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Short Communication

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Effect of Zeetress on broiler performance - A study

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Abstract

Objective: To study the effect of Zeetress (a polyherbal preparation) on broiler performance. Materials and methods: Two hundred and forty healthy commercial broiler chicks in two groups (120 each) with two replicates in each were taken for this study. Both the groups were reared under identical managemental conditions, feed and health coverage. One group was administered with Zeetress while other group served as control (without Zeetress). The body weight, feed conversion and livability were recorded for a period of 40 days. Results: The mean body weight, feed conversion and livability was significantly better in Zeetress administered birds over the control. The Heterophil:Lymphocyte (H:L) ratio was also very close to normal in Zeetress administered group. Conclusion: From this study, it can be concluded that the administration of Zeetress helps to minimise the stress and therefore has a positive effect on weight gain, feed conversion, general resistance and livability with the same feed, management and health coverage.

Key words: Zeetress, Broiler performance, Adaptogens

1. Introduction

Higher body weight, better feed conversion with higher livability in a stipulated period are the objectives of modern commercial broiler farming. “Stress” is, by far, one of the most common problems noticed in intensive poultry farming.

Chicks undergo stress from day one due to operations like vaccination, sexing, transportation, change of climate/feed and demand for higher productivity with better feed conversion. Stress interferes with the performance of birds by increasing the protein catabolism of body [1].

Zeetress, a polyherbal formulation (M/s Natural Remedies Pvt. Ltd., Bangalore) containing *W. somnifera*, *O. sanctum* and *E. officinalis* has been reported to exhibit adaptogenic, antistress and immunomodulating activities [2 - 4]. The present study is primarily aimed to evaluate the effect of Zeetress in healthy commercial broiler in terms of weight gain , feed conversion and livability.

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2. Materials and methods

Two hundred and forty, healthy day old commercial broiler chicks obtained from a reputed hatchery randomly divided into two groups i.e. A and B containing 120 chicks each with two replicates of 60 chicks each having approximately equal body weight (41-43 g) with a sex ratio (Male : Female) of 50:50 reared separately.

Both the groups were fed with commercial broiler starter upto 4 weeks and broiler finisher till the end of the experiment, obtained from a reputed feed manufacturer. Birds of group 'A' were administered Zeetress @ 5 g/1000 chicks through the drinking water for first 10 consecutive days, once a day only and thereafter @ 10 g/1000 birds from 22nd and onwards for 10 consecutive days. While birds of group 'B' served as control with same feed, management and health coverage.

Parameters like mean body weight, feed conversion, livability were monitored on weekly interval basis. Blood was collected at random as per the standard technique [5] in test tubes with ethylene diamine tetra acetic acid as anticogulant on 39th day and submitted for differential leukocyte eount, to study the Heterophil : Lymphocyte (H:L) ratio as a stress indicator.

As the cortisol level significantly increases during the stress, it disturbs the Heterophil : Lymphocyte ratio. In general the percentage of lymphocyte decreases and of heterophil increases following exposure of birds to the stressor [8].

Through out the period of experiment the environmental temperature was ranging between 21° - 38°C as minimum and maximum respectively.

3. Results and Discussion

The mean body weight, feed conversion, livability and H : L ratio of both the groups are presented in the table 1.

It can be clearly noted from the table that the weight gain, feed conversion was significantly improved in group 'A' (administered with Zeetress) over group 'B'. These observations corroborate with the earlier findings of [4-6].

It is also noted that the H : L ratio was very much higher in group 'B' over group 'A'. These findings agree with the earlier findings of [6-7].

Cortisol promotes the protein catabolism to combat with the stressful situation in short run. The continued higher protein catabolism under stress conditions, significantly, retards the growth and conversion . In group A (Zeetress treated), possibly by cortisol regulating activity of Zeetress the excessive protein catabolism might have minimised resulted in improved growth and feed conversion.

A differential leukocyte count showed that, in general, the percentage of lymphocytes decreased and percentage of heterophils increased following exposure of birds to the stressor [8]. In this study also the same trend is observed in the control (B) group, while, in group A, possibly due to the plasma corticosteroid regularising activity of Zeetress [9] the H : L ratio was very close to normal (0.4-0.5) [10].

4. Conclusion

From this study it can be concluded that the administration of Zeetress helps to minimise the

Table 1
Showing the mean body weight, Feed Conversion Ratio, Livability and H:L ratio of Group A and B

Groups	Mean body wt. (g)	Feed conversion ratio	Livability (%)	H : L (Ratio)
Group A	1572	1.99	97	31 : 74 (0.42)
Group B	1465	2.11	95	38 : 58 (0.66)

stress and therefore, has a positive effect on weight gain, feed conversion, general resistance and livability with the same feed, management and health coverage.

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References

1. Lakhotia RL, Singh JK. (1991) *Poultry Adviser* 24: 37-40.

2. Wheeler GE, Ronfields. (1993) *Proc. World Conference on medicinal and aromatic plants,* December , Tiberius, Israel.

3. Pande CB, Vijaykumar. (1994) *Proc. Scientific Symposium on Recent Advances in Veterinary Microbiology,* May, B.C.K.V.V., Nadia, West Bengal.

4. Rao AT, Pradhan B, Mohapatra HK, Das BC. (1996) *Proc. XX World's Poultry Congress,* September, New Delhi, India.

5. Calnek BW, Barnes JH, Beard CW, Reid CM, Yoder HW.(1991) *Diseases of Poultry*, 9th Edn, State University: IOWA; 28.

6. Dhal SK.(1995) *Study on the extent of protection by Zeetress against seasonal stress on the egg production of WLH and growth of broiler birds.* (MVSc degree dissertation) Orissa University of Agriculture Technology: Bhubaneswar; 42-52.

7. Singh AP, Gahlot AK, Sharma SN, Sharma T. (1997) *Pashudhan* 12(5): 4.

8. Wolford JH, Ringer RK. (1962) *Poultry Science* 41:1521-1529.

9. Bhattacharya SK, Ghosal S. (1994) *Indian J. Indg. Med.* 10(2):1-8.

10. Swenson JM.(1982) In: Duke's (Ed.) *Physiology of Domestic Animals,* 9th Edn., Cornell University Press: Ithaca; 24.