Abstract

The aim of current study was to evaluate the effect of Stiking assa (*Ferula assa foetida*) powder on performance and some immunity parameters of broiler chicks. A total of 200 one-day-old broiler chicks were randomly assigned in 5 experimental groups: 0, 0.25, 0.50, 0.75 and 1 percent Stiking assa. Each treatment was assigned to four replicates of 10 birds according to a completely randomized design. At 1-21 days of age, birds fed diet containing 0.25 and 1 percent *Ferula assa foetida* (FAF) had lower growth rate compared with the control ($p<0.5$). At 22-42 days of age, the highest body weight gain (BWG) was observed in 0.75% FAT diet. At whole of experiment (1-42 days of age), adding FAT to diet did not improved (BWG). Adding FAT to diet at 1-21 and 22-42 days of age had not significant effect on feed intake ($p>0.5$). At 1-21 days of age, adding FAT to the diet did not significantly effect FCR ($p>0.5$) but at 22-42 days of age the lowest FCR was observed in birds fed 0.75% FAT compared with the control ($p<0.5$). Relative carcase traits, heart and liver did not effected by dietary treatments ($p>0.5$). Birds fed diet containing 0.5 and 0.75% FAF had higher relative intestine weight compared with control ($p<0.5$). Relative gizzard weight was lower in 0.5 and 0.75% treaetment compared with control ($p<0.5$). Effect of dietary treaetment on relative proventriculus, weight, jujenum and ileum was not significant ($p>0.5$) but deudenum length significantly increased by dietary FAF compared with control ($p<0.5$). Blood parameters did not significantly effected by adding FAF to the diet ($p>0.5$). Early and secondary antibody titre against SRBC was higher in 0.75% FAF compared with control ($p<0.5$) and birds fed FAF had higher secondary antibody titre against SRBC as well as antibody titre against NDV, IB and cellular immunity ($p<0.5$). Ileal dietary FAF did not affect relative spleen and bursa weights ($p>0.5$). Lactica acid bacteria population improved by using FAF in diet ($p<0.5$). Result of this experiment has shown that using 0.75% FAF in diet of broilers could improve FCR, Humoral and cellular immune responses as well as ileal lactic acid bacteria population.

Key words: *Ferula assa foetida*, Performance, Immune response, Microbial population

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The Thesis Submitted for the Degree of M.Sc
In the Field of Animal Nutrition

Effects of Stiking assa (*Ferula assa foetida*) powder on performance and some immunity parameters of broiler chickens

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September 2014