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A CASE STUDY

Constraints and remedies for implementation of feeding – Rumen bypass fat in dairy animals of South Gujarat

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Abstract : Now-a-day Rumen bypass fat has happen to a new feeding practice in dairy animals. These fats are finished rumen digestion sheltered through partially hydrogenetation technology and other integrated technology, which can help in improvement of total energy balance and fat per cent in milk. But due to low consciousness about scientific dairy feeding practices and also considering fairly cost factor, it has become less popular in Tapi District of South Gujarat. Tapi district is tribal dominated district of South Gujarat. There is an ample scope for dairy development through sound breeding, feeding and disease management. These can be corrected by proper awareness oriented programme and subsidizing bypass fat in the area.

Key words : Rumen bypass fat, Tapi district, Awareness, Scenario, Constraints, Remedies, Sumul

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Mineral fodder is relatively a rapid, reliable and cost effective method of providing baseline data on the levels of macro and micro-elements.Animal owners of Tapi district are maintaining their buffaloes mainly on paddy straw and other locally available grasses which generally have low nutritional elements. Fat % in milk of surati buffalo mainly depends upon diet having higher fat. For maintaining proper level of fat in milk and to cope up the challenges of Negative Energy Balance just after parturition, buffalo requires fat enriched diet. Conventional fat containing diets like linseed oil, (Oilseeds, kapasiya, animal fats, and animal fat-oil blends) have low scrumptiousness. These diets get digested mostly in rumen and hence disturbs ruminal flora.

Rumen byepass fat is a feeding practice in buffalo rearing which can cope up negative energy balance and increase fat yield without disturbing ruminal flora. It has many benefits over conventional fat enriched diet like linseed oil, kapasiya etc as conventional fat sources are less palatable, costly and ruminal micro flora disturbing agent. As Bypass fat is more palatable, no ruminal flora disturbing and more cost efficient, its feeding can be helpful over conventional fat enriched diet for increasing quality of milk yield.

Scenario of animal husbandry and feeding practices :

As per 27th survey on estimates of major livestock products for the year 2009-10 and District wise main findings of integrated sample survey to estimate major livestock products 1983-84 to 2009-10 made by Gujarat Animal Husbandry Department, total number of livestock in Tapi district is 489057, in which cows are 214554. Amongst these cows, there are only 45123 cross bred cows. Buffaloes are 176458 and total sheep-goats are 94465 (Livestock census, 2007 (Provisional). Average milk yield per crossbred cow/ day is 7.357 liter which is far better than 2.172 liter/ day of nondescript cattle. Tapi district has contributed 172510 tones of milk for the year 2009-10 which is only 1.95% of the total milk produced by the state for the same year (27th survey on estimates of major livestock products for the year 2009-10) (Anonymous, 2010). This lacuna in milk contributing capacity of the district is mainly due to lower nutrition supply to high producing H.F cows.

In tribal area milk production is important industry as complementary employment. Everyday more than 4.50 lakh liter milk is collected by good marketing network of milk co-operative societies run by SUMUL dairy in Surat district. Two

additional cooling-chilling plants are functioning for this purpose. Retail milk producers and domestic dairy industries are also well developed. Bright opportunities of development have been created on animal husbandry frontage in five talukas of district under jurisdiction of SUMUL dairy. In view of one important source of generating employment by development of animal husbandry and considering the marketing network of Sumul dairy and increasing requirement of milk consumption of Surat district, it is very important to give priority to animal husbandry by effective nutritional diets to the cattle. Hence, activities of animal husbandry and its development can be made intensive by developing proper nutritional strategy to the animals.

Need of rumen bypass fat in feed :

Now-a-days bypass fat has become a new feeding practice in cattle/buffalo feeding. This is known as ruminal inert fat, protected fat and escape fat, and by-pass fat. These fats are made rumen digestion protected through partially hydrogenation technology and other integrated technology. Thus, it can be help in improvement of total energy balance and fat% in milk. Such bypass fat containing diet is fed @ 200 g/day per buffalo for increasing fat per cent.

These feeding can be helpful in improving the fat% in milk of Surati buffalo. Again, it is required to tackle problem of negative energy balance in buffaloes. By increasing fat% in milk, nutritive value of the milk can also be enhanced. Overall, this feeding method may be indirectly helpful for profitable livestock rearing.

Rumen bypass fat is a feeding practice in buffalo rearing which can manage negative energy balance and increase fat yield without distressing ruminal flora. It has several returns over conventional fat enriched diet like linseed oil, kapasiya etc. as conventional fat sources are less edible, expensive and ruminal micro flora disturbing agent. Bypass fat is more palatable, no ruminal flora disturbing and more cost efficient for increasing fat yield. Above mentioned feeding practice can be an alternative source for fat enriched diet. Rumen Bypass fat feeding can be helpful in better milk yield having high fat which can be an busting step for Dairy Cooperatives. This New feeding technology should be demonstrated to rural farmers, because by bearing in mind this feeding method at farmer's house, other farmers can also be encouraged for implementing this feeding technology.

Extension activity related with feeding methods in animal husbandry should be undertaken about profitable and scientific livestock rearing where Krishi Vigyan Kendra can play a great role. Efforts to increase the awareness about scientific feeding technology of rumen bypass fat can be made by popularizing the Feeding Practice of "Rumen Bypass Fat", so that it can be implemented in large scale. The KVK can have an ideal grass root level net work, which can disseminate this technology to the door step of rural poor. It can also be helpful in the golden era of organic farming and market led extension programmes.

Constraints and remedies for implementation of feeding rumen bypass fat :

Education has always played a great role in extension activities. Animal husbandry extension activity is no more an exception. In Tapi district, there is Low literacy rate which is 57.05 (6th Global Summit, Gujarat (Anonymous, 2010)). Most of the farmers are belonging from tribal area, where proper attentiveness about scientific feeding practices is not available. Again, farmers in tribal area are very reluctant to adopt new feeding technology. They are more orthodox, suffering from some prejudices, religious beliefs and reservations. There is a current need to change their mind set towards scientific live stock management. Feeding concentrate and mineral mixture has been somewhat traditional ways for improvement of milk yield and fat % in milk. To divert the livestock owners from traditional way to innovative way is an exhaustive extension task in the areas like Tapi district.

Effective development requires identification of local needs and opportunities. Different Organizations apply different methods, ranging from top down to more participatory ones, and depending on felt needs arising from system changes in time and space. Thoranus-Chapetch (1997) recommended that training on animal health, animal management, milk increase and cost reduction factors should be implemented continuously. This new feeding practice in diary animals requires effective awareness about its benefits and limitations. Framers need to be made aware about this type of feeding technology. Bhosale (1982) also recorded that a significant association between milk production and adaptation of scientific animal husbandry practices. Again, cost factor is a critical factor for animal husbandry. Rumen bypass fat is costing around 150 Rs /Kg, while the mineral mixture costs up to 140 Rs./kg. It means, both of the sources *i.e.* mineral mixture and bypass fat are cost wise almost similar, but rural farmers are vacillating to implement any new practice. Cost effectiveness information of feeding practice to farmers can be of great help. Natraju (2003) revealed that animal health and feeding practices can be adapted by large per cent of dairymen. Similar findings were obtatined by Garg and Mehta (1998), Mudgal *et al.* (2012) and Naik (2012).

Two step methods *i.e.* first step is identification of progressive rural farmers for providing bypass fat from the villages of Tapi district and second step is after identification of rural farmers, training will be given by Scientists of extension organizations about details of feeding practice. The increasing per cent in adoption of rumen bypass by tribal dominated districts would be a good sign of sustainable dairy development on high net profit basis. For vertical growth in cooperative milk industries, the efficient and effective

dissemination of rumen bypass feeding is an essential input. The persons engaged with rural extension work may know this fact for better prospects of dairy industry in Agrarian country like, India. Work on the related topic was also done by Gangasagare and Karanjkar (2009).

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