

1949

Abstracts

Follow this and additional works at: http://lib.dr.iastate.edu/iowastate_veterinarian



Part of the [Veterinary Medicine Commons](#)

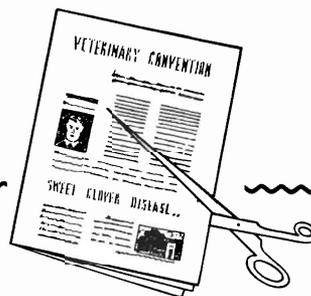
Recommended Citation

(1949) "Abstracts," *Iowa State University Veterinarian*: Vol. 11 : Iss. 3 , Article 16.

Available at: http://lib.dr.iastate.edu/iowastate_veterinarian/vol11/iss3/16

This Article is brought to you for free and open access by the Student Publications at Iowa State University Digital Repository. It has been accepted for inclusion in *Iowa State University Veterinarian* by an authorized editor of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

ABSTRACTS



TRANSMISSIBLE GASTROENTERITIS OF BABY PIGS. The experiments were designed to investigate the nature of the disease and its etiology. The hemoglobin, erythrocyte, leucocyte, and differential leucocyte counts (100 cells per slide) were determined and are presented in tabulated form. Rectal temperatures were recorded daily.

An initial rise in temperature in the first 24 hours after exposure was followed by a gradual decline until the pigs became moribund about four to six days after exposure. Vomiting, anorexia, diarrhea, dehydration, and weakness were noted during the second and third days, with the symptoms becoming more marked after the third day.

Macroscopically, the significant lesion seemed to be hemorrhage in the wall of the stomach. Microscopically, the lesions appeared as necrotic foci in the mucosa, characterized by necrosis of the epithelial cells, hemorrhage, mucoid degeneration, and infiltration by leucocytes and associated with hemorrhage in the submucosa.

Less severe reaction was noted in the experimental pigs which received bacteria-free filtrates than those which were given a portion of ground, whole digestive tract.

The experimental data supported earlier reports of the role of a filterable agent in transmissible gastroenteritis of baby pigs.

[E. S. Feenstra, Frank Thorp, Jr., M. L. Gray, and W. N. McMillen. Transmissible Gastroenteritis of Baby Pigs: J.A.V.M.A. 113: 573-575 (Dec.) 1948.]

VACCINATION OF PIGS WITH BRUCELLA ABORTUS VACCINE STRAIN 19.

The authors, of this paper, report the results subsequent to vaccination with *Br. abortus* vaccine strain 19 on a group of pigs that were being reared under natural or field conditions, and on a farm where brucellosis existed for several years. A comparable group of unvaccinated pigs which were allowed to mingle with those vaccinated served as controls. An agglutination test, using *Br. abortus* antigen, was made on the blood serum of each of these animals. The results indicated that brucellosis was widespread among the swine population on that farm.

The first postvaccination agglutination tests were made six weeks following vaccination and the second tests twenty weeks following vaccination. Following the second postvaccinal agglutination test 35 animals were selected for breeding; 18 had been vaccinated and 17 had not. Of the vaccinated gilts, the farrowing records showed that six (33.3 percent) farrowed normal litters, six had been observed to abort, and six failed to conceive or had unobserved abortions. Among the unvaccinated pigs, four (23.5 percent) farrowed normal litters and of the remaining thirteen (76.5 percent), two were known to have aborted and eleven either failed to conceive or had unobserved abortions.

The report indicated that divergent results were obtained on the effectiveness of *Br. abortus* vaccine strain 19 as an agent for increasing the resistance of

swine against the porcine type of brucellosis.

In the authors' opinion, pigs vaccinated when 16 weeks old or over should develop and manifest a greater degree of resistance than pigs vaccinated when 8-10 weeks of age. The results indicate that post-vaccinal agglutinin titer rises to higher levels in pigs that are vaccinated 12 weeks of age than in those only 8 weeks of age when vaccinated.

From the results obtained by their investigation, the authors concluded the *Br. abortus* vaccine strain 19 did not provoke in swine the substance or substances necessary to increase significantly their resistance against the porcine type of brucellosis.

[Kernkamp, H. C. H. and Roepke, M. H. Vaccination of Pigs with *Brucella Abortus* Vaccine Strain 19: J.A.V.M.A. 113: 564-567 (Dec.) 1948.]

EFFECT OF SULFAMETHAZINE ON CERTAIN INFECTIONS OF THE BOVINE MAMMARY GLAND.

Two hundred and fifty Holstein-Friesian cows which had been under observation for more than four years were used in the trials. The organisms primarily concerned with in these trials were: *Aerobacter aerogenes*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, and *Streptococcus agalactiae*.

The bacteriologic procedures consisted of the Hotis test, the microscopic study of stained films prepared from incubated Hotis samples, and the study of colony characteristics on ox blood agar plates. The differential tests for the specific organisms are listed.

The two methods of treatment employed were (1) a combination of parenteral and oral administration and (2) intramammary infusion.

The drug level was determined on samples of milk and blood taken at the end of each period of time elapsing between doses.

The authors have tabulated their data on sulfamethazine concentrations in the blood and milk, including the effect of these concentrations of the drug upon

the bacterial flora of the udder following administration of the drug by the two methods previously mentioned. A chart concerning sulfamethazine concentrations in blood and milk of a normal dry cow following intravenous and oral administration of the drug has been included in the report.

Sulfamethazine levels between 7.80 mg. and 14.82 mg./100 cc. of udder contents could be maintained in a normal dry cow by giving an initial intravenous dose of 1.5 gr./pound of body weight followed by an oral maintenance dose of one gr./pound of body weight for three days.

A comparison of the ratios between sulfamethazine base levels in milk and blood levels showed, on milking three times daily, the milk levels were 25-30 percent of the blood levels; on milking twice daily, the milk levels ranged between 30-40 percent of the blood levels, and, in dry cows, with no evacuation of the udders, the levels in the mammary contents ranged between 50-60 percent of the corresponding blood levels; therefore, it appears that the frequency of milking during treatment influences the concentration of sulfamethazine in the milk.

The authors concluded from their trials that sulfamethazine is ineffective for the treatment of infections of the mammary gland caused by *Staphylococcus aureus*, *Aerobacter aerogenes*, and *Pseudomonas aeruginosa*.

[Schalm, O. W., Bankowski, R. A., Ormsbee, R. W., Browne, T. W. Effect of Sulfamethazine on Certain Infections of the Bovine Mammary Gland. Am. J. Vet. Res. 10:56-62 (Jan.) 1949.]

SALMONELLA INFECTION IN CATTLE.

The type of Salmonella that cattle are particularly susceptible to is *Salmonella enteritidis* var. *dublin*. Since 1946 salmonellosis has been diagnosed among adult stock with increasing frequency in England.

Most cases were observed during the summer. Diagnosis can be made by finding the organisms in the feces and in the blood during the early febrile stage of the disease. A serological examination will

detect carriers recovered from clinical infection.

All animals that recover and others exposed become carriers and are a menace to public health. There have been no serious outbreaks of food poisoning from *S. dublin* but it is a potential danger. An investigation of *S. dublin* infection in man following the ingestion of sausages revealed that the organism will survive if the meat is improperly cooked.

[Field, H. I. Salmonella Infection in Cattle. Veterinary Record. 70:109-112 (March 5) 1949].

BENZENE HEXACHLORIDE DIP TO DESTROY SCAB MITES ON UNSHORN SHEEP. Benzene hexachloride (BHC) is highly effective against several species of pathogenic mites affecting livestock and poultry. Experimental tests were conducted in an effort to determine (1) the effectiveness of BHC dips against psoroptic mites on sheep suffering from clinical mange, (2) the effectiveness of the gamma isomer alone as compared with technical grade BHC containing all isomers, (3) the minimum effective concentration of gamma isomer required to destroy psoroptic mange mites, and (4) the time required by various concentrations of gamma isomer to kill scab mites. Observations were also made to determine whether or not the odor and taste of BHC in the meat of lambs dipped in therapeutic quantities of BHC could be detected.

In these experiments infestations of the common sheep mite, *Psoroptes equi* var. *ovis*, were eradicated from groups of unshorn sheep after a single dipping in aqueous suspensions of commercial wettable BHC. The dip concentrations used were 0.015 percent, and 0.06 percent of gamma isomer. A dip containing 0.015 percent of gamma isomer destroyed all mites on one ram within 2 hours and 45 minutes; a dip containing 0.0075 percent of gamma isomer destroyed all mites on one ram in less than 44 hours; lesser concentrations were ineffective. The dips used in the eradication of scab mite infestations also destroyed all red biting lice, lone star ticks and Gulf Coast ticks. It is suggested

that in the psoroptic mange eradication programs used on farms and ranches a dip of not less than 0.06 percent concentration of gamma isomer be used. Observations from these experiments indicate that the odor and taste of BHC in the meat of lambs dipped in therapeutic quantities of BHC are at no time offensive and are, in fact, barely detectable. Approximately 21 days following dipping, neither the odor nor taste of BHC was at all distinguishable.

[H. E. Kemper, D. V. M., and I. H. Roberts, B. S., D. V. M. Benzene Hexachloride Dip to Destroy Scab Mites on Unshorn Sheep. Vet. Med. 44:163-169, (April) 1949].

SALMONELLA FROM DOGS AND THE POSSIBLE RELATIONSHIP TO SALMONELLOSIS IN MAN. A study was made on 100 dogs to determine if they were infected with Salmonella and if there were clinical manifestations from their presence. Stool specimens were collected by rectal swabs. Salmonella types were isolated from 18 of the dogs. The pathological significance cannot be evaluated from this data. Most of the Salmonella organisms found were potential pathogens of man.

Two conclusions were drawn: the dog may be a frequent host for the Salmonella, and the dog may be a possible source of Salmonella infection for man.

[Wolf, A. H., Henderson, N. D., McCallum, G. L. Salmonella from Dogs and the Possible Relationship to Salmonellosis in Man. Am. J. of Pub. Health. 38:403-408 (March) 1948.]

The National Research Council recommends that rations for cows, sheep and swine contain not more than .003 percent and for poultry not more than .015 percent of fluorine.

