**DIETARY INCLUSION OF HEMP (*CANNABIS SATIVA* L*)* AND DILL SEED (*ANETHUM GRAVEOLENS*) IMPROVED THE GUT HEALTH IN BROIER CHICKENS**

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**ABSTRACT**

An experiment was conducted with dietary inclusion of hemp and dill seeds in varying combinations in broiler diet. The objective was to study the possible synergistic effect of hemp seed (HS) and dill seed (DS) on gut microbial quality and morphometry of broiler chickens. Around 352 CARIBRO VISHAL broiler chickens were grouped into 11 dietary treatments comprising hemp and dill seed in various combinations along with basal diet. Each treatment had 4 replicates with 8 birds per replicate. *viz.* T1 (control-basal diet) T2 (0.1%HS), T3 (0.1%HS + 0.1%DS) T4 (0.1%HS+0.3%DS), T5 (0.2%HS), T6 (0.1%HS+0.1%DS), T7 (0.1%HS+0.3%DS), T8 (0.3%HS), T9 (0.1%HS+0.1%DS), T10 (0.1%HS+0.3%DS) and T11 (basal diet+0.025% BMD). At 42 days post hatch, 6 healthy birds per treatment group were sacrificed to collect cecal and jejunal contents. Total coliform and lactobacilluscount was enumerated by method described by APHA (2001) to obtain colony count in terms of *Log*10 cfu/g of intestinal contents. Histological examination of jejunum was carried out by standard protocol to study morphometry of jejeunal villi. A significant reduction (P<0.001) of total coliform count in cecum and jejunum was observed in treatment birds with concomitant increase in seed level. Also, treatments birds showed significantly higher (P<0.001) lactobacillus count in both organs than control birds, showing a direct relationship with seed level. Dietary treatments did not change the height and width of jejunal villi. To conclude, the seed combination at any level was better to improve gut health in chicken due to competitive exclusion of coliforms by lactobacillus count.

**Key words:** *Hemp seed, Dill seed, gut health,Broiler*

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