

## Effect of feed form and fiber on small intestine histological alteration of broiler chickens

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### Abstract

This experiment was conducted to determine the effect of feed form and various sources of fiber on small intestine histology of broiler chickens in completely randomized design with factorial arrangement 2×5 with 10 treatments and 4 replicates for 42 days. Treatments consisted of different sources of fiber (3% sunflower hull (SFH), 3% wheat bran (WB), 3% sugar beet pulp (SBP) and 0.5% Arbocel) with control diet and 2 feed forms (mash vs. pellet). The results showed that SBP in mash form increased villus height of duodenum and jejunum. In the duodenum, SBP and in the jejunum, SFH increased villus height. Duodenal villus height increased significantly in birds fed with mash form compared to the birds fed with pellet form of diet. SFH increased the villus diameter, epithelial thickness, and muscle thickness. In the jejunum, control treatment in pellet increased the villus diameter and epithelial thickness and in the duodenum SFH, SBP and Arbocel in mash form decreased crypt depth. WB in pellet form significantly increased the villus height-to-crypt depth ratio in the duodenum. According to the results of this experiment, it can be concluded that the use of fiber sources in mash form in compare to the pellet form, improved histological parameters of small intestine in broiler chickens.

**Key words:** Feed form, Fiber, Histology, Broiler chickens

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