

**Original Research Article**

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## **Assess the Performance of Different Breeds under Backyard Poultry Farming System in Erode District, India**

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A study was conducted to assess the Performance of Different Breeds which includes Gramapriya, TANUVAS Aseel and Srinidhi under Backyard Poultry farming System in Erode district by covering 30 backyard poultry farmers in T.N.Palayam, Gobi and Anthiyur block of Erode district, Tamil Nadu. Information was obtained on mean body weight at various ages, age at first egg, annual egg production and mortality rate. The result indicated that Gramapriya showed better annual egg production and Srinidhi gained better body weight at 20 th week when compared to other strains. Even though the two strains performed well in productivity, TANUVAS Aseel is suitable for backyard farming system due its better farmers adoption due its external appearance and genetic potentiality. Attempts were taken in 2018-19 to link the results of the strain assessment to the mainstream extension at the district for larger adoption of rural communities.

### **Introduction**

Backyard poultry production is an old age profession of rural families of India. It is the most potent source for subsidiary incomes for landless and poor farmers. It is an enterprise with low initial investment but higher

economic returns and can easily be managed by women, children and old aged persons of the households.

Now-a-days, poultry meat and eggs have been the best and cheapest sources for meeting out the per capita requirement of protein and

energy for rural areas of India. Though India has shown a tremendous growth in poultry production over decades but rural poultry farming is still lagging behind and always found neglected. As it is the best alternative for the small scale farmers to subsidies the income with negligible input, this farming system needs an upliftment with newly developed varieties of chicken. Rural farmers usually rear desi type chicken having low egg and meat production potential. Most of the backyard poultry production comprises of rearing indigenous birds with poor production performances (Pathak and Nath, 2013; Chakravarthi *et al.*, 2014; Reetha *et al.*, 2016; Patra and Singh, 2016). However, over the period of time improved strains have been introduced by extension and development agencies. Development organizations under government of India have developed improved strains like Gramapriya, TANUVAS Aseel and Srinidhi.

Gramapriya is a multicolored egg purpose chicken variety developed at Directorate of Poultry Research, Hyderabad for free range and rural backyard rearing. TANUVAS Aseel is a new variety of native chicken developed at Poultry Research Station, TANUVAS. Srinidhi is a dual purpose chicken variety developed at Directorate of Poultry Research, Hyderabad.

By understanding the potentiality of the above strains KVK conducted an OFT in 2018-2019 to assess its suitability and performance in the backyard farming system to feed into the mainstream extension. This paper is based on results of the OFT conducted by ICAR, KVK MYRADA with the following objectives.

To study body weight at different ages. To find out the age at egg laying of this particular study. To assess the annual egg production. To study the mortality rate and also to identify the farmers adoptability.

## **Materials and Methods**

The present study was conducted in the Erode district situated between 10-35' and 11-60' of north latitude and 76.49' and 77.58' of East longitude and 171-91' meters above the mean sea level. The river Cauvery flows on the north and eastern part of the District. Erode town sweats under very hot spells during summer. The study was carried out in Gobi, T.N. Palayam and Anthiyur blocks of Erode district of Tamil Nadu during 2018-2019.

The selected Poultry farmers were trained on all scientific Desi bird training techniques like brooding, deworming, Vaccination etc. Each farmer supported with 30 unsexed day old chicks which includes 10 Gramapriya chicks, 10 TANUVAS Aseel Chicks and 10 Srinidhi Chicks. These improved strains compared with farmers traditional breeds in this study.

The KVK Scientist made regular visit to farmer's field and observed production parameters.

The following production parameters were studied

Mortality percentage 0-12 weeks

Body weight at 12 th week age (Kg)

Body weight at 20 th week age (Kg)

Average annual egg production

Average age at first egg

Simple percentage analysis was used to analyze the data.

## **Results and Discussion**

The production parameters of these improved

strains of chicken are presented in Table.1

### **Mortality Percentage (0-12 Weeks)**

Higher mortality rate were recorded in improved strain than desi chicks during the early part of the life (0-12 Weeks). The reason for lower mortality in desi chicks might be due to more adaptability to the environment and proper brooding by their mother.

### **Body weight at 20 th week**

The body weight at 20 th week is a factor which ensure the market value of the birds in the present study. Srinidhi attained better body weight & 20 th week (1.6 Kg) when compared to other two strains. The present findings were in accordance with findings of Sharma *et al.*, (2017) who reported that 20 th week body weight of Srinidhi birds under backyard system of poultry rearing was 1.68 Kg.

### **Annual Average Egg production**

Egg production determining the success of Poultry enterprises and gaining better income to farmers. Comparative estimate of egg production revealed that Gramapriya has higher annual egg production (182 eggs) when compared to other two strains. The variation in egg production might be due to genetic potential of Native and improved varieties of Chicken. Karuna sree *et al.*, (2017), who reported egg production (178 eggs / year) of Gramapriya, has similar results of the present study.

### **Age at First egg**

TANUVAS Aseel started to lay egg at 155 days of age but Gramapriya and Srinidhi started to lay eggs at 162 days and 188 days respectively.

**Table.1**Comparative performance of Gramapriya, TANUVAS Aseel and Srinidhi under backyard system of rearing

S. No	Particulars	Mortality percentage (0-12 Weeks)	Body weight at 12 th week	Body weight at 20 th week	Average age at egg laying (Days)	Annual average egg production
1.	Farmers practice	2	0.89 Kg	1.24 Kg	194	70
2.	Gramapriya	5.8	1.11 Kg	1.54 Kg	162	182
3.	TANUVAS Aseel	8.2	1.02 Kg	1.38 Kg	155	151
4.	Srinidhi	7.9	1.1 Kg	1.60 Kg	188	150

From the study, it can be concluded that Gramapriya and Srinidhi birds performs better than TANUVAS Aseel chicken in terms of annual egg production and body weight under backyard system of rearing, But TANUVAS Aseel breed had better market opportunity and farmers adoption due its external appearance and genetic potentiality. So, farmers from rural areas of Erode district can

rear TANUVAS Aseel for their livelihood and nutritional security.

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