



Adoption of TANUVAS Aseel backyard chicken adoption by rural poultry farmer of Dharmapuri district

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Received: 30 November 2022; Accepted: 11 October 2023

Keywords: Adoption, Backyard chicken, Improved chicken, TANUVAS Aseel

Livestock and poultry sector provides a major contribution to India's economy. The demand for indigenous chicken eggs and meats is anticipated to increase three fold by the year 2020 by health conscious consumers (Christopher *et al.* 2019). TANUVAS Aseel is a new variety of improved native chicken developed by Poultry Research Station, TANUVAS, Chennai. TANUVAS Aseel is a superior variety of native chicken developed by using strains of Aseel from Central Poultry Development Organization (CPDO), Bhubaneswar (base population); Directorate of Poultry Research (DPR), Hyderabad; and from a private entrepreneur and champion breeders. All the birds were brought into the genetic pool and random breeding was carried out. Later on, individual selection was carried out in the male for higher body weight and family selection was done in female for more egg production (part time egg production). Accordingly, a dual-purpose native variety of Aseel with all the characteristic features of the breed was evolved for table purpose with continuous selection and breeding for six generations, which is maintained at Poultry Research Station, Tamil Nadu Veterinary and Animal Sciences University, Chennai. This dual-purpose bird is well received by farming community because of its better growth rate and egg production capacity. The introduction of high performance poultry breeds is a viable option to motivate the farmers towards backyard poultry (Vasanthakumar T *et al.* 2021 and Vinothraj S 2020)

KVK Dharmapuri introduced improved strains of backyard poultry, viz. TANUVAS Aseel, Namakkal-1, Nandanam-4 and Srinidhi etc. TANUVAS Aseel can give 150-160 eggs with a body weight 1.9-2 kg. The farming community is exposed to various constraints/obstacles/problem at field level while adopting the practices. The problem plays an important role in rejection of innovation at farmer's level. Keeping the above stated background in view, study was undertaken among 250 rural poultry

farmers of Dharmapuri district with an aim to assess the extent of adoption of improved chicken variety TANUVAS Aseel chicken in Dharmapuri district of Tamil Nadu.

The present study has been undertaken by ICAR-Krishi Vigyan Kendra, Papparpatty, Dharmapuri, Tamil Nadu with the interventions on farm trial (OFT), front line demonstration (FLD) and special schemes on Attracting and Retaining Youth in Agriculture (ARYA) funded by ICAR-ATARI, Hyderabad and State Balance Growth Scheme (SBGF) funded by SBGF, Chennai. Unsexed day old chicks were reared in deep litter house at Poultry unit, Krishi Vigyan Kendra, Dharmapuri up to 4 weeks on balanced diet and vaccinated as per the recommended practices. At the end of 4th week, chicken were distributed to 250 selected farmers of Dharmapuri district from 2019-2020 onwards. These chickens were compared with existing improved Srinidhi (ICAR-DPR, Hyderabad, 2014), improved Namakkal 1 chicken (PRS.TANUVAS, Chennai, 2013) and Natty (local chick variety) breeds. In the backyard system the birds were reared under extensive as well as semi intensive system.

The respondent of the study were the rural farmers who were involved in the On Farm Trial (OFT), Front Line Demonstration (FLD), off campus and on campus training of KVK on backyard poultry rearing. Primary data were collected from 250 farmers through structured pre-tested interview schedule and simple percentage analysis was used for interpretation of data.

The profile characteristics of the respondents, viz. age, gender, education, family size, type of house, extension agency contact, urban contact, cosmopolitans and innovativeness were assessed. Results revealed that most of the respondents (62%) belonged to middle age group followed by old age group category. Primary level of education (50%) followed by secondary education and illiterate category. About 58% of the farmers belonged to small family followed by medium (32%) and large family (10%) category. About 50% of the respondents have more than 10 years of experience in backyard rearing remaining had an experience of 5 years. More than 90% of the farmers had urban contact and 75% of the farmers

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had extension agency contact. More than one third of the respondents (35%) had medium level of cosmo politeness and innovativeness.

Most of the farmer (59%) rear native birds at their backyard. The average number of native birds reared per family was 5.89. In addition to native birds few farmers reared birds such as TANUVAS Aseel (125), Srinidhi (42) and Namakkal-1(24). The results are presented in Table 1.

Only 50% of farmer reared improved TANUVAS Aseel chicken strain of backyard poultry at the time of study and hence were categorised as adopters. The 23.62% of farmer discontinued the rearing, whereas, number of the farmers who were aware of the improved strain of backyard poultry but not adopted the strain were about 26.4% (Table 2). The data depicted in Table 2 revealed that all the farmers were aware of the improved TANUVAS Aseel backyard poultry.

Performance of TANUVAS Aseel strain of backyard poultry was higher than other native strain of backyard poultry (Table 3). The major reason expressed by the farmers for rearing improved TANUVAS Aseel strain of birds was for the requirement of eggs for home consumption

(150 eggs/annum), fetches more income as compared to other strain who fetches income of about ₹ 4200/month, eggs are brown in colour which is sold @ ₹ 12/egg, body weight of cock and hen were 1.98 kg and 1.86 kg, respectively at the age of 180 days. The results of present study coincides with the findings of Thangadurai R and Shanmugam P S (2019).

Twenty three per cent of the farmers had discontinued the practice of rearing Srinidhi strain of backyard poultry due to lack of knowledge about brooding and non-availability of chick in Dharmapuri district (28.81%), and can get the chick supply from Directorate of Poultry Research, Hyderabad. Moreover, farmers expressed that the cross variety did not perform as comparable to pure strain. The results are presented in Table 4.

It can be concluded from Table 4 that even though 30% of the farmers were aware of the TANUVAS Aseel strain of backyard poultry, they did not adopt the strain. Out of 30%, 26.4% of them did not adopt because of low market preference (53.03%), whereas, some farmers (25.75%) expressed the difficulty in rearing the Srinidhi chicken which needs special care alongwith protection from predators and about 21.21% did not have entrepreneurship for introducing new strain in their backyard.

SUMMARY

Dharmapuri rural farmers were aware about TANUVAS Aseel strains of backyard poultry and had experience of rearing TANUVAS Aseel chicks trained by KVK, Dharmapuri. About 23.6% of the farmers have discontinued the practice due to lack of awareness about brooding and non-availability of chicks and 22.03% of the farmers did not followed the practice because of low preference and predator attack. Farmers preferred TANUVAS Aseel strain of backyard poultry for meat and egg purpose, who fetch meat cost @ ₹400/kg. Therefore, KVK, VUTRC and Animal Husbandary sector should aid supportive services like brooding, vaccination, feeding, housing, marketing of

Table 1. Number and type of of birds reared by farmer

Type of birds	No. of families rearing	Total no. of birds rearing	Average no. of birds per family
Native	59	348	5.89
TANUVAS Aseel	125	787	6.29
Srinidhi	42	130	3.09
Namakkal-1	24	69	2.87

Table 2. Awareness and adoption level of farmer in rearing Srinidhi variety layer under backyard farming

Particular	Number	%
Awareness on improved TANUVAS Aseel	220	88.0
Adopted	125	50.0
Discontinued adoption	59	23.6
Not adopted	66	26.4

Table 3. Production and reproduction performance of TANUVAS Aseel variety in comparison to other variety reared under backyard condition

Parameter		Native bird	TANUVAS Aseel	Srinidhi	Namakkal-1
Egg production/annum		54.2	156.5	252	220
Growth rate at different interval (g)	0 day	30	37	42	35
	10 th week	420	600	720	470
	20 th week	510	820	940	580
	30 th week	1050	1250	1350	1080
	40 th week	1250	1400	1700	1310
	50 th week	1400	1900	2200	1510
Livability (%)		84.4	96.4	94.8	85.6
Feed conversion (ratio)		1.3	1.27	1.2	1.4
House mortality (%)		15.6	3.6	5.2	7.5
Body weight in kg at 180 days (kg)	Cock	1.4	1.98	3.48	1.52
	Hen	1.34	1.86	2.5	1.42
Hatchability(percentage)		74	98	96	92
Monthly income(10+1) (₹)		2600	4200	3100	3400

Table 4. Constraints faced by farmers

Particular	Number	%
<i>No. of farmers discontinued</i>	59	23.6
Reason for discontinuing	13	
Unaware about brooding of chicks	17	22.03
Non availability of chicks in Dharmapuri district	18	28.81
Slaughtered and consumed	11	30.50
Predators		18.64
<i>No of non-adopter</i>	66	26.4
Reason for non-adoption		
Low market preference	35	53.03
Predator	17	25.75
Lack of interest	14	21.21

these birds to the farmers in order to encourage backyard poultry farmers. Conclusively, extension activity should be strengthened for efficient transfer of technology from the laboratory to the farmer field.

ACKNOWLEDGEMENTS

The authors are thankful to ICAR and TNAU for

providing the opportunity to disseminate the technology to the livestock farming community at Dharmapuri district.

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