the technique of meat inspection may be responsible for a greater number of retentions, but under a system of meat inspection operating under the same general rules and supervision, marked differences in their relative number for cattle and swine can not reasonably be expected if a greater proficiency of inspectors were the only factor to be considered in this problem.

TABLE 2.—*Number of swine slaughtered during period 1907-1922 and number of animals retained and condemned. (Table prepared from data published in Yearbook of United States Department of Agriculture for 1922, p. 217.)*

Year	Slaughtered	Retained		Condemned	
		No.	Per 1,000	No.	Per 1,000
1907 ¹	26,189,026	362,445	13.83	48,544	1.85
1908.....	35,113,077	719,279	20.48	77,554	2.20
1909.....	35,427,931	860,425	24.28	45,113	1.27
1910.....	27,656,021	792,176	28.64	28,880	1.04
1911.....	29,916,363	1,117,789	37.36	31,517	1.08
1912.....	34,966,378	1,643,100	47.00	42,267	1.21
1913.....	32,287,538	1,809,751	56.05	47,632	1.47
1914.....	33,289,705	2,201,005	66.11	48,252	1.44
1915.....	36,247,958	2,774,835	76.55	66,023	1.82
1916.....	40,482,799	3,687,817	91.09	74,109	1.83
1917.....	40,210,847	3,978,168	98.93	76,807	1.91
1918.....	35,449,247	3,494,587	98.58	59,740	1.68
1919.....	44,398,389	4,103,376	92.42	65,837	1.48
1920.....	38,981,914	4,262,719	109.35	65,609	1.68
1921.....	37,702,866	4,693,305	124.48	64,830	1.71
1922.....	34,416,439	5,640,061	163.87	70,304	2.04

¹Covers 9 months from October 1, 1906, to June 30, 1907.

While during the period under consideration the rate of cattle retentions as compared with condemnations increased 3.7 times, those in swine multiplied 10.8 times under the same meat inspection practices.

This great increase in the number of swine found to be tuberculous presented a problem, the solution of which appeared to be desirable before adequate control measures could be devised or recommended. In the hope that a solution of the problem may be found this station undertook an investigation and attempted by experimental inquiry to deter-

mine the infection type of the tuberculosis associated with the animals which constituted the bulk of the retentions.

In view of the apparent increased incidence and spread of tuberculosis among poultry in a large hog raising section, of which Nebraska forms a part, the experimental project mentioned was to a large extent so directed as to prove or disprove the hypothesis that avian infection may at least in part be held accountable for the great morbidity rate for tubercu-

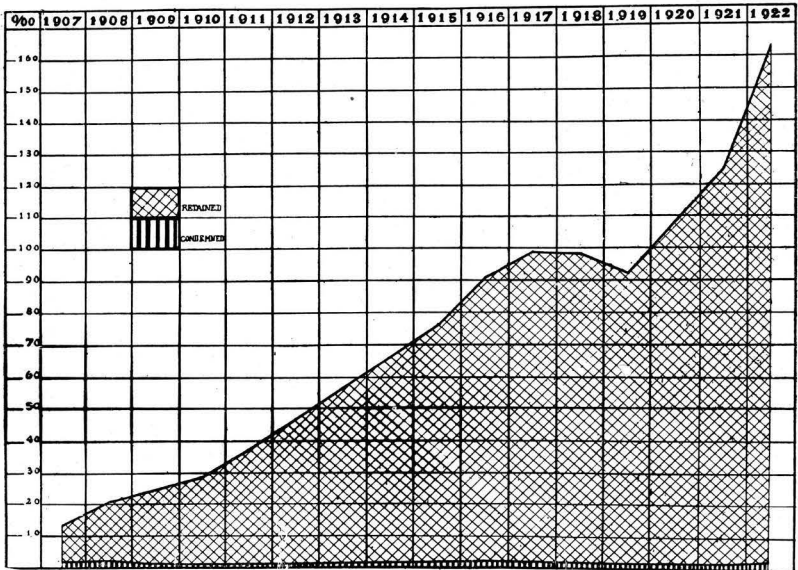


FIG. 1.—Retentions and condemnations, on account of tuberculosis, per 1000 head of swine slaughtered between 1907 and 1922.

losis among swine and its marked increase during the last fifteen years.

Evidence that avian infection may cause tuberculosis in swine and that the pathogenicity of the avian type of the tubercle bacillus is not strictly confined to birds has grown in volume since 1904 when Weber and Bofinger (53) demonstrated for the first time the presence of avian tubercle bacilli in the caseous lymphnodes of a three-months-old pig which was otherwise entirely free from tuberculosis.

Much of the early work, such as that by Gilbert and Roger (28), Cadiot, Gilbert and Roger (11), Courmont and Dor

(17), Maffucci (42), Vignal (51), Kossel, Weber and Heuss (39), and Rabinowitch (47), as well as some of a later date by Koch and Rabinowitch (38), Bang (3), Zwick (54), De Haan (9), Bang (4), Arloing (1), De Jong (22-23), Carl (13), and Zwick and Zeller (55) pertain largely to the relation of the avian to the mammalian type of infection and vice versa, and helped to establish a definite technique of differentiation between the two types. As practically all the

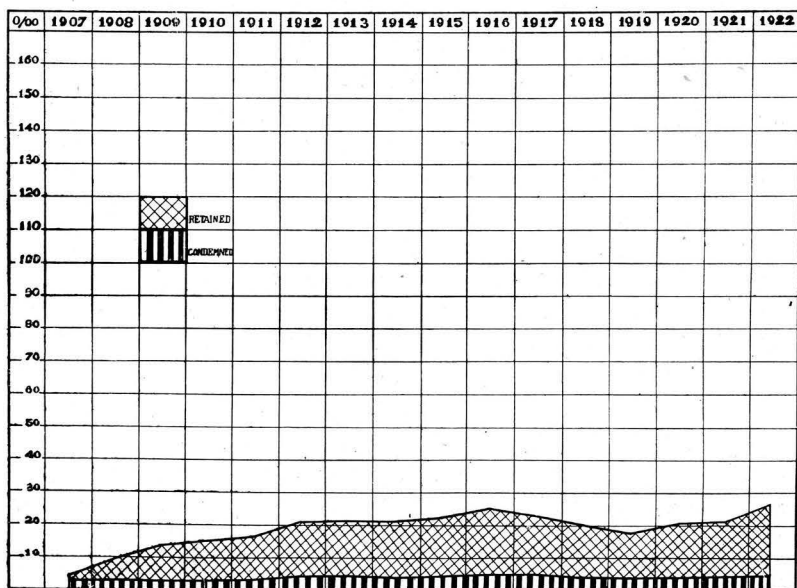


FIG. 2.—Retentions and condemnations, on account of tuberculosis, per 1000 head of cattle slaughtered between 1907 and 1922.

observations made concerned the smaller laboratory animals and fowls they did not disclose the fact that avian infection, aside from poultry, was to be considered as a source of infection to other farm animals.

The susceptibility of swine to avian tuberculosis was first shown by De Jong (20) in 1905, who 5 years later (21) reported a case of spontaneous infection which had produced a generalized tuberculosis necessitating the condemnation of the carcass. He concluded from his observations and experiments that swine belong to a category of mammals susceptible

to both mammalian and avian tuberculosis. Titze (49) and Kersten and Ungermann (37) on the other hand either failed to transmit avian tuberculosis to swine or could not demonstrate its presence in the tuberculous hogs examined. Weber (54) did not care to exclude the possibility of avian infection in swine, but like Eber (27) did not appear to attach much importance to it.

Mohler and Washburn (44-45) of this country demonstrated the susceptibility of swine to poultry tuberculosis and reported an outbreak in Oregon where apparently a spontaneous transmission had taken place. In 1911 the British Royal Commission on tuberculosis (48) reported that of 59 cases of tuberculosis of swine of which the type of infection was definitely determined, 5 cases showed avian infection, while in another the avian as well as the bovine bacillus were jointly associated with the lesions.

Bang (5-6) found evidence indicating the transmission of tuberculosis to swine from an infected flock of poultry and observed further that infected swine gave a stronger reaction to avian tuberculin than to a tuberculin prepared with bacilli of the human type. According to this author avian tuberculosis is accountable for a part of the swine tuberculosis encountered in Denmark. This opinion found ample support in the work of Christiansen (14-15) who typed the bacilli found in 118 hogs and demonstrated the presence of avian infection in 86 animals, of the bovine type in 28 animals, while those found in the remaining 4 were classified as atypical. The importance of an avian source of infection in dealing with tuberculosis in swine in Denmark is further emphasized by Bang and Holm (7), Brieg (8-9-10), and others.

Eastwood and Griffith (26) found avian infection in 9 of the 34 animals comprising one group examined and in 17 of another group of 59 tuberculous swine.

The importance of the avian type of tubercle bacillus as a cause of hog tuberculosis is further emphasized by Junack (35-36), Joest (33), Douma (25), Day (18), De Jong (24), and Helm (30).

The various observations and experiments reported fully justified in our local problem serious consideration of a possible avian source.

To that end the writers endeavored above all to ascertain the bacillary types found to be present in the lesions examined and to employ such a method that, if avian bacilli were pres-

ent, the fact would not escape attention. While it was assumed that if mammalian types were found, they would be of bovine origin, the scheme of investigation provided for their further typing in case they were found frequently enough to be regarded as factors in the increase of the incidence of swine tuberculosis. The results of the inquiry, however, were such as to render the further typing of the mammalian bacilli quite unnecessary.

The typing was entirely accomplished by the use of animal inoculations. Altho a number of strains were isolated and brought under cultivation, preference was given to the use of cavia and fowls in order to bring to light the different pathogenic characters of the organisms present in the material studied.

This material consisted almost entirely of the cervical and mesenteric lymphnodes of swine affected with the more or less non-progressive forms of tuberculosis, which are the preponderating causes for retentions at abattoirs and which group is more than any other responsible for the increased incidence of swine tuberculosis since 1907.

The lymphnodes were secured through the courteous and efficient co-operation of the inspectors in charge of the Federal Meat Inspection Stations of Omaha, Nebraska; Nebraska City, Nebraska; Sioux City, Iowa, and St. Joseph, Missouri, who also indicated the origin of the swine from which the material was obtained. All the material used in the experiment was obtained from Nebraska swine with the exception of one consignment which came from a South Dakota shipment.

The latter detail was deemed advisable in order to secure, if possible, surveys of the livestock on the farms of origin. Unfortunately this proved to be possible in only a very few instances.

As soon as practicable after the arrival of the material the caseous material of the lymphnodes was removed, examined for bacilli, and brought in suspension for inoculation purposes. Two or more cavia were injected subcutaneously in the inner face of the thigh, while two or more fowls were injected intravenously with the same suspension. In addition, the fowls were permitted to eat a quantity of what was left of the lymphnodes after the removal of the caseous material. At times trouble was encountered on account of the presence of septic organisms in the lymphnodes which resulted in the premature deaths of the cavia and very rarely also of

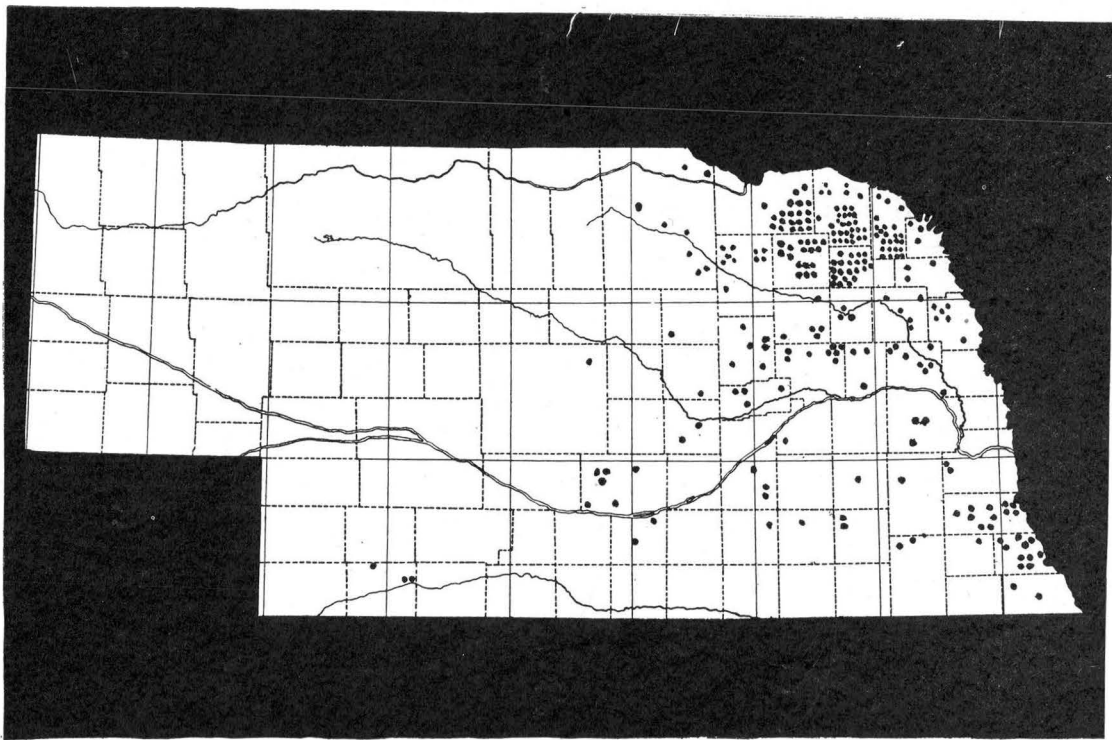


FIG. 3.—Map of Nebraska indicating the approximate location of farms where material used in the inquiry originated

the fowls. Treatment with very weak solutions of antiformin was always successful in the prevention of such accidents. In a number of instances a repetition of the inoculation experiments became necessary on account of the occurrence of fatal disease among the guinea pigs. Looking forward to such contingencies, a part of the original infective material, kept in cold storage, was always held available until termination of each experiment.

The fowls used as test animals were nearly all obtained from the station flock in which no tuberculosis had occurred for at least 6 years. As an additional precaution against the presence of spontaneous disease, all birds entering into the experiment were tested with avian tuberculin. No chickens were procured in the open market and the few not supplied by the station were purchased out of private flocks.

The inoculated animals were permitted to live for approximately 3 months, unless any of those infected with the same material died earlier and showed unmistakable evidence of tuberculous infection. In such a case the remaining cavia and fowls would be killed and examined, provided that not less than 8 weeks had passed since the inoculation. No animals were killed and their condition accepted as experimental evidence after a shorter period.

The autopsy results enabled the writers to distinguish certain definite groups among the material examined which in their opinion justified the following classifications:

Group I: Negative results. In the experiments ranged under this division, tuberculosis was not produced in any of the animals inoculated. In all probability the bacilli of the original lesions had died or were present only in such small numbers as to be incapable of producing disease.

Group II: Infection due to a mammalian type of tubercle bacilli. As the base for classification under this group served the fact that the guinea pigs as a result of the inoculation developed a marked, generalized, progressive tuberculosis, while the fowls inoculated with the same material remained entirely free from tuberculous lesions or the latter consisted only of one or two strictly localized, small, non-progressive, indurated, or caseous nodules.

Group III: Infection caused by the avian type of *Bacillus tuberculosis*. If the inoculation caused a manifest, marked, or extensive tuberculosis in the fowls and failed to produce either any lesions at all in the cavia, or such as were so en-

tirely localized, non-progressive, and small as to cause no disturbance in the animal's health or well-being, the results were accepted as evidence of infection by the avian type of bacillus and of a transmission of tuberculosis from poultry to swine.

Group IV: Infection of probable avian origin. In a small number of the cases the inoculation experiments resulted in the production of one or two small, isolated, non-progressive nodules in the fowls, while no lesions of any kind could be demonstrated in the cavia. The writers regard such lesions as being due to avian infection, but on account of the possibility that a similar lesion could readily have been missed in the cavia, it was thought wise to include this type of results in a separate group.

Group V: Infection resulting in the development of tuberculosis in both cavia and fowls. Results of this nature were classified as due to a mixture of mammalian and avian types of bacilli. The term "mixed types" is used largely because it is convenient. There is, however, no reason to doubt the existence of ambivirulent strains of tubercle bacilli entirely capable of producing tuberculosis of identical severity and type in guinea pigs as well as fowls. In the experiments reported at this time, no attempt was made to pursue this question any further and hence this group may include infection results by the simultaneous action of avian and mammalian types of bacilli, by the action of mammalian types also capable of producing a marked tuberculosis in fowls, or by the action of avian types endowed also with pathogenic qualities toward cavia.

Here follow statements pertaining to each lymphnode consignment received and examined, to the inoculation results observed, and to the classification of the infection type of each shipment of swine from which the material was obtained:

No. 3188. A shipment of 56 hogs by F. M., Platte County. Tuberculosis in 21 animals. Lesions in cervical and mesenteric lymphnodes. Bacilli present in the lesions.

INOCULATION RESULTS

	<i>Cavia</i>	<i>Fowls</i>
Negative		Both fowls developed small lesions in liver and spleen in which bacilli were found to be present.
Classification of infection type=Avian.		

No. 3189. A shipment of 59 hogs by A. F., Custer County. Tuberculosis in 6 animals. Lesions in cervical and mesenteric lymphnodes. Bacilli present in the lesions.

INOCULATION RESULTS

	<i>Cavias</i>		<i>Fowls</i>
Negative		A marked tuberculosis of liver and spleen in one fowl and a less extensive infection in the other. In the lesions of the former, bacilli were plentiful but very scarce in those of the latter.	

Classification of infection type=Avian.

No. 3199. A shipment of 66 hogs by J. R. K., Stanton County. Tuberculosis in 5 animals. Lesions in cervical lymphnodes only. Bacilli present in lesions.

INOCULATION RESULTS

	<i>Cavias</i>		<i>Fowls</i>
Negative		Negative or doubtful.	

Classification of infection type=Undetermined.

No. 3266. A shipment of 57 hogs by L. B. M., Holt County. Tuberculosis in 6 animals. Lymphnode lesions only.

INOCULATION RESULTS

	<i>Cavias</i>		<i>Fowls</i>
Negative		Developed marked or extensive tuberculosis of liver and spleen in which bacilli were numerous.	

Classification of infection type=Avian.

No. 3279. A shipment of 68 hogs by D. O'S., South Dakota. Tuberculosis in 46 animals. Lesions in cervical and mesenteric lymphnodes. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Cavias</i>		<i>Fowls</i>
Negative		Slight tuberculous lesions developed in liver and spleen in which bacilli were present.	

Classification of infection=Avian.

No. 3422. A shipment of 71 hogs by A. L., Cuming County. Tuberculosis in 6 animals. Lymphnode lesions only in which bacilli were found to be present.

INOCULATION RESULTS

	<i>Cavias</i>		<i>Fowls</i>
Negative		Negative	

Classification of infection type=Undetermined.

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No. 3445. A shipment of 51 hogs by E. N., Dodge County. Tuberculosis in 28 animals. Lesions in cervical and mesenteric lymphnodes in which bacilli were found to be present.

	INOCULATION RESULTS	
Negative	<i>Caviae</i>	<i>Fowls</i>
		Slight lesions in one fowl only. Bacilli present in the lesions.
	Classification of infection type=Probably avian.	

No. 3477. A shipment of 83 hogs by T. E. K., Holt County. Tuberculosis in 15 animals. Bacilli found to be present in the lesions.

	INOCULATION RESULTS	
Negative	<i>Caviae</i>	<i>Fowls</i>
		Marked tuberculosis of the liver and spleen of one fowl. Bacilli present in the lesions, but not numerous. The other fowl showed no evidence of disease.
	Classification of infection type=Avian.	

No. 3499. A shipment of 82 hogs by R. A. G., Buffalo County. Tuberculosis in 16 animals. Bacilli were present in the lesions.

	INOCULATION RESULTS	
Negative	<i>Caviae</i>	<i>Fowls</i>
		In one fowl no lesions could be found. The other one showed one tuberculous nodule in the spleen in which bacilli could be shown.
	Classification of infection type=Probably avian.	

No. 3500. A shipment of 65 hogs by F. S., Holt County. Tuberculosis in 13 animals. Bacilli could be shown in the lesions.

	INOCULATION RESULTS	
Negative	<i>Caviae</i>	<i>Fowls</i>
		In one fowl lesions could not be found, while in the other liver and spleen showed a marked tuberculosis with an abundance of bacilli present in the lesions.
	Classification of infection type=Avian.	

No. 3533. A shipment of 55 hogs by T. B. B., Boone County. Tuberculosis in 6 animals. Slight lesions of cervical lymphnodes in which bacilli could not be found.

	INOCULATION RESULTS	
Negative	<i>Caviae</i>	<i>Fowls</i>
		Negative
	Classification of infection type=Undetermined.	

No. 3553. A shipment of 60 hogs by G. R., Cuming County. Tuberculosis in 37 animals. Lesions of cervical and mesenteric lymphnodes.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Marked or extensive tuberculosis of liver and spleen. Bacilli very numerous in the lesions.

Classification of infection type=Avian.

No. 3610. A shipment of 13 hogs by G. R., Nemaha County. Tuberculosis in three animals. Slight calcareous lesions in cervical lymphnodes in which bacilli were present.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Tuberculosis of spleens and livers. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 3611. A shipment of 11 hogs by W. H. K., Nemaha County. Tuberculosis in 3 animals. Slight caseo-calcareous lesions of cervical lymphnodes in which bacilli were present.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Extensive tuberculosis of livers and spleens in which enormous masses of bacilli could be shown.

Classification of infection type=Avian.

No. 3612. A shipment of 3 hogs by A. M., Nemaha County. Tuberculosis in one animal. Slight caseo-calcareous lesions in cervical and mesenteric lymphnodes. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		One fowl showed no lesions and the other one only one small nodule in the spleen in which bacilli were numerous.

Classification of infection type=Probably Avian.

No. 3613. A shipment of 10 hogs by J. F. C., Nemaha County. Tuberculosis in 3 animals. Slight lesions in the cervical and well marked caseo-calcareous lesions in the mesenteric lymphnodes. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Tuberculosis of livers and spleens. A moderate number of bacilli were found to be present in the lesions.

Classification of infection type=Avian.

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No. 3614. A shipment of 10 hogs by H. C. S., Otoe County. Tuberculosis in 2 animals. Slight lesions in the cervical lymphnodes and well marked or extensive caseo-calcareous lesions of the mesenteric lymphnodes. Bacilli were present in the lesions.

	INOCULATION RESULTS	
Negative	<i>Cavias</i>	<i>Fowls</i>
		Slight tuberculous lesions of spleen and liver in which bacilli were present.

Classification of infection type=Avian.

No. 3615. A shipment of 5 hogs by P. B., Otoe County. Tuberculosis in 2 animals. Slight lesions of the cervical lymphnodes and well marked or extensive caseo-calcareous lesions of the mesenteric lymphnodes. Bacilli were present in the lesions.

	INOCULATION RESULTS	
Negative	<i>Cavias</i>	<i>Fowls</i>
		Tuberculosis of livers and spleens. Bacilli were plentiful in the lesions.

Classification of infection type=Avian.

No. 3616. A shipment of 7 hogs by H. H., Johnson County. Tuberculosis in 3 animals. Slight caseo-calcareous lesions of cervical lymphnodes in which bacilli were found to be present.

	INOCULATION RESULTS	
Negative	<i>Cavias</i>	<i>Fowls</i>
		Marked tuberculous of livers and spleens. Bacilli were plentiful in the lesions.

Classification of infection type=Avian.

No. 3617. A shipment of 17 hogs by F. M., Otoe County. Tuberculosis in 3 animals. Slight and extensive lesions in cervical, bronchial, portal, and mesenteric lymphnodes and in lungs, liver and spleen. Bacilli were found to be present in the lesions.

	INOCULATION RESULTS	
Negative	<i>Cavias</i>	<i>Fowls</i>
		One fowl showed no lesions and the other one a slight tuberculosis of the liver, in the lesions of which bacilli were present in abundance.

Classification of infection type=Avian.

No. 3618. A shipment of 15 hogs by R. K., Nemaha County. Tuberculosis in 3 animals. Slight lesions of the mesenteric lymphnodes. Bacilli were present in the material.

	INOCULATION RESULTS	
Negative	<i>Cavias</i>	<i>Fowls</i>
		Tuberculosis of livers and spleens. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 3619. A shipment of 7 hogs by P. F. N., Otoe County. Tuberculosis in 3 animals. Slight or slightly caseo-calcareous lesions in liver and in cervical, bronchial, portal, and mesenteric lymphnodes. Bacilli were present in the lesions.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Marked tuberculosis of spleens and livers in the lesions of which bacilli were present.

Classification of infection type=Avian.

No. 3629. A shipment of 62 hogs by G. J., Thurston County. Tuberculosis in 19 animals, cervical lymphnodes affected in 14 and mesenteric lymphnodes in 5 animals. All lesions were old and calcareous and bacilli could scarcely be found in them.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Negative in one fowl while the other showed 3 small tuberculous nodules in which bacilli could not be found.

Classification of infection type=Probably Avian.

No. 3701. A shipment of 65 hogs by J. L., Stanton County. Tuberculosis in 8 animals. Slight lesions of cervical and mesenteric lymphnodes in which bacilli could be found.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Marked and extensive tuberculosis of livers and spleens. Bacilli could be shown in the lesions.

Classification of infection type=Avian.

No. 3732. A shipment of 63 hogs by N. V. P., Burt County. Tuberculosis in 26 animals; cervical lesions shown in 15 and mesenteric lesions in 11 animals. Bacilli were present in the lesions.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Tuberculosis of livers and spleens. Bacilli present in the lesions.

Classification of infection type=Avian.

No. 3909. A shipment of 56 hogs by F. M. A., Holt County. Tuberculosis in 23 animals. Lesions of cervical and mesenteric lymphnodes. Bacilli were abundant in the material.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Negative

Classification of infection type=Undetermined.

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No. 3931. A shipment of 45 hogs by C. F. F., Madison County. Tuberculosis in 34 animals. Bacilli present in the lesions.

	INOCULATION RESULTS	
<i>Cavia</i>		<i>Fowls</i>
Extensive, generalized and progressive tuberculosis in both caviae. Material contained but few bacilli.	Negative	

Classification of infection type=Mammalian.

No. 3999. Tuberculous mesenteric lymphnodes from a hog affected with hog cholera examined for C. W. M., Cass County. Bacilli present in the lesions.

	INOCULATION RESULTS	
<i>Cavia</i>		<i>Fowls</i>
Negative		Tuberculosis of spleens and livers. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4006. Tuberculous mesenteric lymphnodes of a hog affected with hog-cholera submitted by W. D., Cass County. Bacilli were abundant in the lesions.

	INOCULATION RESULTS	
<i>Cavia</i>		<i>Fowls</i>
Negative		Tuberculosis of livers in the lesions of which bacilli were present.

Classification of infection type=Avian.

No. 4032. A shipment of 61 hogs by P. C. A., Wayne County. Tuberculosis in 17 animals: 11, cervical lymphnodes; 5, mesenteric lymphnodes; one, cervical and mesenteric lymphnodes. Bacilli were found to be plentiful in the material.

	INOCULATION RESULTS	
<i>Cavia</i>		<i>Fowls</i>
Negative		Tuberculosis of livers and spleens with bacilli present in the lesions.

Classification of infection type=Avian.

No. 4126. A shipment of 81 hogs by F. W. S., Saunders County. Tuberculosis in 18 animals. Lesions in cervical and mesenteric lymphnodes. Bacilli were abundant in the material.

	INOCULATION RESULTS	
<i>Cavia</i>		<i>Fowls</i>
Negative		Tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4133. A shipment of 48 hogs by C. C., Buffalo County. Tuberculosis in 3 animals. Slight lesions of the cervical lymphnodes in which bacilli were present.

INOCULATION RESULTS

	<i>Cavias</i>		<i>Fowls</i>
Negative		Marked tuberculosis of both fowls.	
		Lesions in livers, spleens, lungs,	
		and cervical lymphnodes. Bacilli	
		were present in the lesions.	

Classification of infection type=Avian.

No. 4143. A shipment of 4 hogs by J. G., Nemaha County. Tuberculosis in 2 animals. Extensive lesions of liver, and lungs, and cervical, bronchial, portal, and mesenteric lymphnodes. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Cavias</i>		<i>Fowls</i>
Tuberculosis in all 4 cavias, but only in one was the disease generalized and progressive		Negative	

Classification of infection type=Mammalian.

No. 4144. A shipment of 25 hogs by D. E. W., Richardson County. Tuberculosis in 13 animals. Slight lesions of cervical and mesenteric lymphnodes. The lesions contained many bacilli.

INOCULATION RESULTS

	<i>Cavias</i>		<i>Fowls</i>
Negative		Tuberculosis of livers and spleens with bacilli present in the lesions.	

Classification of infection type=Avian.

No. 4145. A shipment of 5 hogs by A. F. D., Otoe County. Tuberculosis of one animal. Slight lesions of cervical lymphnodes. Bacilli were present in the material.

INOCULATION RESULTS

	<i>Cavias</i>		<i>Fowls</i>
Negative		Negative	

Classification of infection type=Undetermined.

No. 4146. A shipment of 29 hogs by F. P., Otoe County. Tuberculosis in 6 animals. Slight lesions in cervical lymphnodes and in one case also extensive lesions of mesenteric lymphnodes. Bacilli were abundant in the material.

INOCULATION RESULTS

	<i>Cavias</i>		<i>Fowls</i>
Negative		Tuberculosis of spleens and livers. Bacilli were present in the lesions.	

Classification of infection type=Avian.

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No. 4147. A shipment of 4 hogs by L. E., Nemaha County. Tuberculosis in one animal. Slight lesions of cervical lymphnodes in which bacilli were present.

	INOCULATION RESULTS	
<i>Caviae</i>		<i>Fowls</i>
Negative	Negative	
Classification of infection type=Undetermined.		

No. 4148. A shipment of 22 hogs by L. A., Nemaha County. Tuberculosis in 6 animals. Lesions in lungs and liver and in cervical, bronchial, portal, and mesenteric lymphnodes. Bacilli were present in the material.

	INOCULATION RESULTS	
<i>Caviae</i>		<i>Fowls</i>
Generalized, progressive tuberculosis in 3 <i>caviae</i> , while the fourth presented no lesions.	One fowl presented an isolated nodule in the spleen while the other showed marked tuberculosis of the liver, several nodules in the spleen, and a few in the intestine. Bacilli were present in the lesions.	
Classification of infection type=Mixed.		

No. 4149. A shipment of 8 hogs by F. H., Otoe County. Tuberculosis in 2 animals. Slight lesions of cervical lymphnodes. Bacilli could not be found in the lesions.

	INOCULATION RESULTS	
<i>Caviae</i>		<i>Fowls</i>
Negative	Negative	
Classification of infection type=Undetermined.		

No. 4150. A shipment of 6 hogs by C. W., Nemaha County. Tuberculosis in 3 animals. Slight lesions of cervical lymphnodes. Bacilli were not found in the lesions.

	INOCULATION RESULTS	
<i>Caviae</i>		<i>Fowls</i>
Negative	Marked tuberculosis of both fowls. Bacilli present in the lesions.	
Classification of infection type=Avian.		

No. 4151. A shipment of 10 hogs by H. M., Nemaha County. Tuberculosis in 3 animals. Slight lesions of cervical lymphnodes. Bacilli could not be found in the lesions.

	INOCULATION RESULTS	
<i>Caviae</i>		<i>Fowls</i>
Negative	Negative	
Classification of infection type=Undetermined.		

No. 4152. A shipment of 11 hogs by W. G., Otoe County. Tuberculosis in 2 animals. Slight lesions of cervical and mesenteric lymphnodes. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Tuberculosis of spleens and livers of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4153. A shipment of 15 hogs by A. L., Otoe County. Tuberculosis of 4 animals. Lesions of cervical and mesenteric lymphnodes. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Extensive tuberculosis in both fowls. Lesions in liver, spleen, kidneys, and lungs. Bacilli plentiful in the lesions.

Classification of infection type=Avian.

No. 4163. A shipment of 79 hogs by E. H. W., Otoe County. Tuberculosis in 5 animals. Lesions of cervical lymphnodes. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Negative

Classification of infection type=Undetermined.

No. 4193. Lesions from 3 hogs which had reacted to a tuberculin test. The lesions were slight and bacilli were scarce in them. Hogs owned by G. H., Buffalo County.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		A slight tuberculosis of the liver and spleen of one fowl and extensive tuberculous lesions in those of the other fowl. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4366. Shipment of 150 hogs by O. C., Saline County. Tuberculosis in 24 animals. Lesions of lymphnodes. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Tuberculosis of livers and spleens. Bacilli present in the lesions.

Classification of infection type=Avian.

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No. 4388. A shipment of 68 hogs by F. U., Madison County. Tuberculosis in 13 animals. Slight lesions of cervical and mesenteric lymphnodes. Bacilli were found to be numerous in the material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Extensive tuberculosis of both fowls. Lesions in liver, spleen, lungs, and mesentery. Bacilli were very numerous in the lesions.

Classification of infection type=Avian.

No. 4409. A shipment of 9 hogs by W. M. M., Otoe County. Tuberculosis in 6 animals. Lesions in cervical and mesenteric lymphnodes in which bacilli were numerous.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Extensive tuberculosis of both fowls. Lesions in spleen, liver, lungs, gall bladder, and mesentery. Bacilli numerous in the lesions.

Classification of infection type=Avian.

No. 4414. A shipment of 56 hogs by E. H., Cuming County. Tuberculosis in 10 animals. Lesions in cervical lymphnodes in 9 and in mesenteric lymphnodes in one animal. A few bacilli were present in the material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Slight tuberculosis of the livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4416. A shipment of 70 hogs by M. J., Boyd County. Tuberculosis in 26 animals. Lesions in cervical lymphnodes, 15; in mesenteric lymphnodes, 7; and in cervical and mesenteric lymphnodes, 4. Bacilli were numerous in the material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Extensive tuberculosis in both fowls. Lesions in livers, spleens, lungs, and mesentery. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4417. A shipment of 75 hogs by J. R. M., Holt County. Tuberculosis in 9 animals. Lesions in cervical lymphnodes in 7 and in mesenteric lymphnodes in 2. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Extensive tuberculosis in both fowls. Lesions in livers, spleens, lungs, kidneys, and mesentery. Bacilli were very numerous in the lesions.

Classification of infection type=Avian.

No. 4418. A shipment of 64 hogs by F. S., Boone County. Tuberculosis in 11 animals. Lesions in cervical lymphnodes in 9 and in mesenteric lymphnodes in 2. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Extensive tuberculosis of livers of both and the spleen of one fowl. Bacilli were plentiful in the material.

Classification of infection type=Avian.

No. 4423. A shipment of 71 hogs by G. H. S., Dodge County. Tuberculosis in 11 animals. Lesions in cervical lymphnodes in 5, in mesenteric lymphnodes in 4, and in cervical and mesenteric lymphnodes in 2. Bacilli were numerous in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were very numerous in the lesions.

Classification of infection type=Avian.

No. 4424. A shipment of 72 hogs by H. E. R., Nance County. Tuberculosis of 17 animals. Lesions in cervical lymphnodes in 10, in mesenteric lymphnodes in 4, and in cervical and mesenteric lymphnodes in 3. Bacilli were numerous in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Tuberculosis in both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4425. A shipment of 50 hogs by H. J. N., Dodge County. Tuberculosis in 10 animals. Lesions in cervical lymphnodes in 9 and in mesenteric lymphnodes in one. Bacilli were present in the material.

INOCULATION RESULTS

Generalized, progressive tuberculosis in 2 cavia and a more localized form of the disease in one.	<i>Cavias</i>	<i>Fowls</i>
		A moderate degree of tuberculosis in both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Mixed.

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No. 4437. A shipment of 68 hogs by W. S., Pierce County. Tuberculosis in 23 animals. Lesions in cervical lymphnodes in 21, and in mesenteric lymphnodes in 2. Bacilli were numerous in the lesions.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Caseous lymphadenitis near inoculation point. Bacilli present in the material. No tuberculous lesions in any other part.	Very extensive tuberculosis of livers and spleens of both fowls. Bacilli numerous in the lesions.
Classification of infection type=Avian.	

No. 4438. A shipment of 82 hogs by E. S., Pierce County. Tuberculosis in 29 animals. Lesions in cervical lymphnodes in 15, in mesenteric lymphnodes in 12, and in cervical and mesenteric lymphnodes in 2. Bacilli were numerous in the material.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative	Extensive tuberculosis of both livers and spleens, and mesentery. Bacilli were very numerous in the material.
Classification of infection type=Avian.	

No. 4446. A shipment of 73 hogs by W. P., Hamilton County. Tuberculosis in 7 animals. Lesions of cervical lymphnodes. Bacilli were present in the material.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative	Slight degree of tuberculosis of the livers and spleens of both fowls. Bacilli were present in the lesions.
Classification of infection type=Avian.	

No. 4456. A shipment of 61 hogs by J. C. C., Platte County. Tuberculosis in 26 animals. Lesions in cervical lymphnodes in 17, in mesenteric lymphnodes in 7, and in cervical and mesenteric lymphnodes in 2. Bacilli were numerous in the material.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative	Very extensive tuberculosis of livers and spleens of both fowls, with bacilli very numerous in the lesions.
Classification of infection type=Avian.	

No. 4474. A shipment of 64 hogs by F. F. P., Burt County. Tuberculosis in 8 animals. Lesions of cervical lymphnodes. Bacilli rather numerous in the material.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative	Negative
Classification of infection type=Undetermined.	

No. 4476. A shipment of 76 hogs by P. X. P., Burt County. Tuberculosis in 16 animals. Lesions in cervical lymphnodes in 9 and in mesenteric lymphnodes in 7. Bacilli numerous in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Extensive tuberculosis in both fowls. Lesions in livers, spleens, and lungs. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4483. A shipment of 74 hogs by E. S., Knox County. Tuberculosis in 6 animals. Slight lesions in cervical lymphnodes in which bacilli were numerous.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Slight tuberculous lesions in both fowls. A number of nodules in livers of both and spleen of one. Bacilli were plentiful in the lesions.

Classification of infection type=Avian.

No. 4506. A shipment of 58 hogs by S. P., Gage County. Tuberculosis in 8 animals. Slight lesions in cervical lymphnodes. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Marked or extensive tuberculosis of both fowls. Lesions in livers, spleens, and peritoneum. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4516. A shipment of 73 hogs by E. F., Pierce County. Tuberculosis in 11 animals. Lesions in cervical lymphnodes in 9, in mesenteric lymphnodes in one, and cervical and mesenteric lymphnodes in one. Bacilli were numerous in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4525. A shipment of 55 hogs by H. P., Platte County. Tuberculosis in 41 animals. Lesions in cervical lymphnodes in 34, in mesenteric lymphnodes 3, and in cervical and mesenteric lymphnodes 4. Bacilli were plentiful in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Tuberculosis of livers and spleens of both fowls. Bacilli present in the lesions.

Classification of infection type=Avian.

No. 4534. A shipment of 60 hogs by H. S., Gage County. Tuberculosis in 10 animals. Slight lesions in the cervical lymphnodes of 9 and in the mesenteric lymphnodes of one. Bacilli were present in the lesions in moderate numbers.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Marked tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4536. A shipment of 76 hogs by J. S., Wayne County. Tuberculosis in 23 head. Lesions of cervical lymphnodes in 20 and of mesenteric lymphnodes in 3. Bacilli were very numerous in the lesions.

INOCULATION RESULTS

One cavia developed extensive tuberculosis of liver and spleen and lymphnodes. Another showed a nonprogressive or arrested tuberculosis and a third was found to be free of lesions.	<i>Caviae</i>	<i>Fowls</i>
		Tuberculosis of both fowls. Lesions in livers and spleens with an abundance of bacilli.

Classification of infection type=Mixed.

No. 4543. A shipment of 63 hogs by H. G. L., Platte County. Tuberculosis in 8 animals. Lesions of cervical lymphnodes in 3, and of mesenteric lymphnodes in 5. Bacilli were plentiful in the lesions.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Two small nodules in the spleen of one fowl. Bacilli present but scarce in the lesions. The other fowl presented no lesions.

Classification of infection type=Probably Avian.

No. 4550. A shipment of 62 hogs by A. A., Polk County. Tuberculosis in 39 animals. Lesions in cervical lymphnodes in 16, in mesenteric lymphnodes in 15, and in cervical and mesenteric lymphnodes in 8. Bacilli were numerous in this material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Marked tuberculosis of both fowls. Lesions in livers, spleens, and lungs. Bacilli were very numerous in the lesions.

Classification of infection type=Avian.

No. 4565. Some tuberculous lymphnodes of a hog slaughtered by I. W. P., Saunders County. Bacilli were very scarce in the lesions.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Extensive, generalized, progressive tuberculosis of all 4 cavias. Bacilli present in the lesions.	Negative

Classification of infection type=Mammalian.

No. 4619. A shipment of 69 hogs by J. W. K., Boone County. Tuberculosis in 16 animals. Lesions in cervical lymphnodes in 5, in mesenteric lymphnodes in one, and in cervical and mesenteric lymphnodes in 10. Bacilli were present in the lesions.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative	Marked tuberculosis in livers and spleens of both fowls, with bacilli numerous in the lesions.

Classification of infection type=Avian.

No. 4626. A shipment of 58 hogs by E. O., Lancaster County. Tuberculosis in 19 animals. Lesions of cervical lymphnodes in 12, in mesenteric lymphnodes in 6, and in cervical and mesenteric lymphnodes in one. Bacilli were numerous in the lesions.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative	Tuberculosis of both fowls. Lesions in spleens and livers. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4627. A shipment of 65 hogs by C. W. J., Boone County. Tuberculosis in 14 animals. Lesions of cervical lymphnodes in 7, and of mesenteric lymphnodes in 7. Bacilli were present in the lesions in moderate numbers.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Generalized, progressive tuberculosis in 2 cavias. Localized, non-progressive tuberculosis in one cavia. Bacilli were present in all lesions.	Tuberculosis in both fowls. Lesions in spleens and livers. Bacilli were numerous in the lesions.

Classification of infection type=Mixed.

No. 4643. A shipment of 71 hogs by J. B. P., Burt County. Tuberculosis in 10 animals. Lesions in cervical lymphnodes in 7, in mesenteric lymphnodes in one, and in cervical and mesenteric lymphnodes in 2. Bacilli were present in the lesions in moderate numbers.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Marked, progressive, generalized tuberculosis in all cavias.	Slight tuberculosis of livers and spleens of both fowls, with bacilli present in the lesions either numerous or in moderate numbers.

Classification of infection type=Mixed.

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No. 4658. A shipment of 60 hogs by A. V., Colfax County. Tuberculosis in 40 animals. Lesions in cervical lymphnodes in 22, in mesenteric lymphnodes in 12, and in cervical and mesenteric lymphnodes in 6. Bacilli were numerous in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Extensive tuberculosis in both fowls. Lesions in livers and spleens in which bacilli were numerous.

Classification of infection type=Avian.

No. 4659. A shipment of 64 hogs by F. P., Pierce County. Tuberculosis in 10 animals. Lesions in cervical lymphnodes in 8, and in mesenteric lymphnodes in 2. Bacilli were numerous in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Marked and extensive tuberculosis of both fowls. Lesions in livers and spleens. Bacilli very numerous in the lesions.

Classification of infection type=Avian.

No. 4668. A shipment of 60 hogs by W. B., Wayne County. Tuberculosis in 28 animals. Lesions in cervical lymphnodes in 23, in mesenteric lymphnodes in 3, in cervical and mesenteric lymphnodes in one, and generalized tuberculosis in one. Bacilli were numerous in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Very extensive tuberculosis in both fowls. Lesions in livers, spleens, and lungs. Bacilli present in the lesions.

Classification of infection type=Avian.

No. 4669. A shipment of 63 hogs by E. H., Dixon County. Tuberculosis in 12 animals. Lesions in cervical lymphnodes in 11, and in mesenteric lymphnodes in one. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative	in one <i>cavia</i> . Very extensive, progressive tuberculosis in the other. Bacilli were numerous in the spleen lesions.	One fowl presented lesions which were probably tuberculous in character, but in which bacilli could not be found. The other fowl showed a moderate degree of tuberculosis, probably of a non-progressive type. Bacilli were numerous in some of the lesions.

Classification of infection type=Mixed.

No. 4670. A shipment of 60 hogs by P. N. P., Buffalo County. Tuberculosis in 8 animals. Lesions in cervical lymphnodes. Bacilli were present in the lesions.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Of the 3 caviias one showed a caseated lymphnode containing bacilli. No other lesions were found in those animals.	Marked or extensive tuberculosis in both fowls. Lesions in livers, spleens, and lungs. Bacilli were present in the lesions.
Classification of infection type=Avian.	

No. 4671. A shipment of 60 hogs by E. F., Knox County. Tuberculosis in 38 animals. Lesions in cervical lymphnodes in 29, in mesenteric lymphnodes in 4, and in cervical and mesenteric lymphnodes in 5. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		A moderate degree of tuberculosis in both fowls. Lesions in livers and spleens. Bacilli were present in the lesions.
Classification of infection type=Avian.		

No. 4687. A shipment of 68 hogs by L. B. B., Cedar County. Tuberculosis in 35 animals. Lesions in cervical lymphnodes in 29, and in mesenteric lymphnodes in 6. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		A moderate degree of tuberculosis in both fowls. Lesions in livers and spleens in which bacilli were found to be present.
Classification of infection type=Avian.		

No. 4688. A shipment of 66 hogs by A. S. W., Cuming County. Tuberculosis in 7 animals. Lesions in cervical lymphnodes in 6 and in mesenteric lymphnodes in one. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Negative
Classification of infection type=Undetermined.		

No. 4689. A shipment of 63 hogs by E. H., Dixon County. Tuberculosis in 8 animals. Lesions of cervical lymphnodes in 3, of mesenteric lymphnodes in 3, and of cervical and mesenteric lymphnodes in 2. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Marked tuberculosis of both fowls. Lesions of spleens and livers with bacilli present.
Classification of infection type=Avian.		

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No. 4690. A shipment of 55 hogs by C. S., Burt County. Tuberculosis in 11 animals. Lesions of cervical lymphnodes in 4, of mesenteric lymphnodes in 5, and of cervical and mesenteric lymphnodes in 2. Bacilli were numerous in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		A moderate degree of tuberculosis of livers and spleens of both fowls with bacilli present in the lesions.

Classification of infection type=Avian.

No. 4697. A shipment of 46 hogs by L. W. C., Thurston County. Tuberculosis in 6 animals. Lesions in cervical lymphnodes in 2, and in mesenteric lymphnodes in 4. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Very extensive tuberculosis in both fowls. Lesions in livers, spleens, and lungs. Bacilli were plentiful in the lesions.

Classification of infection type=Avian.

No. 4711. A shipment of 61 hogs by R. B., Hamilton County. Tuberculosis in 15 animals. Lesions in cervical lymphnodes in 10, and in mesenteric lymphnodes in 5. Bacilli were very numerous in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		A moderate degree of tuberculosis of the spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4712. A shipment of 54 hogs by H. W. M., Dodge County. Tuberculosis in 7 animals. Lesions in cervical lymphnodes in 5, and in mesenteric lymphnodes in 2. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Marked tuberculosis of both fowls. Lesions in livers and spleens. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4713. A shipment of 63 hogs by G. W., Cuming County. Tuberculosis in 30 animals. Lesions of cervical lymphnodes in 10, of mesenteric lymphnodes in 12, and in cervical and mesenteric lymphnodes in 8. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Marked tuberculosis of the livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4718. A shipment of 60 hogs by H. A. K., Platte County. Tuberculosis in 15 animals. Lesions in cervical lymphnodes in 12, in mesenteric lymphnodes in 2, and in cervical and mesenteric lymphnodes in one. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Very extensive tuberculosis in both fowls. Lesions in livers, spleens, and lungs. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4723. A shipment of 58 hogs by J. J. B., Saunders County. Tuberculosis in 16 animals. Lesions in cervical lymphnodes in 12, and in mesenteric lymphnodes in 4. Bacilli were very numerous in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Marked tuberculosis of both fowls. Lesions in livers and spleens. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4761. Tuberculous cervical lymphnodes from hogs shipped by J. S., Hitchcock County. Very slight lesions in which bacilli were exceedingly scarce.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Negative

Classification of infection type=Undetermined.

No. 4767. A shipment of 63 hogs by R. P., Cedar County. Tuberculosis in 24 animals. Lesions in cervical lymphnodes in 14, in mesenteric lymphnodes in 7, and in cervical and mesenteric lymphnodes 3. Bacilli were found to be present in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were very numerous in the lesions.

Classification of infection type=Avian.

No. 4768. A shipment of 60 hogs by A. B., Wayne County. Tuberculosis in 19 animals. Lesions in cervical lymphnodes in 16, in mesenteric lymphnodes in one, and in cervical and mesenteric lymphnodes in one. One animal sterilized. Bacilli found to be present in the material.

INOCULATION RESULTS

Negative, with exception of some non-progressive lesions in the spleen of one of the 4 cavias.	<i>Cavias</i>	<i>Fowls</i>
		Very extensive tuberculosis of the livers and spleens of both fowls. Bacilli were found to be present in the lesions.

Classification of infection type=Avian.

No. 4769. A shipment of 65 hogs by A. F., Dixon County. Tuberculosis in 56 animals. Lesions in cervical lymphnodes in 42, in mesenteric lymphnodes in 2, in mesenteric and cervical lymphnodes 4. Animals sterilized 4 and animals condemned 4. Bacilli were present in the lesions in moderate numbers.

INOCULATION RESULTS

<i>Caviae</i>		<i>Fowls</i>
Marked or extensive, generalized and progressive tuberculosis in the 4 caviae. Bacilli were found to be present in the lesions.	Negative	
Classification of infection type=Mammalian.		

No. 4770. A shipment of 60 hogs by B. F. M., Antelope County. Tuberculosis in 4 animals. Lesions in cervical lymphnodes in 3 and in the mesenteric lymphnodes in one. Bacilli were found to be present in the material.

INOCULATION RESULTS

<i>Caviae</i>		<i>Fowls</i>
Negative with the exception of a small necrotic area in the liver of one of the caviae. In this lesion one bacillus only could be found.	Very slight tuberculous lesions in the livers of both fowls. Only in one fowl could bacilli be found to be present in moderate numbers.	
Classification of infection type=Probably Avian.		

No. 4771. A shipment of 60 hogs by W. C. P., Antelope County. Tuberculosis in 7 animals. Lesions in cervical lymphnodes in 6, and in mesenteric lymphnodes in one. The presence of bacilli in this material was very doubtful.

INOCULATION RESULTS

<i>Caviae</i>		<i>Fowls</i>
Negative	Negative	
Classification of infection type=Undetermined.		

No. 4772. A shipment of 77 hogs by F. L., Dixon County. Tuberculosis in 9 animals. Lesions of cervical lymphnodes only. Bacilli were probably present in the material, but very scarce and difficult to be recognized as such.

INOCULATION RESULTS

<i>Caviae</i>		<i>Fowls</i>
Negative	Negative	
Classification of infection type=Undetermined.		

No. 4773. A shipment of 63 hogs by S. H., Dakota County. Tuberculosis in 14 animals. Lesions in cervical lymphnodes in 9, and in mesenteric lymphnodes in 5. Bacilli were found to be numerous in the material.

INOCULATION RESULTS

<i>Caviae</i>		<i>Fowls</i>
Negative	Very extensive tuberculosis of both fowls. Lesions in livers, spleens, and lungs. Bacilli were numerous in the lesions.	
Classification of infection type=Avian.		

No. 4789. Tuberculous lymphnodes of swine shipped by G. B., Hitchcock County. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Marked tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4792. A shipment of 62 hogs by H. R. N., Dixon County. Tuberculosis in 24 animals. Lesions in cervical lymphnodes in 20, and in mesenteric lymphnodes in 4. Bacilli were found to be numerous in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Marked tuberculosis of both fowls. Lesions in livers, spleens, and mesentery. Bacilli were abundant in the lesions.

Classification of infection type=Avian.

No. 4793. A shipment of 74 hogs by H. M., Cedar County. Tuberculosis in 28 animals. Lesions in cervical lymphnodes in 16, in mesenteric lymphnodes in 6, and in cervical and mesenteric lymphnodes in 6. Bacilli were very numerous in this material.

INOCULATION RESULTS

Negative with the exception of a small necrotic focus in the liver of one cavia in which bacilli could be found. A localized, non-progressive lesion.	<i>Cavias</i>	<i>Fowls</i>
		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4794. A shipment of 65 hogs by C. T., Cedar County. Tuberculosis in 17 animals. Lesions in cervical lymphnodes in 11, in mesenteric lymphnodes in 5, and in cervical and mesenteric lymphnodes in one. Bacilli were numerous in the lesions.

INOCULATION RESULTS

Marked and extensive, generalized, progressive tuberculosis of both caviae. Bacilli were present in the lesions.	<i>Cavias</i>	<i>Fowls</i>
		Negative

Classification of infection type=Mammalian.

No. 4795. A shipment of 63 hogs by R. L., Cedar County. Tuberculosis in 61 animals. Lesions in cervical lymphnodes in 50, in mesenteric lymphnodes in 9, one animal sterilized and one condemned. Bacilli were found to be present in the lesions.

INOCULATION RESULTS

Extensive, generalized, progressive tuberculosis of both caviae.	<i>Cavias</i>	<i>Fowls</i>
		Negative

Classification of infection type=Mammalian.

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No. 4796. A shipment of 76 hogs by J. L., Knox County. Tuberculosis in 4 animals. Lesions of cervical lymphnodes only. Bacilli were present in the lesions.

	INOCULATION RESULTS	
Negative	<i>Cavia</i>	<i>Fowls</i>
		A slight tuberculosis of livers and spleens of both fowls. Bacilli were found to be present in the lesions.

Classification of infection type=Avian.

No. 4797. A shipment of 64 hogs by C. M. M., Antelope County. Tuberculosis in 13 animals. Lesions in cervical lymphnodes in 4, in mesenteric lymphnodes in 2, and in cervical and mesenteric lymphnodes in 7. Bacilli were found to be very numerous in this material.

	INOCULATION RESULTS	
Negative	<i>Cavia</i>	<i>Fowls</i>
		Marked tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4807. A shipment of 67 hogs by J. H., Knox County. Tuberculosis in 15 animals. Lesions in cervical lymphnodes in 13 and in mesenteric lymphnodes in 2. Bacilli were found to be very numerous in this material.

	INOCULATION RESULTS	
Negative	<i>Cavia</i>	<i>Fowls</i>
		Very extensive and marked tuberculosis of both fowls. Lesions in livers and spleens. Bacilli were found to be present in the lesions.

Classification of infection type=Avian.

No. 4808. A shipment of 43 hogs by S. N. D., Kearney County. Tuberculosis in 10 animals. Lesions in cervical lymphnodes in 8 and in mesenteric lymphnodes in 2. Bacilli were very numerous in this material.

	INOCULATION RESULTS	
Negative	<i>Cavia</i>	<i>Fowls</i>
		Tuberculosis of both fowls. Lesions in livers, spleens, and lungs. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4809. A shipment of 64 hogs by W. E. F., Cedar County. Lesions of cervical lymphnodes only. Number of animals retained not known. Bacilli were numerous in the lesions.

	INOCULATION RESULTS	
Negative	<i>Cavia</i>	<i>Fowls</i>
		A slight tuberculosis of both fowls. Lesions in livers and spleens. Bacilli were found to be present in the lesions.

Classification of infection type=Avian.

No. 4815. A shipment of 51 hogs by H. J. H., Pierce County. Tuberculosis in one animal. Lesions in cervical lymphnodes only. Bacilli were numerous in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>		<i>Fowls</i>
Negative		Very extensive tuberculosis of livers and spleens of both fowls. Bacilli were found to be present in the lesions.	

Classification of infection type=Avian.

No. 4816. A shipment of 62 hogs by E. B., Wayne County. Tuberculosis in 11 animals. Lesions in cervical lymphnodes only. The presence of bacilli in this material was doubtful.

INOCULATION RESULTS

	<i>Caviae</i>		<i>Fowls</i>
Negative		Negative	

Classification of infection type=Undetermined.

No. 4817. A shipment of 69 hogs by H. S., Pierce County. Tuberculosis in 2 animals. Lesions in mesenteric lymphnodes only. Bacilli were scarce in this material.

INOCULATION RESULTS

	<i>Caviae</i>		<i>Fowls</i>
Negative		Negative	

Classification of infection type=Undetermined.

No. 4818. A shipment of 66 hogs by A. S., Knox County. Tuberculosis in 3 animals. Lesions in cervical lymphnodes only. The presence of bacilli in this material was doubtful.

INOCULATION RESULTS

	<i>Caviae</i>		<i>Fowls</i>
Negative		Negative	

Classification of infection type=Undetermined.

No. 4829. A shipment of 70 hogs by A. J. E., Dixon County. Tuberculosis in 28 animals. Lesions in cervical lymphnodes in 16, in mesenteric lymphnodes in 7, and in cervical and mesenteric lymphnodes in 5. Bacilli were numerous in the material.

INOCULATION RESULTS

	<i>Caviae</i>		<i>Fowls</i>
Negative		Extensive tuberculosis of the spleen and livers of both fowls. Bacilli were numerous in the lesions.	

Classification of infection type=Avian.

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No. 4830. A shipment of 69 hogs by C. A. J., Dixon County. Tuberculosis of 11 animals. Lesions in cervical lymphnodes in 9 and in mesenteric lymphnodes in 2. Bacilli were numerous in the material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Extensive tuberculosis in both fowls. Lesions in livers, spleens, and intestine. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4835. A shipment of 67 hogs by W. R., Dixon County. Tuberculosis of 14 animals. Lesions in cervical lymphnodes in 7 and in mesenteric lymphnodes in 7. Bacilli were numerous in the material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Negative in one fowl while in the other one a nodule was found in the liver in which bacilli were present.

Classification of infection type=Probably Avian.

No. 4836. A shipment of 25 hogs by D. H., Dixon County. Tuberculosis in 17 animals. Lesions in cervical lymphnodes in 4 and in mesenteric lymphnodes in 13. Bacilli were numerous in the material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Marked or extensive tuberculosis of the livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4837. A shipment of 53 hogs by G. A. J., Dixon County. Tuberculosis in 20 animals. Lesions in cervical lymphnodes in 13 and in mesenteric lymphnodes in 7. Bacilli were present in the lesions in moderate numbers.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Marked tuberculosis of both fowls. Lesions in spleens and livers. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4861. A shipment of 71 hogs by O. E. M., Dixon County. Tuberculosis in 5 animals. Lesions in cervical lymphnodes only. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Marked tuberculosis of both fowls. Lesions in livers and spleens in which bacilli were found to be present.

Classification of infection type=Avian.

No. 4862. A shipment of 72 hogs by C. C. B., Cedar County. Tuberculosis in 6 animals. Lesions in cervical lymphnodes only. Bacilli were numerous in the material.

INOCULATION RESULTS

<i>Caviae</i>	<i>Fowls</i>
A marked tuberculosis of both caviae, but apparently the disease was not progressive. Bacilli could not be found in the lesions.	Marked tuberculosis of both fowls. Lesions in livers, spleens, and lungs. Bacilli were present in the lesions.

Classification of infection type=Mixed.

No. 4863. A shipment of 37 hogs by A. S., Knox County. Tuberculosis in 2 animals. Lesions in cervical lymphnodes only. As the lesions were of an extremely doubtful character and no bacilli could be found this material was discarded.

No. 4864. A shipment of 61 hogs by T. S., Dakota County. Tuberculosis in 21 animals. Lesions in cervical lymphnodes only. Bacilli were very numerous in the material.

INOCULATION RESULTS

<i>Caviae</i>	<i>Fowls</i>
Negative	Very extensive tuberculosis of the livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4865. A shipment of 81 hogs by A. B., Cedar County. Tuberculosis in 8 animals. Lesions in cervical lymphnodes in 7 and in mesenteric lymphnodes in one. Bacilli were very numerous in the material.

INOCULATION RESULTS

<i>Caviae</i>	<i>Fowls</i>
Negative	Extensive tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4866. A shipment of 71 hogs by G. H., Cedar County. Tuberculosis in 11 animals. Lesions in cervical lymphnodes in 10 and in mesenteric lymphnodes in one. Bacilli were present in the lesions.

INOCULATION RESULTS

<i>Caviae</i>	<i>Fowls</i>
Negative	Tuberculosis of livers and spleens of both fowls. Bacilli were found to be present in the lesions.

Classification of infection type=Avian.

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No. 4867. A shipment of 60 hogs by M. B., Knox County. Tuberculosis in 28 animals. Lesions in cervical lymphnodes in 26 and in mesenteric lymphnodes in 2. Bacilli were numerous in the material.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Marked and very extensive tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4868. A shipment of 30 hogs by E. N., Knox County. Tuberculosis in 7 animals. Lesions in cervical lymphnodes only. Bacilli were present in the lesions.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		A moderate degree of tuberculosis in both fowls. Lesions of livers and spleens. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4869. A shipment of 66 hogs by C. A. B., Knox County. Tuberculosis in 3 animals. Lesions in cervical lymphnodes only. Bacilli could not be found in the material.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Negative
Classification of infection type=Undetermined.		

No. 4870. A shipment of 68 hogs by L. F. S., Dixon County. Tuberculosis in 4 animals. Lesions in cervical lymphnodes only. Bacilli present in the lesions in moderate numbers.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Extensive, progressive, generalized tuberculosis in all 3 cavias. Bacilli scarce in the lesions.		A moderate degree of tuberculosis in livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Mixed.

No. 4871. A shipment of 66 hogs by C. E. E., Pierce County. Tuberculosis in 5 animals. Lesions only in cervical lymphnodes. Bacilli were present in the lesions.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Both cavias died with marked tuberculosis after one month following inoculation. Bacilli were numerous in the material.		Both fowls developed small, local lesions in about 10 weeks time. Bacilli were extremely rare in the lesions.

Classification of infection type=Mammalian.

No. 4872. A shipment of 73 hogs by N. F. T., Dixon County. Tuberculosis in 4 animals. Doubtful lesions in cervical lymphnodes only. Bacilli could not be found in the lesions.

INOCULATION RESULTS		
<i>Caviae</i>		<i>Fowls</i>
Negative		Negative
Classification of infection type=Undetermined.		

No. 4881. A shipment of 66 hogs by A. G., Cedar County. Tuberculosis in 4 animals. Lesions in cervical lymphnodes. Bacilli were very numerous in the material.

INOCULATION RESULTS		
<i>Caviae</i>		<i>Fowls</i>
Negative		A moderate degree of tuberculosis of both fowls. Lesions in livers and one spleen. Bacilli were present in the lesions.
Classification of infection type=Avian.		

No. 4882. A shipment of 42 hogs for B. B., Cedar County. Tuberculosis in 6 animals. Lesions in cervical lymphnodes only. Bacilli were present in the lesions.

INOCULATION RESULTS		
<i>Caviae</i>		<i>Fowls</i>
Negative		Extensive tuberculosis in livers and spleens of both fowls. Bacilli were present in the lesions.
Classification of infection type=Avian.		

No. 4883. A shipment of 53 hogs by R. H. T., Cedar County. Tuberculosis in 4 animals. Lesions in cervical lymphnodes only. Bacilli were numerous in the material.

INOCULATION RESULTS		
<i>Caviae</i>		<i>Fowls</i>
Negative		Marked tuberculosis in both fowls. Lesions in livers and spleens. Bacilli were present in the lesions.
Classification of infection type=Avian.		

No. 4909. A shipment of 69 hogs by F. T., Dixon County. Tuberculosis in 6 animals. Lesions in cervical lymphnodes in 5 and in mesenteric lymphnodes in one. Bacilli could not be found in this material.

INOCULATION RESULTS		
<i>Caviae</i>		<i>Fowls</i>
Negative		Negative
Classification of infection type=Undetermined.		

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No. 4910. A shipment of 39 hogs by W. P., Wayne County. Tuberculosis in 17 animals. Lesions in cervical lymphnodes in 9, in portal lymphnodes in one, and in mesenteric lymphnodes in 7. Bacilli were found to be present in the lesions in moderate numbers.

INOCULATION RESULTS

<i>Caviae</i>	<i>Fowls</i>
Marked, generalized, progressive tuberculosis in the cavia. Bacilli were present in moderate numbers.	One fowl showed slight tuberculous lesions of the spleen in which bacilli were extremely rare. The other fowl presented no lesions.

Classification of infection type = Mammalian.

No. 4911. A shipment of 67 hogs by W. G., Pierce County. Tuberculosis in 19 animals. Lesions in cervical lymphnodes in 14 and in mesenteric lymphnodes in 5. Bacilli were very numerous in the lesions.

INOCULATION RESULTS

<i>Caviae</i>	<i>Fowls</i>
Negative	Marked tuberculosis of both fowls. Lesions in livers and spleens. Bacilli were present in the lesions.

Classification of infection type = Avian.

No. 4912. A shipment of 75 hogs by A. A. S., Cedar County. Tuberculosis in 19 animals. Lesions in cervical lymphnodes in 11 and in mesenteric lymphnodes in 8. Bacilli were numerous in the material.

INOCULATION RESULTS

<i>Caviae</i>	<i>Fowls</i>
Negative	Very extensive tuberculosis of both fowls. Lesions of livers, spleens, lungs, and peritoneum. Bacilli were abundant in the lesions.

Classification of infection type = Avian.

No. 4913. A shipment of 70 hogs by C. J. E., Wayne County. Tuberculosis in 11 animals. Lesions in cervical lymphnodes in 7 and in mesenteric lymphnodes in 4. Bacilli were very numerous in the lesions.

INOCULATION RESULTS

<i>Caviae</i>	<i>Fowls</i>
Negative	Negative in one fowl and a moderate degree of tuberculosis in the other. Lesions in liver and spleen in which bacilli were present.

Classification of infection type = Avian.

No. 4921. A shipment of 77 hogs by C. S., Antelope County. Tuberculosis in 16 animals. Lesions in cervical lymphnodes only. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4922. A shipment of 71 hogs by S. & N., Wayne County. Tuberculosis in 14 animals. Lesions in cervical lymphnodes in 13 and in mesenteric lymphnodes in one. Bacilli were present in the lesions in moderate numbers.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Slight tuberculosis in the livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4923. A shipment of 70 hogs by W. Bros., Knox County. Tuberculosis in 6 animals. Lesions in cervical lymphnodes only. Bacilli were very scarce in this material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Negative

Classification of infection type=Undetermined.

No. 4924. A shipment of 60 hogs by A. W. M., Dixon County. Tuberculosis in 18 animals. Lesions in cervical lymphnodes in 12 and in mesenteric lymphnodes in 6. Bacilli were very numerous in the material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Very extensive tuberculosis in both fowls. Lesions in livers, spleens, lungs, and kidneys. Bacilli were numerous in the material.

Classification of infection type=Avian.

No. 4925. A shipment of 72 hogs by F. W., Wayne County. Tuberculosis in 21 animals. Lesions in cervical lymphnodes in 19 and in mesenteric lymphnodes in 2. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

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No. 4926. A shipment of 66 hogs by C. T., Pierce County. Tuberculosis in 8 animals. Lesions in cervical lymphnodes in 5 and in mesenteric lymphnodes in 3. Bacilli were very numerous in this material.

	INOCULATION RESULTS	
	<i>Caviae</i>	<i>Fowls</i>
Negative		Tuberculosis of both fowls. Lesions in liver and spleens. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4930. A shipment of 34 hogs by A. P., Wayne County. Tuberculosis in one animal. Lesions in cervical lymphnodes only. Bacilli were present in the material, but very scarce.

	INOCULATION RESULTS	
	<i>Caviae</i>	<i>Fowls</i>
Negative		Negative

Classification of infection type=Undetermined.

No. 4938. Tuberculous lesions of hogs shipped by E. E. C., Clay County. Bacilli were very numerous in the material.

	INOCULATION RESULTS	
	<i>Caviae</i>	<i>Fowls</i>
Negative		Very extensive tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4948. A shipment of 60 hogs by E. E., Cedar County. Tuberculosis in 2 animals. Lesions in cervical lymphnodes only. The presence of bacilli in the lesions was quite doubtful.

	INOCULATION RESULTS	
	<i>Caviae</i>	<i>Fowls</i>
Negative		Negative

Classification of infection type=Undetermined.

No. 4949. A shipment of 65 hogs by F. R., Wayne County. Tuberculosis in 18 animals. Lesions in cervical lymphnodes in 17 and in mesenteric lymphnodes in one. Bacilli were numerous in the material.

	INOCULATION RESULTS	
	<i>Caviae</i>	<i>Fowls</i>
Negative		A slight tuberculosis in both fowls. Lesions in livers and spleens. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4950. A shipment of 65 hogs by F. E. H., Cedar County. Tuberculosis in 2 animals. Lesions in cervical lymphnodes only. Bacilli were very numerous in the material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Marked or extensive tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4951. A shipment of 58 hogs by W. L., Wayne County. Tuberculosis in 11 animals. Lesions in cervical lymphnodes in 9 and in mesenteric lymphnodes in 2. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Very extensive tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4964. A shipment of 70 hogs by O. O., Cedar County. Tuberculosis in 23 animals. Lesions in cervical lymphnodes in 15 and in mesenteric lymphnodes in 8. Bacilli were numerous in the material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		One fowl died prematurely of sepsis, showing no evidence of tuberculosis. The other one developed extensive tuberculosis of liver and spleen. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4965. A shipment of 71 hogs by L. H., Dixon County. Tuberculosis in 24 animals. Lesions in cervical lymphnodes in 17 and in mesenteric lymphnodes in 7. Bacilli were numerous in the lesions.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Marked tuberculosis of liver and spleen of one fowl and a slight degree of tuberculosis in the same organs of the other one. Bacilli were present in the lesions.

Classification of infection type=Avian.

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No. 4966. A shipment of 71 hogs by B. W. R., Dixon County. Tuberculosis in 22 animals. Lesions in cervical lymphnodes in 21 and in mesenteric lymphnodes in one. Bacilli were very numerous in this material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Marked tuberculosis in both fowls. Lesions in livers and spleens. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4967. A shipment of 59 hogs by F. W., Cedar County. Tuberculosis in 11 animals. Lesions in cervical lymphnodes in 5 and in mesenteric lymphnodes in 6. Bacilli were numerous in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Negative in one fowl, and in the other there was a moderate degree of tuberculosis of liver and spleen. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4968. A shipment of 54 hogs by W. F. B., Cedar County. Tuberculosis in 10 animals. Lesions in cervical lymphnodes only. Bacilli were numerous in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Extensive tuberculosis of the livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4969. A shipment of 46 hogs by O. L., Knox County. Tuberculosis in 8 animals. Lesions in cervical lymphnodes only. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
One cavia died prematurely and showed a caseous lymphnode near inoculation point. The other cavia died with an extensive tuberculosis of liver, spleen, and precaval lymphnodes. Bacilli were numerous in the material.		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Mixed.

No. 4970. A shipment of 72 hogs by J. J., Dixon County. Tuberculosis in 6 animals. Lesions in the cervical lymphnodes only. Bacilli were very numerous in the material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4971. A shipment of 31 hogs by O. L., Wayne County. Tuberculosis in 6 animals. Lesions in cervical lymphnodes in 3 and in mesenteric lymphnodes in 3. Bacilli were very numerous in this material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Marked or extensive tuberculosis in both fowls. Lesions in livers, spleens, and mesentery. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4972. A shipment of 56 hogs by T. W., Dixon County. Tuberculosis in 5 animals. Lesions in cervical lymphnodes in 4 and in mesenteric lymphnodes in one. Bacilli were very numerous in this material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		One fowl died prematurely and showed no tuberculosis, and the other developed slight tuberculous lesions of the liver in which bacilli were numerous.

Classification of infection type=Avian.

No. 4973. A shipment of 56 hogs by J. McI., Dixon County. Tuberculosis in 4 animals. Lesions in cervical lymphnodes only. Bacilli were numerous in this material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Marked tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4974. A shipment of 70 hogs by V. J., Dixon County. Tuberculosis in one animal. Lesions in cervical lymphnodes only. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

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No. 4975. A shipment of 45 hogs by C. B., Pierce County. Tuberculosis in one animal. Lesions in cervical lymphnodes only. Bacilli were present in the lesions but were atypical in form.

	INOCULATION RESULTS	
Caviae		Fowls
Negative	Negative	
Classification of infection type=Undetermined.		

No. 5002. Tuberculous lymphnodes of hogs shipped by A. Bros., Kearney County. The presence of bacilli was questionable.

	INOCULATION RESULTS	
Caviae		Fowls
Negative	Negative	
Classification of infection type=Undetermined.		

No. 5014. A shipment of 42 hogs by M. O. N., Dixon County. Tuberculosis in 6 animals. Lesions in cervical lymphnodes only. Bacilli were present in the material.

	INOCULATION RESULTS	
Caviae		Fowls
Negative	Extensive tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.	
Classification of infection type=Avian.		

No. 5015. A shipment of 73 hogs by C. L., Dixon County. Tuberculosis in 10 animals. Lesions in cervical lymphnodes only. Bacilli were numerous in the material.

	INOCULATION RESULTS	
Caviae		Fowls
Negative	A moderate degree of tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.	
Classification of infection type=Avian.		

No. 5026. A shipment of 66 hogs by P. D., Wayne County. Tuberculosis in 17 animals. Lesions in cervical lymphnodes in 10 and in mesenteric lymphnodes in 7. Bacilli were present in the material.

	INOCULATION RESULTS	
Caviae		Fowls
Negative	Marked tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.	
Classification of infection type=Avian.		

No. 5027. A shipment of 69 hogs by E. C. A., Holt County. Tuberculosis in 16 animals. Lesions in cervical lymphnodes in 14 and in mesenteric lymphnodes in 2. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		A moderate degree of tuberculosis in both fowls. Lesions in livers and spleens. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5028. A shipment of 75 hogs by G. F., Wayne County. Tuberculosis in 15 animals. Lesions in cervical lymphnodes in 13 and in mesenteric lymphnodes in 2. Bacilli were present in moderate numbers in this material.

INOCULATION RESULTS

Extensive, generalized, progressive tuberculosis in both cavias. Bacilli were present in the lesions.	<i>Cavias</i>	<i>Fowls</i>
		Marked tuberculosis of both fowls. Lesions in livers and spleens. Bacilli were found to be present in the lesions.

Classification of infection type=Mixed.

No. 5029. A shipment of 61 hogs by W. B., Cedar County. Tuberculosis of 12 animals. Lesions in cervical lymphnodes only. Bacilli were numerous in this material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Very extensive tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5030. A shipment of 72 hogs by F. S., Cedar County. Tuberculosis in 6 animals. Lesions in cervical lymphnodes in 2 and in mesenteric lymphnodes in 4. Bacilli were present in the lesions but very scarce.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Negative

Classification of infection type=Undetermined.

No. 5031. A shipment of 61 hogs by F. W., Wayne County. Tuberculosis in 5 animals. Lesions of cervical lymphnodes only. Bacilli were present in moderate numbers in this material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Extensive tuberculosis of livers and spleens of both fowls, with bacilli numerous in the lesions.

Classification of infection type=Avian.

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No. 5032. A shipment of 65 hogs by S. K. L., Knox County. Tuberculosis in 4 animals. Lesions in cervical lymphnodes only. Bacilli were present in this material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Slight tuberculosis in liver and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5033. A shipment of 44 hogs by L. A., Wayne County. Tuberculosis of 2 animals. Lesions in cervical lymphnodes only. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 5034. A shipment of 56 hogs by W. T., Wayne County. Tuberculosis in 2 animals. Lesions in cervical lymphnodes only. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Marked or extensive tuberculosis in all 3 fowls. Lesions in livers and spleens in which bacilli were found to be present.

Classification of infection type=Avian.

No. 5035. A shipment of 60 hogs by C. J. D., Dakota County. Tuberculosis in one animal. Lesions in cervical lymphnodes only. This material was so unpromising that it was discarded.

No. 5052. Tuberculous material obtained from a shipment of 127 hogs by B. S., Richardson County. Bacilli were present in this material in moderate numbers.

INOCULATION RESULTS

Both caviae developed a non-progressive, localized type of tuberculosis. Bacilli were present in the lesions. The caviae were killed in 3 months after inoculation and were at that time quite fat and in excellent physical condition.	<i>Fowls</i>
	A moderate or slight degree of tuberculosis in both fowls. Lesions in livers and spleens in which bacilli were found to be present.

Classification of infection type=Mixed.

No. 5094. Tuberculous material obtained from a shipment of 62 hogs by J. S., Saline County. Bacilli were very numerous in this material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Marked tuberculosis of the liver and spleen of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5095. A shipment of 64 hogs by J. L. L., Antelope County. Tuberculosis in 5 animals. Lesions in cervical lymphnodes only. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Marked or extensive tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5096. A shipment of 54 hogs by J. R., Pierce County. Tuberculosis in 4 animals. Lesions in cervical lymphnodes in 3 and in mesenteric lymphnodes in one. Bacilli were numerous in the material.

INOCULATION RESULTS

Both cavias, when killed, showed a number of small abscesses of the spleen, which were probably of tuberculous origin since in one organisms were found which to all appearances were poorly stained tubercle bacilli.	<i>Cavias</i>	<i>Fowls</i>
		Very extensive tuberculosis of livers and spleens of both fowls. Bacilli were very numerous in the lesions.

Classification of infection type=Avian.

No. 5097. A shipment of 75 hogs by J. F., Knox County. Tuberculosis in 8 animals. Lesions in cervical lymphnodes in 7 and in mesenteric lymphnodes in one. Bacilli were present in the material in moderate numbers.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		One died prematurely without showing evidence of tuberculosis. The other showed one small tuberculous nodule in the spleen in which a few bacilli could be found.

Classification of infection type=Probably Avian.

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No. 5098. A shipment of 62 hogs by H. A. P., Cedar County. Tuberculosis in 8 animals. Lesions in cervical lymphnodes in 6 and in mesenteric lymphnodes in 2. Bacilli were present in the lesions in moderate numbers.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Extensive tuberculosis in both fowls. Lesions in livers and spleens in which bacilli were numerous.

Classification of infection type=Avian.

No. 5099. A shipment of 47 hogs by W. S., Dixon County. Tuberculosis in 8 animals. Lesions in cervical lymphnodes in 5 and in mesenteric lymphnodes in 3. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Tuberculosis of livers and spleens of both fowls with bacilli present in the lesions.

Classification of infection type=Avian.

No. 5100. A shipment of 71 hogs by R. N., Pierce County. Tuberculosis in 12 animals. Lesions in cervical lymphnodes only. Bacilli were present in the material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
One cavia died with very extensive, generalized, progressive tuberculosis. Bacilli were numerous in the lesions. The other cavia, killed, in an extremely emaciated condition, revealed not the slightest evidence of tuberculosis.	Negative	

Classification of infection type=Mammalian.

No. 5101. A shipment of 57 hogs by L. N., Knox County. Tuberculosis in 13 animals. Lesions in cervical lymphnodes only. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		All 3 fowls developed a moderate degree of tuberculosis. Lesions in spleen and livers in which bacilli were plentiful.

Classification of infection type=Avian.

No. 5102. A shipment of hogs by G. S., Knox County. Tuberculosis in 12 animals. Lesions in cervical lymphnodes in 6 and in mesenteric lymphnodes in 6. Bacilli were numerous in the material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5103. A shipment of 67 hogs by J. R., Knox County. Tuberculosis in 14 animals. Lesions in cervical lymphnodes only. Bacilli were present in the material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Extensive or marked tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5104. A shipment of 22 hogs by W. B., Thurston County. Tuberculosis in 14 animals. Lesions in cervical lymphnodes only. Bacilli were numerous in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Marked tuberculosis in both fowls. Lesions in livers and spleens in which bacilli were plentiful.

Classification of infection type=Avian.

No. 5120. Tuberculous lymphnodes obtained from a shipment of 64 hogs by L. D. C., Hitchcock County. Bacilli were scarce in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Tuberculosis of livers and spleens of both fowls. Bacilli were found to be present in the lesions.

Classification of infection type=Avian.

No. 5140. A shipment of 33 hogs by W. V., Dakota County. Tuberculosis in 6 animals. Lesions in cervical lymphnodes in 5 and in mesenteric lymphnodes in one. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Marked or extensive tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

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No. 5141. A shipment of 62 hogs by R. G. R., Antelope County. Tuberculosis in 2 animals. Lesions in cervical lymphnodes in one and in the mesenteric lymphnodes in one.

	INOCULATION RESULTS	
Negative	<i>Cavia</i>	<i>Fowls</i>
		A moderate degree of tuberculosis of both fowls. Lesions in livers and spleens in which bacilli were present.
	Classification of infection type=Avian.	

No. 5142. A shipment of 68 hogs by P. J. B., Pierce County. Tuberculosis in 7 animals. Lesions in cervical lymphnodes in 4 and in mesenteric lymphnodes in 3. Bacilli were present in the lesions.

	INOCULATION RESULTS	
Negative	<i>Cavia</i>	<i>Fowls</i>
		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.
	Classification of infection type=Avian.	

No. 5143. A shipment of 77 hogs by A. O., Cedar County. Tuberculosis in 11 animals. Lesions in cervical lymphnodes in 9 and in mesenteric lymphnodes in 2. Bacilli were found to be numerous in the material.

	INOCULATION RESULTS	
Negative	<i>Cavia</i>	<i>Fowls</i>
		Tuberculosis in both fowls. Lesions in livers and spleens in which bacilli could be found to be present.
	Classification of infection type=Avian.	

No. 5167. A shipment of 49 hogs by K. E., Cedar County. Tuberculosis in 9 animals. Lesions in cervical lymphnodes in 7 and in mesenteric lymphnodes in 2. Bacilli were found to be present in this material.

	INOCULATION RESULTS	
Negative	<i>Cavia</i>	<i>Fowls</i>
		Marked tuberculosis in both fowls. Lesions in livers and spleens in which bacilli were present.
	Classification of infection type=Avian.	

No. 5168. A shipment of 77 hogs by P. A., Cedar County. Tuberculosis in 9 animals. Lesions in cervical lymphnodes in 6 and in mesenteric lymphnodes in 3. Bacilli were found to occur in the lesions.

	INOCULATION RESULTS	
Negative	<i>Cavia</i>	<i>Fowls</i>
		Marked or extensive tuberculosis of both fowls. Lesions in livers, spleens, and mesentery. Bacilli were present in the lesions.
	Classification of infection type=Avian.	

No. 5169. A shipment of 65 hogs by L. K., Knox County. Tuberculosis in 4 animals. Lesions in cervical lymphnodes in 2 and in mesenteric lymphnodes in 2. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Very extensive tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5170. A shipment of 65 hogs by E. A. K., Pierce County. Tuberculosis in 3 animals. Lesions in cervical lymphnodes in 2 and in mesenteric lymphnodes in one. Bacilli were present in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Tuberculosis in both fowls. Lesions in livers and spleens in which bacilli were present.

Classification of infection type=Avian.

No. 5182. A shipment of 66 hogs by H. B. Z., Buffalo County. Tuberculosis in 9 animals. Slight cervical lesions only, in which bacilli were present.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		A marked or moderate degree of tuberculosis in both fowls. Lesions in livers and spleens. Bacilli were present in the material.

Classification of infection type=Avian.

No. 5183. A shipment of 58 hogs by A. D., Hamilton County. Tuberculosis in 5 animals. Lesions of cervical lymphnodes in 4 and in mesenteric lymphnodes in one. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Negative

Classification of infection type=Undetermined.

No. 5190. A shipment of 66 hogs by F. E. Co., Platte County. Tuberculosis in 5 animals. Slight lesions in cervical lymphnodes in 2 and in mesenteric lymphnodes in 2. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Very extensive or marked tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

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No. 5191. A shipment of 65 hogs by J. C. F., Madison County. Tuberculosis in 15 animals. Lesions in cervical lymphnodes in 8 and in mesenteric lymphnodes in 7. Bacilli were very numerous in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Very extensive tuberculosis of livers and spleens of both fowls. Bacilli were to be found in the lesions.

Classification of infection type=Avian.

No. 5192. A shipment of 62 hogs by W. O., Platte County. Tuberculosis in 20 animals. Lesions in cervical lymphnodes in 14 and in mesenteric lymphnodes in 6. Bacilli were present in lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Very extensive tuberculosis of livers and spleens of both fowls. Bacilli were very numerous in the lesions.

Classification of infection type=Avian.

No. 5193. A shipment of 69 hogs by J. C. F., Madison County. Tuberculosis in 9 animals. Slight lesions in cervical lymphnodes in 8 and in mesenteric lymphnodes in one. Bacilli were present in the material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		A moderate degree of tuberculosis of both fowls. Lesions in livers and spleens in which bacilli were present.

Classification of infection type=Avian.

No. 5194. A shipment of 64 hogs by H. & O., Nance County. Tuberculosis in 13 animals. Lesions in cervical lymphnodes in 9 and in mesenteric lymphnodes in 4. Bacilli numerous in the material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5195. A shipment of 58 hogs by F. J. N., Antelope County. Tuberculosis in 12 animals. Lesions in cervical lymphnodes in 7 and in mesenteric lymphnodes in 5. Bacilli were numerous in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5198. A shipment of 60 hogs by F. J. L., Boyd County. Tuberculosis in 9 animals. Lesions in cervical lymphnodes in 8 and in mesenteric lymphnodes in one. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		A slight tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5201. A shipment of 79 hogs by W. F. L., Wayne County. Mesenteric lesions only. Bacilli were very numerous in the material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Marked tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5202. Tuberculous lymphnodes obtained from a shipment of 47 hogs by H. B., Cedar County. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5203. Tuberculous lymphnodes obtained from a shipment of 73 hogs by A. S., Wayne County. Bacilli were very numerous in this material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Marked tuberculosis of both fowls. Lesions in livers, spleens, and intestine in which bacilli were present.

Classification of infection type=Avian.

No. 5207. A shipment of 76 hogs by G. M. R., Nance County. Tuberculosis in 12 animals. Lesions in cervical lymphnodes in 7 and mesenteric lymphnodes in 5. Bacilli were numerous in this material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Tuberculosis in both fowls, extensive lesions in livers and spleens of one fowl and slight lesions in the liver of the other one. Bacilli were present in the lesions.

Classification of infection type=Avian.

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No. 5208. A shipment of 70 hogs by A. K., Pierce County. Tuberculosis of 35 animals. Lesions in cervical lymphnodes in 12, in mesenteric lymphnodes in 11, and cervical and mesenteric lymphnodes in 2. Bacilli were numerous in the material.

	INOCULATION RESULTS	
Negative	<i>Cavias</i>	<i>Fowls</i>
		Extensive and marked tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.
Classification of infection type=Avian.		

No. 5213. A shipment of 60 hogs by S. C., Antelope County. Tuberculosis in 6 animals. Lesions in cervical lymphnodes only. Bacilli were present in the material.

	INOCULATION RESULTS	
Negative	<i>Cavias</i>	<i>Fowls</i>
		Negative
Classification of infection type=Undetermined.		

No. 5214. A shipment of 75 hogs by F. G., Cedar County. Tuberculosis in 15 animals. Lesions in cervical lymphnodes in 13 and in mesenteric lymphnodes in 2. Bacilli were present in this material, but very scarce.

	INOCULATION RESULTS	
Negative	<i>Cavias</i>	<i>Fowls</i>
		Negative
Classification of infection type=Undetermined.		

No. 5215. A shipment of 74 hogs by R. H., Knox County. Tuberculosis in 25 animals. Lesions in cervical lymphnodes in 15 and in mesenteric lymphnodes in 10. Bacilli were numerous in this material.

	INOCULATION RESULTS	
Negative	<i>Cavias</i>	<i>Fowls</i>
		Negative
Classification of infection type=Undetermined.		

No. 5216. A shipment of 72 hogs by G. W. C., Greeley County. Tuberculosis in 19 animals. Lesions in cervical lymphnodes in 11 and in mesenteric lymphnodes in 8. Bacilli were numerous in the material.

	INOCULATION RESULTS	
Negative	<i>Cavias</i>	<i>Fowls</i>
		One fowl showed no lesions while the other developed a marked tuberculosis of liver and spleen in the lesions of which bacilli were present.
Classification of infection type=Avian.		

No. 5219. A shipment of 56 hogs by H. K., Platte County. Tuberculosis in 8 animals. Lesions in cervical lymphnodes in 5 and in mesenteric lymphnodes in 3. Bacilli were numerous in the material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Tuberculosis in both fowls. Lesions in livers and spleens. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5220. A shipment of 67 hogs by H. & L., Howard County. Tuberculosis in 8 animals. Lesions in cervical lymphnodes in 4 and in mesenteric lymphnodes in 4. Bacilli were numerous in the material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		A moderate degree of tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5224. A shipment of 78 hogs by J. V., Dodge County. Tuberculosis in 17 animals. Lesions in cervical lymphnodes in 6 and in mesenteric lymphnodes in 11. Bacilli numerous in this material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative		Extensive tuberculosis of livers and spleens of both fowls. Bacilli present in the lesions.

Classification of infection type=Avian.

No. 5225. A shipment of 73 hogs by U. G. B., Burt County. Tuberculosis in 5 animals. Lesions in cervical lymphnodes only. Bacilli were numerous in the material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Negative with the exception of one small nodule in the liver of one in which a few bacilli could be found.		Very extensive tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions in enormous numbers.

Classification of infection type=Avian.

No. 5226. A shipment of 79 hogs by C. C., Howard County. Tuberculosis in 7 animals. Lesions in cervical lymphnodes in 6 and in mesenteric lymphnodes in 1. Bacilli were present in this material.

INOCULATION RESULTS

	<i>Cavias</i>	<i>Fowls</i>
Marked tuberculosis of livers, spleens, lungs, and lymphnodes of both cavias. Apparently disease was a non-progressive type. Both cavias were in good physical condition, about 11 weeks after inoculation. Bacilli were present in the lesions in moderate numbers.		Very extensive tuberculosis of livers and spleens of both fowls. Bacilli were very numerous in the lesions.

Classification of infection type=Mixed.

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No. 5227. A shipment of 60 hogs by W. W. S., Antelope County. Tuberculosis in 7 animals. Lesions in cervical lymphnodes in one and in mesenteric lymphnodes in 6. Bacilli were numerous in the material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Marked tuberculosis in both fowls. Lesions in livers, spleens, and lungs. Bacilli very numerous in the material.

Classification of infection type=Avian.

No. 5231. A shipment of 70 hogs by S. S., Fillmore County. Tuberculosis in 7 animals. Lesions in cervical lymphnodes in 5, in mesenteric lymphnodes in one, and in cervical and mesenteric lymphnodes in one. Bacilli were present in the material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative with the exception of caseous lymphnodes near point of inoculation.		A moderate degree of tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5237. A shipment of 66 hogs by E. P., Pierce County. Tuberculosis in 17 animals. Lesions in cervical lymphnodes in 12, in mesenteric lymphnodes in 4, and in cervical and mesenteric lymphnodes in one. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative in one cavia, in the other very extensive tuberculosis of liver and spleen. Extensive tuberculosis of lungs and inguinal lymphnodes. Bacilli were present in the spleen but very scarce.		Very extensive tuberculosis in liver and spleens of both fowls. Bacilli were very numerous in the lesions.

Classification of infection type=Mixed.

No. 5239. A shipment of 68 hogs by K. & B., Nance County. Tuberculosis in 10 animals. Lesions in cervical lymphnodes in 8, in mesenteric lymphnodes in one, and in cervical and mesenteric lymphnodes in one. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Marked tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5255. A shipment of 45 hogs by F. E. P., Dodge County. Tuberculosis in 4 animals. Lesions in cervical lymphnodes in 2 and in mesenteric lymphnodes in 2. Bacilli were present in the lesions.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Extensive tuberculosis of livers, spleens, and lungs. Marked caseation of inguinal lymphnodes. Bacilli were exceedingly scarce in the lesions.	Negative in one fowl and few small, non-progressive lesions of liver and spleen of the other. Bacilli were present in those lesions.

Classification of infection type=Mammalian.

No. 5256. A shipment of 56 hogs by H. S., Cuming County. Tuberculosis in 11 animals. Lesions in cervical lymphnodes in 6 and in mesenteric lymphnodes in 5. Bacilli were present in the lesions.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative	Negative in one fowl and many tuberculous nodes in the spleen of the other. In those lesions bacilli were very numerous.

Classification of infection type=Avian.

No. 5261. A shipment of 52 hogs by G. R., Cedar County. Tuberculosis in 8 animals. Lesions in cervical lymphnodes in 6 and in mesenteric lymphnodes in 2. Bacilli were numerous in the material.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative	Tuberculosis of both fowls. Lesions in livers and spleens in which bacilli were present.

Classification of infection type=Avian.

No. 5262. A shipment of 26 hogs by W. K., Cedar County. Tuberculosis in 9 animals. Lesions in cervical lymphnodes in 8 and in mesenteric lymphnodes in one. Bacilli were present in the lesions.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative	A marked tuberculosis of liver and spleen of one fowl and more moderate tuberculous lesions of the same organs in the other. Bacilli were present in all lesions.

Classification of infection type=Avian.

No. 5264. A shipment of 53 hogs by F. S. A., Boone County. Tuberculosis in seven animals. Lesions in cervical lymphnodes in 3 and in mesenteric lymphnodes in 4. Bacilli were present in the lesions.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Extremely marked miliary tuberculosis of both fowls. Lesions of livers, spleens, lungs, kidneys, and peritonea. Lesions literally packed with bacilli.

Classification of infection type=Avian.

No. 5272. A shipment of 87 hogs by N. & V., Colfax County. Tuberculosis in 17 animals. Lesions in cervical lymphnodes in 5, in mesenteric lymphnodes in 7, and in cervical and mesenteric lymphnodes in 5. Bacilli were present in the lesions.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Very extensive tuberculosis in livers and spleens of both fowls. Bacilli were very numerous in the lesions.

Classification of infection type=Avian.

No. 5273. A shipment of 37 hogs by J. N., Cedar County. Tuberculosis in 5 animals. Lesions in cervical lymphnodes in 3 and in mesenteric lymphnodes in 2. Bacilli were numerous in this material.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5281. A shipment of 90 hogs by J. D., Madison County. Tuberculosis in 11 animals. Lesions in cervical lymphnodes in 6 and in mesenteric lymphnodes in 5. Bacilli present in the lesions.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Marked tuberculosis of both fowls. Lesions in livers, spleens, and lungs. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5282. A shipment of 63 hogs by J. V., Dodge County. Tuberculosis in 16 animals. Lesions in cervical lymphnodes in 11, in mesenteric lymphnodes in 3, and in cervical and mesenteric lymphnodes in 2. Bacilli were present in the lesions.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative, with the exception of caseous lesions of lymphnode near inoculation point. Bacilli were present in this material.	Extensive or marked tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.
Classification of infection type=Avian.	

No. 5286. A shipment of 83 hogs by P. B., Stanton County. Tuberculosis in 19 animals. Lesions in cervical lymphnodes in 18 and in mesenteric lymphnodes in one. Bacilli were found to be present in the lesions.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative	A few small nodules in the liver and spleen of one fowl and extensive tuberculosis of those organs in the other. Bacilli were present in all lesions.
Classification of infection type=Avian.	

No. 5287. A shipment of 92 hogs by H. & B., Seward County. Tuberculosis in 4 animals. Lesions in cervical lymphnodes in 2 and in mesenteric lymphnodes in 2. Bacilli were present in the lesions.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative	A few small tubercles in the livers and spleens of both fowls. In only one of the spleens could bacilli be found.
Classification of infection type=Avian.	

No. 5291. A shipment of 42 hogs by J. P. Z., Wheeler County. Tuberculosis in 8 animals. Lesions in cervical lymphnodes in 6 and in mesenteric lymphnodes in 2. Bacilli were present in the lesions.

INOCULATION RESULTS

<i>Cavias</i>	<i>Fowls</i>
Negative	Extensive tuberculosis of livers and spleens of both fowls. Bacilli were very numerous in the lesions.
Classification of infection type=Avian.	

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No. 5292. A shipment of 69 hogs by H. & S., Buffalo County. Tuberculosis in 5 animals. Lesions only in cervical lymphnodes. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5296. A shipment of 36 hogs by L. E. P., Madison County. Tuberculosis in 7 animals. Lesions in cervical lymphnodes in 6 and in mesenteric lymphnodes in one. Bacilli were present in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		A moderate degree of tuberculosis of both fowls. Lesions in livers and spleens in which bacilli were present.

Classification of infection type=Avian.

No. 5297. A shipment of 48 hogs by J. W. C., Boone County. Tuberculosis in 22 animals. Lesions in cervical lymphnodes in 20 and in mesenteric lymphnodes in 2. Bacilli were present in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		A moderate degree of tuberculosis of both fowls. Lesions in livers and spleens. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 5298. A shipment of 52 hogs by A. S., Pierce County. Tuberculosis in 3 animals. Lesions in cervical lymphnodes in one, in mesenteric lymphnodes in one, and in portal lymphnodes in one. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Extremely marked acute miliary tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the material.

Classification of infection type=Avian.

No. 5307. A shipment of 57 hogs by F. & T., Colfax County. Tuberculosis in 25 animals. Lesions in cervical lymphnodes in 11, in mesenteric lymphnodes in 12, and in cervical and mesenteric lymphnodes in 2. Bacilli were very numerous in this material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Extensive tuberculosis of both fowls. Lesions in livers, spleens, lungs, and mesentery. Bacilli were very numerous in the lesions.

Classification of infection type=Avian.

No. 5308. A shipment of 56 hogs by O. P., Cuming County. Tuberculosis in 28 animals. Lesions in cervical lymphnodes in 18, in mesenteric lymphnodes in 8, and in cervical and mesenteric lymphnodes in 2. Bacilli were very numerous in the lesions.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 5311. A shipment of 49 hogs by A. R., Dodge County. Tuberculosis in 9 animals. Lesions in cervical lymphnodes only. Bacilli were present in the material.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Marked tuberculosis of both fowls. Lesions in livers and spleens. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 5312. A shipment of 28 hogs by R. E. G., Cedar County. Tuberculosis in 2 animals. Lesions in cervical lymphnodes in one and in mesenteric lymphnodes in one. Bacilli were present in the lesions.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Negative

Classification of infection type=Undetermined.

No. 5313. A shipment of 38 hogs by W. R., Knox County. Tuberculosis in 3 animals. Lesions in cervical lymphnodes in 2 and in mesenteric lymphnodes in one. Bacilli were present in this material.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 5316. A shipment of 65 hogs by R. H. S., Antelope County. Tuberculosis in 9 animals. Lesions in cervical lymphnodes in 8 and in mesenteric lymphnodes in one. Bacilli were present in the material.

	INOCULATION RESULTS	
	<i>Cavias</i>	<i>Fowls</i>
Negative		Extensive tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

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No. 5317. A shipment of 52 hogs by J. P., Knox County. Tuberculosis in 12 animals. Lesions in cervical lymphnodes in 11 and in cervical and mesenteric lymphnodes in one. Bacilli were present in the material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		A slight degree of tuberculosis of the livers of both fowls. Bacilli were present in the material.

Classification of infection type = Avian.

No. 5318. A shipment of 57 hogs by C. K., Cedar County. Tuberculosis in 9 animals. Lesions in cervical lymphnodes in 8 and in mesenteric lymphnodes in one. Bacilli were to be found in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type = Avian.

No. 5319. Two shipments of 53 and 51 hogs by H. W. H., Cedar County. Tuberculosis in 27 animals. Lesions in cervical lymphnodes in 24 and in mesenteric lymphnodes in 3. Bacilli were present in this material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Marked tuberculosis of livers, spleens and lymphnodes of both caviae. Appearance of lesions indicate a non-progressive type of disease. Bacilli were present in the lesions.		Negative

Classification of infection type = Mammalian.

No. 5320. A shipment of 59 hogs by H. C. H., Knox County. Tuberculosis in 4 animals. Lesions in cervical lymphnodes only. Bacilli present in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Tuberculosis of livers and spleens of both fowls. Bacilli were present in the lesions.

Classification of infection type = Avian.

No. 5321. A shipment of 42 hogs by G. J., Dixon County. Tuberculosis in 9 animals. Lesions in cervical lymphnodes in 8 and in mesenteric lymphnodes in one. Bacilli present in moderate numbers.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Extensive tuberculosis of both fowls. Lesions of livers, spleens, kidneys, and lungs. Bacilli numerous in the lesions.

Classification of infection type = Avian.

No. 5322. A shipment of 71 hogs by S. S., Wayne County. Tuberculosis in 26 animals. Lesions in cervical lymphnodes in 14 and in mesenteric lymphnodes in 12. Bacilli were present in the lesions.

INOCULATION RESULTS

Negative *Cavia* *Fowls*
Tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

SUMMARY OF RESULTS

From the details recorded above it will be observed that in the inquiry, material obtained from 250 Nebraska shipments of swine¹ originating in 41 counties was used. Those shipments represented a total of more than 14,299 swine of which not less than 2,781 or 19.5 per cent were retained on account of tuberculosis.

Of the 250 lymphnode consignments 2 were discarded, 31 gave negative results (Group I) and 8 yielded results which made avian origin of the infection highly probable (Group IV). The number of consignments which yielded results permitting a definite interpretation thus was 209.

The results obtained with this number are as follows:

Infection Type	No.	Per cent
Mammalian (Group II).....	11	5.21
Avian (Group III).....	185	88.51
Mixed (Group V).....	13	6.22
Total	209	99.94

FIELD SURVEY

In the original schedule of the inquiry provision was made for a survey on the farms on which the shipments of tuberculous swine originated with a view of ascertaining the presence of tuberculosis among the cattle and poultry from which the swine might have contracted their infection. This part of the investigation was regarded as a valuable control of such laboratory results as may be obtained and as a means of either strengthening the final conclusions or of revealing whatever unknown factor of error might enter in the solution of the problem.

¹ Including one shipment from So. Dakota.

The inspector in charge of the field force of the U. S. Bureau of Animal Industry, operating in the state in connection with the co-operative tuberculosis eradication campaign, was appealed to for assistance and he undertook to make the surveys required so far as this could be done in conjunction with the work in hand.

Unfortunately, the withdrawal of a part of the available inspectors for urgent duties in other states necessitated the abandonment of the surveys shortly after they were begun.

A small number of surveys were, however, completed and their results coincided with those of the inoculation tests to such an extent that they materially contributed to the success of the investigation. As those surveys were made during the earlier phase of the inquiry they likewise inspired confidence in the method adopted in its pursuit.

The surveys were made with thoroughness on the part of the inspectors, and with the consent of the owners, tuberculin tests were made of the cattle and poultry present on the farms, while in a number of cases swine were also included in the field investigation.

When some tuberculous swine originated from the farms concerned, the testing of those not shipped was not an urgent matter. However, by using in the testing an avian tuberculin as well as a mammalian tuberculin simultaneously, a different tuberculin on each ear of the animals tested, an interesting side light on the diagnosis of swine tuberculosis was obtained as some of the following data will show:

No. 3188. Infection type determined by inoculation = Avian.

FIELD SURVEY RESULTS

Cattle tested 23.....	Reactors 0.
Swine tested 12.....	Reactors 2.
Chickens tested 20.....	Reactors 9.

In testing the swine use was made of both avian and mammalian tuberculin. In no case did the latter produce a reaction.

The diagnosis of tuberculosis of the poultry was confirmed by autopsy.

No. 3189. Infection type determined by inoculation = Avian.

FIELD SURVEY RESULTS

Cattle tested 12.....	Reactors 0.
Swine tested 28.....	Reactors 0.
Chickens tested 149.....	Reactors 4.

The reacting fowls were killed. Three proved to be generalized cases of tuberculosis and the fourth one showed slight liver lesions.

No. 3266. Infection type determined by inoculation=Avian.

FIELD SURVEY RESULTS

Cattle tested 85.....Reactors 0.
 Swine tested 58.....Reactors 0.
 Chickens tested 407.....Reactors 19.

The diagnosis of tuberculosis of poultry was confirmed by autopsy.

No. 3499. Infection type determined by inoculation=Avian.

This shipment was composed of swine originating from three farms.

Here follow the survey results for each:

No. 1

Cattle tested 3.....Reactors 0.
 Swine tested 11.....Reactors 0.
 Chickens tested 46.....Reactors 0.

No. 2

Cattle tested 19.....Reactors 0.
 Swine tested 11.....Reactors 0.
 Chickens tested 86.....Reactors 0.

No. 3

Cattle tested 12.....Reactors 0.
 Swine tested 17.....Reactors 8.
 Chickens tested 77.....Reactors 20.

The swine were tested with both avian and mammalian tuberculin. They reacted only to the avian tuberculin. The diagnosis of tuberculosis of the poultry was confirmed by autopsy.

No. 3500. Infection type determined by inoculation=Avian.

FIELD SURVEY RESULTS

Cattle tested 15.....Reactors 0.
 Swine tested 31.....Reactors 0.
 Chickens tested 89.....Reactors 4.

The reacting fowls were examined by autopsy and found to be tuberculous.

No. 3611. Infection type determined by inoculation=Avian.

FIELD SURVEY RESULTS

Cattle tested 18.....Reactors 0.
 Swine tested 5.....Reactors 4.

Fowls were not tested on this farm but the existence of tuberculosis among the poultry was determined by autopsy.

No. 3612. Infection type determined by inoculation=Avian.

FIELD SURVEY RESULTS

Cattle tested 11.....Reactors 0.
 Swine tested 7.....Reactors 5.
 Chickens tested 124.....Reactors 26.

The swine were tested with both avian and mammalian tuberculin. In no case were reactors obtained with the mammalian tuberculin. Diagnosis of tuberculosis in poultry confirmed by autopsy.

No. 3613. Infection type determined by inoculation=Avian.

FIELD SURVEY RESULTS

Cattle tested 11.....Reactors 0.
 Chickens tested 40.....Reactors 7.

The diagnosis of tuberculosis in the chickens was confirmed by autopsy.

No. 3614. Infection type determined by inoculation=Avian.

FIELD SURVEY RESULTS

Cattle tested 8.....Reactors 0.
 Swine tested 6.....Reactors 0.
 Chickens tested 32.....Reactors 13.

The diagnosis of tuberculosis in the poultry flock was confirmed by autopsy.

No. 3615. Infection type determined by inoculation=Avian.

FIELD SURVEY RESULTS

Cattle tested 3.....Reactors 0.
 Chickens tested 20.....Reactors 4.

Autopsies of the 4 reacting fowls confirmed the tuberculin test results.

No. 3617. Infection type determined by inoculation=Avian.

FIELD SURVEY RESULTS

Evidence of the existence of poultry tuberculosis was discovered on this farm, but no definite proof of this was secured.

No. 3618. Infection type determined by inoculation=Avian.

FIELD SURVEY RESULTS

Cattle tested 9.....Reactors 0.
 Swine tested 5.....Reactors 0.
 Chickens tested 66.....Reactors 14.

The diagnosis of tuberculosis in the poultry flock was confirmed by autopsy.

No. 3629. Infection type determined by inoculation=Probably Avian.

FIELD SURVEY RESULTS

Cattle tested 10.....Reactors 0.
 Chickens tested 50.....Reactors 23.

The diagnosis of tuberculosis among the poultry was confirmed by autopsy.

No. 3701. Infection type determined by inoculation=Avian.

FIELD SURVEY RESULTS

Cattle tested 5.....Reactors 0.
 Chickens tested 50.....Reactors 5.

The diagnosis of tuberculosis in the poultry flock was confirmed by autopsy.

No. 3732. Infection type determined by inoculation = Avian.

FIELD SURVEY RESULTS

Cattle tested 10.....	Reactors 4.
Swine tested 36.....	Reactors 7.
Chickens tested 13.....	Reactors 4.

The swine were tested with both avian and mammalian tuberculin. Four of the reactors only reacted to the avian tuberculin.

The diagnosis of tuberculosis in the poultry flock was confirmed by autopsy.

No. 4032. Infection type determined by inoculation = Avian.

FIELD SURVEY RESULTS

Cattle tested 4.....	Reactors 0.
Swine tested 3.....	Reactors 3.
Chickens tested 150.....	Reactors 10.

In the testing of the swine both avian and mammalian tuberculin were used. The bovine tuberculin resulted in a slight reaction in one, but the other two reacted to the avian tuberculin only.

At a later period all the swine on this farm were tuberculin tested, showing 11 reactors in the 52 swine tested. All reactions were caused by the avian tuberculin and none by the mammalian tuberculin.

No. 4388. Infection type determined by inoculation = Avian.

FIELD SURVEY RESULTS

Information by owner that his cattle had been tuberculin tested locally, without positive reactions, but that he suspected his chickens to be tuberculous.

No. 4565. Infection type determined by inoculation = Mammalian.

FIELD SURVEY RESULTS

Cattle tested 4.....	Reactors 2.
Swine tested 65.....	Reactors 54.
Chickens tested 88.....	Reactors 0.
Turkeys tested 4.....	Reactors 0.
Cats tested	Reactors 0.

Both avian and mammalian tuberculin were used in the testing of the swine. All reactions were constant against the mammalian tuberculin and only a part of the swine reacted to the avian tuberculin also.

It will be observed that 18 field surveys were made of which 16 were complete and of value in comparing their results with those obtained in the laboratory.

The results of this comparison are summarized in Table 3. They show a practically perfect agreement in the indications furnished by the surveys and those yielded by the inoculation tests. They scarcely leave any doubt in regard to the trustworthiness of information secured thru the simul-

taneous use of cavia and fowls in the typing of the tubercle bacilli found in swine.

The fact that in those cases where swine could be tested, positive reactions were more constant to avian than to mammalian tuberculin, is also pregnant with interest. While this detail lies somewhat outside the field and object of this inquiry, there are practical reasons for its consideration.

THE TYPING OF THE BACILLI ASSOCIATED WITH TUBERCULOUS LYMPHNODES OF SWINE ORIGINATING IN HILLSDALE COUNTY, MICHIGAN

Shortly after the first results of the inquiry regarding the origin of tuberculosis among Nebraska swine became available, this department was made acquainted with the fact that swine originating in the bovine tuberculosis accredited area of Hillsdale County, Michigan, furnished upon slaughter many retentions on account of tuberculosis.

Thru the courtesy of Mr. H. R. Smith, Livestock Commissioner, National Livestock Exchange, and of Dr. P. B. Wende, Inspector in Charge, Buffalo, N. Y., the tuberculous lymphnodes of 14 consignments of Hillsdale County swine were secured and used in inoculation tests similar to those undertaken with Nebraska material.

The following are the results obtained in the examination of each lot of lymphnodes:

No. 4359. Tuberculous lymphnodes of 5 hogs originating in Hillsdale County, Michigan and shipped to Buffalo, N. Y., collected 12-18-23. Bacilli were plentiful in the material.

	INOCULATION RESULTS	
	<i>Cavia</i>	<i>Fowls</i>
Negative		One of the fowls failed to present any evidence of tuberculosis when examined by autopsy 3 months after inoculation, while the other presented a moderate number of tuberculous nodules in the liver and spleen. Bacilli were rather numerous in the lesions.

Classification of infection type=Avian.

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No. 4363. Tuberculous lymphnodes of 7 hogs originating from accredited area (Hillsdale County, Michigan) and shipped to Buffalo, N. Y. Collected 12-19-23. Establishment 383. Bacilli were numerous in the material.

INOCULATION RESULTS

<i>Caviae</i>	<i>Fowls</i>
Developed rather extensive tuberculosis. Bacilli very scarce in the material.	The autopsy of both fowls killed 3 months after inoculation revealed slight tuberculous lesions in spleen and liver in which bacilli were extremely scarce.

Classification of infection type=Mammalian and avian mixed.

As it seemed advisable to ascertain the type of mammalian infection, its determination was undertaken by inoculation with material from one of the *caviae* into *caviae*, rabbits, and fowls. Here follow the results:

<i>Caviae</i>	<i>Rabbits</i>	<i>Fowls</i>
Tuberculosis; generalized, extensive, and progressive.	Tuberculosis; generalized, extensive, and progressive.	Negative

Note: The results indicate that in the passage thru the *caviae* of the original material the avian infection was entirely eliminated.

Final classification of infection type=Bovine and avian mixed.

No. 4384. Tuberculous lymphnodes of swine originating in Hillsdale County, Michigan. One node was taken from each hog. Bacilli were numerous in the lesions.

INOCULATION RESULTS

<i>Caviae</i>	<i>Fowls</i>
Negative	Both fowls developed tuberculosis of liver and spleen. In one, bacilli were numerous in the lesions and in the other they were present in more moderate numbers.

Classification of infection type=Avian.

No. 4397. Tuberculous lymphnodes of swine originating in Hillsdale County, Michigan. Shipped either by Hillsdale Co-operative Association or by W. H. Croose, Hillsdale County, Michigan. Bacilli were numerous in the material.

INOCULATION RESULTS

<i>Caviae</i>	<i>Fowls</i>
Negative	Both fowls developed an extensive tuberculosis. Bacilli were numerous in all lesions.

Classification of infection type=Avian.

No. 4398. Tuberculous lymphnodes of swine originating in Hillsdale County, Michigan. Shipped either by Hillsdale Co-operative Asso-

ciation or by W. H. Croose, Hillsdale County, Michigan. Bacilli were plentiful in the lesions.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Both fowls developed a moderate degree of tuberculosis of liver and spleen. Bacilli numerous in all lesions.

Classification of infection type=Avian.

No. 4410. Tuberculous lymphnodes of swine shipped by Rowe and Adams, Camden, Michigan. Bacilli were present in the material in moderate numbers.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Both fowls developed an extensive tuberculosis of liver and spleen. In the lesions of one, bacilli were present in moderate numbers and in those of the other they were numerous.

Classification of infection type=Avian.

No. 4411. Tuberculous lymphnodes of swine shipped by Osseo Co-operative Association, Osseo, Michigan. Bacilli were present in the material in moderate numbers.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		A moderate degree of tuberculosis of liver and spleen developed in both fowls. Bacilli were present in the lesions.

Classification of infection type=Avian.

No. 4439. Tuberculous lymphnodes obtained from 290 certified hogs slaughtered at Buffalo, New York, and pertaining to the following shipments:

74 hogs by Richfield Co-operative Shippers Association, Richfield, Michigan.

84 hogs by Pittsford Co-operative Association, Pittsford, Michigan.

132 hogs by Reading Co-operative Commerce Company, Reading, Michigan.

53 head retained, slaughtered 1-14-24.

Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Cavias</i>	<i>Fowls</i>
		Both fowls developed extensive tuberculosis of liver and spleen. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

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No. 4443. Tuberculous lymphnodes from several retained hogs from a lot of 118 swine originating in accredited area of Hillsdale County, Michigan. Shipped by Prattville Co-operative Association. Slaughtered at Buffalo, New York, 1-12-24. Bacilli were numerous in the material.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Both fowls presented an extensive tuberculosis of liver and spleen and isolated nodules in the lungs. Bacilli were numerous in the material.

Classification of infection type=Avian.

No. 4444. Tuberculous lymphnodes of several retained swine of a lot of 182 hogs originating in accredited area in Hillsdale County, Michigan. Shipped by Associated Farmers Co., Jonesville, Michigan. Slaughtered, Buffalo, New York, 1-12-24. Bacilli were present in the lesions.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Both fowls developed tuberculosis of liver and spleen. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4447. Tuberculous lymphnodes of several hogs from a lot of 240 swine shipped from Hillsdale County, Michigan, by the Reading Co-operative Commerce Co. Slaughtered, Buffalo, New York, 1-16-24. The material contained bacilli in moderate numbers.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Marked tuberculosis of livers and spleens of both fowls. Bacilli were numerous in the lesions.

Classification of infection type=Avian.

No. 4448. Tuberculous lymphnodes of 93 retained hogs of a lot of 611 swine shipped from Hillsdale County, Michigan. Bacilli were present in the lesions in moderate numbers.

INOCULATION RESULTS

	<i>Caviae</i>	<i>Fowls</i>
Negative		Both fowls developed extensive tuberculosis of livers and spleens. Bacilli were numerous in all lesions.

Classification of infection type=Avian.

No. 4463. Tuberculous lymphnodes of 12 hogs retained from a lot of 59 swine shipped by Allen Co-operative Association, Hillsdale County,

Michigan. Killed, Buffalo, New York, 1-9-24. Bacilli were present in the lesions in moderate numbers.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		A very extensive tuberculosis of livers and spleens developed in both fowls. The lesions contained many bacilli.

Classification of infection type=Avian.

No. 4471. Tuberculous lymphnodes of 99 retained swine from a lot of 553 hogs originating in Hillsdale County, Michigan. Slaughtered, Buffalo, New York, 1-21-24. Bacilli were numerous in the material.

INOCULATION RESULTS

Negative	<i>Caviae</i>	<i>Fowls</i>
		Both fowls developed a marked tuberculosis of livers and spleens. Bacilli were numerous in all lesions.

Classification of infection type=Avian.

In the Hillsdale County series 14 consignments of tuberculous lymphnodes of swine were thus examined. In 13 of this number bacilli of the avian type only could be demonstrated. In the remaining consignment avian bacilli were also present, but they occurred in association with bacilli of the bovine type.

CONCLUSIONS

1. The type of swine tuberculosis which is responsible for the increased retentions of carcasses and the condemnation of parts is for the greater part due to infection of avian origin.

2. In the eradication and control of swine tuberculosis success can only then be attained when the two chief fountain heads of infection, namely, the tuberculous cattle herd and the tuberculous poultry flock be regarded as equally important.

3. There are indications that the steady increase in the incidence of swine tuberculosis as shown by abattoir statistics reflects a similar increase in the spread of avian tuberculosis in a large area of the United States.

4. In the intradermal tuberculin test of swine in which a mammalian tuberculin is used a considerable number of cases

of tuberculosis will escape detection. For dependable results, avian tuberculin must also be used.

5. In the bacteriologic diagnosis of tuberculosis of swine by animal inoculation tests, the results will, for a large proportion of the cases, remain inconclusive when only caviae are used for the purpose. In the case of swine, at least, some laboratory animals susceptible to avian tuberculosis also or susceptible to both avian and mammalian tuberculosis should be included in the experiment.

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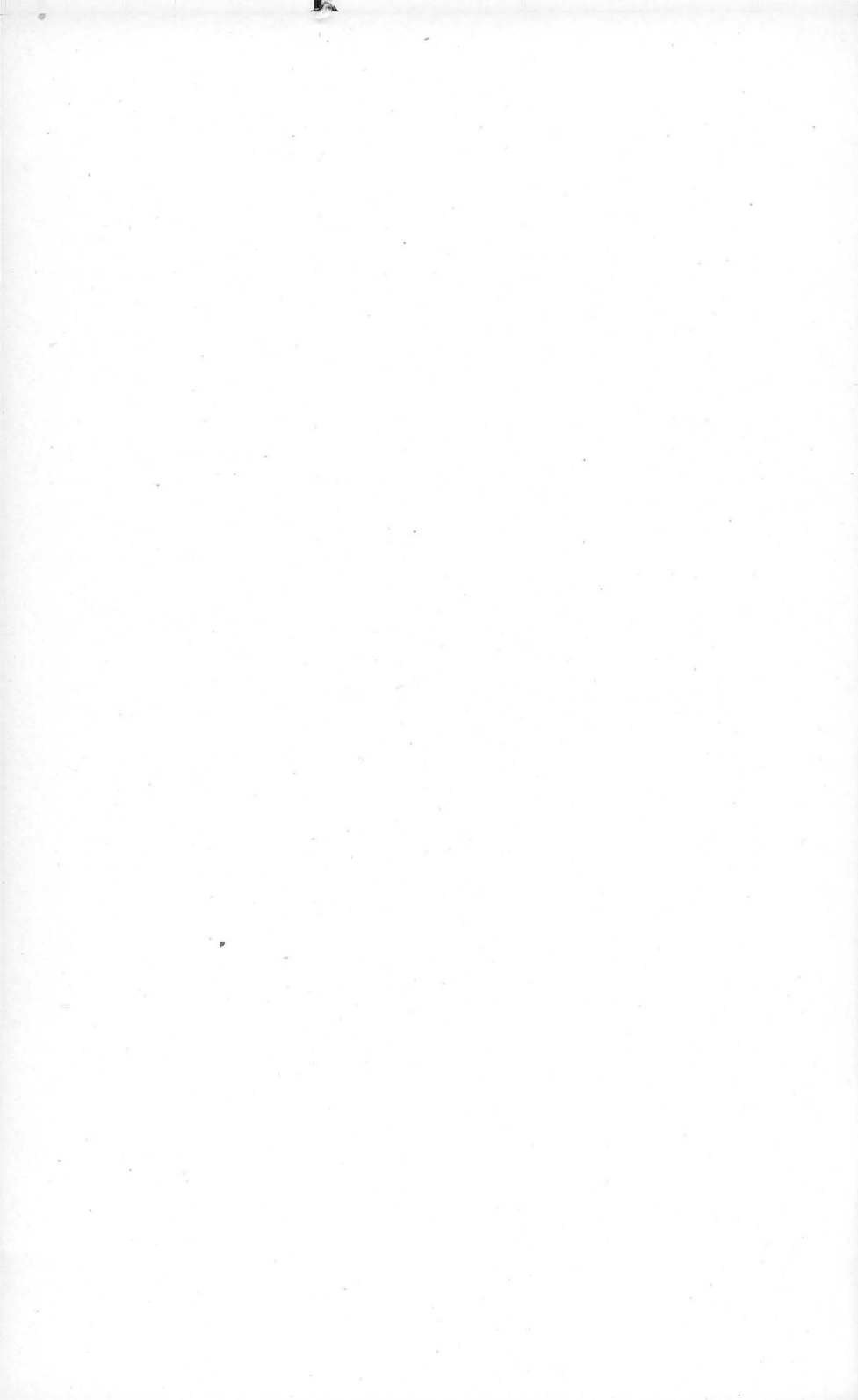
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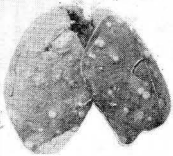
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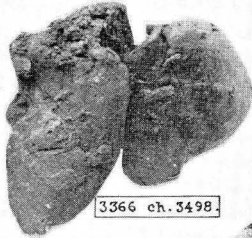
PLATES

Liver Lesions Produced in Chickens Inoculated with Tuberculous Material from Hogs Used in the Experiment.





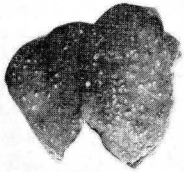
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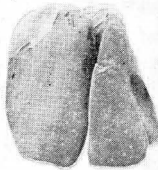
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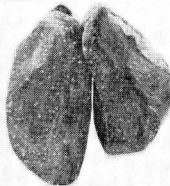
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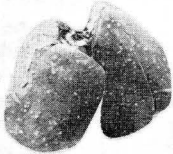
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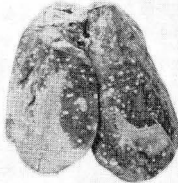
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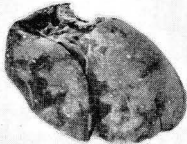
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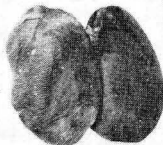
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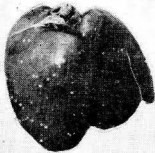
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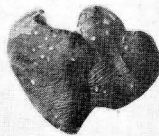
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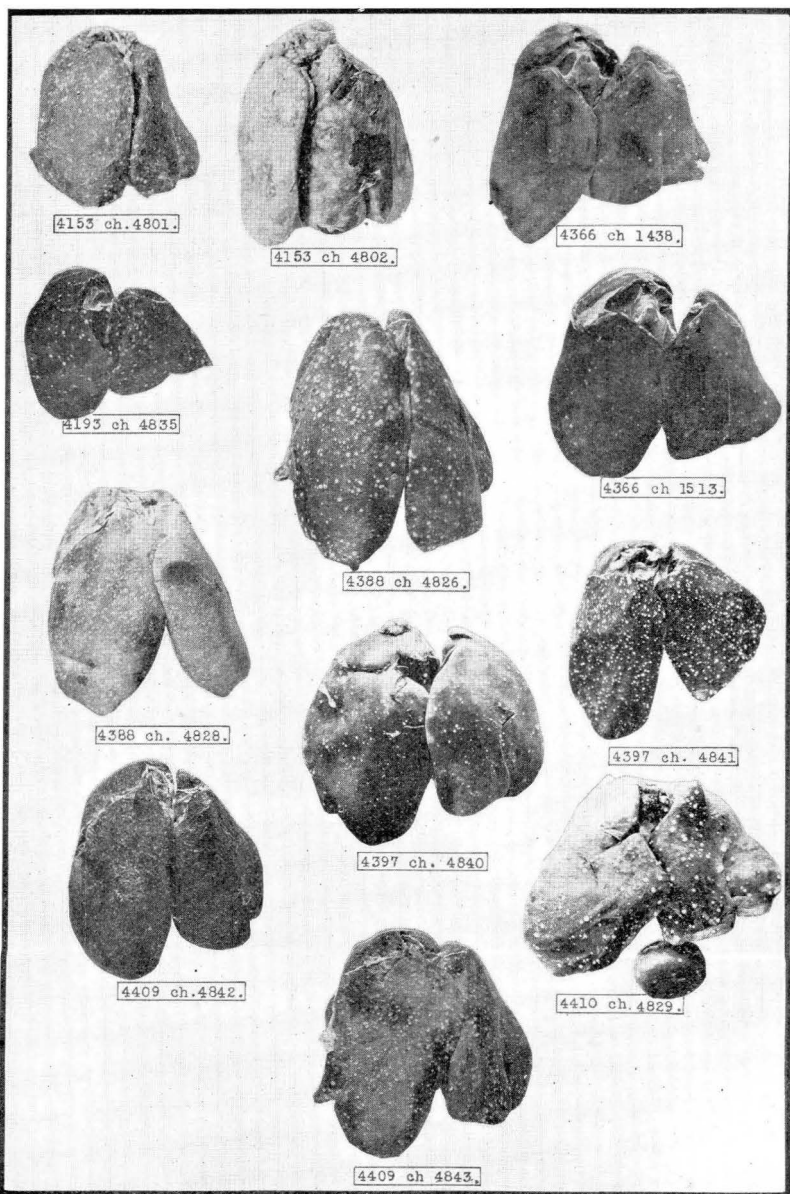
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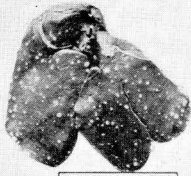


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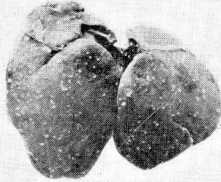


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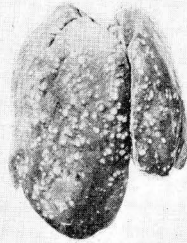




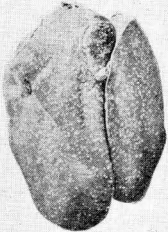
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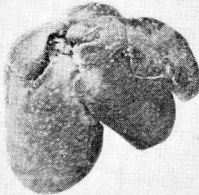
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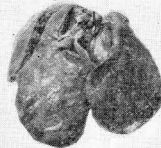
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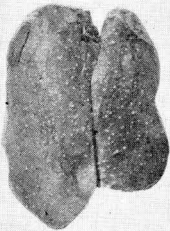
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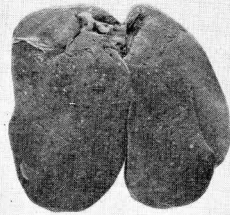
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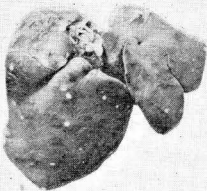
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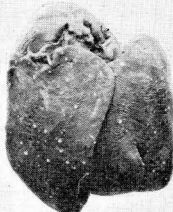
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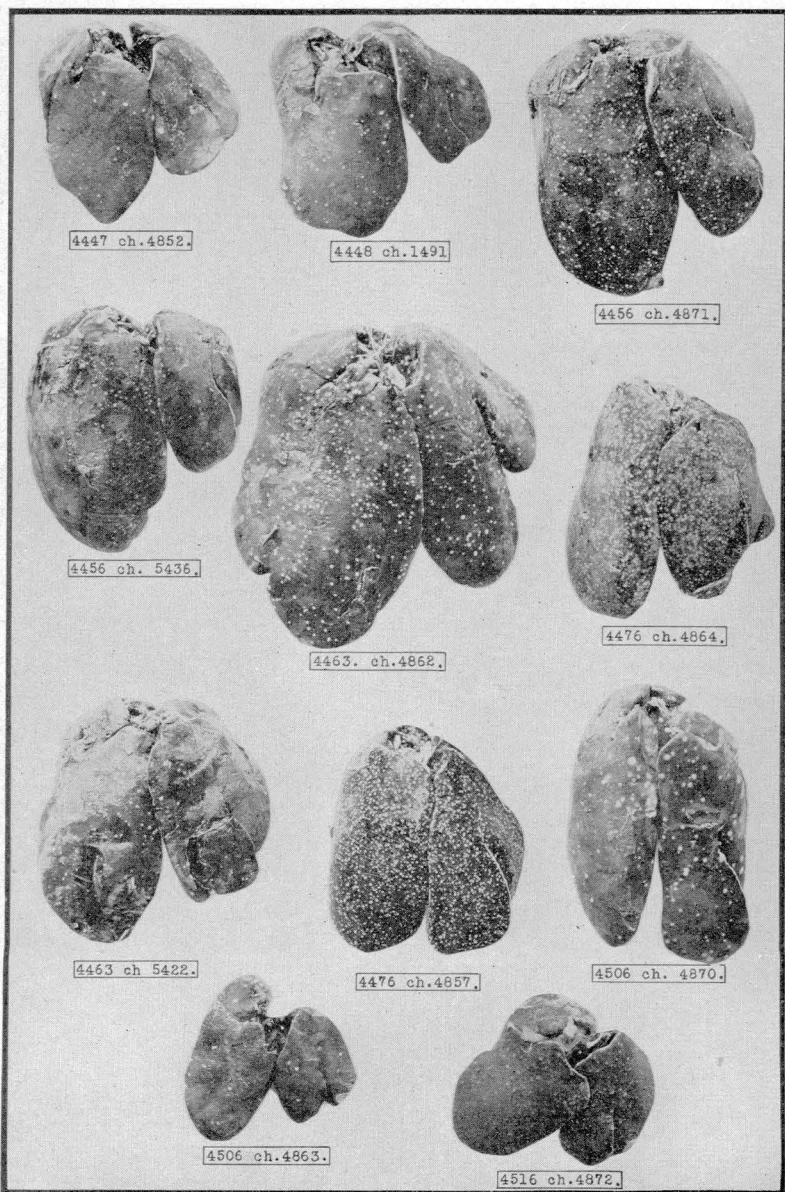
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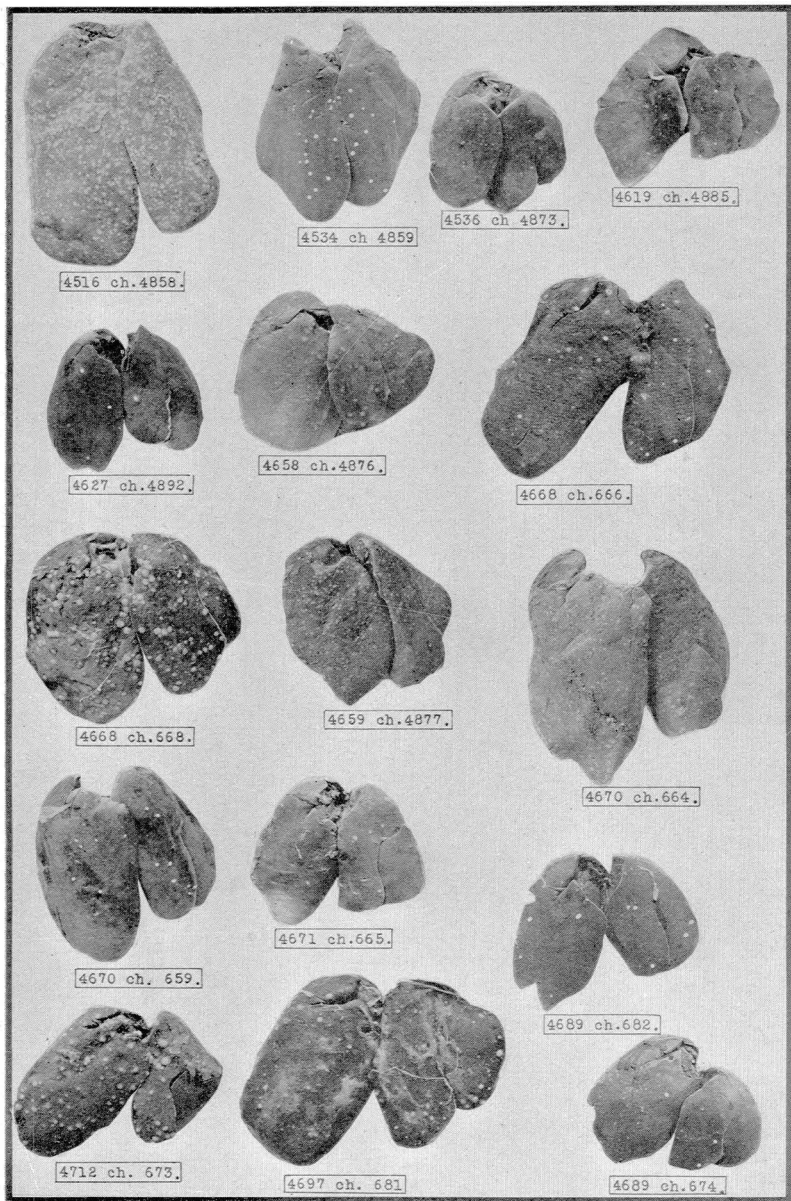


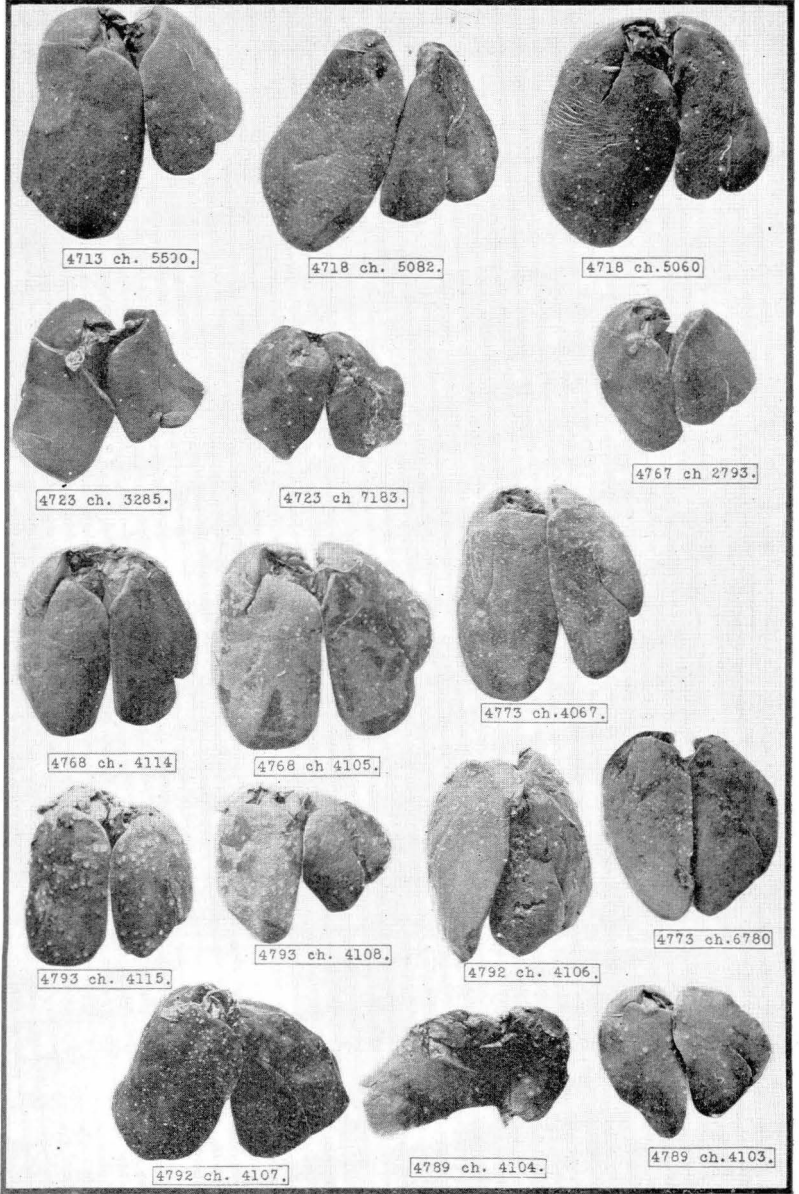
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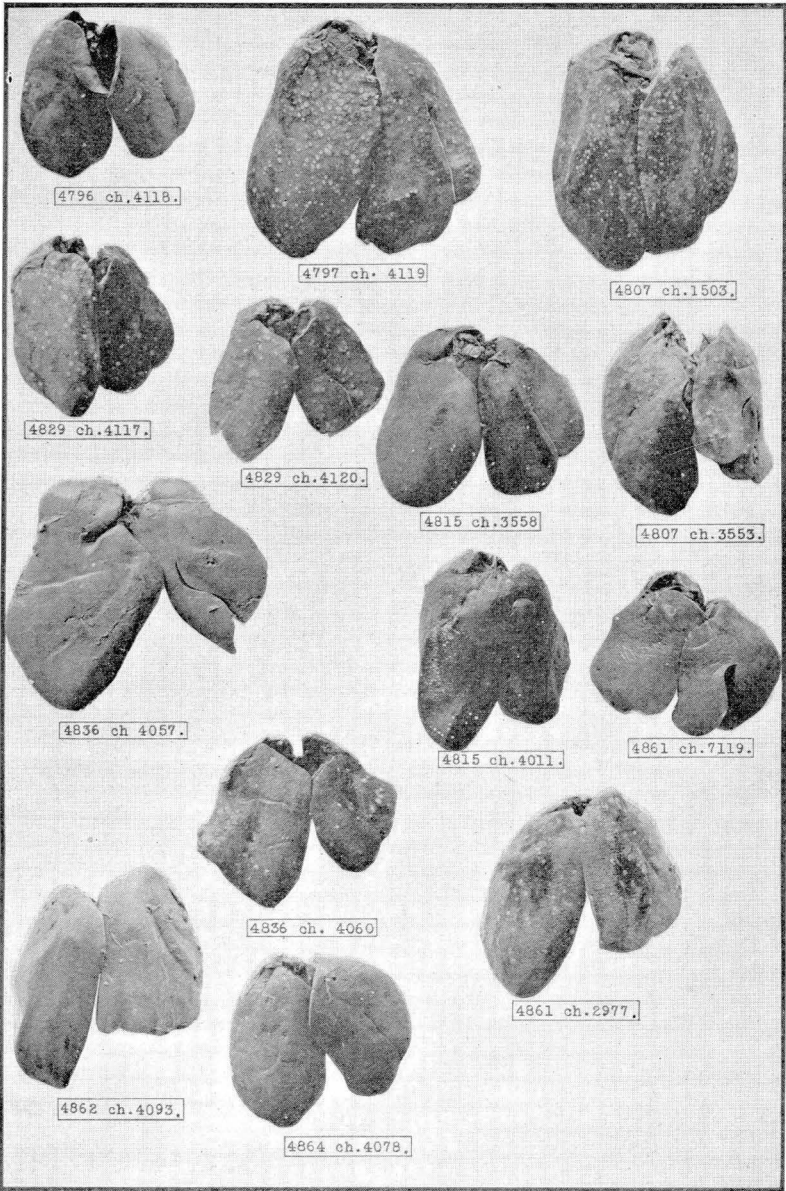


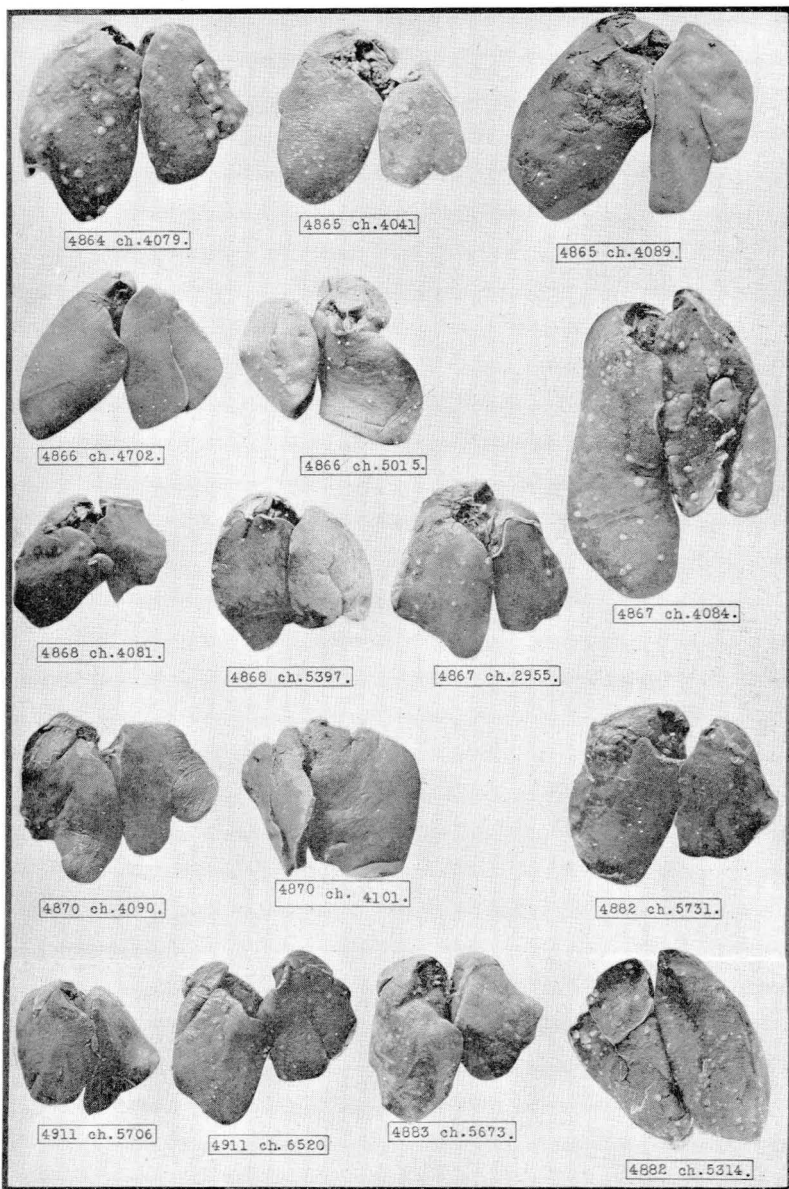
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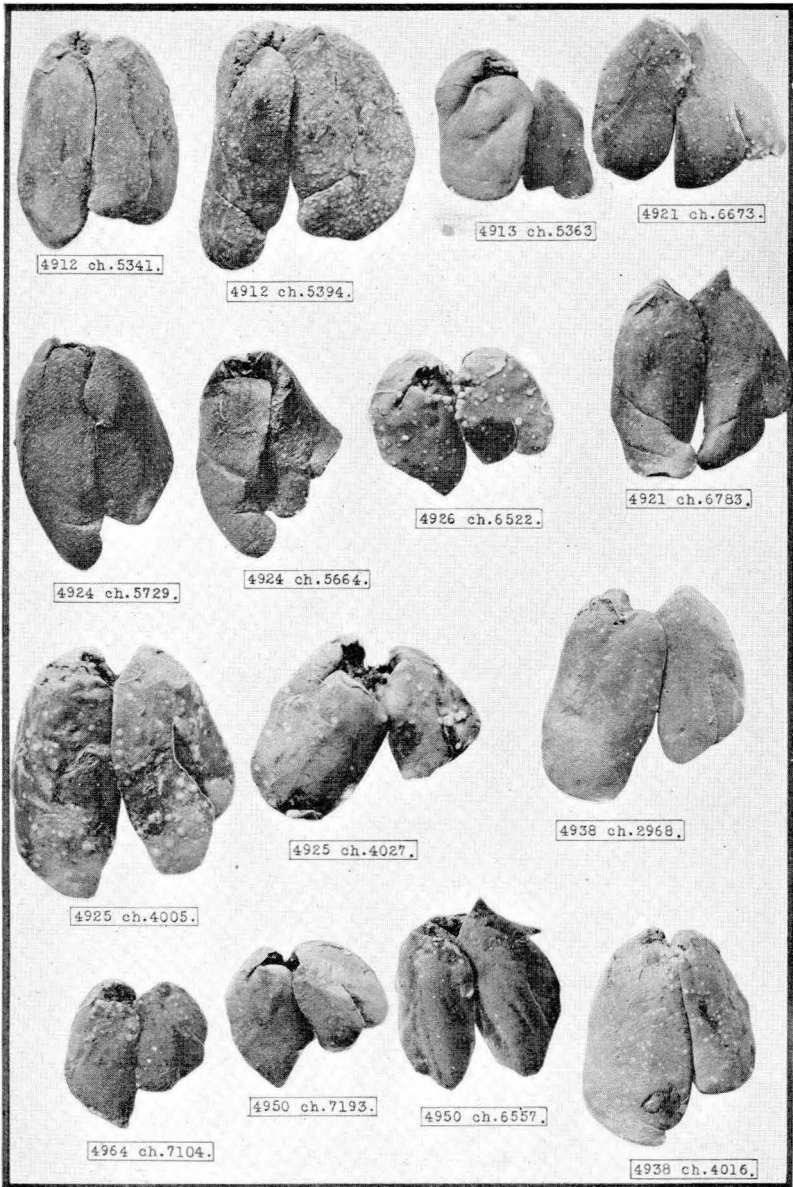


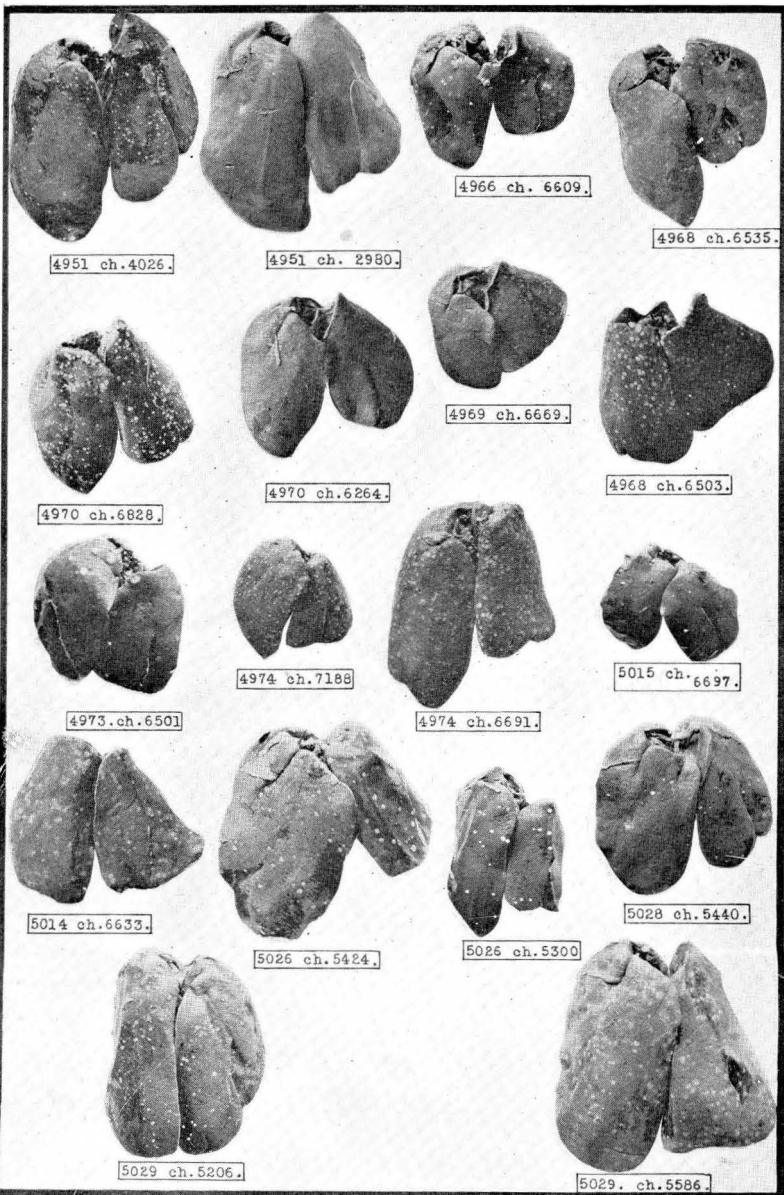


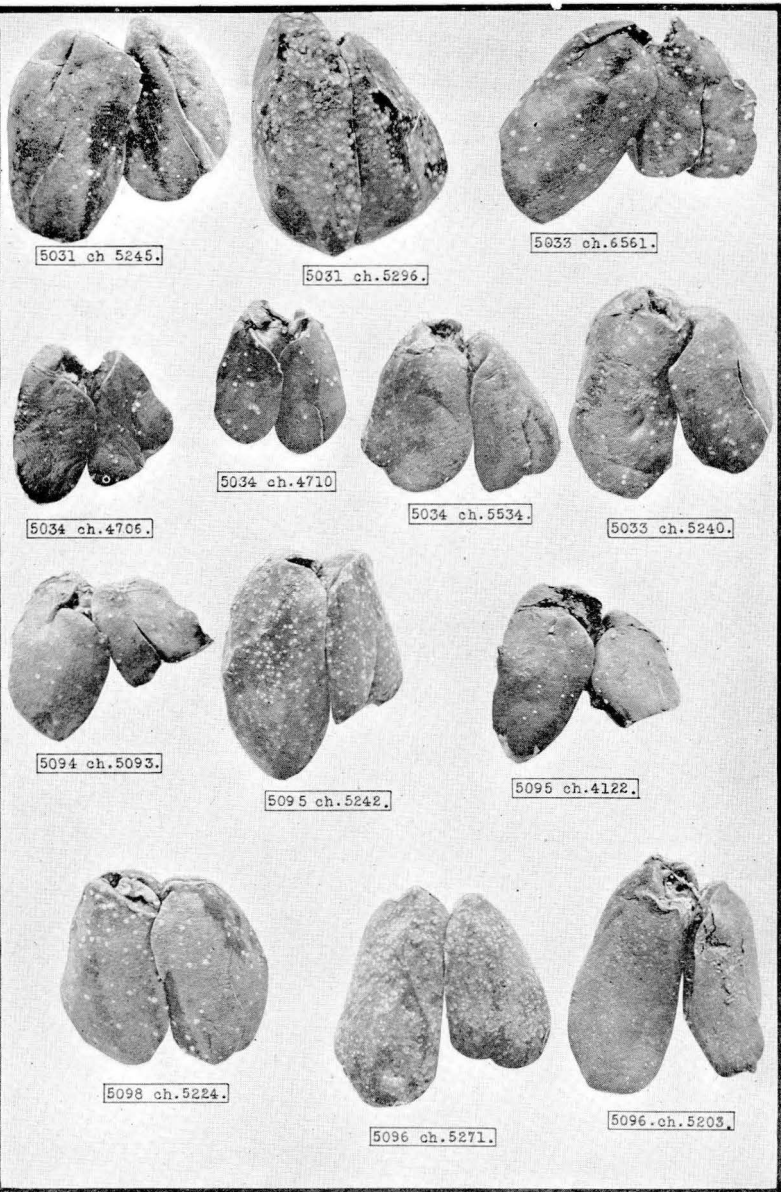


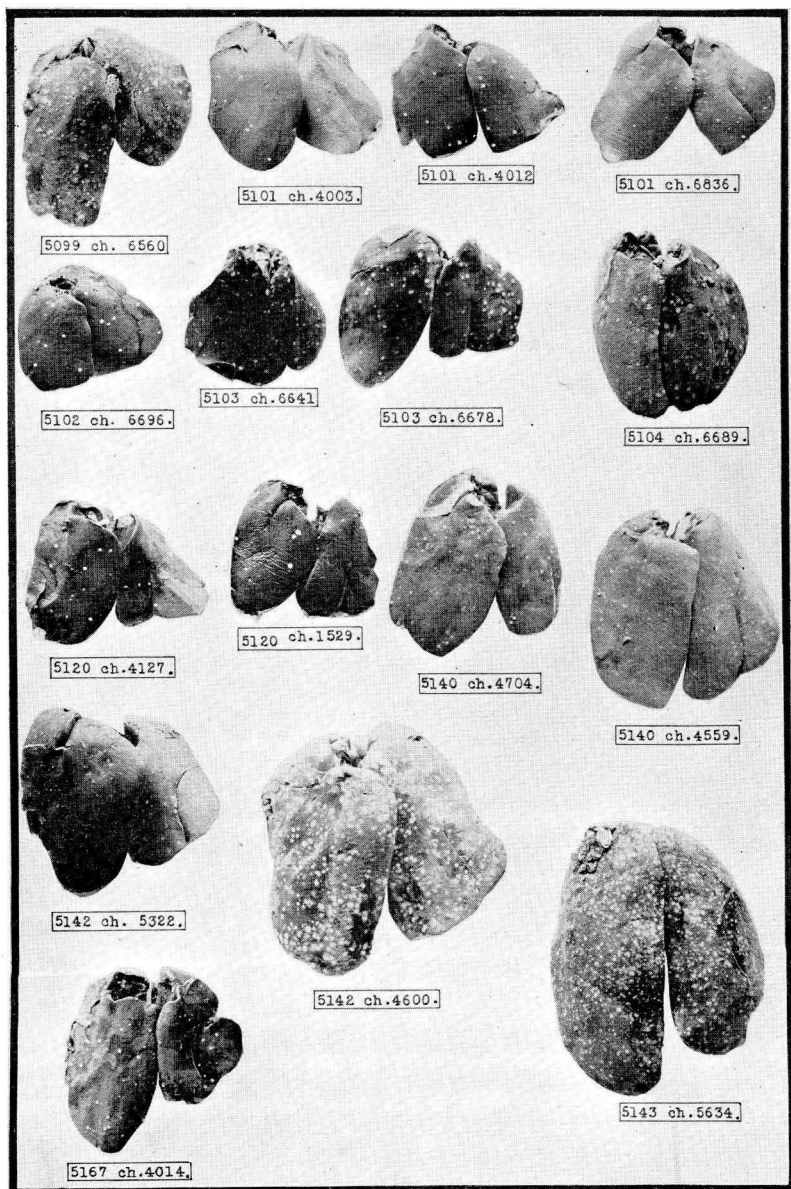


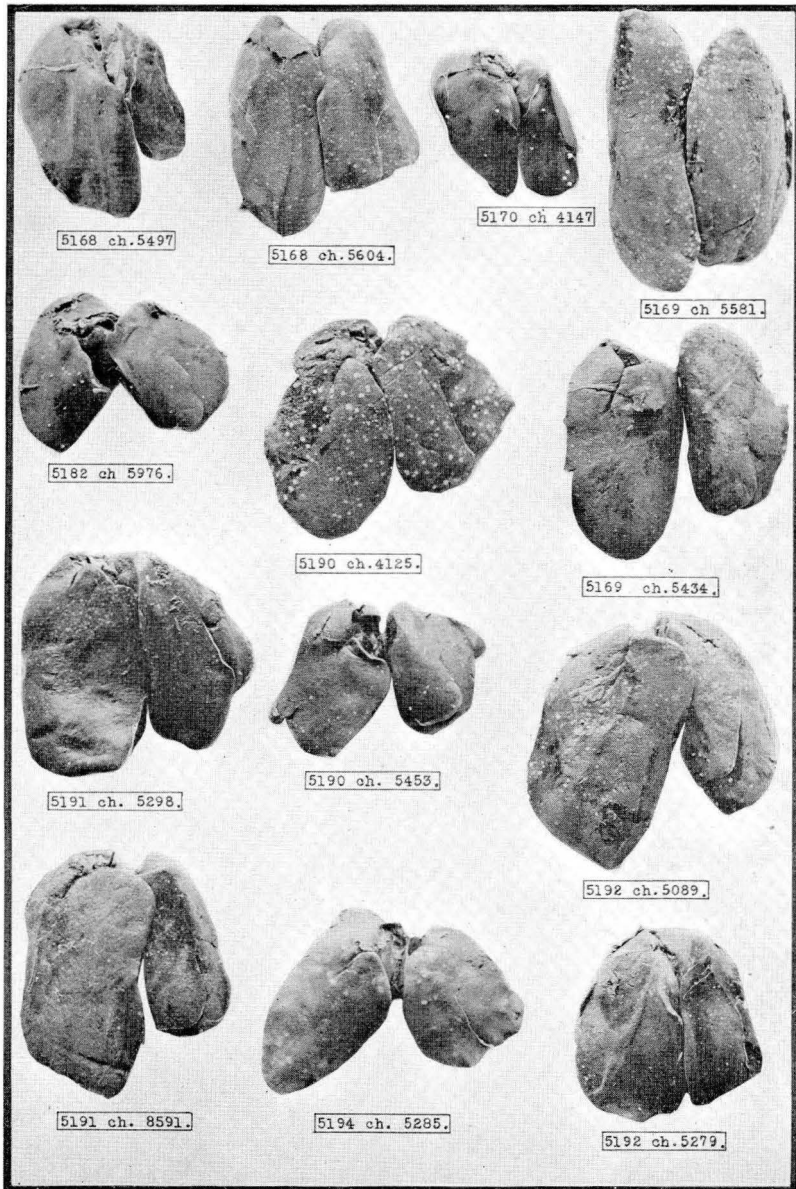


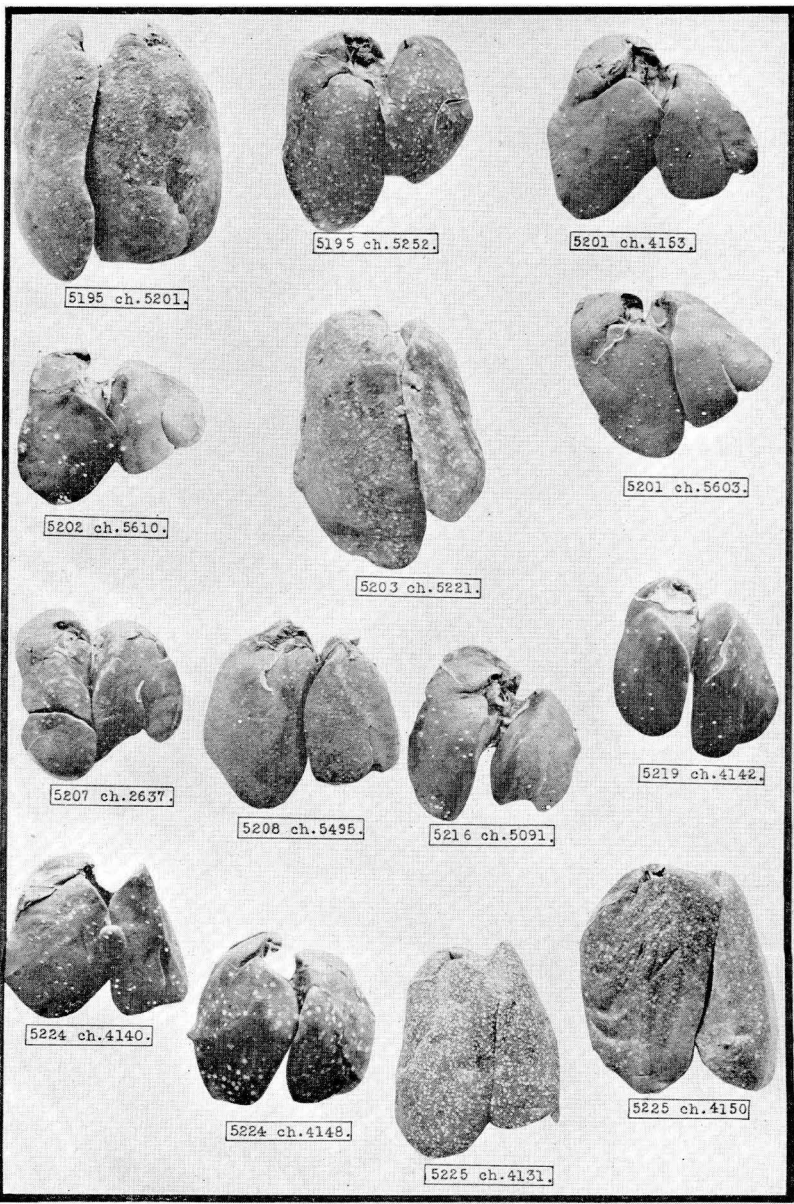












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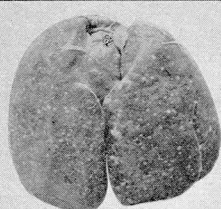
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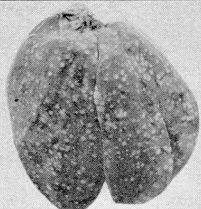
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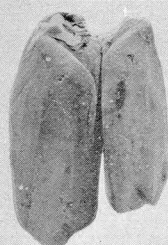
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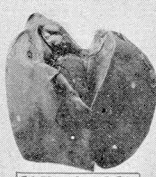
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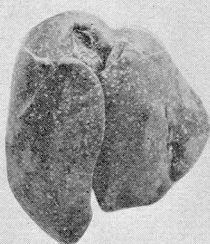
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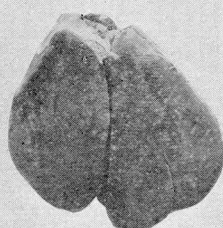
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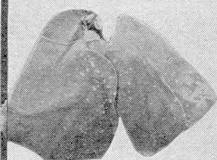
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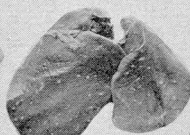
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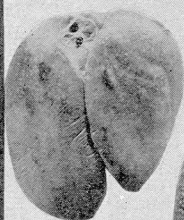
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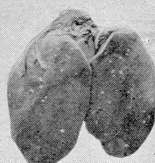
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