

FOUR PERCENT SODIUM BENTONITE IN A TURKEY STARTER DIET AND THE RESULTS AND FOUR-WEEKS WEIGHTS OF BSW POULTS¹

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Addition of sodium bentonite to protein concentrate in the ratio 1:2 has given growth responses in yearling lambs (1). The possibility existed that the bentonite, through its property of absorbing water and increasing in volume, may have permitted more thorough digestion of the feedstuff which in turn allowed greater weight gain during the experimental period.

An experiment was planned to ascertain whether a similar effect could be found for turkeys.

EXPERIMENTAL

Twenty day-old Beltsville Small White poults were distributed into two experimental pens. The poults were grown in an electrically heated battery brooder and had free access to feed and water. Body weights were recorded at day-old and at four weeks of age. The poults were sacrificed at the conclusion of the experiment and the sex determined by direct observation of ovary or testes.

The control diet was composed as follows: ground yellow corn 24 parts, ground oats 5 parts, wheat middlings 5 parts, alfalfa meal 5 parts, soybean oil meal 50 parts, meat and bone scraps 2 parts, fish meal 2 parts, dried buttermilk 1 part, dried brewer's yeast 1 part, and salt $\frac{1}{2}$ part.

Vitamins were added at the following rate per 100 lbs. of diet: Riboflavin 0.3 gm., Pyridoxine HCl 0.3 gm., Thiamin 0.5 gm., Calcium Panthothenate 0.7 gm., Niacin 2.0 gm., Choline 12.0 gm., Vitamin B12 0.5 mg., Vitamin A 450000 I. U. and vitamin D 80000 AOAC chick units. Procaine penicillin, dl methionine, CaHPO_4 and CaCO_3 were added at rates of 0.3 gm., 45 gm., 950 gm., and 1150 gm. respectively per 100 lbs. of diet.

The experimental diet was made by mixing 1 part of sodium bentonite with 25 parts of control diet.

RESULTS AND DISCUSSION

The four-week weights are shown in Table I. The poults receiving the diet supplemented with sodium bentonite did not gain weight as rapidly as did the poults on the control diet. The addition of the bentonite did reduce the percent of protein, vitamins, minerals and other nu-

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TABLE I
FOUR-WEEKS WEIGHTS OF BSW POULTS

	gms.
Control	429*
Bentonite	398

*Av. wt. of males plus av. wt. of females and the total divided by two.

trients by a small amount, but the reduction was not felt to be of sufficient magnitude to produce a deleterious effect on rate of growth. The bentonite, being an absorbant material and expanding when moistened to form a gel-like state, may have impeded rather than enhanced the intestinal absorption of nutrients.

CONCLUSIONS

Addition of 1 part sodium bentonite to 25 parts of turkey starter diet resulted in a decrease of rate of growth of poults grown to four-weeks of age.

BIBLIOGRAPHY

1. Jordan, R. M., 66th Annual Report, Agricultural Experiment Station, South Dakota State College, 126-127 (1952).