

Original Research Article

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Impact of Mixed Fodder Cultivation in Dairy Cattle Milk Yield

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ABSTRACT

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Green fodder is an economic source of nutrients for the dairy animals. It is highly palatable and digestible. Micro-organisms present in green fodder help in improving digestibility of crop residues under mixed feeding system. In erode district, mixed fodder cultivation demonstrated in 05 farmers field with the technical support and provides the seeds of CO5, Hedge Lucerne, COFS31 and Agathi and developed them as seed farmer to continue supply of seeds to farming community. In this demonstration the average yield of mixed fodder unit was 236.6qtl/acre when compared with conventional method (178.4qtl/acre). The benefit cost ratio was 2.14 and conventional method it is 1.88. Results of this technology revealed that milk yield increased up to 1.5litre/day/animal that indicates animals getting balanced green fodder availability throughout the year.

Introduction

Livestock management is the major allied sector in the agriculture provides daily income to the farming community. Milk production is heavily depends on the availability of green fodder and dry fodder. Due to the aberrant weather situation and the poor knowledge on providing balanced fodder to the animals leads to reduction in milk and conception percentage. In order to overcome this problem TANUVAS, Chennai and TNAU introduced mixed fodder cultivation technology to farming community. It consist of growing grasses and cereal type fodder,

pulses and tree fodders which provides balanced nutrients to the animals like carbohydrate, protein and fibres in definite ratio. Green fodder is an economic source of nutrients for the dairy animals. It is highly palatable and digestible. Micro-organisms present in green fodder help in improving digestibility of crop residues under mixed feeding system. It also helps in maintaining good health and improving breeding efficiency of animals. Increased use of green fodder in the ration of animals may reduce cost of milk production. To reduce the gap between demand and availability of green fodder, there is a need to improve green

fodder yield through enhanced use of improved fodder seeds. For ensuring year round green fodder production, farmers need to adopt mixed fodder cultivation practices. Keeping this view, ICAR KVK, MYRADA conducted Frontline demonstration of mixed fodder cultivation techniques among the livestock growers for increasing the productivity rate. Frontline demonstration is the concept evolved by Indian Council of Agricultural Research (ICAR) with the objective of demonstrating newly released varieties and technologies in the farmer's field in order to show the production potential of this particular variety or technology to the specific agro climatic conditions. The present study was undertaken to assess the impact of milk yield in mixed fodder feeding dairy cows in Erode district.

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 Irrigated area in Gobi and T.N. Palayam blocks of Erode district of Tamil Nadu during 2014-2015. Each demonstration was

conducted in an area of 0.5 ha and adjacent to the farmers fields in which the fodder was cultivated with farmer's monocropping cultivation practices. The selected dairy farmers were trained on all scientific mixed fodder cultivation practices (Table-1) and supported with of CO5 slips, COFS31 and Hedge Lucerne seeds per Ha was 40:30:30 ratio and tree fodder cultivated in ridges. The demonstrated fields were regularly monitored and periodically observed. At the time of harvest yield data were collected from both the demonstrations and farmers practice. Cost of cultivation, net income and benefit cost ratio were worked out. To study the impact of frontline demonstrations, data from FLD and farmers practices were analyzed. The Fodder yield (q/Acre), Milk yield (Litre) per Unit (4 dairy cows). Gross cost (Rs), Gross Return (Rs.), Net Return (Rs.).

Results and Discussion

The observations on fodder varieties yield/acre and milk yield and are presented in the Table 2 and Table 3. In this demonstrated mixed fodder unit the average yield was 236.6qtl/acre when compared with conventional method (178.4qtl/acre). The benefit cost ratio was 2.14 and conventional method it is 1.88.

Table.1 Fodder cultivation practices demonstrated in Frontline Demonstrations

S.No	Type of Fodder	Fodder varieties	Seed requirement(Kg/Acre)	Spacing (Cm)	Basal Dose			Harvesting period (First/Second)
					N	P	K	
1.	Grain	Fodder Sorghum COFS-31	2-4	45X30	18	16	8	70/60
2.	Grass	CO-5	16000 Slips	50X50	20	20	16	85/45
3.	Legume	Hedge Lucerne-Veli masal	8	30X continue	10	16	8	80/45
4.	Tree	Agathi	3	100X30	5	4	10	120/60

Table.2 Yield comparisons of mixed fodder cultivation and Traditional method

Sl.No.	Farmer Name	Yield (q/acre)		% Increase	*Economics of demonstration (Rs./ha)				*Economics of check			
		Demo	Check		Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
1	A.Tamilarasu	198.5	175.5	13.11	136320	293760	157440	2.15	129310	236160	106850	1.83
2	K.C.Sivakumar	245.5	182	34.89	143590	296640	153050	2.07	131400	241920	110520	1.84
3	S.Vijayakumar	255.4	176	45.11	133840	288000	154160	2.15	123350	239040	115690	1.94
4	P.Danalakshmi	243.5	179	36.03	154950	305280	150330	1.97	143520	264960	121440	1.85
5	P.Velusamy	240	179.5	33.70	142260	334080	191820	2.35	130500	253440	122940	1.94
Average		236.58	178.4	32.57	142192	303552	161360	2.14	131616	247104	115488	1.88

Table.3 Impact of milk yield in mixed fodder feeding of dairy animals

S.no	Name of the Farmers	Milk Yield/unit (4 cows) in litres		% Increase
		Demo	Check	
1	A.Tamilarasu	12240	9840	24.39
2	K.C.Sivakumar	12360	10080	22.62
3	S.Vijayakumar	12000	9960	20.48
4	P.Danalakshmi	12726	11040	15.27
5	P.Velusamy	13920	10560	31.82
		12649.2	10296	22.92

Photos/ illustrations



Mixed Fodder Field

Results of this technology revealed that milk yield increased up to 1.5litre/day/animal that indicates animals getting balanced green fodder availability throughout the year. These findings were similar to the report of Khan *et al.*, (2009) who found that farmer's income was two folds higher when green fodder was fed to the animals during monsoon and winter season.

The present findings of better economic returns after feeding mixed green fodder ration are comparable with Hossain *et al.*, (2017) who reported that income of farmers increased significantly by Rs 31.03 after incorporating green fodder in the ration of Buffaloes.

To create the awareness about the new varieties of mixed fodder varieties a fodder bank has been established which include CO-4 & CO-5 Slips, COFS-29 & COFS-31 Seeds, Velimasal seeds and other tree fodder seeds at KVK farm.

Extension aspects and brief outcome

Mixed fodder cultivation being promoted among the livestock growers to increase the productivity through state Government schemes. KVK promotes mixed fodder as one of the component of integrated farming system promoted in the district. Totally 16 seed have been developed by KVK to supply planting materials in the district.

References

- Hossain SA, Sherasia PL, Phondba BT, Pathan FK and Garg MR. 2017. Effect of feeding green fodder based diet in lactating buffaloes: Milk production, economics and methane emission. *Indian Journal of Dairy Science*, 70(6): 767-773.
- Khan MJ, Peters KJ and Uddin MM. 2009. Feeding strategy for improving dairy cattle productivity in small holder farm in Bangladesh. *Bangladesh Journal of Animal Science*, 38(1-2): 67-85.

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