



Adoption of innovative dairy farming technology in the farmer's field

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ABSTRACT

The study was conducted in ten villages of Tirunelveli district of Tamil Nadu by selecting 50 milk producing households out of which 50% were feeding TANUVAS Mineral Mixture supplement to their cows for the last one year and the other 50% did not feed TANUVAS Mineral Mixture supplement. It has been observed that the average milk yield was approximately 16 per cent higher in cows fed with mineral mixture and average milk yield difference between adopter and non-adopter farmers was 1.69 litres. The incidence of repeat breeding and retention of placenta were lower among the cows of those farmers who adopted mineral mixture technology.

Key words: Adoption, Dairy Technology, TANUVAS – Mineral Mixture.

INTRODUCTION

Implementation of dairy farming technologies increased milk production of India from 17 million tonnes in 1950 – 51 to 127.3 million tonnes in 2011 -12. The per capita availability of milk reached 281 grams in 2011 (Anonymous, 2012) and as per WHO recommendation, it is close to the minimum nutritional requirement of 282 grams. A continuous increase in milk production is required to cope up the increase in human population and it can be achieved by adopting new technologies of dairy farming. TANUVAS - Mineral Mixture supplementation has been recommended for better productive and reproductive efficiency in dairy animals and ultimately it augments the income of dairy farmers. The major portion (approximately 70%) of milk production in India is produced by the resource poor farmers owning 2-3 milch animals each.

The poor resource condition under small and landless dairy production system and poor nutrition management often result in deficiency of nutrition in high yielding dairy cows and buffaloes thereby affecting their milk production potential. Hence, a research project on "Popularisation of TANUVAS - Mineral Mixture among the dairy Farmers of Tirunelveli District" was formulated and implemented in the department of Veterinary and Animal Husbandry Extension Education, Veterinary College and Research Institute, Tirunelveli from 29.04.2014 to 30.04.2015 with financial support of National Bank for Agriculture and Rural Development (NABARD), Chennai (Senthil Kumar *et al.* 2016). The present investigation was undertaken to study the adoption of innovative dairy farming technology i.e impact of feeding TANUVAS - Mineral Mixture on the productive efficiency and reproductive problems of dairy animals.

MATERIALS AND METHODS

The beneficiaries for the project were selected purposively from NABARD Farmers Club members of Tirunelveli District, Tamil Nadu, India. Ten villages were identified in Tirunelveli district in which NABARD Farmers clubs are functioning successfully. Out of 500 beneficiaries, 50 comprising of 5 from each village were selected by simple random sampling techniques for adopting mineral mixture supplementation. An equal number of dairy farmers (50) not adopting mineral mixture supplementation but of similar socio-economic background were selected from the same village as control group. These households were refereed as adopter and non-adopter, respectively.

The primary data on different variables required for the study on the detailed interview schedule for the purpose were collected from the adopters and non adopter's households for the project period of 2014-15. The common feeding schedule of selected dairy animals of adopters and non adopters included limited greens plus straw and single or two ingredients of concentrate. The selected dairy animals of adopters were given additional TANUVAS - Mineral Mixture @ 30 - 40 gram per animal.

RESULTS AND DISCUSSION

Milk yield: The average milk yield of lactating animals was calculated for adopter and non-adopter of mineral mixture supplementation and presented in Table 1. It could be deduced that the average milk yield of selected dairy cattle was approximately 16 per cent higher in animals fed with mineral mixtures. The average milk yield difference between adopter and non-adopter farmers was 1.69 litres. Earlier, Rupasi *et al.*, (2013) reported 56.45% increase in milk yield with average increase of 0.5 to 1.0 litre in dairy animals of

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Table 1: Average milk yield of lactating animals among adopter and non –adopters of TANUVAS Mineral Mixture

Particulars	Selected dairy cattle (Litre / day)
Adopter	13.08
Non-adopter	11.65
Difference in yield	1.69

248 farmers, who were feeding them with additional Area Specific Mineral Mixture (ASMM). Similar increase in milk yield of dairy cattle from Karnal District of Haryana fed on additional mineral mixture was also recorded (Chauhan *et al.*, 2013). In another study, Akila and Senthilvel (2013) from Karur District of Tamil Nadu reported average increase in milk yield (1.46 ± 0.14 litres per day) and fat percent (0.09 percent) in dairy cows. Thus, it is evident from present and past studies that improvement in nutritional requirement does impact the quantity and quality of milk yield of dairy animals.

Impact of technology on reproductive problem: The reproductive problems including repeat breeding and retention of placenta were also observed lower among dairy animals of those farmers who adopted TANUVAS - Mineral Mixture technology (Table 2). Similar reports were also made from Karnal District of Haryana in dairy animals of farmers adopting mineral mixture technology (Chauhan *et al.*, 2013). Hence, in addition to impact of adoption of this technology

Table 2: Impact of technology on reproductive problems

Type of reproductive problem	Adopter (%)	Non-adopter (%)
Repeat breeding	10	55
Retained placenta	6	40

on quantity and quality of milk, it is also beneficial in improving the reproductive efficiency of dairy animals.

CONCLUSION

The study concluded that the adoption of mineral mixture supplementation could increase 16% milk yield in selected dairy cattle. The average milk yield difference between adopter and non-adopter farmers was 1.69 litres per day. The reproductive problems like repeat breeding and retention of placenta were also lower in dairy animals of those farmers who adopted TANUVAS - mineral mixture technology. Thus, there is ample scope to extend this practice for uplifting the economy of the resource poor farmers.

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