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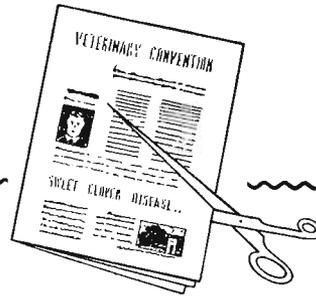
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# ABSTRACTS



**THE EFFICIENCY OF PHENOTHIAZINE-SALT MIXTURE AND DRENCH FOR SHEEP.** A series of experiments was conducted to establish the best possible use of the phenothiazine salt mixture and drench, as well as to detect any toxicity of the drug. The experimental sheep were divided into 5 groups. Group 1 consisted of 20 ewes which had been on the 1-9 phenothiazine salt mixture since June 1942 and 10 of their lambs. Biweekly blood analyses were made upon the sheep in this group. Group 2 consisted of 10 ewes and their 10 lambs, in which the ewes had been drenched in the fall and in the spring after lambing. The lambs received no treatment for the entire summer and were pastured with the ewes on a lot which had not been used for sheep since the previous fall. Group 3 consisted of 10 lambs drenched with 12½ gram dose of phenothiazine and then maintained on a 1-9 phenothiazine salt mixture at two week intervals for one week. Group 4 consisted of 10 lambs which were given continuous phenothiazine salt mixture alone. Group 5 consisted of 10 control lambs.

The 20 ewes in Group 1 which had been on continuous administration of 1-9 mixture for the 19 months showed no change in red blood cell count or hemoglobin of the blood. Thus no toxicity was apparent as a result of the treatment. Autopsies of 3 of these ewes did not reveal any gross pathology, and histopathological sections of liver, kidney, and spleen likewise did not show any marked tissue change.

Weekly parasite egg counts were made on the basis of the number of *Haemonchus contortus* eggs and the combined number of other nematode eggs. The average weekly parasite egg count for Group 1 was below 100 eggs. This count was considerably higher for the lambs than for the ewes, which may have some explanation on the basis that a smaller amount of salt was consumed. The ewes in Group 2 did not show any increase in infestation, whereas the lambs in this group showed clinical evidence of parasitism. Thus the residual infestation in ewes may be enough to develop an infestation in lambs if they receive no treatment. The lambs of Groups 3 and 4 showed some clinical symptoms of parasitism. Lambs of Group 5, which were on the same pasture lots as Groups 3 and 4, finished the experimental period in very poor condition with severe symptoms of parasitism as indicated by low red blood counts and hemoglobin determinations.

The use of phenothiazine may be modified according to climate and general management practices. Considering the findings of the above experiments all the sheep in the flock should be drenched with phenothiazine in the late fall and again 1 to 2 weeks after all the ewes have lambed. The entire flock should then be placed upon a 1-9 phenothiazine salt mixture. The lambs should be drenched again with phenothiazine when 3-4 months old. If the lambs show any evidence of parasitism it may be necessary to drench them again; likewise, all young



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stock to be kept over the winter should be drenched in the fall. After following this plan of treatment for several seasons it may not be necessary to drench the ewes in the fall if they are maintained on the phenothiazine salt mixture.

(Thorp, W. T. S., Henning, W. L., and Shigley, J. F. 1944. *The efficiency of Phenothiazine salt mixture and drench for sheep*. *J. Animal Sci.* 3(3):242-249.)

**EFFECT OF LOCAL INJECTIONS OF PENICILLIN ON STAPHYLOCOCCI IN THE COW'S UDDER.** The authors decided to test the action of intramammary injections of penicillin on the staphylococci which cause a catarrhal mastitis and to determine the effect on the cow, especially on the udder tissue.

Staphylococci may cause a chronic mastitis or a severe type of acute parenchymatous mastitis which is often associated with gangrene. Penicillin was tested because in vitro it was found to be four times as potent as sulfathiazole and twenty times as potent as sulfapyridine. It was also more effective than gramicidin.

Tests used mainly were hemolysis on ox-blood or sheep-blood agar, and coagulation of human or rabbit-blood plasma.

Samples of milk were drawn in the evening before milking. Three streams of milk were expressed, the teat disinfected, and 15 to 20 cc. of milk drawn into a sterile container, and then stored in a refrigerator until removed to a laboratory.

Seven quarters were treated, and nine samples drawn from each. Sample 1 was drawn before injection. Samples 2, 3, 4, and 5 were drawn every 12 hours thereafter. Samples 6, 7, 8, and 9 were taken on the third, sixth, tenth, and thirteenth days after the last injection of penicillin.

The penicillin was in the form of the sodium salt. It was placed in sterile 120 mg. vials and assayed 190 Oxford units per mg., so each dose (contents of one vial dissolved in 500 cc. of sterile saline) contained 22,800 Oxford units of penicillin.

Four quarters selected for treatment were given eight injections of 500 cc. of

the solution, via the teat canal, at intervals of six hours. Three received four injections, at twelve hour intervals.

After injection, samples 2, 3, 4, and 5 showed no hemolytic staphylococci for either the quarters receiving four doses or the quarters receiving eight doses. However, at periods of 3, 6, 10, and 13 days the samples showed rather heavy reinfection in the four dosage group, and the samples from quarters receiving eight doses of penicillin were much more free of infection, two showing no infection at all.

The first one-fourth to one-half of the milk of the quarters receiving six-hour injections contained slugs or strings of mucus and was watery, later turning a greenish or yellowish color. This condition persisted till samples 5 were collected. The other group showed the same condition but to a lesser degree.

Milk production after treatment fell off slightly from its former level in some cows, and remained the same in others.

Only one cow showed symptoms of irritation. The udder became swollen and hardened three hours after the first injection but was not hot or painful on pressure. It did not change much during the injection period and was normal at the third day after the last injection of penicillin.

(Klein, L. A., Crisman, D. W., and Moor, J. W., 1945. *The effect of local injections of penicillin on staphylococci in the cow's udder*. *Am. J. Vet. Res.* 6(18):3-8.)

**AN EFFECT OF RATION ON LAYING HEN MORTALITY.** There has existed for the last few years a popular belief among poultrymen that a corn diet is responsible for increasing reproductive disturbances in poultry. To substantiate or repudiate such a claim the University of California conducted a series of experiments on the pedigreed White Leghorn chickens of the college flock from 1937-1941.

Two rations were established, one using corn and another using barley as the principal ingredient. These rations were other-

wise identical with the exception of a higher alfalfa meal content of the barley ration. Other constituents of the ration were added in their proper amounts so that both rations were nutritionally balanced.

Flocks were established so that the effect of the two rations might be studied both during the rearing and laying period. The rearing period was designated as existing to an age of 5 months and the laying period was considered as extending from 5 months to 18 months of age.

The corn ration proved superior in promoting the growth of the chicks. This more rapid growth was associated with an earlier sexual maturity. Differences between the rations with respect to winter pause, broodiness and persistency were insignificant. The mortality of the birds fed the different rations was carefully checked. Mortality was used to refer to birds that had died, as well as birds culled for reasons of health or abnormal egg production. When the corn ration was fed only during the rearing or only during the first laying year, laying hen mortality was not significantly higher than mortality among flocks maintained on the barley ration. However, flocks fed the corn ration throughout the rearing and laying periods showed a significant increase in laying hen mortality.

The greatest contribution to the difference in mortality between the corn and barley ration was due to losses associated with disturbances of the reproductive system of the laying pullets. More than one-half of the total lesions of the reproductive tract were associated with rupture of ova into the abdominal cavity, or to the presence of flabby ova. Reverse peristalsis, prolapsus and occlusion of the oviduct in the order named were the next most common type of lesion found.

In order to ascertain that the superiority of the barley ration was not due to a greater amount of vitamin A or other vitamins because of the higher content of alfalfa meal, livers of birds from experimental flocks were assayed as to vitamin A and riboflavin content. In each instance, birds fed the corn ration had a distinctly higher vitamin A content. No consistent

difference with respect to riboflavin content was noted. Apparently an increased source of vitamins was not the answer to the superiority of the barley ration over the corn ration as an aid in preventing laying hen mortality.

(Taylor, L. W., Lerner, I. M. and DeOme, K. B. 1944. *An effect of ration on mortality of laying hens. Poult. Sci.* 23(3): 181-188.)

## TREATMENT OF WHITE SCOURS IN CALVES.

White scours in calves occurring just a few days after birth has been determined to be due to a lack of certain vitamins. This serious disease occurs from January till the cows are turned on to grass in the spring. It may occur at other times, but is not so common. It is so severe on some farms that it is impossible to raise calves. Certain vitamin preparations are available now which when given calves from the day of birth and for 10 days afterward will prevent the occurrence as well as being of value in treating the disease.

The vitamins which comprise the preparation and the amounts used in the daily dosage are: Vitamin A, 5000 units; Vitamin D, 500 units; Vitamin C, in the form of ascorbic acid, 250 mg.; and the nicotinic acid factor of Vitamin B, 50 mg. Some veterinary pharmaceutical houses have put this vitamin combination into capsules for ease in administration. The agricultural press has spread this news to livestock men so it would be advisable for veterinarians to obtain a stock of them so as to meet the possible demand.

A recent sulfa drug known as sulfathalidine, which is considered equal to sulfaguanidine as an intestinal bactericide, yet being less toxic. It has proven effective in treating scours and its use will prevent the disease. Posology for prevention: 60 grains divided into two doses and given as a drench morning and night for three or four days. Begin six to twelve hours after the animal is born. Curative dosage: three drams as the initial dose, four hours later two and one-half drams and four hours later a third dose of one and one-half drams, followed six hours

later by one dram. Each dose is suspended in eight fluid ounces of warm water and given as a drench. This dosage is for a 100 pound calf. If necessary to continue dosage, one grain per pound per day divided into three doses will suffice.

Adequate feeding of pregnant cows the last six weeks of the gestation period is also valuable. Feeding good quality green roughage and bran or oil meal cake is best. Vitamin A and D feeding oil may also be given if other sources are not adequate. This feeding oil is also of value in preventing cows from developing acetonemia after parturition.

(McIntosh, R. A. *White scours in calves. Canadian J. Comp. Med.* 9(1):13-14)

The human machine has a new medicinal agent to aid in its fight against wear and tear. It's rutin, a bright yellow non-toxic powder from the leaves of bright flue-cured tobacco. Patients suffering from increased capillary fragility show marked results with it.

Sabadilla seed was found to approach Rotenone in effectiveness in killing lice. Older seed seems to be more potent than the fresh ground seed. This increase in potency can be brought about by heat-treating the seeds, or treating with an alkali such as lime. Rotenone is not obtainable today due to Japanese control of the Netherland East Indies. The lice on cattle may be controlled by dusting thoroughly in the fall and twice during the winter in herds where lice are prevalent.

Extra vitamins in the feed mean bigger and healthier dairy calves, according to dairymen at Pennsylvania State College. Calves fed excessive amounts of vitamins A and D were checked against a similar group fed a calf starter of standard vitamin content. The supercharged calves averaged 17.4 pounds heavier at the end of the year, and were troubled less with scours and other calfhood ills. Even after a summer on pasture, the calves receiving the extra vitamins were larger, had sleeker coats of hair, and carried more flesh than the other group.

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