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Feeding, breeding and management practices of backyard poultry rearing in Banswara district of Rajasthan

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Abstract
The study was conducted on the Feeding, Breeding Practices of Backyard Poultry Rearing in Banswara district of Rajasthan. The field of investigation of this study covered three block of Banswara district *i.e.* Abapura, Banswara and Kushalgarh. The Study reveals that in feeding practices (81.48per cent) used own produced feed for poultry birds, 77.78 per cent respondents fed poultry bird twice a day, most of the respondents (86.67 per cent) not used mineral mixture, 88.89 per cent respondents were not using grits, 48.15 per cent the respondents used feeders of plastic, 46.67 per cent respondents used waterer of Plastic. In breeding practices 74.07 per cent respondents were using their own male for breeding purpose, 89.63 per cent were used both egg shape and size as standards of selection and 59.26 per cent used mixed of type poultry house.

Keywords: backyard poultry, feeding practices, breeding practices, management practices

Introduction
Backyard poultry farming plays an important role in the economic upliftment of poor farmers. Stress free and harmful residue free poultry obtained from backyard poultry farming get a great scope in the availability of quality meat. Poultry sector contributes about 36 per cent of total meat production in India (Department of Animal Husbandry, Dairying and Fisheries, 2018-19) [1]. Eggs contribute 3.77 per cent as value output from total livestock rearing. India shares 3.17 per cent of total poultry in the world, (Anonymous, 2018-19) [1]. The population of poultry under courtyard system is 317 million (20th census). As per 20th livestock census, there were 80.24 lacs poultry in Rajasthan, from which 30.33 lacs poultry were at backyard and remaining 49.91 lacs were at farm poultry. Generally, in rural areas farmers have been maintaining backyard poultry for income generation, home consumption, gifts and sacrifice for guests. Backyard poultry is a great need to increase the availability of protein food source in rural areas to alleviate protein malnutrition. This can be achieved by adopting poultry farming in small scale in the back yard of rural households or rearing them under intensive farm conditions in small numbers by utilizing locally available, less expensive feed and housing inputs. Backyard poultry is identified as a significant livelihood activity for many poor and landless families and particularly for women who looks for additional income. In traditional backyard poultry farming, farmer rears 5 to 10 indigenous birds which produce only 50 to 60 eggs per year and low meat production. The contribution of backyard poultry is only 11 per cent of total eggs production of the country The present per-capita availability of eggs is 54, while chicken meat consumption is 2.2 kg whereas, the ICMR recommendation is the consumption of 180 eggs and 10.8 kg poultry meat per person per annum (Shekhar and Ranjan, 2020). Banswara having IVth rank in the number of backyard poultry. Backyard poultry serves as an inexpensive means for households to generate highly nutrious food commodities at minimal cost (Pica- Ciamarra and otte, 2010). Birds feed by scavenging or are provided with household scraps and crop by-products. Backyard poultry manure can be used directly (Pal *et al.,* 2020) [9]. The backyard poultry are bird having desirable plumage colour with high performance compared to local indigenous bird with very small change in husbandry practice i.e. followed for the indigenous fowl, in addition to indigenous fowl crossbreed, produced using exotic breed is being used for backyard poultry farming (Das *et al.,* 2008 and Padhi *et al.,* 2012) [3, 8].

Materials and Methods

The existing study was carried out by Krishi Vigyan Kendra in district Banswara district of Rajasthan. Banswara district is situated in the south region of Rajasthan. The study comprised on three block i.e. Abapura, Banswara and Kushalgarh of Banswara district was selected. Three villages were selected from each identified block and over-all nine villages were selected on the basis of backyard poultry birds availability in the villages. From each village fifteen back yard poultry rearers were selected. Thus, a total number of 135 farmers were investigated for current investigation. Data were collected with the help of a semi structured interview schedule and through observation. Before the conduction of interview and collections of data from respondents, particular objectives and the determination of the study was explicitly explained to the farmers. The question in the tool were offered to them in their individual understanding and Hindi confirming that they got the queries properly so as to escape any interpretational disparity of the query by the farmers. The answerers obtained from respondents were documented and only single respondent was questioned at a time. Data so collected, tabulated and analyzed as per standard statistical procedures of Snedecor and Cochran (1994)

Results and Discussion

Feeding

Table 1, shows the results of feed used for Backyard poultry birds by the respondents of study area. Result indicated that most respondents (81.48 per cent) used own produced feed for poultry bird, while 18.52 per cent respondents used purchased feed. Result revealed that 22.22 per cent respondents fed their poultry bird single time in a day while 77.78 per cent respondents fed twice a day (Table 1). It was apparent from the data that 86.67 per cent respondents not used mineral mixture and a very few respondents (13.33 per cent) were using mineral mixture for backyard poultry (Table 1). It was clear indicated in table 1 that most of respondents (88.89 per cent) not were using grits and respondents (11.11 per cent) were using the grits. The data of Table 1 indicated that the respondents used feeders of earthen, metallic and plastic as 30.37, 21.48 and 48.15 per cent, respectively. It is clearly indicated in the table 1 that the respondents used waterer of earthen, metallic and plastic as 22.22, 31.11 and 46.67 per cent, respectively. Overall results indicated that most of the farmers i.e. 86.11 per cent fed own produced feed to poultry birds. Likewise, Perez and Planco (2003) [10] also noticed that the farmer fed their poultry birds in backyard system of kitchen excess and the feedstuff that was available in field. Maximum number of the respondents (36.67 per cent) were using plastic feeder, closely followed by earthen feeder (31.67 per cent) and only 28.89 per cent respondents were using metallic feeder. Results reveal that plastic and earthen feeder are simply offered and are change effective as compared to other which makes it most general between the respondents. Mostly the respondents (metallic 32.78 per cent, plastic and earthen 32.22 per cent) were using all waterer type for poultry. In relation to the present study Ramos *et al.* (1990) [7] showed that most of respondents used trigger cup waterer in their research on productivity and consumption behavior in white leghorn layers. Feeding practice involved to left the birds for scavenging on insects, worms, grasses, seeds, weeds and flowers in the morning. In the evening birds were offered kitchen waste, broken and boiled rice to supplementary feed ingredients at average of 50.29 grams per bird per day observed by Chaturvedani *et al.* (2016) [2].

Table 1: Distribution of respondents on the basis of feed used for feeding to Backyard poultry birds, frequency of feeding, Mineral Mixture given to Backyard poultry birds, Fed Grits to Backyard poultry bird, used Feeder and waterer to Backyard poultry birds

Items	Number of respondents	Per cent (%)
Feed		
Own	110	81.48
Purchased	25	18.52
Total	135	100.00
Frequency of feeding		
Single time	30	22.22
Double time	105	77.78
Total	135	100.00
Mineral Mixture		
Yes	18	13.33
No	117	86.67
Total	135	100.00
Fed Grits		
Yes	15	11.11
No	120	88.89
Total	135	100.00
Type of feeder		
On Ground	41	30.37
Metallic	29	21.48
Plastic	65	48.15
Total	135	100.00
Type of waterer		
Earthen	30	22.22
Metallic	42	31.11
Plastic	63	46.67
Total	135	100.00

Breeding

The data presented in Table 2 exposed that respondents purchasing breeding male from outside was 25.93 per cent and rest of 74.07 per cent were using their own male for breeding purpose. Eggs assortment standards for hatching were divided into egg size, egg shape and both egg outline and dimension. The standards of selection used by the respondents were 3.56, 6.81 and 89.63 per cent for egg size, egg shape and both egg shape and size, individually (Table 2). The results exhibited that the alteration in breeding masculine purchased from exterior and own raised were extremely significant. The respondents own raised breeding masculine and buying from exterior was 75.56 per cent and 24.44 per cent, respectively. The overall percentage of selection criteria for egg hatching used by the respondents were 2.78, 5.00 and 92.22 for egg size, egg shape and both egg shape and size, respectively. The mean hatchability of the eggs was found to be 77.06 per cent. Perez and Polanco (2003) [10] found higher hatchability of eggs at 87.2 per cent, which in contradiction to the consequences acquired in the current research.

Table 2: Distribution of respondents on the basis of Male for Breeding and criteria of selection of eggs for hatching

Items	Number of respondents	Percent
Breeding male		
Out side	35	25.93
Own	100	74.07
Overall	135	100.00
Selection of eggs for hatching		
Egg size	4.8	3.56
Egg shape	9.20	6.81
Both egg shape and size	121	89.63
Total	135	100.00

Management

The data of Table 3 revealed that respondents of study area used 22.22 per cent kaccha, 18.52 per cent pucca and 59.26 per cent used mixed type poultry house. It is observed that 24.72 per cent respondents used kaccha house, 23.60 per cent pacca house, 49.44 per cent used bamboo and 26.67 per cent of mixed poultry house in study area. However, Monsi and Ayodele (1989) [6] noticed that poultry was reared in open sided house with a concrete floor covered with wood shadings. The practice wise adoption index exhibited that feeding and watering (72.75%) was highly adopted followed by housing and management (61.84%) and breeds and breeding (44.21%). The least adoption was for health care practices (41.58%). The overall adoption index was 54.87 per cent reported by Dular *et al.* (2014) [11]. Chaturvedani *et al.* (2016) [2] findings of this study revealed that 68.33 per cent poultry owners constructed separate small houses with locally available materials *viz*., bamboo, mud, net, wood, jute stalk, tin, tiles, straw etc., with a average height of 2.24 feet's to avoid disputes with neighbors and attack of predators.

Table 3: Distribution of respondents on the basis of type of poultry houses used

Use of house for poultry	Number	Percent
Kaccha	30	22.22
Pucca	25	18.52
Mixed	80	59.26
Overall	135	100.00

Conclusion

The study was concluded that, the important constraints faced by the poultry farmers (respondents) in Banswara district of Rajasthan were predator's problems, non availability of balanced poultry feeds around the year. Therefore, government must initiate adequate steps to increase area under cereals crop and resolve constraints faced by poultry farmers through development of veterinary facilities as majority of respondents expressed that susceptibility of poultry to disease. There is a good possibility making technological awareness in accepting for developed feeding, breeding and fitness care management which will certainly support the tribals in getting their livelihood through backyard poultry birds.

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