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Feeding and management practices followed on broiler farm in Latur tahsil of Latur district

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Abstract
The present investigation entitled "Feeding and Management Practices Followed on Broiler Farm in Latur Tahsil of Latur District" was undertaken to study different feeding and the management practices adopted by the broiler farms. A field survey comprising of 30 broiler farms data were collected through a semi-structured interview schedule. The selected farms were classified as small (10 farms), medium (10 farms) and large (10 farms) with the capacity ranged from 500 to 1500, 1500 to 2500 and above 2500 birds. The study revealed that majority of respondents (80.00%) were used all-in-all-out system of rearing and adopted deep litter system of rearing of birds using rice husk as litter material. Most of the respondents were using mash form of feed for feeding of their broiler birds. From the study, it can be concluded that the respondents are not aware about the scientific housing system of broilers.The farmers are reasonably following the management of broilers according to available local resources. Brooding of chicks was mostly done with electric up to 14 days.

Keywords: feeding practices, management practices, broiler, Latur

Introduction
The broiler industry is one of the fastest growing industries in India. Today India is the third largest producer of eggs (after china and the usa), nineteenth largest producer of broiler and fifth largest producer of poultry meat in the world (Lenka & Bibhu 2015) [4]. The Indian poultry sector with 7.3 per cent growth in poultry population, has witnessed one of the fastest annual growth of about 6 per cent in eggs, 10 per cent in meat production and 8.35 per cent in broiler production over the last decade amongst all animal based sectors (Pawariya and Jheeba, 2015). The rapid growth of poultry industry in India was possilble as a result of many factors working together wide spread adoption of modern methods of farming, avaibility of inputs, quick assured and better returns from poultry.

In Maharashtra state, the poultry industry has flourished in Private sector. Commercial production of layer poultry birds as well as broiler poultry has been concentrated at the hands of big entrepreneurs. The poultry population in Maharashtra state was 647.56 lakhs as per the 18th livestock census (of the year 2007). The total poultry population has been increased by 46.34% over livestock census 2012 and the total poultry population is 74.3 million during 2019.

In Latur district as per the 19th livestock census the total number poultry population was 4,83,662 which include total number of 1,72,212 of broiler. Broiler chicken production has undergone drastic changes and development over the last few decades (Shariatmadari 2012) [9]. The study on status of broiler farm in Latur tahsil of Latur district was undertaken to invistigate the real situation, major hurdles, factors influencing profitability, the market structure and dependence of broiler farmers on various agencies. A well planned questionnaire, its output and personal interviews of broiler farmers were planned to asses the situation.

Materials and Methods
The present research work was undertaken to study the status of broiler farm in Latur tahsil of Latur district. It includes the tools and techniques employed for completion of the study. The present study was carried out in the Department of Animal Husbandry and Dairy Science, College of Agriculture, Latur, VNMKV, Parbhani, Maharashtra state. A Comprehensive Questionnaire was prepared to collect the information by personal interview with individual farmers.

Selection of area

The present study was conducted in the Urban as well as rural area of the Latur tahsil of Latur district. The Latur district comprises of 10 tahsil. Latur tahsil was selected for the study of the research work which comes under the juridiction of Marathwada Agriculture University, Parbhani.Broiler farms were divided into three groups i.e, small, medium and large size farms.

The farms having birds population between 500-1500 were catagoriesed as small size farms, those having birds population between 1500 to 2500 birds as medium size farms and those having birds population above 2500 as large size farms. Each group comprised of 10 broiler farm

Selection of respondents

The respondents are important for any research work. The total population of broiler farmers in selected villages were asked and then from it scientific broiler farms were selected. The scientific broiler farm in the sample were selected randomly. All the total 30 respondents were selected for study from all the selected villages.

Statistical analysis

Management and feeding practices

Personal interview, direct observation were used to collect data from the respondents regarding general management and feeding practices adopted. The collected data were compiled, tabulated and analyzed by using standard statistical procedures (Snedecor and Cochran, 1994) [10]

Results and Discussion

Management of birds

Data in relation to system of housing, type of farm unit, replacement system, systems of rearing, type of roofing, roofing material used and floor space provided per bird were collected. Data in relation to water management which included source of water, method of supply, Brooding details comprised of type of brooding, period of brooding were collected

Management practices followed in broiler farms in Latur tahsil

Table 1: Management practices of broiler farming adopted in Latur tahsil of Latur district

Sr No.	Traits	Categories	No. of Farmers			Overall Percentage
			Small	Medium	Large	
1	System of rearing	All in all out	8	6	10	24 (80%)
		Multi-batch	2	4	0	6 (20%)
2	Method of rearing birds	Deep litter system	10	10	10	30 (100%)
		Cage system	0	0	0	0 (0%)
3	Size of batch (no.of birds per batch)	500-1500	10	0	0	10 (33.33%)
		1500-2500	0	10	0	10 (33.33%)
		Above 2500	0	0	10	10 (33.33%)
4	Interval between two batches	up to 7days	7	6	10	23 (76.66%)
		8-15 days	2	4	0	6 (20%)
		16-21 days	1	0	0	1(3..33%)
5	Brooding of day old chick	Electric	10	10	10	30 (100%)
		Charcoal	0	0	0	0 (0%)
		Kerosene lamp	0	0	0	0 (0%)
6	Duration of brooding	1-2 week	8	6	10	24 (80%)
		2-3 week	2	4	0	6 (20%)
		3-4 week	0	0	0	0 (0%)
7	Type of litter material used	Rice husk	10	10	10	30 (100%)
		Saw dust	0	0	0	0 (0%)
		Chaffed paddy straw	0	0	0	0 (0%)
8	Light provided to the birds	12 hours	8	7	9	24 (80%)
		20 hours	2	3	1	6 (20%)
		24 hours	0	0	0	0(0%)
10	Source of light	Electric bulb	10	10	10	30 (100%)
		Kerosene lamp	0	0	0	0 (0%)
11	Method used for reducing heat in summer	Fan	0	1	2	3 (10%)
		Water sprinklers	0	0	0	0 (0%)
		Wet curtains	10	9	8	27 (90%)
12	Labours engaged at farm	Family members	8	6	4	18 (60%)
		Permanent labours	2	4	6	12 (40%)
		Daily wages	0	0	0	0 (0%)
13	vaccination	Followed	10	10	10	30 (100%)
		Not followed	0	0	0	0 (0%)

A total of 30 broiler farmers were interviewed representing small , medium , large farms respectively. A structured questionnaire was designed to obtain information from farmers. The objective of this survey was to study various management practices adopted by broiler farmers in Latur tahsil.The results show that 80 per cent of broiler farmers used all-in-all-out system of rearing and multi-batch system of rearing used by 20 per cent of respondents. (Table 1). It was observed that all the respondents adopted deep litter system of rearing of birds at their farms. The present finding are also in accordance with Kumar *et al*. (2018) [3].

Result show that 33.33 per cent of farmers had the batch size of 500-1500 birds per batch and 33.33 per cent of farmers had the batch size of 1500-2500 birds per batch followed by 33.33 per cent of broiler farmers were having the batch size of 2500- 7000 birds per batch. It is evident from the table 1. that

about 20.00 per cent broiler farmers at their farm were keeping the interval of 8-15 days between two batches and interval up to 7 days adopted by 76.66 per cent of farmers as well as only 3.33 per cent of farmers following the interval of 16-21 days between two batches.

The results revealed that all the broiler farmers were using electricity for brooding of day-old chicks. Nobody were using kerosene lamp and charcoal as sources of heat for brooding of day-old chicks; respectively. It was found that majority of 80 per cent farmers were brooding their chicks for 1-2 weeks followed by 20 and 0 percent farmers having the brooding duration 2-3 weeks and 3-4 weeks; respectively The result of the present study in agreement with Hedge and Shridhar (2012) [2].

The results showed that all boiler farmers were using rice husk as litter material in their farms. whereas, nobody were using saw dust and chaffed paddy straw; as litter material,respectively Result revealed that 20.00 percent of farmers were providing 20 hours light at their broiler farms whereas,12 hours light provided by 80 per cent of respondents and providing 24 hours light not followed by any broiler farms. All farmer were using electric bulbs as source of light and using kerosene lamps as source of light had not followed by any farm. The result of the present study are also partially agreement with the result of Pal *et al*. (2019) [6]

It was observed that (10%) farmers were using fans to alleviate heat stress on the broiler birds during summer. Whereas, 90 per cent were using wet curtains and nobody were using water sprinkler to reduces the heat stress. Result revealed that majority of 60.00 per cent farmers had their family members engaged in carry out the routine chores of the farms and 40.00 per cent farmers had engaged permanent labourers for routine work for their broiler farm. Majority of 100 per cent of broiler farmer adopting vaccination at their farm the present result are in agreement with Bhattu *et al*. (2015) [1].

Feeding

Details relevant to the type of feed used for broiler, company or own mixed feed, cost per kilogram, feed consumption, frequency of feeding and its cost were recorded. The farmer has either to manufacture his own feed or rely upon "ready to use feed" available in the market. Feed costs comprise over 60 to 75 per cent of the total cost of a farm. The data was collected to have an insight into the practices and economics of broiler feed in Latur tahsil**.** The data obtained on various parameters studied during this interview schedule were subjected to statistical analysis as described by Snedecor and Cochran (1994) [10].

Feeding practices adopted by the broiler farmers of Latur tahsil

Table 2: Feeding practices and their adoption in small, medium and large size group of broiler farm

Sr No.	Feeding practices	Small		Medium		Large		Overall%	
		Yes	No	Yes	No	Yes	No	Yes	No
A.	Feeding pattern and practices								
1	Anti-transport stress feeding	10	0	10	0	10	0	30 (100%)	0 (0%)
2	Initial feeding of crushed maize	10	0	10	0	10	0	30 (100%)	0 (0%)
3	Use of cafetaria or free choice system	0	10	0	10	0	10	0 (0%)	30 (100%)
4	Use of all mash method	10	0	10	0	10	0	30 (100%)	0 (0%)
5	Use of pellet feeding	0	10	0	10	0	10	0 (0%)	30 (100%)
B.	Controlled feeding								
1	Forced feeding	0	10	0	10	0	10	0 (0%)	30 (100%)
2	Restricted feeding	0	10	0	10	0	10	0 (0%)	30 (100%)
3	Phase feeding	0	10	0	10	0	10	0 (0%)	30 (100%)
C	Manufactu-re of own feed	2	8	3	7	5	5	10 (33.33%)	20 (66.66%)
D	Use of non-conventi-onal feed ingredient	2	8	1	9	2	8	5 (16.66%)	25 (83.33%)
E	Use of automatic feeding and watering devices	10	0	10	0	10	10	30 (100%)	0 (0%)
F	Practices followed to reduce the feed wastage	10	0	10	0	0	0	30 (100%)	0 (0%)

The production of feed for livestock aims at reducing the cost of the manufacturing process without compromising the quality of the final product. Amongst the purposes of feed processing, there are mostly the changes of particle size and increased density of feed. The data were collected regarding the various feeding practices adopted in Latur tahsil (Table 2). Perusal of Table 2 reveals that the anti-transport stress feeding practice were followed by all group of broiler farm in Latur tahsil and proper provisions of feeding the day old chicks on their arrival in shades followed by 100% of farmers.

At the broiler farm on arrival of day old chicks 100% per cent farms were feeding crushed maize to the chicks. With regard to the free choice system of feeding no one broiler farmer was found to be adopted this kind of feeding during survey. Generally the rations for broiler chickens are offered in mash, pelleted, extruded or crumbled physical forms. The mash rations are processed in the form of crumbs by mixing ground ingredients and also form the raw material for other varieties of ration. whereas in the present study 100 per cent farmers adopted all mash method of feeding in their farms and nobody was following pellet feeding practice. The greatest advantage in using pellets is that there is little waste in feeding. The disadvantage

is that pellets are expensive about 10 percent more expensive than that of feeds not pelleted. The finding are consistant with Nir *et al*. (1994) [5].

The adoption of different methods of controlled feeding was surveyed during the study. It was found that not a single farm was used forced feeding. farmers did not follow any type of restricted feeding, and 0 percent of farmers followed phase feeding. Most of the farmers were using commercial feed to feed their broilers which increases the input cost and invites allied problems.

During the study it was observed that most of the small farms were found to be totally dependent on commercial feed. A total 20 per cent small, 30 per cent medium and 50 per cent large size broiler farmers were using home made feed. similar result reported by Shaheen *et al*. (2015) [8]. In comparing the overall situation 33.33 per cent farmers were found to be using the home made feed whereas 66.66 per cent farmers

using commercial feed. The non-conventional feed ingredients was found to be adopted by few farmers in Latur tahsil. Such adoption was 20.00 per cent, 10.00 percent and 20.00 per cent in small, medium and large size group of farms, respectively.

The data regarding automation in feeding and watering devices were found to be followed in all group of farms. it means that practices to prevent the wastage of feed were followed by 100 percent of farmers.

Conclusions

Feeding management practices such as electrolyte supplementation, feeding time, drinker type and height have been found to improve performance under heat-stress. The small, medium and large size group broiler farmers were adopted new techniques in management, feeding, watering etc.

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