Impact assessment of TANUVAS – mineral mixture on the productive performance of dairy cattle

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ABSTRACT

Ten villages of Tirunelveli district were selected purposively for the study wherein NABARD Farmers club functioning successfully. From each village 50 NABARD Farmers club members were selected by simple random sampling techniques. Thirty percent of the respondents were involved among 500 beneficiaries of the project to study the impact of TANUVAS - mineral mixture on the productive performance. Accordingly, 15 respondents from each village were included for this study and constituted a sample size of 150. Milk sample were collected before supplementation of TANUVAS - mineral mixture and after two weeks period of supplementation of TANUVAS - mineral mixture in dairy cattle. Fat and SNF percentage of samples were analysed in the laboratory and milk yield also estimated. The study concluded that, supplementation with TANUVAS - mineral mixture increased milk yield by one litre, fat percentage increased by 1.77 per cent and SNF increased by 0.77 per cent.

Key words: Dairy cattle, Impact assessment, Production performance, TANUVAS - mineral mixture.

A bench mark survey was conducted to analyse the income level and constrinats of the dairy farmers in Tirunelveli district of Tamilnadu, India. It was found that, dairy cattle were unable to reach maturity in time, low in conception rate and milk yield. Based on the study, a research project on “Popularisation of TANUVAS - mineral mixture among the dairy Farmers of Tirunelveli District” was implemented in the Department of Veterinary and Animal Husbandry Extension Education, Veterinary College and Research Institute, Tirunelveli during 2014-15 with financial support of National Bank for Agriculture and Rural Development (NABARD), Chennai. The aim of the study was to analyse the impact of TANUVAS - mineral mixture on the productive performance of dairy cattle.

The beneficiaries for the project was selected purposively from NABARD Farmers Club members of Tirunelveli District, Tamilnadu, India. Ten villages i.e. Melaseval, Sokattanthoppu, Thatchanallur, Kalakudi, Ayansingampatti, Surandai, Sanganaperi, Vellalankulam, Duraisamiyapuram and Keelapuliyur were identified in Tirunelveli district. From each village, 50 NABARD Farmers club members were selected by simple random sampling techniques which constituted a size of 500 beneficiaries for the project. Awareness programme on popularisation of TANUVAS - Mineral Mixture were conducted among the selected beneficiaries of the project. After the conduct of each awareness programme on “TANUVAS - mineral mixture” in identified villages, two kilogram of TANUVAS - mineral mixture were distributed to each respondent in phased manner for three times at two month intervals and each respondent received 6 kgs of TANUVAS - mineral mixture.

Thirty percent of the respondents were randomly selected among 500 beneficiaries of the project to study the impact of TANUVAS - mineral mixture on productive performance. Accordingly, 15 respondents from each village were included for this study which constituted a sample size of 150 farmers. Milk sample were collected before supplementation of TANUVAS - mineral mixture and after two weeks period of supplementation TANUVAS - mineral mixture in dairy cattle. Collected samples were analysed in the department of Livestock Products Technology, Veterinary College and Research Institute, Tirunelveli to know the changes in fat and SNF content in milk and also yield of milk per animal. Collected data were analysed statistically.

The impact assessment indicators vary with technology, the level of adoption, that is, farm, regional and national level. At the farm level, benefit of technology accrues to the direct beneficiaries or adopter of the technologies (Joshi, 2013). The present study assessed the impact at the farm level among the beneficiaries who adopted supplementary feeding of TANUVAS - mineral mixture. Similar, methods for impact analysis were also used by Chauhan and Kundu, 2005, Uddin et al., 2013 and Rishikantra, 2012.

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It could be observed from the Table 1. that milk yield of cattle on an average increased remarkably to 0.98 ± 0.02 per day when fed with mineral mixture. The fat percentage increased to 1.77 per cent and SNF 0.77 per cent. This finding was in line with Akila (2000) who reported that milk yield of cattle on an average increased remarkably to 1.46 ± 0.14 per day in cow and fat content increase to 0.09 percent in cattle.

Though a thum rule indicate that, when milk yield increase, fat content decline, in this case, by supplemeting TANUV AS mixture incidence of delayed maturity, infertity and mastitis problems were reduced and thereby increase the milk yield in the selected sample and increase the fat content.

Economic importance of feeding TANUVAS– Mineral mixture per lactation (10 months)

Assumption
• Recommended dose of TANUVAS - mineral mixture per day per animal is 40 gm
• Requirement of TANUVAS - mineral mixture per animal per year is 15 kg
• Cost of TANUVAS - mineral mixture is Rs. 55/- per kg
  Approximately one litre of milk is to be increased per day per animal
• Approximate cost of milk per litre is Rs. 24/-

Expenditure on supplementation of mineral mixture to a dairy cattle per year ( 15 kg x Rs. 55/-) = Rs. 825.00
Additional milk yield of one litre per day i.e 1 litre per day for 6 months ( 180 ltrs ) & 0.75 litre per day for 4 months (90 ltrs ) 270 litres x Rs 24/- = Rs.6480.00
Additional income by increasing one litre of milk yiled per day per animal =
Attainment of more profit i.e Rs. 5655 per animal per lactation by inclusion of TANUVAS - mineral mixture was observed.

CONCLUSION
Supplementation of TANUVAS - mineral mixture in dairy cattle, resulted in increase in milk yield by one litre, fat percentage increased by 1.77 per cent and SNF increased by 0.77 per cent. Attainment of more profit i.e Rs. 5655 per animal per lactation was also recorded. Hence, by supplementing TANUVAS - mineral mixture in dairy cattle ration, economic status will be increased by increased milk yield, fat and SNF percentage in the milk.

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