

Effect of probiotic (Bifidobacterium and Streptococc) adding in the drinking water on performance and serum parameters of broiler chickens

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Introduction There is a world wide attempt to reduce antibiotic use in animal production because increased microbial resistance to antibiotic and residues in animal products can be harmful to consumers. It is speculated that the benefit derived from probiotics is a result of the organisms growing and contributing some beneficial function in the intestinal tract (Fuller, 1997). The objective of the present study was to determine the effect of the probiotic on performance and serum parameters of broiler chickens.

Material and methods A study was conducted to determine the effect of probiotic on the performance and serum parameter of broiler chickens. In a completely randomized design with 4 treatment and 5 replicates on 240 day-old male broiler chicken with a same weight average about (42 ± 2 g) have been experimented, each of four levels of probiotic added to drinking water (0, 0.5, 1 and 1.5 dose). were given to the chicken for 42 days. we have weighed them for each week. At the age of 21 and 42 days one chicken each pen has been selected randomly for bleeding and slaughtered. 4 cc of blood was taken from the jugular vein and was transferred to the laboratory for determining serum parameters (Jin, 1998). Data were analyzed using the General Linear models procedures of SAS (SAS Institute 1988).

Results with the view of feed intake there is no significant difference between the treatments shown in Table 1, but the average of body weight and feed conversion in the period of 0-21 days was influenced by the treatment ($p < 0.05$). the amount of cholesterol and serum HDL at 42 days of age was influenced by the treatment ($p < 0.05$), but triglyceride there is no significant difference between the treatments shown in Table 2.

Table 1 Mean feed intake (g), weight gain (g) and feed conversion

variable	control	Control+0.5dose	Control+1dose	Control+1.5dose
0-3 Wk				
Feed intake	1007.26 ^a	972.71 ^a	984.63 ^a	982.48 ^a
Weight gain	553.96 ^a	567.64 ^{ab}	579.8 ^{ab}	598.82 ^b
Feed conversion	1.8 ^a	1.71 ^b	1.69 ^b	1.64 ^b
3-6 Wk				
Feed intake	3271.4 ^a	3243.4 ^a	3210 ^a	3168.6 ^a
Weight gain	1295.4 ^a	1295.67 ^a	1323.84 ^a	1328.5 ^a
Feed conversion	2.54 ^a	2.55 ^a	2.42 ^a	2.38 ^a
0-6 Wk				
Feed intake	5235.02 ^a	5220 ^a	5229.8 ^a	5209.4 ^a
Weight gain	2417.36 ^a	2444.02 ^a	2446.06 ^a	2447.34 ^a
Feed conversion	2.16 ^a	2.13 ^a	2.13 ^a	2.12 ^a

Means within Rows no common superscript differ significantly ($p < 0.05$).

Table 2 Mean serum Cholesterol, HDL and Triglyceride (mg/dl)

variable	Control	Control+0.5dose	Control+1dose	Control+1.5dose
3 Wk				
Cholesterol	130.02 ^a	119.7 ^a	116.84 ^a	115.84 ^a
HDL	80.16 ^a	96.86 ^a	88.86 ^a	80.3 ^a
Triglyceride	155.54 ^a	138.78 ^a	102.56 ^a	181.52 ^a
6 Wk				
Cholesterol	145.22 ^a	139.48 ^a	136.92 ^a	116.34 ^b
HDL	86.1 ^a	113.48 ^b	112.92 ^b	105.42 ^b
Triglyceride	109.82 ^a	142 ^a	164.64 ^a	155.56 ^a

Means within Rows no common superscript differ significantly ($p < 0.05$).

Conclusions the results of the present study demonstrate that adding probiotic to a drinking water in above level affected the average of body weight and feed conversion at 21 days of age and the amount of cholesterol and HDL at 42 days of age. Therefore feeding probiotic has potential to improve performance of broiler chickens.

References

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