STUDY ON VARIOUS MANAGEMENTAL PRACTICES ON THE PRODUCTION PERFORMANCE OF COMMERCIAL BROILERS

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ABSTRACT

First hand information on production performance of commercial broilers from 108 broiler farms having a total population of 8,00,000 birds was collected by a field study. Production parameters like age and body weight at marketing, feed efficiency and liveability under different managemental practices were studied. The results indicated that average age at marketing was 48 days, body weight was 1.92 kg, feed efficiency was 2.13 and liveability was 94 per cent. The age at marketing and liveability was not affected by any of the management practices. The body weight was more in Hubbard strain of birds. Feed efficiency was more in large farms having more than 4000 birds.

KEYWORDS : Managemental practices, Production performance, Broilers

INTRODUCTION

Coimbatore district in Tamil Nadu consists of one of the major broiler pockets in India. Very scanty studies were made to explore the effect of various managemental practices which affect the performance of broilers. Therefore, a field study in the year 2012 was undertaken to study and recommend the suitable system of management for optimum production performance for commercial broiler farmers.

MATERIALS AND METHODS

The study was conducted in Coimbatore broiler belt of Tamil Nadu. The information collected from 108 broiler farms which were in continuous operation for more than one year, with proper records and response of the farmer to oral inquiries was utilized for the study. The data collected from farmers were recorded in the specially designed questionnaire. It included type of ownership (own and contract), farm size (small, medium and large), Type of roof (thach, tile, asbestos sheet), type of floor (mud or cement), sytem of rearing (all in all out, batch), strain of broilers I,II or III (Hubbard, Hubchix or Vencobb) and type of feed used (commercial, own or a mixture of both). In farm size category, farms having less than 1499, 1500-3999 and above 4000 birds were considered as small medium and large farms respectively. The results were reflected as age at marketing, body weight at marketing, feed efficiency and liveability. The data was subjected to statistical analysis by employing least square method of Harvey (1975) and means were compared using Duncan's Multiple Regression as corrected by Kramer (1956). Effect of significant managemental parameters and the interaction effects were studied.

RESULTS AND DISCUSSION

The results of the present study is summarized in Table 1 and 2.

Table 1. Influence of different managemental parameters on age at marketing, body weight at marketing, feed efficiency and liveability in commercial broilers.

Sl. no.	Parameter	Factor	N	Mean ± S.E.			
				Age at marketing (days)	Body weight at marketing (kg)	Feed efficiency	Livability (%)
1	Ownership	Own	54	48.59±0.53	1.95±0.03	2.14±0.01	93.84±0.22
		Contract	54	47.59±0.42	1.90±0.02	2.13±0.01	94.19±0.24
2	Farm size	Small	12	49.08±1.03	1.90±0.06	2.16±0.01[a]	93.79±0.30
		Medium	45	47.76±0.49	1.94±0.03	2.16±0.01[a]	93.8±0.18
		Large	51	48.10±0.52	1.92±0.03	2.-11 ±0.01[b]	94.25±0.30
3	Roof type	Thatch	28	48.64±0.66	1.96±0.03	2.15±0.01	93.98±0.24
		Tile	72	47.74±0.41	1.91 ±0.02	2.13±0.01	93.92±0.22
		Asbestos	8	49.00±1.67	1,96±0.08	2.11 ±0.03	95.00±0.39
4	Floor type	Mud	89	48.40±0.25	1.93±0.02	2.13±0.01	93.93±0.19
		Cement	19	46.47±1.00	1.90±0.05	2.12±0.02	94.53tO.25
5	System of rearing	All in - All out	61	47.48±0.42	1.90±0.02	2.13±0.01	94.12±0.21
		Batch	47	48.83±0.56	1.95±0.03	2.13±0.01	93.88±0.26
6	Strain	Strain 1	42	47.62±0.52	1.99±0.03[a]	2.13±0.01	94.08±0.22
		Strain 2	18	46.72±1.02	1.84±0.05[b]	2.13±0.02	94.13±0.30
		Strain 3	48	48.96±0.53	1.90±0.03[b]	2.14±0.01	93.90±0.30
7	Type of feed	Company	84	48.08±0.38	1.92±0.02	2.13±0.01[b]	94.00±0.19
		Own	5	48.20±1.11	1.90±0.07	2.08±0.06[b]	94.30±0.62
		Both	19	47.95±1.00	1,95±0.07	2.17±0.02[a]	94.04±0.36
	Overall		108	48.06±0.35	1.92±0.02	2.13±0.01	94.00±0.16

Note: Means without any superscript do not differ significantly.

[a] Significant at 5% level (P<0.05), [b] Significant at 1% level (P<0.01)

1. Age at marketing

The average age at marketing was 48.06±0.35 days. The analysis of the data obtained in the present study indicated that, no single managemental practices affected significantly the age at marketing. The market age greately dependent on the market price. This finding is in accordance with observations made by Mahapatra et al. (1990). However the age at marketing was significantly (P>0.05) higher in the interaction between Hubbard strain and both type of feed . Schmidt (2008) observed that age at marketing significantly affected all production parameters.

2. Body weight at marketing

Average body weight at marketing was 1.92±0.02 kg. Significantly higher body weight (p<0.01) was seen with Hubbard strain. A body weight of 1.9 to 2.3 kg at 49 days of age was observed by Kalita (1994) is comparable to the present observation. Prasanna (1991) observed significant variation

TABLE 2 : Interaction effects of some managemental parameters on body weight at marketing, age at marketing, and liveability in commercial broilers.

Interaction	Factor	N	Interaction effects	
			Mean±S.E.	% C.V.
I. Strain X Type of feed On Weight at Marketing	Hubbard X Company feed	37	1.98±0.02^{bcd}	7.26
	Hubbard X Own feed	1	2.10±0.00^{acd}	-
	Hubbard X Both feed	4	2.23±0.12^{a}	10.62
	Hubchix X Company feed	8	1.89±0.06^{bcd}	9.15
	Hubchix X Own feed	2	1.80±0.01^{bcd}	7.86
	Hubchix X Both feed	8	1.80±0.08^{d}	12.60
	Cobb X Company feed	39	1.91±0.03^{bcd}	8.99
	Cobb X Own feed	2	1.90±0.10^{acd}	7.44
	Cobb X Both feed	7	1.97±0.11^{bcd}	15.14
II. Strain X Type of feed On Age at Marketing	Hubbard X Company feed	37	47.03±0.50^{bcd}	6.43
	Hubbard X Own feed	1	50.00±0.00^{ac}	-
	Hubbard X Both feed	4	52.50±1.44 ^{a}	5.55
	Hubchix X Company feed	8	48.50±1.70^{ad}	9.92
	Hubchix X Own feed	2	47.50±2.50^{ab}	7.44
	Hubchix X Both feed	8	44.75±1.24^{bc} .	7.81
	Cobb X Company feed	39	49.00±0.55^{a}	6.96
	Cobb X Own feed	2	48.00±2.00 ^{ab}	5.89
	Cobb X Both feed	7	49.00±1.23 ^{ad}	6.67
III .ownership X Strain On Livability	Own X Hubbard	18	94.22+0.21^{c}	0. 7
	Own X Hubchix	15	94.43±0.22^{b}	0.89
	Own X Cobb	21	93.10±0.48^{e}	2.37
	Contract X Hubbard	24	93.98±0.36^{d}	1.87
	Contract X Hubchix	3	93.00+1.53^{e}	2.84
	Contract X Cobb	27	94.52+0.33^{a}	1.80

Note :- Means bearing at least one common superscript in each type of interactions do not differ significantly.

in body weight of different strains . Hubbard strain birds showed significantly better performance ($p< 0.05$) with both types of feed. However the body weight at marketing was significantly ($p>0.05$) higher in the interaction between strains and both type of feed.

3. Feed efficiency

The overall mean feed efficiency was 2.13±0.01. It was significantly more ($p>0.05$) in farms using both type of feed and large farms. Prabakaran (2003) stated average feed efficiency of 2.02 in contract farming at the age of 7 weeks and a body weight of 2.1kg. Samarakoon and Samarasinghe (2012) observed higher feed efficiency with increased age up to 42 days.

4. Liveability

None of the managemental practices significantly affected liveability. The average liveability was 94.00±0.16 per cent. This observation is comparable to that of Prasanna (1991) who stated that less mortality in farms having asbestos roofs. This might be as a result of better sanitation and disinfection. However the interaction between contract farms with Cobb strain showed significantly ($p>0.05$) high liveability. The interaction between contract farms and Hubchix strain showed significantly ($p>0.05$) low liveability.

The present study indicated that the farmers using a mixture of both commercial and own feed mixing with Hubbard strain reared the birds for a longer period. Body weight at marketing was higher in farms using a mixture of both commercial and own feed and having Hubbard strain. Feed efficiency was higher in large farms having more than 4000 birds using a mixture of both commercial and own feed. Liveability was higher in contract farms rearing Cobb strain.

REFERENCES :

Harvey, W.R. (1975). In: Least Square Analysis. USDA-Science and Education Administration-Agricultural Research, New York.

Kalita, K.P. (1994). Package of practices on successful broiler production. Part II. Poultry Advisor, **27** :51-72.

Kramer, C.Y. (1956). Extension of multiple range tests to group means with unequal numbers of replicated. Biometircs. **12** : 307 -310.

Mahapatra, C.M., Mahapatra, S. C. and Verma S.S. (1990). Effect of different dietary protein and energy levels and age of broilers on meat quality. Abstract presented in 13th Annual Poultry Conference and Symposium of Poultry Science Association, Parel, Mumbai.

Prabakaran, R. (2003). Good practices in planning an management of integrated broiler production in South Asia. FAO Animal production and health paper. p18.

Prasanna, G. (1991). A study on package of practices adopted and economic appraisal of broiler farms in Tamil Nadu. MVSc. Thesis. Tamilnadu University of Veterinary and Animal Sciences, Chennai. pp. 101-115.

Samarakoon,S.M.R. and Samarasinghe,K., (2012).Stratagies to improve cost effectiveness of broiler production. Tropical Agricultural Research. **23**: 338– 346.

Shmidt, G.S.(2008). The effect of broiler market age on performance parameters and economics. Brazilian J. of Poultry Science.**10**:223-225.

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