Growth Performance of Kadaknath Poultry of Tribal Farmers in Bhilwara district of Rajasthan

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ABSTRACT

The studies on growth pattern and gain in body weight were conducted under tribal sub plan on Kadaknath breed of poultry available in krishi vigyan kendra, Bhilwara district of Rajasthan. The differences at 0 and 1 week of age were found to be non-significant and at 2 weeks the difference was significant (pd"0.05) whereas at 3 and 4 weeks of age the differences between the two blocks were found to be highly significant (pd"0.01). The differences at 6, 8, 10 and 12 weeks of age were found to be highly significant (pd"0.01), which indicates variation in the management practices between two blocks i.e. Jhajhpur and Mandelgarh. The overall average body weights pooled for both blocks i.e. Jhajhpur and Mandelgarh from 0 to 4 weeks of age ranged from 26±0.14 to 118±1.20 g. The pooled overall average body weights for both the blocks from 6 to 20 weeks (fortnightly) ranged from 170±1.62 to 888±5.62g. The Kadaknath birds attain 1kg body weight between 6 to 7 months of age

Key words: Body weights; Growth rate; Kadaknath; Bhilwara;

Kadaknath is a fowl with black flesh hence addressed as Kalamasi also. They lay eggs which are light brown in colour. The comb, wattles and the tongue are purple in colour. This bred is disease resistant in natural environment but when put under rearing condition it may be susceptible to mareks disease. Promotion of Kadaknath poultry breed through backyard rearing for livelihood security of Kadaknath poultry is indigenous disease resistant breed and having much medicinal values such as low fat percentage, high protein content, low cholesterol and wide adoptability farmers preferred this breed for rearing in their backyard.

The Bhilwara district is situated in the South Eastern part of state of Rajasthan between 25.1 & 25.58° N Latitude and 74.1 & 75.28° East Longitude at about 380 m above mean sea level. There is no perennial river in the district. The climate of Bhilwara district is mild with moderate dry summers and cold winters. Average annual rainfall of the district is 699 mm, most of which is received in the monsoon months i.e. in July and August. There is a great variation in quantity of rainfall in different parts of the district. The mean daily maximum and minimum temperature during May and June ranges between 35.3ºC to 43.0ºC and 23.9° C to 26.7° C respectively. January is coldest month of the year with mean daily maximum and minimum temperature range of 21.7 to 25.3 and 3.1 to 6.7ºC respectively. The total geographical area of the district is 10.51 lac ha out of which 1.14 lac ha i.e. 10.88 percent is uncultivated area. The gross cultivated area of the district is 5.09 lac ha with net sown area is 3.51 lac ha i.e. 33.52 per cent of total geographical area. The size of the operational holding is small.

Backyard poultry requiring hardly any infrastructure set-up is a potent tool for upliftment of the poorest of the poor. It has also been noticed that the demand for rural backyard poultry is quite high in tribal areas. Among the poor villagers, backyard poultry farming is an age-old practice where they keep mostly desi / indigenous birds which scavenge in the backyard and nearby field with very little health care and management. Their growth potential is low; however, whatever they produce is net profit to the farmers / owner.

However, there is very little information available

regarding description, native breeding areas, geographical, demographical, morphological, growth and productive traits of the Kadaknath breed of poultry. Hence, This study was planned on Growth performance of Kadaknath poultry of tribal farmers in Bhilwara district of Rajasthan.

METHODOLOGY

The present study was conducted in Bhilwara where the TSP project covered two blocks *viz., Jhajhpur* and Mandelgarh. It was operated in two villages in each blocks and 30 farmers in each villages. The studies on growth pattern and gain in body weight were conducted under tribal sub plan (TSP) project on Kadaknath breed of poultry under field condition and provided by KVK Bhilwara. The recording of body weight was conducted with the help of two local resource people using a questionnaire developed by Krishi Vigyan Kendra, Bhilwara. The body weights were recorded at weekly intervals from 0 to 4th weeks of age, at fortnightly intervals after 4th week to 20th week of age. The data collected through the questionnaire from various field survey centres was analyzed using standard statistical methods (*Steel and Torrie, 1986*).

RESULTS AND DISCUSSION

The present investigation was conducted to find out the growth pattern and gain in body weight in the Kadaknath breed of poultry under field conditions. Native chickens have special characteristics of tropical adaptability, better resistance to disease and meat quality. Exploitation of these qualities using advanced breeding methods would lead to economically viable backyard poultry keeping which can be used on larger scale in rural / tribal areas. Comparative growth performance in the two blocks Jhajhpur and Mandelgarh.

Weekly body weight (0-4weeks) : As shown in Table 1, the differences at 0 and 1 week of age were found to be non-significant and at 2 weeks the difference was significant (p<0.05) whereas at 3 and 4 weeks of age the differences between the two blocks were found to be highly significant (p<0.01). The significant to highly significant differences between two blocks may be due to variation in management practices followed by the farmers of both the blocks.

Mishra (1983) reported higher body weights at 0, 1, 2, 3 and 4 weeks of age in Kadaknath breed of poultry as 29±0.26, 37±0.38, 58±1.00, 83±1.69 and 123±2.47 g

Table 1.   Overall average body weight (g) from 0 to 4 weeks of Kadaknath birds in Bhilwara district

Age in weeks	Jhajhpur Mean± SE	N	Mandelgarh Mean±SE	N	Overall Mean± SE	N	t - value
0 week	26±0.17	1240	24±0.17	1350	26±0.14	2590	0.16[NS]
1 week	42±0.39	1240	39±0.18	1350	40±0.28	2590	0.82[NS]
2 weeks	62±0.80	1240	53±0.37	1350	54±0.62	2590	2.15*
3 weeks	92±1.10	1240	74±0.36	1350	66±0.79	2590	2.87**
4 weeks	132±1.82	1240	110±0.51	1350	118±1.20	2590	4.11**

*N-Number of observation, SE – Standard error, * Significant (P<0.05), ** Highly significant P<0.05), NS – Non significant (P<0.05)*

Table 2.   Average body weights (g) from 6 to 20 weeks of Kadaknath birds in Bhilwara district

Age in weeks	Jhajhpur Mean± SE	N	Mandelgarh Mean±SE	N	Overall Mean± SE	N	t - value
6 weeks	192±2.62	1128	151±0.55	1245	170±1.62	2373	3.32**
8weeks	269±3.45	1102	222±1.36	1220	242±2.32	2322	3.41**
10 weeks	355±3.69	1080	301±2.36	1182	326±2.98	2262	3.22**
12 weeks	446±3.98	1072	396±2.37	1162	419±3.09	2234	3.28**
14 weeks	552±4.68	1065	501±2.25	1148	512±3.23	2213	2.21*
16 weeks	666±4.32	1052	620±2.82	1133	633±3.64	2185	2.26*
18 weeks	782±5.10	1023	728±3.32	1127	749±4.17	2150	2.20*
20 weeks	919±5.43	1010	869±3.91	1118	888±5.66	2128	2.61*

*N-Number of observation, SE – Standard error, * Significant (P<0.05), ** Highly significant (P<0.05), NS – Non significant (P<0.05)*

respectively, under farm conditions; whereas the present study body weights were found marginally lower in the field conditions. *Singh et al (1999)* reported higher weights at day old Aseel (33±0.30 g) and naked neck (34±0.36 g) chicks under farm conditions; whereas *Chatterjee et al (2002)* reported lower body weights at 4 weeks of age under backyard (53±1.41 g) and intensive system (74±2.32 g) in Nicobari fowl, whereas the body weights were found marginally lower in the present study under field conditions.

Fortnightly body weight (6-20 weeks) : As shown in Table 2, the differences at 6, 8, 10 and 12 weeks of age were found to be highly significant ($p < 0.01$), which indicates variation in the management practices between two blocks i.e. Jhajhpur and Mandelgarh . The variation in the management practices includes vaccination of birds at early ages and sufficient grain/ kitchen waste feed supplementation.

Singh and Singh (1998) reported higher body weight (250 g) at 8 weeks of age in Kadaknath breed of poultry under farm conditions. *Gurung and Singh (1999)* conducted field survey studies in Aseel breed of poultry in two districts of M.P. and one district of Andhra Pradesh. They reported higher body weight as 161±0.19, 234±0.14, 317±0.18 and 408±0.22 g, respectively at 6, 8, 10 and 12 weeks of age under field conditions whereas *Chatterjee et al (2002)* reported lower body weight as 112±2.45 and 117±3.64 g, 183±5.11 and 222±12.60 g, and 230±8.54 and 342±6.82 g, respectively at, 6, 8 and 10 weeks of age under backyard and intensive system of farming in Nicobari fowl as compared to Kadaknath breed body weight at 6, 8 and 10 week of age. The differences in body weights at 14, 16, 18 and 20 weeks between two blocks were found to be significant ($p < 0.05$), which might be due to variation in the management practices like vaccination and grain/ kitchen waste feed supplementation by the farmers at these centres.

Singh and Singh (1998) reported higher body weight (1050 g) at 20 week of age in Kadaknath breed of poultry. *Gurung and Singh (1999)* conducted field survey studies in two district of M.P. and one district of Andhra Pradesh in Aseel breed of poultry at 14, 16, 18 and 20 weeks of age. They reported higher body weights as 574±0.25, 634±0.28, 777±0.33 and 934±0.61 g, respectively at 14, 16, 18 and 20 weeks of age in Aseel birds, which might be due to large body size of Aseel bird as compared to Kadaknath bird.

CONCLUSION

It may be concluded that the non-significant differences at 0 and 1 week of age and at 2 weeks the difference was significant ($p < 0.05$) whereas at 3 and 4 weeks of age the differences between the two blocks were found to be highly significant ($p < 0.01$). The highly significant differences between two blocks may be due to variation in management practices followed by the farmers of both the blocks. The significant ($p < 0.05$) differences in body weights at 14, 16, 18 and 20 weeks between two block which might be due to variation in the management practices like vaccination and grain/ kitchen waste feed supplementation by the farmers at these blocks. It was observed that the birds attain 1 kg body weight between 6 to 7 month of age.

REFERENCES

Chatterjee, RN; Ahlawat, SPS; Yadav, SP; Senani A; Kundu, A; Jeyakumar, S and Saha, S (2002). Comparative growth performance of Nicobari fowl and their cost effectiveness under backyard and intensive system; *Indian J. of Poultry Sci.*, **37** (1): 63-66.

Gurung, BS and Singh M (1999). Network project on Survey of poultry (Aseel) genetic sciences- Terminal Report, 1996-1999.

Mishra, A K (1983). MVSc and AH Thesis on Comparative studies on Growth and Haematology of Kadaknath and white leghorn chickens at different age groups; *Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, India.*

Singh, D P and Singh, H P (1998). Black flesh chicken – Kadaknath Poultry Punch; 4: 45-51.

Singh, VK; Mohan, M; Verma, SB; Mandal, KG; and Singh, DP (1999). Analysis of body weights at different ages in pure and crossbred chicken; *Indian J. of Poultry Sci.*, **34**: 156-160.

Steel, RGD and Torrie, JH (1986). Principles and Procedures of Statistics- Biometrical approach, 2nd edn. MC Graw Hill Co. Kusha Ltd.

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