COMPARATIVE EFFICIENCY OF COMMERCIAL ANTISTRESSORS ON THE PERFORMANCE OF BROILERS

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A study was conducted at Poultry Research Center, University of Agriculture, Faisalabad to investigate the comparative efficiency of commercially available water additive four antistressors (Naromixfura, Furavit, Supramin and Tesgovit), were randomly divided in to 5 groups (A, B, C, D and E) in CRD design. The first 4 groups received antistressors while group E: served as control. Weekly data on weight gain (WO). Feed consumption (Fe) and feed conversion ratio (FCR) were collected for a period of 7 weeks. Statistically analysis of data revealed that the use of antistressors significantly (P<O.OI) improved the WO and FC than control group. The differences between all antistressors were non significant for WO and Fe. The FCR did not differ statistically in all groups, although the birds on antistressors showed a better trend in FCR than control. Net profit/bird was the highest (Rs. 17.29) in group "B" and the lowest (Rs, 12.08) value was found in group "E". The 43% difference in net profit between group "B" (Furavit) and control group indicate the vitality of anti stressor during summer and easy way to cut down the adverse effects of heat stress on birds performance, especially in tropical and sub-tropical countries.

Key Words: Broilers, Performance, Antistressors, Comparison

INTRODUCTION

Poultry industry in Pakistan has been facing many ups and downs since last decade that include losses due to environmental stress, particularly the high temperature, disease out breaks, low quality feed, early chick mortality and lack of uniformity of market birds. The summer heat is the only factor that affects the overall Poultry Production constantly during the major part of the year in Pakistan. The domestic fowl has been known to be highly sensitive to the upper limits of thermoneutral range. To overcome the major heat stress factor, much managemental effects have been derived to maintain low temperature during hot months. But most of the techniques are found to be much expensive while the others impracticable under field conditions. Efforts have been made in the past to overcome various stresses through the use of different type of antistress agents. There are four commercial products in the market that are claimed to be most effective antistressors. These are Naromixfura, Furavit, Supramin and Tesgovit. Thus, a project was planned to study the comparative efficiency of these commercially available water additive antistressors in broilers in terms of growth rate, feed consumption, feed efficiency and economics of production.

MATERIALS AND METHODS

The project was launched at the poultry Research Centre, University of Agriculture, Faisalabad during the months of July and August that are supposed to be the hot months of the year. A total of 150 commercial broiler chicks of "Hubbard" breed were used. The chicks were randomly divided into 15 experimental units of 10 chicks each. These experimental units were further randomly allotted to five treatment groups each having three replicates. All the chicks were individually weighed and wing banded for identification and were placed and reared on deep litter in separate pens for each replicate. Vaccination against Newcastle disease was done intraocularly at 5th day and intra-muscularly at 4 weeks of age. The experimental chicks were fed *an libitum* commercial starter ration upto 4 weeks of age and afterwards on broiler finisher ration upto 7 weeks of age. The details of the experiment are summarized in Table I.

The data on the following parameters were recorded during the experimental period of 7 weeks including 1 week as adjustment period.

1. Weekly body weight
2. Weekly feed consumption
3. Weekly feed efficiency was worked out
4. Economics of production

The data collected on various parameters were statistically analyzed using techniques described by Steel and Torrie (1984).

RESULTS AND DISCUSSION

1) **Weight Gain:** The highest weight gain (WO) was found in group "B" (1635.96g) where Furavit was administered in drinking water and the lowest (1353.66g) gain was found in control group (Table 2). Statistical analysis revealed that effect of antistressors on WO was significant (P<O.OI) in all treatments except the control group. The differences between the commercial antistressors were non significant and their use showed a positive effect on growth rate. The positive role of antistressors in WO was also confirmed by the findings of the other workers (Brystkov *et al.,* 1986; AI-Naseer *et al.,* 1986; Wojcik *et al.,* 1987 and Ionuskene and Kanopkaite, 1988).

2) **Feed Consumption (Fe) and Feed Conversion Ratio** (FCR): The analysis of data on Fe revealed that intake of feed was significantly (P<O.OI) increased m all treatment except for group "E" that served as control treatments. The differences among the antistressors were non significant

Table 2 suggests that use of the antistressors in the drinking water of birds improved the feed intake and consequently the weight gain. The main effect of the heat stress on birds performance is depression in feed intake and this depression ultimately results in lower WO. The results of Rubin *et al.* (1991) strongly support this theory that by nullifying the heat stress with anti stress agents the birds performance improved significantly.

Although, the FCR was found non significant between all treatments but groups on anti stressor showed a better trend in FCR (Table 2). The feed conversion ratio was the lowest in control group but accompanied with lower WO, the FCR was adversely affected. The similar trend was also observed by Rubin *etal.. (1991).*

3) **Economic of Production:** The overall assessment of economic returns per broiler is shown in Table 2. Profit was improved by use

Table 1. Summary of Experimental Design

Groups	No. of Birds	Replicates	Treatment	Dose Level	Medicine Programme
A	30	3	Naromixfura	LJLL	1,3 and 5 Week
B	30	3	Furavit	!E!L	1,3 and 5 Week
C	30	3	SUjJramin	lKIL	U:£to6 Week
D	30	3	Te~ovit	1E3L	~06Week
E	30	3	Control	..fllane water	No Medicine

Table 2. Average values of weight gain, feed consumption and feed conversion ratio in chicks under various treatments.

	TREATMENT				
Parameters	• A Naromixfura	B Furavit	C SUEamin	D TesE9vit	E Control
No.ofBirds	30	30	30	30	30
E:~flerimental Period (days)	49	49	49	49	49
AVJLWt. Gain/Bird (g)	1617.10"	1635.96"	1627.93"	1592.46"	1353.66^{b}
Avg. Feed ConsuITlption/Bird (g)	3357.50"	3396.67"	3333.33"	3358.16"	3195.16^{b}
Feed Efficiency	2.06"	2.07"	2.06"	2. I I"	2.36"
NetEofit/Bird (Rs.)	16.86	17.29	16.54	14.69	12.08

Same superscript for means in a row show non-significant difference.

of antistressors as compare to without antistressors. Maximum profit on per bird bases was in group "B" Furavit (Rs. 17.29) followed by group *"A"* Naromixfura (Rs. 16.86), "c" Supramin (Rs. 16.54, "D" Tesgovit (Rs. 14.69). While minimum profit was in control group (Rs. 12.08) that was without antistressor.

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