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The Effect of Perches on Broiler Behaviour and Production

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Abstract: After continous observed practices of natural perches use by birds taken as its commercial use in layers but it needs confirmation of perch us in broiler 136 days old chicks were purchased and randomly divided in two groups. Group A (64) and B (72) and brooded for 2 weeks and later growing managements was provided at P. E. S., Department of Poultry Husbandry, Tandojam. Starter and Finisher feeds (both iso-nitrogenous and iso caloric) and water were offered *ad libitum* and light was provided over 24 hours for 42 days. Results shows that both average total feed and water intakes were higher for A than B group (3.146 and 3.133 kg b^{-1} and 6.317 and 6.216 Liter b^{-1}, respectively) and its interaction between groups and weeks were also significant ($P<0.01$). Average live body weight and weight gain of broiler were slightly more for A than B (1.830 vs. 1.823 and 1.786 vs 1.779 kg b^{-1}) respectively. Mortality was least in less perch group A than more perch group B (4.7 vs. 9.7 percent) and profit of perches was slightly more in group A (Rs. 127.0) than group B (Rs. 123.50). Average feeding and drinking behaviours were higher in group B than A (246.3 vs. 230.3 and 81.1vs. 78.2 min 24 hr^{-1} b^{-1}, respectively) and both interaction between groups and weeks were also found significantly ($P<0.01$). Where as chicks of both groups begin using perches from its first week and increased in its using length in 24 hours upto 4th week and later significantly decreased during 5th and 6th weeks. It may be concluded that broiler has begin using perches and this practices becomes safe, economical and profitable in broiler.

Key words: Broiler, perch, feed and water intake, live body weight, mortality, profit feeding, drinking and perching behaviours

Introduction

Avian species includes chicken, duck, turkey, geese, swan, guinea-fowl, pea-fowl, pigeons, pheasants and quial, etc. However, it is often used synonymously to chicken. Their farming has become increasingly popular on scientific lines. It has made tremendous trade and has to an extent taken the shape of an industry. Poultry farming has become very encouraging enterprise now a days for all entrepreneure. As a matter of fact poultry is an old associate of farmers, especially for the poor people and they were kept in mostly small and some medium size flocks of various breads, feeds and management, resulting in poor production out of indigenous flocks. At present, it has become imperative to know the technique of scientific poultry keeping as modern poultry keeping has become much science as an art. It is essential to combine scientific principles with art of poultry keeping to get the good production against investment in short period. In construction of the poultry houses, use of perches or roosts have also been reported as one of the measures to comfort, sought safety and rest on the high limbs of a tree or on the stick under bush. It may be made from long wooden or iron bars of two square inches rounded at the top and dflat at the bottom of round bamboos having diameter two inches. The perches should be fixed at the height of 16 inches above the ground and atleast 10 inches away from rear walls in such a way that it can be easily removable for cleaning and disinfection. The distance between two perches should be 12-14 inches. The perches should be painted occasionally to prevent insects (Das, 1994). So an experiment was conducted on broiler provided different number of perches to know its productivity and behaviours.

Materials and Methods

136 days-old chicks were purchased and housed at Poultry Experiment Station, Department of Poultry Husbandry, Tandojam, group A (64) provided with four perches (0.8 sq. Ft $bird^{-1}$) and B (72) provided with six perches (0.7 sq. Ft $bird^{-1}$), respectively. Wooden dust was used as litter and its depth maintained was 2-3 inches. Mortality was recorded on daily basis. The vaccinations were performed as per local schedule. Light was provided 24 hours. The brooding temperature was maintained at about 95°F during first week and it was reduced 5°F per week till 70°F. The birds were individually weighed at the beginning and later each week.

The behaviour recording data sheet was prepared to record the feeding, drinking and perching behaviours of all the chicks in their groups at the one minute interval once each week over 24 hours by Time Sampling Technique (Rind, 1995).

The data so collected were tabulated and analysed by

using General Linear Model in Minitab Microsoft Programme, U. S. A (M. T. B., 1992)
Starter and finisher feeds (iso-nitrogenous and iso-caloric) were offered during initial and final rearing periods *ad libitum* and water was made available over 24 hours.

Results

Feed intake: Average total feed intake of broiler in group A was significantly ($P<0.05$) greater (3.147 kg b^{-1}) than B, (3.133 kg b^{-1}), respectively. Its interaction between groups and weeks was also different significantly throughout period for both groups ($P<0.001$).

Water Intake: Average total water intake was significantly ($P<0.05$) greater in group A, (6.317 Lit b^{-1}) than B, 6.216 Lit b^{-1}), respectively. The interaction of groups and weeks show that it was increased with the progress of period in the broiler ($P<0.001$).

Table 1: Average total feed intake of broiler kept with perch (g b^{-1})

Weeks	Group		Prob.
	A	B	
1	92	96	
2	202	237	
3	430	435	
4	621	591	0.001
5	785	778	
6	1016	996	
Total	3147	3133	0.022

Table 2: Average total water intake of broiler kept with perch (ml b^{-1})

Weeks	Group		Prob.
	A	B	
1	199	202	
2	448	465	
3	906	899	
4	1223	1179	0.001
5	1539	1536	
6	2002	1936	
Total	6317	6216	0.001

Weight Gain: Average total live body weight was slightly more in A than B group (1.830 vs. 1.823 kg b^{-1}) and also weight gain in group A was greater than group B (1.786 vs. 1.779 kg b^{-1}, respectively)
Feed conversion ratio for both groups (A and B) was almost same (1.762 vs 1.761), respectively.

Mortality and Economics: The profit in response to providing perch seems to be slightly more in A (Rs. 127.0 per perch) which supported by lesser mortality (4.7%) than group B with (Rs. 123.50 per perch) profit and 9.7% mortality, respectively (Table 3).

Table 3: Average total live body weight of broiler kept with perch (g b^{-1})

Days	Group	
	A	B
1st	44	44
42nd	1830	1823
Weight Gain	1786	1779
FCR	1.762	1.761
Mortality (%)	4.7	9.7
Perch use profit (Rs. /Perch)	127.00	123.50

Table 4: Average feeding behaviour of broiler kept with perch (min 24 hr^{-1} b^{-1})

Weeks	Group		Prob.
	A	B	
1	189.3	213.6	
2	226.8	240.7	
3	285.6	292.7	
4	222.2	241.9	0.001
5	219.3	233.8	
6	238.6	255.2	
Average	230.0	264.3	0.001

Table 5: Average drinking behaviour of broiler kept with perch (min 24hr^{-1} b^{-1})

Weeks	Group		Prob.
	A	B	
1	73.5	74.8	
2	73.2	73.2	
3	98.1	100.2	
4	72.1	77.2	0.001
5	67.1	70.5	
6	84.3	90.9	
Average	78.2	81.1	0.001

Table 6: Average perching behaviour of broiler (min 24 hr^{-1} b^{-1})

Weeks	Group		Prob.
	A	B	
1	0.9	0.7	
2	16.3	1.1	
3	22.00	28.2	
4	23.5	29.9	0.001
5	18.6	21.3	
6	9.5	14.1	
Average	15.1	19.3	0.001

Feeding Behaviour: Average feeding behaviour of broiler in group B, spent significantly greater time (264.3 min b^{-1}) than the broiler in group A, (230.0 min b^{-1}), respectively (Table 4). Furthermore, interaction between groups and weeks shows continuous increasing trend in feeding behviour upto 3rd week but later it decreased significantly during 4th and 5th week and lastly all the broiler were tried to extend in their feeding time during 6th week. Broiler of group B spent throughout more time on feeding possible before and after the use of perches than broiler of group A (Table 4).

Drinking Behaviour: Average drinking behaviour of broiler (Table 5) in group B spent significantly ($P<0.01$) greater time (81.1 min b^{-1}) as compared to group A, (78.2 min b^{-1}) per broiler over 24 hours, respectively. The interaction between groups and weeks showing almost increasing tendency for drinking behaviour upto 3rd week while later decreased during 4th and 5th weeks but again increased during final (6th) week, respectively. The interaction of Table 5 shows that broiler of groups B were dominating over groups A for drinking behaviour througout experiment period.

Perching Behvaiour: Average perching behaviour of broiler (Table 6) kept in group B spent significantly maximum time than A (19.3 vs. 15.1 min b^{-1}) over 24 hr^{-1} b^{-1}. Furthermore, the interaction between groups and weeks shows increasing trend in perching behaviour upto 4th week in A and later started decreasing upto last 6th week than B group.

Discussion

Muiruri *et al.* (1990) studied shapes and sizes of roosts/perches likely used by books breeder hens in Urbana, USA and that birds preferred to use more perching with birds choice in shape of perches provided.

Reilly *et al.* (1991) examined commercial broiler heat stressed provided three choice perches in USA and reported that broiler likes perches to use with low temperature of perches under use. In this response cooled perches broiler gained in weight due to more intake of feed. Total feed intake and FCR were moderately affected by the perches treatments of experiment but perch has low temperatures beneficial to broiler productivity in high temperatures condition. Abrahamsson and Tauson (1993) observed production health and behaviour of white leghorn layers and reported that use of perches has no effect on other behavioural traits when used during the day (average 25%) and weight (average 90%) times. Similar use of perches reported by Reiter *et al.* (1994).

Conclusion

It concluded that broiler facilitated with more number of perches were spent lesser time for their production assisting behaviours, with more frequent using of perch each hour but net return increased with increase of broilers density per area provided perches.

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