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## Comparative evaluation of productive and reproductive performance of sangamneri goat breed before and after technology intervention given by AICRP on Goat

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### Abstract

The present investigation entitled 'Comparative evaluation of productive and reproductive performance of Sangamneri goat before and after technology intervention given by AICRP on goat', was undertaken by data collection in villages at Rahuri cluster under All India Co-ordinated Research Project (AICRP) on Goat Improvement (Sangamneri Field Unit), Mahatma Phule Krishi Vidyapeeth, Rahuri. There were total 12 villages were selected from Rahuri cluster according to the goat population. Various technological interventions were provided by AICRP to the farmers to develop the reproductive and productive performance of Sangamneri goat breed. After the technology intervention there is increase in body weight of the breed. After the technology adoption by AICRP on goat the kid attains earlier maturity, reduced the first conception age after technology adoption, the first kidding age also decreased to 422 days from 459 days. Also after the technology adoption by Sangamneri goat owners provided by AICRP there was increase in average daily milk in goats.

**Keywords:** Sangamneri goat, productive performance, reproductive performance, AICRP on goat etc.

### Introduction

Livestock rearing is one of the most important economic activities in rural areas of the country contributing significantly to the national economy. Goats have been associated with man since dawn of agriculture and domestication of animals, making them socio-economically a very important animal producing milk, meat, fibre as well as proteins along with their capability of adopting in different environmental conditions. There are about 36 breeds of goats in India. Sangamneri goat is a promising dual-purpose breed both for chevon as well as milk. The goat found in Nashik, Pune and Ahmednagar districts of Maharashtra state, India. These Sangamneri goats have spread over a wide range of agro climatic conditions viz. Vidarbha, Marathwada and Western Maharashtra. The All India Co-ordinated Research Project (AICRP) on Goat (Sangamneri Field Unit) has supplied elite breeding bucks to improve the performance of the Sangamneri goat in Rahuri cluster of Ahmednagar district in Maharashtra. The inputs like vaccination, deworming, mineral mixture had also been provided to the goat keepers. The new technologies pertaining to housing and management were also disseminated through farmer's rallies and group meetings since 2005. The present study is proposed to access the impact of the above interventions on production and productivity of the Sangamneri goats maintained by the beneficiary farmers.

### Materials and Methods

The present investigation was undertaken by data collection in villages at Rahuri cluster under All India Co-ordinated Research Project (AICRP) on Goat Improvement (Sangamneri Field Unit), Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtra from the period before the Sangamneri buck was given for breeding the does till 2019. There were total 12 villages were selected from Rahuri cluster. The villages were selected according to the goat population. The researcher collected the data from all the 12 villages in Rahuri cluster. An interview schedule based on the objectives of the study was prepared for data collection. Goat keepers were identified in the villages and the breeding bucks were supplied to those identified farmers. Breeding buck was used for breeding does in that particular village. The necessary records regarding breeding of does, kids born, monthly body weight and body measurement were maintained.

Selected male kids were purchased from the farmers on the basis of dams 90days' milk yield and 3 months body weight of kid. The purchased kids were maintained up to maturity at farm. On attaining sexual maturity these selected breeding bucks were provided to the farmers during breeding season.

Technology package before and after the adoption of different types of technology including Mineral mixture, creep ration, concentrate mixture, vaccination, deworming, market channel, value addition of milk, milk sale, fodder

management, feeders, kidding, weight at different ages, breeding management were included in the schedule.

The data was analyzed for Mean, SD and Percentage as well as for Technology adoption index and Incremental cost benefit ratio.

## Results and Discussion

### 1. Growth performance of sangamneri goat before and after technology intervention given by AICRP on goat

**Table 1:** Growth performance of Sangamneri goat before and after technology intervention given by AICRP on goat

Sr. No.	Particulars	Before		After		% Improvement
		N	Mean	N	Mean	
1.	At Birth (kg)	1433	2.01	1880	2.19	8.95
2.	3 months (kg)	875	8.40	1649	9.94	18.33
3.	6 months (kg)	264	12.44	913	15.79	26.92
4.	9 months (kg)	131	16.55	724	19.20	20.36
5.	12 months (kg)	86	19.43	326	23.33	20.07

Table 1. Indicates the percent improvement in the mean body weight of the Sangamneri goat breed in Rahuri cluster before and after the technology intervention by the AICRP. After the technology intervention there is increase in body weight of the breed. At birth there was 2.01 kg mean weight of the kid before the intervention which increased to 2.19 kg mean weight after the technology intervention which showed 8.95 percent improvement whereas at 3 months age there is 18.33

percent improvement in the body weight after the technology adoption by the goat keepers, 26.92 percent increase in weight at 6 months of age. There is 20.36 percent improvement in the growth of a kid at 9 months of age and 20.07 percent increase in the mean weight at 12 months age.

### 2. Reproduction performance of Sangamneri goat before and after technology intervention given by AICRP on goat

**Table 2:** Reproduction performance of Sangamneri goat before and after technology intervention given by AICRP on goat

Sr. No.	Breeding Management	Before			After			% Improvement
		N	Mean	S.E.	N	Mean	S.E.	
1.	Age at Maturity (Days)	37	258.42	7.10	465	238.11	9.16	7.85
2.	Age at first conception (Days)	32	318.92	12.92	446	266.41	21.22	16.45
3.	Age at first kidding (Days)	31	459.78	12.67	379	421.56	20.17	8.31

The study on reproduction performance before and after the technology intervention of Sangamneri goat breed revealed that, after the technology adoption by AICRP on goat the kid attains the maturity age at 238 days which is earlier as compared to 258 days i.e. before technology adoption and so there is 7.85% improvement in early maturity of the kids. Similarly, there is 16.45 percent improvement to reduce the first conception age after technology adoption to 266 days compared to 319 days before. The first kidding age decreased to 422 days from 459 days which showed almost 8.31% improvement in the early kidding of the Sangamneri goat in Table 2. Hence, it indicates that after the technology adoption by the goat keepers the Sangamneri goat breed matures earlier.

### 3. Production performance of Sangamneri goat before and after technology intervention given by AICRP on goat

**Table 3:** Production performance of Sangamneri goat before and after technology intervention given by AICRP on goat

Sr. No.	Particulars	Before	After
1.	Average daily Milk Yield (L)	0.697	1.233
2.	Improvement (%)	78.69	

The study reported that, there was increase in average daily milk yield after the technology intervention to 1.233 liters from 0.697 liters which was before the technology adoption. Hence, there is 78.69 percent improvement in the milk production after the technology adoption.

## Conclusion

Various technological interventions were provided by AICRP to the farmers to develop the reproductive and productive performance of Sangamneri goat breed. After the technology intervention there is increase in body weight of the breed. After the technology adoption by AICRP on goat the kid attains earlier maturity, reduced the first conception age after technology adoption, the first kidding age also decreased to 422 days from 459 days. Also after the technology adoption by Sangamneri goat owners provided by AICRP there was increase in average daily milk in goats.

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