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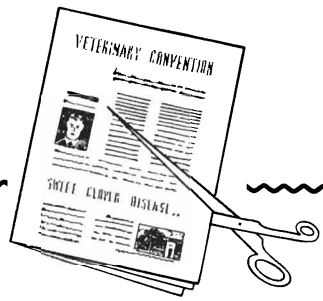
Abstracts

ABSTRACTS



ISOLATION OF CHICKS UP TO TWO WEEKS OF AGE REDUCES MORTALITY FROM LYMPHOMATOSIS IN ADULT FOWL. An attempt was made to determine whether a very satisfactory reduction of mortality from lymphomatosis could be attained without complete isolation and without the expense of maintaining all summer a separate establishment for the rearing of chicks.

Data were collected over a seven-year period on an annual hatch of from 1,759 to 2,232 White Leghorn pullets representing two strains resistant to lymphomatosis and one strain susceptible to it. In each year all the birds had uniform environment after the age of two weeks. However, prior to that age approximately one half of the birds were brooded in one room (F) located forty feet from adjacent breeding pens containing adult birds, and the other half (in alternate hatches) in brooder room (B) located 110 feet from laying pens.

During each of the seven years mortality from 160 to 500 days of age was consistently higher among the pullets that had been started in room F than those started in room B. Much of this difference resulted from the higher incidence of neoplasms among the birds started in F. Over 90 per cent of these neoplasms were cases of neural, viceral or ocular lymphomatosis.

Deaths from neoplasms were from 1.6 to 4 times as frequent in birds brooded in F as in birds from B during the years from 1940 to 1942 inclusive. This difference, which was found in both resistant and susceptible strains, was not fully explained but it was attributed to the greater possibility of infection in birds from room F which was closer to the source of infection from the adult birds. However, in both cases the attendant divided his time between chicks and old birds.

It was suggested that the data demonstrates two new points in the control of lymphomatosis:

1. Environmental conditions during the first two weeks of life determine to a large extent the mortality from lymphomatosis in adult birds.

2. A favorable environment in this critical period can be provided on the poultry farm and appears to be associated with the remoteness from adult birds.

(Hutt, F. B., Cole, R. K., Ball, M., Bruckner, I. H., and Ball, R. F. 1944. A relation between environment to two weeks of age and mortality from lymphomatosis in adult fowls. Poult. Sci. 23(5):396-404.)

SULPHUR PROPHYLAXIS OF COCCIDIOSIS OF FEEDER LAMBS. The Bureau of Animal Industry conducted an experiment on the efficacy of ground crude sulfur against naturally acquired coccidiosis in feeder lambs. The desirability of the experiment was based on the proven worth of sulfur in the treatment of poultry coccidiosis and on the high cost of sulfaquanidine therapy.

Fourteen hundred lambs divided into 14 equal groups were placed in identical feed lots. Eight groups selected for sul-

fur feeding were so distributed that each was adjacent to at least one control group. The lambs were given a ration of chopped alfalfa and ground corn held together with molasses and water.

Three groups, respectively, were fed 0.5, 1.0, and 1.5 per cent sulfur by weight throughout the 72 days of the test. Two groups were given nothing for three days and then gradually increased in proportions until they received 1.5 to 3.0 per cent respectively. Of the three remaining groups, one received 2.0 per cent sulfur from the first to the thirty-ninth day, one group was treated from the seventh to the thirtieth day and the other group from the tenth to the thirty-ninth day. Sulfur feeding was at a maximum during the period when clinical coccidiosis usually develops, between two and three weeks. Inspection of lambs for mortality and diarrheal or semi diarrheal feces was carried out every day. Fecal exams were run every 3 days to detect coccidial oocysts.

Results showed that the incidence of coccidiosis in the control groups was only 6.3 per cent. However, no case of clinical coccidial Oysentry was identified in the eight groups of sulfur fed lambs.

The laxative effect of sulfur was directly proportional to the amount in the ration running from a negligible effect on 0.5 per cent sulfur feed to 8 per cent diarrhea on ⅓ per cent sulfur ration. In the 3 per cent sulfur group the incidence of diarrhea was from 25 to 50 per cent. Untreated lambs showed a large increase in coccidial oocysts between the twelfth and twentieth days but the treated lambs exhibited no increase at all. Mortality among the controls was 4.8 per cent, while in the 0.5, 1.0 and 1.5 per cent sulfur groups it was only 0.7 per cent.

There were more fat lambs sent to market from the untreated groups but the margin was insignificant for the 0.5 to 1.5 per cent sulfur, the laxative effect of the rations was objectionable and the weight gains were considerable less than those of the untreated lambs.

Feeding sulfur in percentages of from 0.5 to 1.5 for 72 days was decidedly practical as shown by the low death rate and desirable rate of fattening. This value is enhanced by the low cost and availability of sulfur.

(Christensen, J. F. 1944. Sulfur Prophylaxis of Coccidiosis of Feeder Lambs. Am. J. Vet. Res. 5(17):341-345.)

A RAPID METHOD OF STANDARDIZING THE DENSITY OF BULL SEMEN. Because the standardization of the density of bull semen by the hemocytometer method is time consuming and laborious the author sought a rapid method that was as accurate.

A swifter method was devised involving the use of Brown's opacity tubes. With a precision micropipette, 0.1 ml. of semen was sucked up and added to an appropriate quantity of normal saline to make dilutions ranging from 1/20 to 1/50, according to the gross density of the sample. This diluted sample was composed with Brown's tubes and the opacity estimated. When recording opacity, it was found best to lay the unknown between two consecutive standard tubes on a piece of white paper with bold type. With practice it was possible to estimate opacities between two Brown tubes to the nearest fifth of the difference. The amounts of spermatozoa could then be calculated by multiplying the Brown's equivalent (to the nearest one-fifth), times the original dilutions (1/20 to 1/50), times 5, a calculated mean. The results are read in millions of spermatozoa per milliliter. In practice, the original dilution which will give an opacity between 4 and 6 can be estimated quite accurately.

Check against the hemocytometer method on a large number of bulls, this rapid method showed no significant variation in results. This method is sufficiently accurate for use with artificial insemination rings.

(Kyow, M. H. 1944. Rapid Method of Standardization of the Density of Bull Semen. J. Agr. Sci. 34(2):106-109.)

THE FIELD USE OF SULFATHIAZOLE IN SOME DISEASES OF POULTRY. The article embraces the field use of sulfathiazole for the past two years in certain respiratory infections in poultry. Sulfathiazole at the rate of ½ pound to 100 pounds of mash was administered in a number of outbreaks of acute coryza. This medication was continued for a period of 5-8 days and marked improvement in egg production and mash consumed was usually seen on the 3rd to 5th day of treatment. An attempt was made to feed the drug in a wet mash, but the birds were reluctant to eat it. One week to a month after sulfathiazole treatment had ceased in a number of flocks there was recurrence of symptoms and treatment had to be reinstigated. It is apparent that treated and recovered birds remain carriers of acute coryza, but sulfathiazole provides a means of holding the disease in check until the poultryman can dispose of the birds. Sulfathiazole also provides means for the protection of breeding males when introduced into the breeding pens with birds that are carriers of acute coryza.

In treatment of chronic coryza with the same dosage, improvement was not as marked, although 2 to 3 weeks following treatment a definite improvement was noted. Invariably some birds would still have to be removed from the flock because they showed such symptoms as nasal discharge, coughing and facial swelling. Often treatment would have to be repeated as there was a recurrence of symptoms.

Sulfathiazole was administered at the rate of ½ pound to 100 pounds of grain in an outbreak of fowl cholera with no apparent effect.

In an outbreak of duck cholera among 200 white Pekin breeder ducks sulfathiazole was administered at the rate of ½ pound per 100 pounds of mash. After three feedings the ducks refused the feed and the amount of drug was reduced to ¼ pound per 100 pounds of mash. The feed was readily consumed and the mortality of 220 ducks over a period of 2 weeks, stopped completely on the third day of sulfathiazole treatment. Treatment was continued for two additional days. Several birds having died, treatment was instigated 10 days later for one day and since that time no further losses have occurred. The owner was so enthusiastic that he insisted upon repeating the treatment every 10 days for one day and has done so for the past 2 months.

(Wernicoff, N. E., and Goldhaft, T. M. 1944. The field use of sulfathiazole in some diseases of poultry. Cornell Vet. 34(3): 211-213.)

ERADICATION OF BRUCELLOSIS OF SWINE BY BLOOD TEST AND SEGREGATION. Using two swine herds under two different types of management, investigators at the University of California attempted experimentally to eradicate Brucellosis from field herds by raising potential breeding stock apart from the source of infection, and by slaughtering the infected stock as replacements became available. In herd I, the physical equipment with exception of personnel was ideal for segregation. On the other hand, in herd II there was makeshift equipment but the personnel was thoroughly competent and reliable. In general, the program followed was as follows: The brood stock were blood tested by the tube technique; a reaction 1:25 was considered positive. If infection existed, the entire group was handled as a positive unit and no attempt was made to salvage non-reacting animals. Only animals giving evidence of sterility were culled from the breeding program. Young pigs, that were potential brood stock, were segregated from the source of infection (the infected unit) at weaning. Stock for breeding were selected on the basis of blood test as well as type. Only those negative to the test were bred, the others were consigned to the fattening lots.

Data were presented to show that even in badly infected herds the majority of young pigs do not react at a titer of 1:25 and are free from infection. Using this finding as a basis, a program of eradication was initiated in the field herds. Al-

though the disease was not eradicated from every herd, the freedom of young pigs from infection showed the program would be applicable in most situations. The program suggested includes:

1. Blood test the brood stock.
2. Consider the whole unit infected if infection is present and do not attempt to salvage non-reacting sows.
3. Segregate young pigs at weaning.
4. Blood test the gilts at breeding age and breed to a non-infected boar only those guilts negative at 1:25.
5. Cull the infected stock as replacements become available.

(Cameron, H. S., and Carlson, P. A. 1944. Brucellosis of Swine II. Eradication by Blood Test and Segregation. Am. Vet. Res. 5(17):329-332.)

Equine encephalomyelitis in the United States in 1943 was the lowest since 1936. 4,768 cases were reported from 34 states. 600,000 horses and mules were vaccinated in 1943. The rate of incidence in vaccinated animals is calculated to be 0.2 per thousand, as compared with an incidence of 1.1 per thousand in unvaccinated animals. Vaccination is more effective in areas where the disease is not yet present. An incidence of 0.09 compared to 0.25 where the disease was already present in the area. This past fall there was a late epizootic occurrence of the disease in the middle west and this may influence the amount of vaccination in the 1945 season.

Six weeks before the turkeys are to be marketed, fish meal should be demitted from the ration, and no cod liver oil or sardine oil should be fed after this time. These products often produce a fishy flavor in the meat of the birds, and this disappears gradually after they have been removed from the ration.

Feather picking, which may lead to cannibalism, may be aggravated by too much light.