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Failure of Intestinal Extracts to Prevent Chick Gizzard Erosions.

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It has recently been shown[1] that extracts of the upper intestine of hogs are effective when administered orally in preventing jejunal ulcer in dogs subjected to the Mann-Williamson operation. This investigation was undertaken to determine whether these intestinal extracts contain any of the chick anti-gizzard erosion factor.

Methods. The intestinal extract used in this study was material which had been shown to be effective in preventing ulcer in Mann-Williamson dogs. Its preparation consisted essentially of extracting the upper small intestine of hogs with 0.4% hydrochloric acid, concentrating this extract *in vacuo*, and drying of the concentrate from the frozen state. The dried extract was fed as 5% of a ration known to produce gizzard erosion in chicks.

One-day-old White Rock chicks were distributed at random into two groups of 20 chicks each. Group 1 was fed the control ration, and Group 2 was fed the test ration, consisting of the control ration supplemented with 5% of the dried extract. The basal ration, modified slightly from one used by Miller and Hammond,[2] had the following composition: ground yellow corn 39.9%, ground whole wheat 21.0%, dried skim milk 10.0%, meat and bone scraps 10.0%, soybean oil meal 10.0%, alfalfa leaf meal 3.0%, dried brewer's yeast 2.0%, steamed bonemeal 3.0%, salt 1.0%, and vitamin A and D feeding oil (3000 USP units vitamin A and 400 AOAc chick units vitamin D per gram) 0.1%. The chicks were banded and weighed individually at the start of the experiment, at 2 weeks of age, and at 4 weeks of age when the experiment was concluded. The average weights of the birds at 4 weeks of age were for Group 1, 226 g, and for Group 2, 238 g. The chicks were killed by decapitation and examined for gizzard erosions. The incidence of erosions in Group 1 was found to be 75%, and in Group 2, 67%. The severity of the lesions was about the same in the two groups.

A similar experiment with salt precipitated material (the "A" precipitate of Greengard and Ivy[3]) also gave negative results when fed at a 5% level in this ration.

Summary. The intestinal extract used in this study apparently was not effective in preventing gizzard erosion in chicks.

1 Ivy, A. C., *Fed. Proc.*, 1945, **4**, 222.

2 Miller, D., and Hammond, J. C., *Poultry Sci.*, 1942, **21**, 317.

3 Greengard, H., and Ivy, A. C., *Am. J. Physiol.*, 1938, **124**, 427.