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T. Vasanthakumar

Assistant Professor and Head,
Backyard Poultry Research and
Development Centre, Tamil
Nadu Veterinary and Animal
Sciences University
(TANUVAS), Karur Tamil
Nadu, India

A. S. Selvaramesh

Associate Professor and Head,
Department of Animal Genetics
and Breeding, Veterinary College
and Research Institute, Tamil
Nadu Veterinary and Animal
Sciences University
(TANUVAS), Udumalpet Tamil
Nadu, India.

Production and reproduction performance of peruvudai chicken in western part of Tamil Nadu

T Vasanthakumar and A S Selvaramesh

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Abstract

A study was carried out in western part of Tamil Nadu to assess the production and reproduction performance of Peruvudai chicken population. Respondents were chosen on the basis of stratified random sampling technique. The data were collected from each respondent through a semi-structured interview schedule. The production parameters such as body weight, annual egg production and clutch size were studied. The results revealed the adult mean body weight (g) of 3643.74 ± 45.72 and 2564.15 ± 45.72 in male and female, respectively. The annual egg production (numbers) and clutch size (numbers) were 48.50 ± 1.17 and 13.28 ± 0.19 , respectively. In addition to production parameters, the reproduction parameters such as age at first egg (days), eggs set (numbers), chicks hatched (numbers) and hatchability (%) were studied and the values were 223.85 ± 2.13 , 12.48 ± 0.14 , 9.52 ± 0.16 and 76.21 ± 0.92 , respectively. As rearing of Peruvudai chicken fetches high economic return against low investment, many agricultural families are maintaining Peruvudai chicken population to get subsidiary income. Hence, for the rural poor as a viable enterprise for their livelihood security, this could be considered in policy making decisions.

Keywords: Carcass characteristics, weaner pigs, meat quality, palm kernel cake

Introduction

Native chicken plays a vital role in rural economy in most of the developing and underdeveloped countries. The most desirable positive character of native chicken is hardiness and the ability to tolerate harsh environmental conditions (Dessie *et al.*, 2011) [6]. Among the native chicken breeds / ecotypes in India, the “Peruvudai” is very much popular among the farmers in western part of Tamil Nadu because of their meat and egg quality with desirable taste and flavor along with the fighting quality of cocks. As utilization of native chicken in their current genetic merit and production environment is more profitable, this study was carried out in farmers’ field in western part of Tamil Nadu with an aim to study production and reproduction performance of Peruvudai chicken.

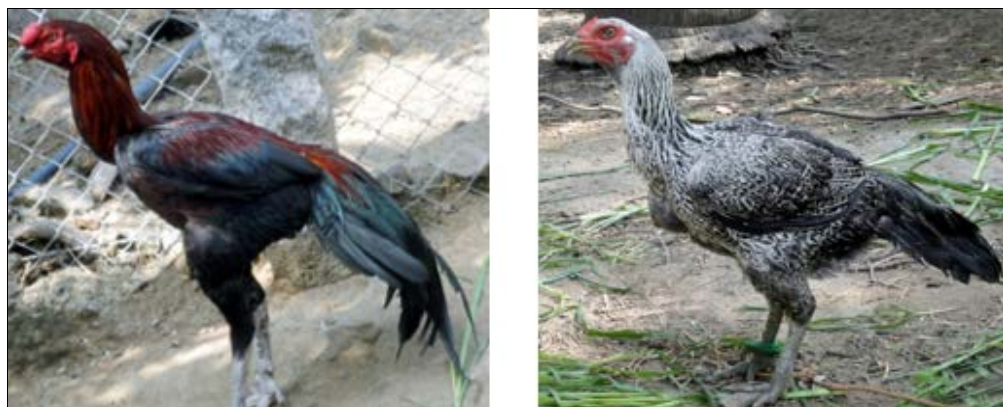


Fig 1: A typical Peruvudai male and female chicken

Corresponding Author:

T. Vasanthakumar

Assistant Professor and Head,
Backyard Poultry Research and
Development Centre, Tamil
Nadu Veterinary and Animal
Sciences University
(TANUVAS), Karur Tamil
Nadu, India

Materials and methods

The study was carried out in western part of Tamil Nadu viz., Dharmapuri, Erode, Namakkal, Salem and Tiruppur districts from 163 farmers rearing *Peruvidai* chicken. The habitat and distribution of *Peruvidai* chicken were ascertained by visiting 29 taluks in the study area from October 2019 to August 2021. In these taluks, the *Peruvidai* chicken populated blocks were selected under stratified random sampling procedure and the particulars on flock structure was recorded from 163

farmers. The collected data were analyzed using Snedecor and Cochran (1989)^[23] statistical methods.

Selection of study area

The districts present in western part of Tamil Nadu namely Dharmapuri, Erode, Namakkal, Salem and Tiruppur were selected purposively due to the practice of rearing *Peruvidai* chicken traditionally by more number of farmers to get subsidiary income for their livelihood and game purpose. The map showing the study area is depicted in Figure



Fig 1: Map showing the study area (Western part of Tamil Nadu)

Location of the study area

The districts Dharmapuri, Namakkal and Salem are falling under north western agro-climatic zone whereas the districts Erode and Tiruppur are falling in western agro climatic zone of Tamil Nadu, covering an area of 24,376.35 sq. km equivalent to 18.74 per cent of the Tamil Nadu state. The main soil types present in this region were non-calcareous red, non-calcareous brown, calcareous black, red loamy and black soil.

Results and discussion

Production performance of *peruvidai* chicken

Body weight

The overall adult body weight recorded in *Peruvidai* chicken in the present study was 3103.94±32.33 g. The body weight of adult male and female was 3643.74±45.72 and 2564.15±45.72 g, respectively. The result revealed significant

($p < 0.01$) difference in body weight between sexes. The findings of this study is in line with the findings of Sarker *et al.* (2012)^[21] in Aseel (3749.12±83.44 g in male and 2062.50±105.26 g in female), Rajkumar *et al.* (2017)^[19] in Aseel (3793.7 g in male and 2333.7 g in female) and Qureshi *et al.* (2018)^[17] in Aseel chicken. Lower body weight in native chicken was recorded by several authors viz., Vij *et al.* (2006)^[25] in Danki, Kalasthi and Ghagus breeds, Haunshi *et al.* (2009)^[10] in Miri chicken, Vij *et al.* (2015)^[26] in Harringhata Black chicken, Singh *et al.* (2016)^[22] in Hansli, Gujuri, Dumasil, Kalua, Khadia, Dhabala, Jhinjiria, Khairi, Kabri and Chitri, Behera *et al.* (2017)^[2] in Hansli chicken, Yadav *et al.* (2017)^[27] in Mewari chicken, Kumar *et al.* (2018)^[14] in Uttara chicken, Maurya and Yadav (2018)^[15] in Aseel and Churchill *et al.* (2019)^[3] in Aseel chicken. The higher body weight of chicken might be attributed to less effort needed by the birds to scavenge their feed areas.

Table 1: Mean (± S.E.) of production and reproduction traits of *Peruvidai* chicken in western part of Tamil Nadu

S. No.	Traits	Sample size (n)	Values
Productive traits			
1.	Body weight (Overall)	326	3103.94±32.33
	a. Male	163	3643.74 ^A ±45.72
	b. Female	163	2564.15 ^B ±45.72
2.	Annual egg production (numbers)	163	48.50±1.17
3.	Clutch size (numbers)	163	13.28±0.19
Reproductive traits			
1.	Age at first egg (days)	163	223.85±2.13
2.	Eggs set (numbers)	163	12.48±0.14
3.	Chicks hatched (numbers)	163	9.52±0.16
4.	Hatchability (%)	163	76.21±0.92

Annual egg production

The findings of the present study revealed the mean annual egg production of Peruvudai chicken was 48.50 ± 1.17 eggs. Similar findings were also recorded by Vij *et al.* (2006)^[25] in Ghagus, Vij *et al.* (2015)^[26] in Harringhata Black chicken, Yadav *et al.* (2017)^[27] in Mewari hens and Veerannagowda *et al.* (2020)^[24] in indigenous chicken of Belagaum division. Higher egg production was also recorded by Faruque *et al.* (2010)^[8] in non-descript *desi*, hilly and naked neck chicken genotypes, Ezhilvalavan *et al.* (2016)^[7] in Aseel, DAHDF (2017)^[5] in backyard chicken, Rahman (2017)^[18] in backyard poultry, Rajkumar *et al.* (2017)^[19] in Aseel, Kumar *et al.* (2018)^[14] in Uttara hens, Haunshi *et al.* (2019)^[12] in Ghagus and Nico Bari breeds and Haunshi and Rajkumar (2020)^[13] in native chicken than the present study. However, the lower egg production was recorded by Vij *et al.* (2006)^[25] in Danki and Kalasthi breeds, Haunshi *et al.* (2009)^[10] in Miri chicken, Haunshi *et al.* (2011)^[11] in Aseel, Sarker *et al.* (2012)^[21] in Aseel, Ferdaus *et al.* (2016)^[9] in indigenous dwarf chicken of Bangladesh, Maurya and Yadav (2018)^[15] in Aseel than the current study.

Clutch size

The analysis of data on mean clutch size among the Peruvudai chicken in western part of Tamil Nadu revealed the clutch size of 13.28 ± 0.19 eggs. However, Vij *et al.* (2006)^[25] recorded the clutch size of 10.60 ± 0.48 in Danki, 11.3 ± 0.39 in Kalasthi, 17.34 ± 0.69 Ghagus, respectively. Similarly Sarker *et al.* (2012)^[21] recorded 10.71 ± 0.26 in Aseel, Vij *et al.* (2015)^[26] in Harringhata Black chicken (12.32 ± 0.19) and Adoligbe *et al.* (2020)^[1] in indigenous chicken.

Reproduction performance of peruvudai chicken

Age at sexual maturity

The data on mean age at sexual maturity among the Peruvudai chicken in western part of Tamil Nadu showed 223.85 ± 2.13 days. The findings of Vij *et al.* (2006)^[25] in Danki (7.37 ± 0.03 months) and Kalasthi (7.16 ± 0.24 months) breeds of chicken, Haunshi *et al.* (2011)^[11] in Aseel (213.25 ± 0.54 days), Deka *et al.* (2013)^[4] in backyard chicken (7-8 months), Rahman (2017)^[18] in backyard poultry (7.5 months) and Rajkumar *et al.* (2017)^[19] in Aseel (214 ± 6 days) were in line with the findings of present study. Whereas Haunshi *et al.* (2009)^[10] in Miri chicken (147 days), Faruque *et al.* (2010)^[8] in non-descript *desi* (22.44 weeks), hilly (22.17 weeks) and naked neck (21.73 weeks) chicken, Sarker *et al.* (2012)^[21] in Aseel chicken (28.86 ± 1.40 weeks), Vij *et al.* (2015)^[26] in Harringhata Black chicken (3.5 to 8.2 months), Ezhilvalavan *et al.* (2016)^[7] in Aseel (144 days), Ferdaus *et al.* (2016)^[9] in indigenous dwarf chicken (166.53 ± 0.93 days), Maurya and Yadav (2018)^[15] in Aseel (188.40 ± 0.22 days), Haunshi and Rajkumar (2020)^[13] in native chicken (25-28 weeks) and Rathod (2020)^[20] in native chicken (25-28 weeks) recorded lower age at sexual maturity in different chicken breeds.

3.2.1 Number of eggs set

The mean number of eggs set among the Peruvudai chicken in western part of Tamil Nadu was 12.48 ± 0.14 eggs.

3.1.2 Number of chicks hatched per broody hen

The mean number of chicks hatched per broody hen among the Peruvudai chicken in western part of Tamil Nadu was 9.52 ± 0.16 chicks. Similar findings were also recorded by Vij *et al.* (2015)^[26] in Harringhata Black chicken under field

condition and reported the number of chicks per hatch ranged from 4 to 17 with an average of 9.45 chicks.

Per cent hatchability

The overall hatchability in Peruvudai chicken eggs laid by the birds in western part of Tamil Nadu was 76.21 ± 0.92 per cent. Similarly, total hatchability observed by different authors were Vij *et al.* (2006)^[25] in Danki (71.93%), Kalasthi (72.14%) and Ghagus (81.36%) breeds, Mohan *et al.* (2008)^[16] in Aseel (70.74%), Faruque *et al.* (2010)^[8] in non-descript *desi* (88.63%), hilly (79.23%) and naked neck chicken (57.66%) genotypes under intensive management system, Sarker *et al.* (2012)^[21] in Aseel (71.68 ± 9.59), Vij *et al.* (2015)^[26] in Harringhata Black chicken (77.4%), Rahman (2017)^[18] in backyard chicken (60-70%), Rajkumar *et al.* (2017)^[19] in Aseel (44.71%), Haunshi *et al.* (2019)^[12] in Ghagus (90.8%), Haunshi and Rajkumar (2020)^[13] in improved Aseel (65.10 ± 1.75), Aseel (54.59 ± 4.27), Ghagus (80.43 ± 2.18), Nico Bari (73.49 ± 1.69) and Kadaknath (72.97 ± 1.83) chicken. In general hatchability is influenced by breed, nutrition, age and management factors.

Conclusion

The present study revealed that the *Peruvudai* chicken had the mean adult body weight (g) of 3643.74 ± 45.72 and 2564.15 ± 45.72 in male and female, respectively. The annual egg production (numbers) and clutch size (numbers) were 48.50 ± 1.17 and 13.28 ± 0.19 , respectively. The reproduction parameters such as age at first egg (days), eggs set (numbers), and chicks hatched (numbers) and hatchability (%) were 223.85 ± 2.13 , 12.48 ± 0.14 , 9.52 ± 0.16 and 76.21 ± 0.92 , respectively. As rearing of *Peruvudai* chicken fetches high economic return against low investment, this could be considered in policy making decisions for the rural poor as a viable enterprise for their livelihood security.

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Conflict of interest

No potential conflict of interest relevant to this article was reported.

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References

1. Adoligbe C, Fernandes A, Osei-Amponsah R, Adje ND, Gbedevi R, Fonton MC, *et al.* Native chicken farming: A tool for wealth creation and food security in Benin. *Int J Livest Prod.* 2020; 11(4):146-162.
2. Behera D, Pradhan CR, Behura NC, Mohapatra LM, Mohanty GP, Behera K, *et al.* Production performance of Hansli chicken in Odisha. *J Entomol Zool Stud.* 2017; 5(6):1219-1224.
3. Churchil RR, Jamima J, Machindra YS, Kanagaraju P, Srinivasan G. Qualitative and morphometric characters of Aseel male chicken. *Int J Curr Microbiol Appl Sci.* 2019; 8(1):1285-1289.
4. Deka P, Borgohain R, Deka B. Status and constraints of backyard poultry farming amongst tribal community of

- Jorhat district in Assam. *Asian J Anim Sci.* 2013; 8(2):86-91.
5. Department of Animal Husbandry, Dairying and Fisheries. National Action Plan for Egg and Poultry-2022 for Doubling Farmers' Income by 2022. New Delhi: Government of India; 2017. Available from: https://dahd.nic.in/sites/default/files/Livestock%205_0.pdf
 6. Dessie T, Taye T, Dana N, Ayalew W, Hanotte O. Current state of knowledge on phenotypic characteristics of indigenous chickens in the tropics. *Worlds Poult Sci J.* 2011; 67(3):507-516.
 7. Ezhilvalavan S, Omprakash AV, Bharathidhasan A, Saravanakumar VR. Production performance of Aseel under Indian tropical condition. *Int J Appl Pure Sci Agric.* 2016; 2(11):107-110.
 8. Faruque S, Siddiquee NU, Afroz MA, Islam MS. Phenotypic characterization of native chicken reared under intensive management system. *J Bangladesh Agric Univ.* 2010; 8(1):79-82.
 9. Ferdous AJM, Bhuiyan MSA, Hassin BM, Bhuiyan AKFH, Howlider MAR. Phenotypic characterization and production potentialities of indigenous dwarf chicken of Bangladesh. *Bangladesh J Anim Sci.* 2016; 45(1):52-61.
 10. Haunshi S, Doley S, Shakuntala I. Production performance of indigenous chicken of north-eastern region and improved varieties developed for backyard farming. *Indian J Anim Sci.* 2009; 79(9):901-905.
 11. Haunshi S, Niranjana M, Shanmugam M, Padhi MK, Reddy MR, Sunitha R, *et al.* Characterization of two Indian native chicken breeds for production, egg and semen quality, and welfare traits. *Poult Sci.* 2011; 90:314-320.
 12. Haunshi S, Arunkumar B, Kannaki TR, Rajkumar U. Survivability, immunity, growth and production traits in indigenous and White Leghorn breeds of chicken. *Br Poult Sci.* 2019; 60(6):683-690.
 13. Haunshi S, Rajkumar U. Native chicken production in India: Present status and challenges. *Livest Res Rural Dev.* 2020; 32(11):1-11.
 14. Kumar S, Sharma RK, Kumar A. Documentation and conservation of indigenous poultry germplasm with special reference to Uttara. In: *Proceedings of the XXXV Annual Conference of Indian Poultry Science Association*; 2018; Port Blair. p. 42-46.
 15. Maurya SK, Yadav BM. Prolactin gene and laying performance in Aseel birds. *Int J Avian Wildl Biol.* 2018; 3(1):75-76.
 16. Mohan J, Sastry KVH, Moudgal RP, Tyagi JS. Production and other characteristics of Aseel Peela desi hens under normal rearing system. *Indian J Poult Sci.* 2008; 43:217-219.
 17. Qureshi M, Qadri AH, Gachal GS. Morphological study of various varieties of Aseel chicken breed inhabiting district Hyderabad. *J Entomol Zool Stud.* 2018; 6(2):2043-2045.
 18. Rahman S. Status and constraints of backyard poultry farming in Mizoram. *Indian J Hill Farming.* 2017; Special Issue: 76-82.
 19. Rajkumar U, Haunshi S, Paswan C, Raju MVLN, Rama Rao SV, Chatterjee RN. Characterization of indigenous Aseel chicken breed for morphological, growth, production, and meat composition traits from India. *Poult Sci.* 2017; 96:2120-2126.
 20. Rathod P. A guide to backyard poultry farming for sustainable livelihoods. Hyderabad: International Crops Research Institute for the Semi-Arid Tropics; 2020. p. 1-28. Available from: http://idc.icrisat.org/idc/wp-content/uploads/2020/02/Final-Backyard-Poultry-Farming_A5_Full-2.pdf
 21. Sarker MJA, Bhuiyan MSA, Faruque MO, Ali MA, Lee JH. Phenotypic characterization of Aseel chicken of Bangladesh. *Korean J Poult Sci.* 2012; 39(1):9-15.
 22. Singh MK, Nayak GD, Sardar KK. Phenotypic characterization of native chicken populations reared under family-based free-range scavenging system in Odisha, India. *Indian J Anim Res.* 2016; 50(6):839-845.
 23. Snedecor GW, Cochran WG. *Statistical Methods.* 8th ed. Ames (IA): Iowa State University Press; 1989.
 24. Veerannagowda BG, Jayanaik, Naveen Kumar GS, Krishnamurthy TN, Harish M, Nagappa Banuvalli. Performance evaluation of indigenous chicken of Belagavi division of Karnataka state, India. *Int J Curr Microbiol Appl Sci.* 2020; 9(4):2382-2393.
 25. Vij PK, Tandia MS, Mishra B, Bharanikumar ST, Vijh RK. Characterization of Aseel, Danki, Kalasthi and Ghagus breeds of chicken. *Indian J Anim Sci.* 2006; 76(11):944-949.
 26. Vij PK, Tandia MS, Pan S. Performance of Harringhata Black chicken under field conditions. *Indian J Anim Sci.* 2015; 85(8):930-932.
 27. Yadav AK, Singh J, Yadav SK. Characteristic features of indigenous poultry breeds of India: A review. *Int J Pure Appl Biosci.* 2017; 5(1):884-892.

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