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Original Research Article

Evaluation of Carcass Qualities of Chicks Treated with Different Anti-Stress Agents

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A B S T R A C T

A study was conducted to detect the carcass qualities of chicks reared under deep litter system and treated with different anti-stress agents in their diet along with normal commercial broiler ration. Results showed that dressed weight was significantly higher in the treated group than control. However giblet weight didn't differ significantly among treated groups. Dressing percentage was significantly higher in T_2 followed by T_4, T_3 and T_1. Thus addition of anti-stress agents in broiler ration improved the carcass characteristics.

Keywords

Carcass Qualities, Chicks Treated with Different Anti-Stress Agents

Introduction

Rearing of chicks under deep litter system is very challenging, as huge loss occurs due to stress condition. So, treatment with anti-stress agent is very essential. Anti-stress agents along with relief from stress may also provide improvement in carcass characteristics. Therefore, a trail was conducted to see the effect of different anti-stress agent on carcass qualities.

Materials and Methods

Two hundred and four commercial broiler day old chicks were randomly selected and divided into four treatment groups of 51 each including one control group. Chicks were reared under deep litter system of management and were provided different anti stress agents in their diet along with normal commercial broiler ration. T_1 (control) were provided normal broiler diet only without any treatment with anti-stress agent, T_2 were provided Zeetress as anti-stress agent @ 5g/1000 birds in drinking water for first 10 days followed by 10g/1000 birds from 28th day onwards for further 10 days. Zeetress a poly herb preparation containing W. Somnefere, *O. sanctum* and *E. officinalis* which is claimed to be adaptogenic anti stress product (Rao *et al.*, 1999). Similarly T_3 group was given glucose orally @ 5% in drinking water for 1st 10 days followed by 2% glucose after 28th day for further 10 days. At 42 days age, 5 chicks from each group were randomly selected for their carcass characteristics. Feed and water were withheld for 12 and 4 hours respectively prior to slaughter. Pre

slaughtered live wt, of individual bird was recorded and slaughtered as per Halal method. Dressing of chickens were done as per standard method. For evaluation of dressed weight with viscera, wt, of the carcass was recorded after defeathering and removal of the head and shank. For eviscerated weight, carcass wt, was taken after removal of visceral organs, shank and head.

Weight of the giblets (liver without gall bladder, heart without pericardium and gizzard without inner lining) were recorded. The dressing percentage was calculated as ratio of eviscerated wt, to pre slaughter (live wt.) in percentage. The data recorded were analysed as per methods of Snedecor and Cochran (1968).

Results and Discussion

Results pertaining to variations in carcass characteristics of broilers at 42 days of age after supplementation of anti- stress agents have been depicted in Table 1. The pre slaughter live wt. was found to be significantly ($P<0.05$) higher in zeetress treated group followed by honey,

But glucose treated group didn't differ significantly with control. The dressed weight including shank and head was found to be significantly ($P<0.05$) higher in T_2 and other treated groups over control, but the difference was not significant ($P<0.01$) with T_3 gr.

Although dressed weight without head and shank was higher in T_2 followed by T_4, T_3 and control (T_1), but they did not differ significantly ($P<0.01$) among themselves. Eviscerated wt. of T_2 was significantly ($P<0.01$) higher than that of other treated group and control. Weight of giblets in different treatment groups didn't differ significantly among themselves.

Dressing percentage was significantly higher in T_2 group followed by T_4, T_3 and T_1. However the later group didn't differ significantly among themselves.

Table.1 Average carcass characteristics of broiler chickens treated with Different anti-stress agents

Carcass Characteristics	**Treatments**			
	T_1 (Control) (5)	**T_2 (Zeetress) (5)**	**T_3 (Glucose) (5)**	**T_4 (Honey) (5)**
Live weight(g)	$1831.60^{b} \pm 41.37$	$2084.8^{a} \pm 55.18$	$1873.60^{b} \pm 80.08$	$1919.60^{ab} \pm 42.55$
Dressed weight including shank and head (g)	$1696.40^{b} \pm 41.65$	$1969.60^{a} \pm 59.82$	$1726.0^{b} \pm 73.71$	$1806.40^{ab} \pm 44.59$
Dressed weight without shank and head (g)	1567.20 ± 38.21	1822.80 ± 56.99	1579.80 ± 71.09	1707.20 ± 49.27
Eviscerated weight (g)	$1327.60^{b} \pm 47.92$	$1583.20^{a} \pm 41.02$	$1370.0^{b} \pm 68.32$	$1432.0^{b} \pm 34.40$
Weight of giblet (g)	$76.80^{b} \pm 1.36$	$89.20^{a} \pm 1.356$	$84.80^{a} \pm 4.23$	$83.60^{ab} \pm 2.23$
Dressing percentage (%)	$72.39^{b} \pm 0.91$	$75.94^{a} \pm 0.34$	$73.04^{b} \pm 0.85$	$74.59^{ab} \pm 0.76$

These findings indicated that dressing % was significantly affected by anti-stress agents and it shows similarities with the observations of Mandelkar *et al.,* (1983). The dressing percentage of birds is directly related to growth and well-coordinated physiology of the body. As the normal physiology of birds altered due to increase in protein catabolism and plasma cortisol during stress (Roy *et al.,* 1996). The muscular degeneration was in such condition due to increased catabolism. Hence the dressing percentage was lower in birds of control group while higher in treated groups.

Live weight had positive correlation with eviscerated weight and giblet weight. It indicated that pre slaughter weight should be correlated as criterion for slaughter. The correlations of live weight with different carcass characteristics observed in present studies are in agreement with Ranganathan *et al.,* (1967) and Singh *et al.,* (1977). Thus the inclusion of anti-stress agents in broiler ration was found to be beneficial for commercial broiler production as well as improvement of their carcass characteristics.

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References

Buragohain, R, Kalita, G, and Sarma, K. 2010. Growth and carcass qualities of Japanese quail under cage and deep litter system of management. India Vet. J. 87:472-474.

Mandlekar, S.M. and Deshmukh, S.N. 1983. Relationship between 8 weeks body weight and eviscerated weight of broiler chicken. Avian Res., 67-96.

Ranganathan, M., Arunmagam, P.M. and Nataranjan, R 1967. The dressing of Rhode Island Red, White Leghorn and Desi cockerels. Indian Vet. J. 44: 958-961.

Rao, N.R. Pande, C.B. and Kiran 1999. Effect of zeetress on broilers performance. A study. Pasudhan 14: 2-4.

Roy, S., Maiti, S.K. and Ali, S.L. and Raju, S. 1996. Studies on the efficacy of zeetress, an Antistress in layers during summer. Indian Vet. J. 73: 662-664.

Shane, S.M. 1988. Crit. Rev. Poult. Biol., 1: 247-67.

Singh, C.S.P., Singh, S.K., Mishra, H.R. and Jaruhar, S.B.1977. Studies on phenotypic correlations among live weight, dressed weight and giblet weight in poultry. Indian. J. Poult. Sci., 12(1) 29-32.

Snedecor, G.W. and Cochran, W.G. 1968. Statistical methods. 7th Edn. Oxford and IBH, Publishing Co., New Delhi