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Assess the performance of mineralized salt licks to enhance the productivity of small ruminants

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Abstract
The present study was carried out to study the Performance of Mineralised salt licks in productivity of small ruminants. The OFT trial was conducted at Koochikallur village near Anthiyur block of Erode district in 2020. Five farmers were selected and assessed for mineralized salt licks to kids for their productivity. Thirty kids with similar ages (45 days) and body weight were selected from each farmer and divided into three treatment groups *viz*. Farmers practice without mineral supplementation (FP), Small ruminants' mineral mixture (TO1-15 g /d/animal), and AFTD TANUVAS mineralized salt lick (TO2-10 g/d/animal). The farmers expressed that supplementation of mineral mixtures in goats gets increased body weight at six months of age (marketed age).

Keywords: AFTD mineral mixture, market age, small ruminants

Introduction
Small ruminants play an important role in the Indian economy and it provides livelihood to two-thirds of the rural community (Brindha, 2017; Kumar *et al*., 2021) [1, 2]. Sheep and goats are important species of livestock in India. They contribute greatly to the agrarian economy, especially in areas where crop and dairy farming are not economical, and play an important role in the livelihood of a large proportion of small and marginal farmers and landless laborers (Kumar and Roy, 2013) [3]. In 20th livestock, Tamil Nadu stands 7th position for goat population. The majority of the animals are reared under grazing systems and not supplemented with concentrate feed. So, mineral deficiency is common in these animals affecting their growth rate and attaining marginal weight at the time of marketing age. Commercial mineral mixtures comprising the essential minerals are available only for large ruminants like cattle and buffalo. Although, small ruminants have specific mineral requirements which are quite different from the large ruminants are commercially not available. The concept of area-specific mineral supplements is a new approach of low input and high output for the end users. Therefore, there is ample scope for exploiting the concept of area-specific mineral supplementation for balancing the deficiency essential for the exploitation of the optimum production potential of small ruminants (Godara *et al*., 2016) [5]. Different methods of mineral mixture preparations are currently available. Mixing of all essential minerals together and supplemented at powder form or Agitated Thin Film Drier (ATFD), a new method that removes moisture from minerals and is prepared in the form of a salt lick.
Keeping in this view, this new technology of small ruminants' mineral mixture and AFTD mineralized salt lick has to be assessed on the growth performance in goats.

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 in the north and eastern parts of the district. Erode town sweats under very hot spells during summer.
The OFT trial was conducted at Koochikallur village near Anthiyur block of Erode district in 2020. Five farmers were selected and assessed for mineralized salt licks to kids for their productivity. Thirty kids with similar ages (45 days) and body weight were selected from each farmer and divided into three treatment groups *viz*. Farmers practice without mineral

supplementation (FP), Small ruminants' mineral mixture (TO1-15 g /d/animal), and AFTD TANUVAS mineralized salt lick (TO2-10 g/d/animal). In treatment groups, the kids have supplemented with a mineral mixture, and the experiment lasts for six months. During the experiment, production and economic parameters were measured. The KVK Scientists made regular visits to farmer's fields and observed production parameters.

The following production parameters were studied

1. 3rd Month Body weight (Kg)
2. 6th Month Body weight (Kg)
3. Net Returns to the farmers
4. Benefit Cost Ratio

Simple percentage analysis was used to analyze the data

Results and Discussion

Table 1: Production Performance of Kids feeding with AFTD Mineralized Salt Lick

Technology Option	No. of trials	Total animals (No.)	Average 3rd Month Body weight (kg)	Average 6th Month Body weight (kg)	Net Returns (Rs)	B:C ratio
Farmers Practice	5	50	5.9	12.34	86,380.00	1.67
Small ruminants' mineral mixture (@ 10 g/d/kid)		50	6.3	13.70	1,02,530.00	1.75
AFTD TANUVAS mineralized salt lick (10 g/d/animal or 1No/2 kids)		50	6.8	14.50	1,13,980.00	1.82

Description of the Results

The identified farmers were supported with mineral mixtures, kids were supplemented for 135 days, and measured body weight at market age (6 months). The result revealed that mineral supplemented groups increased average body weight as compared to farmer practice (13.70 and 14.50 vs 12.34 kg). Compare to small ruminants' mineral mixture, AFTD mineralized salt lick had better performance. Similarly, the benefit-cost ratio was also high in mineral mixture supplemented groups than in farmer practice (1.75 and 1.82 vs 1.65). Based on the on-farm trial, it concluded that mineral supplementation increased body weight at market age. Hence, farmers may use AFTD TANUVAS mineralized salt lick for better benefit in rearing small ruminants.

Conclusion

The farmers expressed that supplementation of mineral mixtures in goats gets increased body weight at the marketed age. AFTD mineralized salt lick was released by TANUVAS in 2020 and has an increased body weight of the goats and farmers realized additional income by adopting this technology. The availability of AFTD mineralized salt lick can be made available to the farmers through KVK and Veterinary Hospitals for further adoption by goat farmers.

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