Effect of Dietary Supplementation of Spirulina on the Growth Performance of Guinea Fowl Keets

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Spirulina (blue-green alga) is one of the high quality natural feed additives that can be used in animal and poultry nutrition. *Spirulina platensis* is a cyanobacterium which is generally regarded as a rich source of protein, essential amino and fatty acids, vitamins and minerals. It has been traditionally used since hundreds of years by some populations in human nutrition (Ciferri and Tiboni, 1985). Hence, the present study was designed to find out the effect of dietary supplementation of spirulina at different levels on the growth performance of guinea fowl keets.

Materials and Methods

A 12 weeks biological experiment was conducted to find out the effect of supplementation of spirulina on the growth performance of guinea fowl keets of Nandanam Guinea fowl – 1. A total of 60 day old guinea fowl keets were individually weighted, wing banded and randomly distributed into three treatments with two replicates each. Each replicate had ten numbers of keets. The basal diet consisted of Guinea fowl pre-brooder mash (ME-2875 kcal/kg & CP-24% for 0-4 wks), Guinea fowl brooder mash (ME-3000 kcal/kg & CP-20% for 5-8wks) and Guinea fowl growth mash (ME-3100 kcal/kg & CP-18% for 9-12wks). The treatment groups consisted of T1-Basal diet without spirulina supplementation as control, T2 - Basal diet + 250mg spirulina/kg of feed and T3 - Basal diet + 500mg spirulina/kg of feed. Birds were reared in cages and standard managerial condition was followed throughout the experiment. The body weight, feed intake and livability were recorded biweekly from 0 day to 12th week of age. The data were analyzed statistically by following standard procedures (Snedecor and Cochran, 1994).

Results and Discussion

The data on the effect of dietary supplementation of spirulina on the growth performance of guinea fowl keets were furnished in Table I. Statistical analysis revealed that the dietary supplementation of spirulina at different levels had non-significant influence (p>0.05) on mean live body weight. This is in agreement with the earlier finding of Ross *et al.* (1994), who found that there was no adverse effect of dietary spirulina on final body weight. In addition, Venkataraman *et al.* (1994) indicated that sun dried *Spirulina platensis* alga at 14 and 17% did not affect performance of broilers and meat quality except intense color increased in meat of those fed diet containing alga. Toyomizu *et al.* (2001) confirmed these results when spirulina was introduced at the rates of 40 and 80g/kg in broiler diets.

Non-significant (p>0.05) differences were observed on feed efficiency among different treatment groups. However, Kharde *et al.* (2012) found that the supplementation of 300 and 500 mg of spirulina per kg feed for broiler had comparatively better feed efficiency than that of control group.

Incorporation of spirulina at different levels had non-significant (P<0.05) influence on per cent livability and the values were 85, 80 and 75% for the birds supplemented with 250 mg, 500 mg of spirulina per kg feed, and for the control birds respectively.

Summary

A study on the effect of dietary supplementation of Spirulina on the growth performance in guinea fowls keets was undertaken. The results

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of the present study indicated that there was no statistical significant difference in body weight, feed conversion ratio and livability between the treatment groups. It is concluded that the dietary supplementation of spirulina @ 250 or 500 mg/kg did not have significant influence on the growth performance of guinea fowl keets.

References

Sub-Acute Genotoxicity Studies of Thiamethoxam in Mice

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Thiamethoxam is a second generation neonicotinoid insecticide. The available data about thiamethoxam indicate that it is less toxic when absorbed by the skin or when inhaled compared to ingestion (Tomizawa and Casida, 2005). Short term toxicity results of thiamethoxam have been reported but no data are available regarding its genotoxicity studies. Because of widespread use of pesticides for domestic and industrial applications, the evaluation of their genotoxic effects is of major concern to public health. So, the present study was undertaken to evaluate the genotoxic potential of commonly used insecticide, thiamethoxam.

Materials and Methods
The experimental animals utilized for the present study were albino mice procured from Zyodus Research Centre, Ahmadabad and kept in cages at Small Animal House, Veterinary College, Anand Agricultural University, Anand. Thiamethoxam technical grade (98.40% pure) was used for inducing toxicity in mice. Animals were randomly divided into 4 groups each containing 6 mice. The groups were numbered as group I to IV. Considering the LD₅₀ of Thiamethoxam as 871 mg/kg b.w. (Seyler, 1994) in mice, calculations of different dose groups were...