

## **INFLUENCE OF DIETARY LACTOSE AND DRIED WHEY ON PERFORMANCE, INTESTINAL MICROBIOLOGY, VILLI HEIGHT AND SOME BLOOD CONSTITUENTS IN BROILER CHICKS**

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### **ABSTRACT**

An experiment was conducted to study the effect of lactose and dried whey on performance of broiler chicks, some blood constituents, intestinal microflora and intestinal villi length.

Three hundred day old Ross broiler chicks were allocated into five groups of 60 birds each. For 5 weeks, four groups of birds were fed on a basal diet supplemented with 1 and 2% lactose or 1.5 and 3% dried whey while the fifth group was control.

Body weight gain of chicks at 5 week of age were increased by adding lactose or whey into diets, furthermore the increments were significant at high level of lactose (2%) or whey (3%). Feed conversion ratios (g. feed/g. gain) of chicks fed dietary whey or lactose were better than control at 5 week of age.

Microbiological examination of ileal contents showed that addition of lactose or dried whey cause a huge increase in lactobacilli bacteria was detected. As well, a reduction in total Aerobic, E. coli and Enterococcus bacteria. Dried whey was less effective than pure lactose in stimulating Lactobacilli bacteria.

Ileal villi were higher in birds fed dietary lactose or whey than control. There is no significant effect of lactose or whey on weight of liver or immunity organs. As well as, blood total protein, albumin, or globulin were not affected. The result of immune organs and globulin may indicate to the lack effect of lactose or whey on immune function. Blood cholesterol and total lipids were not influenced by treatments.

It can be suggested that, the improvement effect of lactose and whey on performance of broiler chicks, may be related to their role in stimulating the proliferation of lactobacilli bacteria which excluding intestinal pathogens that may cause malabsorption and health disorders.

As well, feeding lactose and dried whey cause an increase in intestinal villi height which enhances nutrients absorption and utilization. The effectiveness of dried whey in promoting the growth of broiler is similar to lactose, therefore, dried whey may be used as alternative prebiotics for lactose.

**Keywords:** Lactose-Dried whey-Broiler performance-Ileal microflora-Villi length-Blood constituents.