

Role of Ten Cent Fodder Plot in Small Dairy Farmer's Income in Tiruchirappalli District

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ABSTRACT

Ten cent fodder plot, an effective fodder cultivation technique of Tami Nadu Veterinary and Animal Sciences University (TANUVAS) was demonstrated in the farmer's field at Tiruchirappalli district. Farmers adopted this technique to cultivate fodder in Ten cent fodder plot method and the average yield of Co - 5, Fodder sorghum, cow pea, stylosanthes, Agathi and fodder maize were observed as 1053, 227.45, 159.8, 66.2, 83 and 151.4 kg respectively. Farmers in the field realised their returns get increased by reducing the feed cost. It is observed that the cost of production per litre was about to ₹ 4 to ₹ 6. It is concluded that, small to medium farmers could adopt this ten cent fodder plot method to get maximum fodder production in minimal land resource. This method is not only improves the farmers' return, it also improves the animal health, reproduction and milk production by supplying green fodder to animal.

HIGHLIGHTS

- ① Fodder deficit is the major crisis among the livestock farmers and green fodder is highly essential to maintain livestock in healthy manner.
- ② This study focused the ten cent fodder plot technique which is proven by TamilNadu Veterinary and Animal Sciences University for efficient fodder cultivation.
- ③ Fodder varieties such as Co - 5, Fodder sorghum, cow pea, stylosanthes, Agathi and fodder maize were adopted and shown good result in this ten cent fodder plot technique.
- ④ A small to medium scale farmer can get improved returns due to reduced cost of production by fodder cultivation.

Keywords: Ten cent fodder plot, cost of milk production, fodder yield, front line demonstration

India is the world's largest milk producer with a production of 198 million tonnes (2019-20) and having 302.79 million of bovine population (20th livestock census). The reason behind the highest milk production is not the productivity of the animal but the number of milch animals was higher. The unaware of importance of the fodder among the farmer is one of the reasons for less productivity of the animals. It is estimated that the green fodder availability in Tami Nadu is 17.73 million tonnes and the demand is 27.69 million tonnes and there is a deficit of 36 percentage (Roy *et al.* 2019). Generally agricultural farmers prefer cultivating crops rather than fodder and livestock farmers also allotted the minimal land for fodder cultivation.

Fodder-fed animals are healthy, good in reproduction and they produce good quality milk. Further fodder cultivation reduces the cost of production of milk and double the farmer's income. Hence there is a need of intensive fodder production with minimal land availability. Ten cent fodder plot method is one of the effective ways to make availability of fodder to the small to medium scale dairy farmer.

In Tiruchirappalli district, medium scale farmers are rearing their cows with partly grazing and

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feeding available concentrates. There is a lack of awareness about cultivation and feeding of green fodder. Awareness should be created among the farmers about the importance of green fodder in production performance of dairy cattle.

MATERIALS AND METHODS

Under the Frontline Demonstration Programme of Veterinary University Training Centre, Tiruchirappalli, this study was conducted from August 2021 to February 2022 and during this period rainfall received was around 300mm. Cumbu Napier (Co -5) slips procured from Livestock Farm Complex, Veterinary College and Research Institute, Orathanadu and fodder seeds for Fodder maize (African tall), Fodder sorghum (CoFs-29), Cow pea, Stylosanthes and Agathi were procured from Krishi Vigyan Kendra, Namakkal.

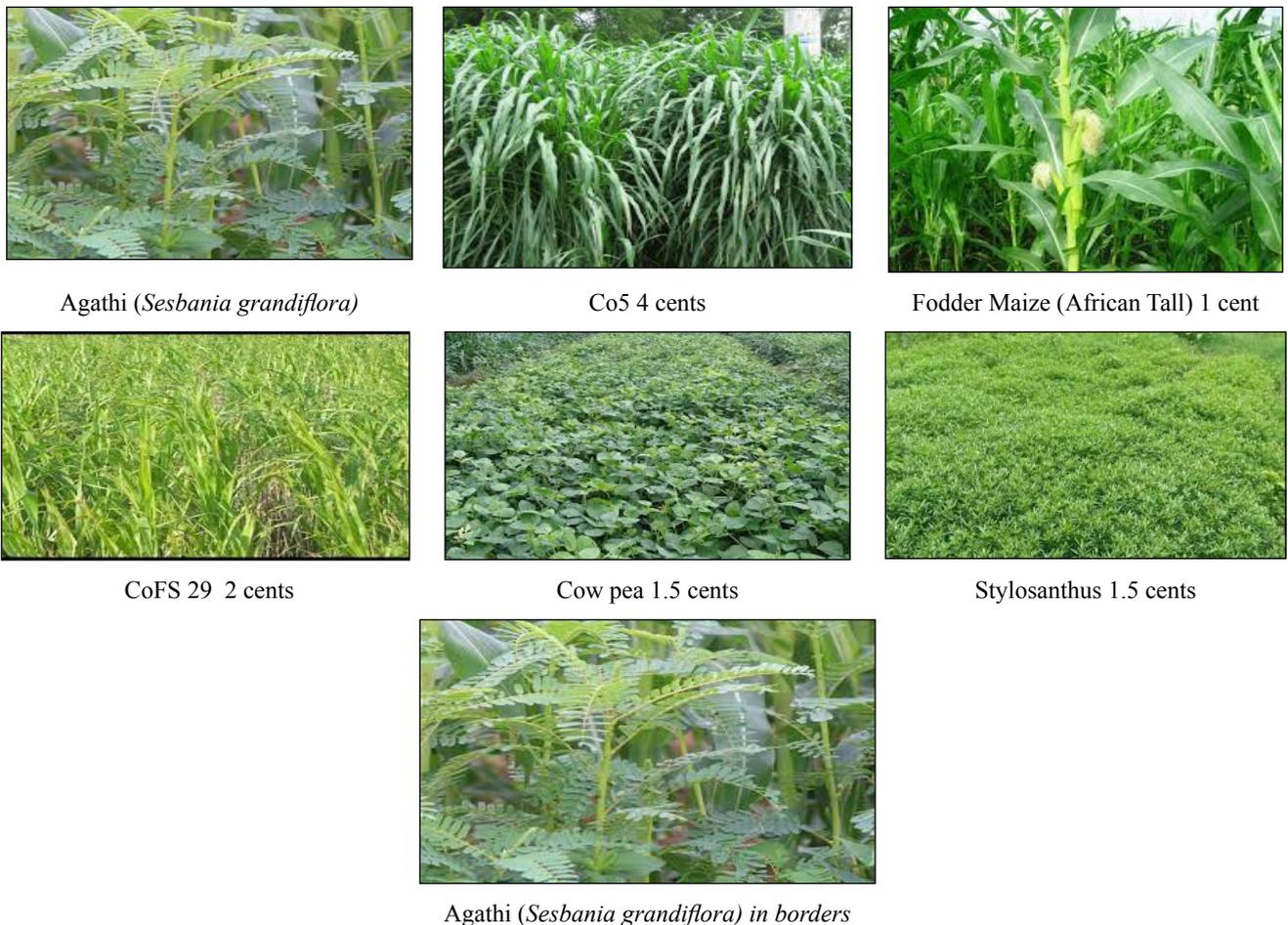
Four dairy farmer's field were selected randomly among the Baganur village, Tiruchirappalli

district to conduct this study. Initially they were given training on importance of fodder in dairy production and demonstrated with a ten cent fodder plot at Veterinary University Training and Research Centre, Tiruchirappalli. Farmer's field was prepared with necessary plough and they are provided with the seed/slip. Each field (ten cent) was divided into 5 parts as mentioned in the Fig. 1 and cultivated the following.

Farmers are advised to feed their milch animals with the fodder. Yield of different fodder varieties from different fields were collected. Cost of production and net return to the farmers was worked out before and after introduction of 10 cent fodder plot

RESULTS AND DISCUSSION

The average yield of different fodder varieties in different field were given in the Table 1. Within the study period there were two consecutive harvest in all the fields and the yield of Cumbu Napier (Co5)



Co 5 – 4 cents; Fodder maize – 1 cent; Fodder sorghum - 2 cents; Cow pea – 1.5 cents; Stylosanthes - 1.5 cents

Fig. 1: Ten cent fodder plot model (as approved by Govt of Tamil Nadu)

Table 1

Ten cent Fodder plot	Yield per cut (Kg)					
	Co 5	Fodder sorghum	Cow pea	Stylosanthes	Agathi	Fodder maize
Field 1	1040	251	160	68	85	145
Field 2	1050	250.25	155	65	75	135
Field 3	950	228	165	63	82	155
Field 4	1125	150	155	65	81	160
VUTRC, Tiruchirappalli	1100	258	164	70	92	162
Mean yield (Kg)	1053	227.45	159.8	66.2	83	151.4

ranged from 950 kg to 1100 kg per cut, fodder sorghum (CoFs29) ranged from 150 to 258 kg per cut, cow pea 155 to 165 kg per cut, Stylosanthes 63 to 70 kg per cut, Agathi 75 to 92 kg per cut and fodder maize 135 to 162 kg per cut. The biomass yield varied in different farmers field and this might be due to germination problem, sowing technique, different in cutting time. The duration of first cutting varied from 55-70 days and this might be also the reason for different biomass. The values of the yield were adjacent with the findings of Manobhavan *et al.* 2021 and Ramya *et al.* 2017. The higher amount of yield in their study might be due nature of the soil, organised farm (university farm), well management and experience. Whereas in this study, farmers are new to this fodder cultivation technique and soil quality may differ in the fields.

Cost of milk production

Generally cost of milk production will vary with the area, feed cost, season, availability of fodder in grazing, labour cost, health condition etc. Dhas and Nadarajan, 2017 reported varying cost of production with six different factors such as labour, feed cost and green fodder cost etc. Since this study is conducted within a village, Baganur, Tiruchirappalli district, all the other factors are considered as same except fodder feeding. Cost of milk production was worked for a period of five months, in all the four fields to assess the influence of fodder.

The cost of milk production ranged from ₹ 24.85 to ₹ 25.86 to per litre and reduction of cost was observed from ₹ 4.00 to ₹ 6.00 (Table 2). Kumawat *et al.* 2014 reported in Bikaneri district, Rajasthan that the cost of production per litre milk as ₹ 14.27, which is comparatively low with our study due to the escalation of market price of feed cost, labour cost etc in the recent days.

Table 2: Cost of milk production per litre of milk

Field	Average cost of production per litre of milk (in Rupees)	
	Before fodder intervention	After intervention
1	25.86	19.25
2	24.85	18.56
3	25.22	21.23
4	25.45	18.56

Before fodder intervention, cost of milk production was mainly influenced by feed cost and farmers feeding their cows with 4 to 6 kg of concentrate feed to a cow producing 10 to 12 litres of milk. After intervention of fodder, farmers reduced their feed by 2 to 4 kg of feed. Hence the feed costs get reduced in to half and there was a reduction of ₹ 4 to 6 per litre in the farmers field.

CONCLUSION

This study proved that, Ten cent fodder plot is a technique to achieve good fodder yield in minimal land availability and improves the farmer's return by reducing the feed cost. Further, this research may be expanded to practice this technique in rainfed land with different fodder crops to achieve good yield for preparation of silage.

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