Effect of Feeding Different Levels of Black Pepper on Production Performance of Japanese Quail

U. Prabhakaran\textsuperscript{1}, K. Mani, K. Rajendran, T. Vasanthakumar, T. Sasidhar, K. Sukandhiya and C. Lavanya

Department of Poultry Science, Veterinary College and Research Institute, Namakkal-637 002.

(Received: 24-08-2015; Accepted: 08-12-2015)

Abstract

An experiment was conducted in Japanese quail by feeding black pepper at 0, 0.1, 0.2 and 0.3 per cent level in basal diet for four weeks to study its effect on body weight, body weight gain, feed consumption and feed conversion ratio. The results of the experiment revealed that dietary inclusion of black pepper had significant influence (P<0.05) on the body weight, body weight gain, feed consumption and feed conversion ratio of Japanese quail.

Key words: Japanese quail, Black pepper, Production performance

Many feed additives are available for inclusion in poultry diet to improve its performance. However the use of chemical products especially antibiotics may cause unfavorable side effect. Attempt to use Black pepper, which have active principles like sabinene, pinene, terpenene, limonene and mercene. Black pepper increases gut motility and digestion by increasing gastro-intestinal enzyme secretions and there by improve the efficiency of feed utilization and productive performance of poultry.

Material and Methods

A biological experiment was conducted by using 240 day old Japanese quail chick belonging to single hatch. These chicks were randomly grouped into 4 treatments with 6 replicates of 10 chicks in each replicate. All the birds were reared under standard managerial conditions in an open sided cage house up to four weeks of age. The locally available black pepper was purchased, powdered and added to the standard Japanese quail diet to from different experimental diets. Throughout the study period of 4 weeks, data on body weight and feed consumption was recorded at weekly interval and collected data were subjected to statistical analysis as per the method suggested by Snedecor and Cochran (1989). The treatment groups of the experiment were as follows:

Results and Discussion

The mean (±S.E.) body weight gain (g), feed consumption(g) and feed conversion ratio of Japanese quail reared in open sided cage house from 1 to 4 weeks of age as influenced by dietary supplementation of different level of black pepper are presented in Table I, II and III respectively.

The analysis of variance of data revealed that there was significant difference (P<0.05) in the body weight gain between the treatment groups in the first and fourth week of the study period. At fourth week of age, the group T\textsubscript{4} recorded comparatively higher body weight gain (197.64 g) followed by T\textsubscript{3} (195.88 g), T\textsubscript{2} (195.32 g) and T\textsubscript{1} (188.28 g) groups. These results are in accordance with the finding of Al-Kassie \textit{et al} (2011), Akberian \textit{et al} (2012), Shahverdi \textit{et al} (2013), Elhair \textit{et al} (2014) and Tazi \textit{et al} (2014) who also recorded significant differences body weight gain due to black pepper supplementation in the diet of broiler and also Myandoab and Mansoub (2011) and Tripathi \textit{et al} (2013) in Japanese quail.

The analysis of variance of data revealed that there was significant difference (P<0.05) in cumulative feed consumption at first week and feed conversion ratio at forth week between the treatment groups during the study period. At four weeks of age, the group T\textsubscript{4} (460.23 g) recorded comparatively lower feed intake followed by T\textsubscript{3} (465.37 g) and T\textsubscript{2} (468.67 g) groups. In feed
conversion ratio the group $T_4$ (2.33) recorded comparatively better feed conversion ratio followed by $T_3$ (2.38) and $T_2$ (2.40) groups. But the results are in accordance to the findings of above author in better feed conversion ratio due to black pepper supplementation in the diet of broiler and also Myandoab and Mansoub (loc. cit) and Tripathi et al (loc. cit) in Japanese quail.

Summary

It has been concluded that, by feeding different levels of dietary black pepper to Japanese quails reared in open sided cage housing system, there was significant influence on the body weight and body weight gain between the treatment groups but it has was no significant influence on the feed intake between the treatment groups. However, the group $T_4$ (0.3%) recorded better feed conversion ratio compared to other treatment groups at fourth week of age. Among the black pepper supplemented group there was no significant influence on the body weight and body weight gain.

References

Effect of Feeding Different Levels of Black Pepper (Piper Nigrum) as Feed Additive in Broilers Diet


Efficacy of Cypermethrin to Control Haemaphysalis Intermedia Ticks*

B. Rubinibala1, G. Ponnudurai, K. Senthivel and A. Balasubramaniam

Department of Veterinary Parasitology, Veterinary College and Research Institute, Namakkal 637002, Tamil Nadu.

(Received: 14-08-2015; Accepted: 05-11-2015)

Abstract

A study was undertaken to determine the efficacy of cypermethrin in Haemaphysalis intermedia ticks from smallholder flocks in Namakkal district and organised farms of Veterinary College and Research Institute (VC&RI) and Mecheri Sheep Research Station (MSRS). Bioassays viz., Adult Immersion Test (AIT) and Larval Packet Test (LPT) were used in this study. A significant reduction in egg mass was observed at higher concentration of cypermethrin. AIT showed that the LC₅₀ and LC₉₅ values were 103.39 ppm and 291.11 ppm with 95 per cent confidence interval for ticks from smallholder flock and 106.15 ppm and 310.92 ppm with 95 per cent confidence interval for ticks from VC&RI farm. LPT revealed that LC₅₀ and LC₉₅ values of larvae from smallholder flock, VC&RI and MSRS farms were 97.76 and 284.20, 97.57 and 280.41, and 98.38 and 274.37 respectively with 95 per cent confidence interval. High mortality with low reproductive index among the survived ticks and low discriminating doses indicated that H. intermedia ticks were susceptible to cypermethrin.

Key words: Cypermethrin, Resistance, Haemaphysalis intermedia, Tamil Nadu.

Ticks are major constraints to small ruminant production (Wall and Shearer, 2001). Chemical acaricides especially synthetic pyrethroids are being frequently used for tick control programme in many parts of the world including India since its introduction in 1970 (Roy et al., 2005). Since Haemaphysalis spp. was found to be the most common tick species