Effects of pellet and mesh diets on the activity of the microflora, and morphology of the small intestine of broiler chicks

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In order to evaluate the effects of pellet and mash diets on bacterial count, and morphology of the small intestine on broiler chicks, 400 Ross-308 broiler cockerels were used. They were divided into 2 treatment groups of 25 randomly selected birds and 8 replications, and were housed in 8 pen floors, with controlled temperature and humidity at the rear parts, for 42 days. The broilers diet was prepared for 2 stages of (0- 21 days) and (21-42 days). Total bacterial counts, abundance of Lactobacilli, coliforms, and clostridia in small intestinal contents were determined.
Small intestines were removed from the body and transverse sections, were successively cut and fixed with 10 % buffered formalin. Paraffin sections stained with hematoxylin-eosin and PAS and studied under light microscope. The height and width of the villi, the depth of the crypts and the number of goblet cells /mm² area of the villi and crypts were measured.
Pellet and mash diets proved no significant effect on the number and activity of small intestinal microflora. Increasing in the villus height of ileum, villus width and crypt depth in the jejunum of broilers chicks fed with meshed diet, may suggest the better performance of those fed meshed.

Key Words: pellet; mash; small intestine; morphology; broiler chick

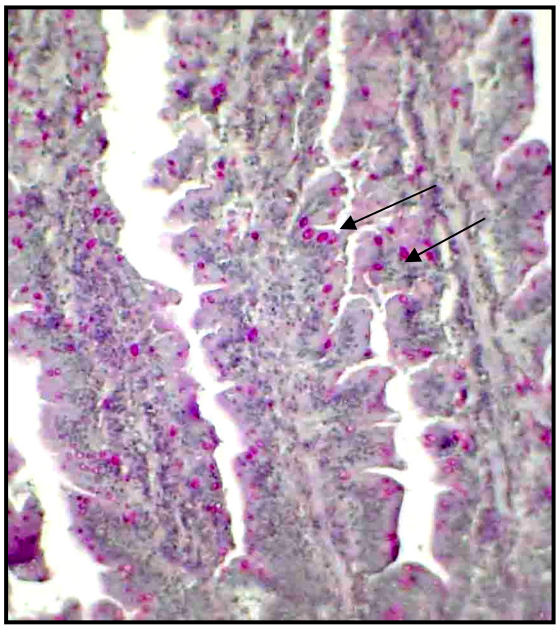

Fig 1: Photomicrograph of duodenum of broiler chick fed with mesh diet. The pinkish colored goblet cells were seen in the epithelium of villi, PAS, 42x.