

## IMPORTANCE OF TRANSFER OF ANIMAL NUTRITION KNOWLEDGE IN THE UPLIFTMENT OF END USERS

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**Abstract:** Livestock and poultry farmers should be educated on nutritional technologies to improve production efficiency. The actual needs or gaps in knowledge in animal nutrition and training needs of farmers in Southern Tamilnadu were identified by following well designed and structured interview schedules. Institutional extension of animal nutrition techniques was carried out by the staff of Department of Animal Nutrition of VCRI, Tirunelveli through training programmes, demonstration camps, farm consultancy services, popularization of proven technology, technical lectures, exhibitions, mass media publications and supply of fodder seeds. Positive impact on milk yield and milk quality was reported by many farmers due to improved fodder cultivation and feeding mineral mixture to dairy cows in Tirunelveli and Thoothukudi districts.

**Keywords:** Animal Nutrition, training needs, extension programmes, milk production.

### INTRODUCTION

Animal husbandry contributes 30 percent of agricultural gross domestic products in India and hence remains an important livelihood activity to its ever growing population. Mixed and diversified farming provides significant profit to the farmers than either only with agricultural or livestock farming. One of the biggest challenges in animal production is to produce animal products for human consumption through sustainable technologies. In the Southern districts of Tamilnadu, dairy farming, sheep and goat rearing and back yard poultry form the major livestock livelihood activities. Commercial poultry production, mainly broiler farms is also undertaken under integration with poultry companies, however on a small scale in certain rural and semi urban areas. Animal nutrition is an integral part of livestock and poultry production. Feeding costs of livestock and poultry are about 60 - 70 percent of the total cost. Nutritional improvements are continuously used for further improvements in production efficiency. Solutions for problems in animal production can be partly achieved by the developments in the discipline of animal nutrition (Reddy, 2011). Hence, animal nutrition is an important thrust area to be concentrated upon and latest technologies should to be

*Received May 5, 2016 \* Published June 2, 2016 \* [www.ijset.net](http://www.ijset.net)*

educated to farmers by subject matter specialists to enable themselves to obtain maximum profit.

## **MATERIALS AND METHODS**

Veterinary College and Research Institute, Tirunelveli, continuously endeavors to improve the production potential of livestock sector in Southern districts of Tamilnadu by identifying, refining and developing new or modified technologies, methods and practices useful for livestock and poultry farmers through its research schemes and various departments. Whatever the technologies developed, they are to be communicated and transferred to the farmers for ultimate adoption at field level. This can be achieved by imparting scientific knowledge to the farmers through extension activity like conducting training programmes on specific topics. But the actual needs or gaps in knowledge have to be identified at the beginning stage itself before venturing into extension activities. Training needs were assessed by conducting surveys in the villages of southern districts on livestock and poultry farming activities by following well designed and structured interview schedules

## **RESULTS AND DISCUSSION**

Transfer of Animal Nutrition knowledge to the farmers was effectively done by adopting a methodical approach using various tools to obtain tangible results.

### **a) Assessment of needs of the farmers**

In one such survey on assessment of needs conducted by Senthilkumar and Thanaseelaan (2013), it was revealed that “nutritional aspect” was the most needed area for training and the respondents mainly small ruminant farmers perceived training needs in nutritional aspects like feeding mineral mixture, feeding colostrum to lambs and kids, cultivation and feeding of azolla etc.

### **b) Institutional extension of animal nutrition techniques**

Department of Animal Nutrition, established since the inception of the new Veterinary College and Research Institute in Tirunelveli in 2012, with the main objective of providing quality education to the undergraduate veterinary students, also has the mandate on transfer of technology through organizing extension programmes on livestock and poultry nutrition for the benefit of farming community. Many programmes for the transfer of knowledge in animal nutrition have been successfully organized/conducted and participated by resource personnel of this department in association with extension workers to the farmers of Southern districts of Tamilnadu (Table 1). The extension programmes thus conducted can be grouped as:

- i) Training programmes - Feeding management of various livestock and poultry, fodder cultivation techniques, fodder seed production, least cost ration formulations etc.,
- ii) Demonstration camps - Silage making, Urea enrichment of paddy straw, Feed mixing
- iii) Farm Consultancy services – technical advice to the farmers through telephone, email, in person and also on-farm nutrient based farming solutions
- iv) Popularization of proven technology - feeding mineral mixture, feed supplements etc.
- v) Technical lectures on animal nutrition in farmers' forums,
- vi) Exhibitions – Display of publications, fodder production models, fodder seeds, fodder varieties, feed ingredients etc.
- vii) Mass media publications – Popular articles in newspaper/magazines, Radio/TV talks
- viii) Feed analysis, quality control of livestock/poultry feeds and ration formulation.
- ix) Supply of fodder seeds – Fodder Sorghum, Fodder Maize, Hedge Lucerne.

**Table 1.** Extension activities of Department of Animal Nutrition, VCRI, Tirunelveli

S.No.	Category	No. of Programmes organized/conducted/participated	No. of Beneficiaries
1.	Training Programmes		
	i) Feeding management of Dairy, Sheep and Goat, Piggery, Poultry – Broilers, Country chicken	23	1166
	ii) Fodder Cultivation techniques	15	227
	iii) Fodder seed production	03	86
2.	Method Demonstrations – Azolla cultivation, Silage making, Urea enrichment of paddy straw, Ration formulation and feed mixing	25	482
3.	Popularisation of Proven Technology camps – TANUVAS Mineral Mixture	05	250
4.	Consultancy Services		
	i) Technical advice in person, through telephone, email	--	867
	ii) On farm nutrition solutions	77	129
5.	Guest lectures	32	1280
6.	Mass media		
	i) Radio/TV talks	12	--
	ii) Popular articles in newspaper/magazines	45	--
	iii) Pamphlets	10	5460
7.	Exhibitions	22	6221
8.	Feed analysis and Ration formulation	315	568
9.	Supply of fodder seeds	--	265

**c) Impact analysis:**

The impact of the training programmes, demonstrations, popularization of technology was assessed by studying the rate of adoption of practices by the beneficiary farmers. The feedback of the trainees obtained by well structured questionnaire also assisted in assessing the impact of the transferred animal nutrition technologies on the production parameters under field conditions. Majority of the farmers have a tendency to adopt a practice if it is found beneficial with a relative advantage over the existing practices (Narmatha *et al.*, 2010). Continuous rise in feed costs leading to increased cost of milk, meat and egg production was perceived as the major constraint for adoption of better feeding practices learnt through training and other extension programmes. Lack of availability of human labour for urea treatment just after the harvest of paddy crop, fungal growth on the top layer and sticky dung in animals fed urea treated paddy straw were cited as the reasons for poor adoption of “urea treatment of paddy straw” technique among farmers (Jaiswal *et al.*, 2011). However, a high rate of adoption was observed in techniques that were demonstrated to farmers viz. azolla cultivation, silage making, feeding mineral mixture, feeding concentrates to lambs, kids. Similar high level of adoption (56.81%) of cattle feed formulation and feed mixing technique was observed among dairy farmers by Rajesh kumar *et al.*, (2013) and the cross bred cows also showed a marked increase in milk yield due to the adoption of the new technology. In southern districts, a positive impact on milk yield and milk quality was reported by many farmers on adoption of mineral mixture feeding technique to dairy cows. Similarly more farmers were inspired on fodder cultivation and more land was brought under fodder crops in Tirunelveli and Thoothukudi districts than ever before. Ensuring the availability of a variety of fodder seeds at affordable costs in nearby locality further added a new dimension to the improved fodder cultivation scenario.

**CONCLUSION**

The sustained efforts of transfer of technology and knowledge in animal nutrition to the rural farmers of southern districts resulted in better adoption thereby showed a perceptible improvement in fodder production and milk yield. Hence, it could be concluded that extension education of farmers on animal nutrition techniques is highly essential to fulfill the dream of "Lab to Land" in order to achieve maximum production. As demonstration of animal nutrition techniques achieved better results, method demonstration, frontline demonstration and on farm trials should always be considered as suitable means of transfer of animal nutrition knowledge and technology to the rural masses.

## **ACKNOWLEDGEMENT**

The authors are thankful to Dean, Veterinary College and Research Institute, Tirunelveli, for providing the necessary facilities and encouragement to carry out the animal nutrition related extension programmes.

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