Original Research

Constraints Persuade by Progressive Dairy Farmers in Scientific Dairy Farming in Mehsana District of Gujarat

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Abstract

The present study was carried out to analyze the constraints faced by the progressive dairy farmers in Mehsana district. This study was conducted in 15 villages of Mehsana district by personally interviewing 150 dairy farmers. The data were analyzed by Garrett's ranking technique. Referring to major feeding constraints faced by dairy farmers were the high cost of concentrate feed or feed ingredients (63.16%) and inadequate knowledge about the scientific feeding of dairy animals (56.28%). Referring to the major breeding constraints low genetic potential of local animal (57.30%) and not avail a good number of fertility camp for the breeding animals (49.36%) were found. In health and management lack of awareness and knowledge about the importance of vaccination (58.22%) and lack of knowledge about clean milk production (49.40%) were found chief constraints. Non-ruminative price for milk (59.90%) and less efficient extension department for transfer of technology (50.90%) were found as key constraints in another category.

Key words: Breeding, Constraints, Dairy Farming, Feeding, Garrett's raking, Health and Management

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Introduction

Dairy industry occupied a chief position in the agriculture economy of India as its contribution to Indian agriculture GDP is highest. The contribution of agricultural GDP in total GDP is in the decline phase; however, the share of milk production in total GDP is increasing year to year (N. Vijay, 2011). India attains a 6.26 % of growth in milk production that is almost double than the growth in total world milk production

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(GOI, Ministry of finance, 2016), moreover Gujarat having a 5.07 % of growth in Milk production. (DOAH, Gujarat, 2016)

India is the highest milk producing country, but per animal milk production is very low therefore, there is a need to increase the milk production of the individual animal. To achieve this, there is a need to know the area of development where dairy farmers face such constraints. In Gujarat state milk production and network of a dairy cooperative are well established, and Mehsana district is a comparatively good milk producer from Gujarat. Therefore, the present study was undertaken to study different types of constraints perceived by progressive dairy farmers in dairy farming.

Materials and Methods

The present study was conducted in Mehsana district which is located in the north part of the Gujarat state. For the present study 15 villages were selected randomly from the Mehsana district. Top ten milk producers of each village selected as a respondent and total one hundred and fifty progressive dairy farmers were selected. For the collection of data, the structured interview schedule was prepared. The data were collected and transform in tabulated form and then analyze using the Garrett ranking technique to interpret results. By using this technique, the order of the merit given by the respondents was transform into ranks using the following formula.

$$Percent\ Position = \frac{100(Rij - 0.50)}{Nj}$$

Where,

R_{ij} – Rank given for i^{th} factor by the j^{th} individual
Nj – Number of factor rank by the j^{th} individual

The percent position was converted into scores by referring to the table given by Garett and Woodworth (1969). Then for each factor, the scores of the individual respondents were added together and divided by the total number of respondents for whom scores were added. These mean scores for all the factors were arranged in descending order and rank assigned.

Results and Discussion

Feeding Constraints

Regarding feeding constraints data presented in Table 1 revealed that the high cost of concentrate feed was the major constraint and ranked first. It may be because the price of concentrate feed increased around 45.00 percent in the last three years and that is more than the inflation rate increased in that period. This is in agreement with the findings of Patil *et al.* (2009), Kumar *et al.* (2012), Khushavant *et al.* (2015), Bulbul *et al.* (2015) and Patel *et al.* (2016).

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Inadequate knowledge about the scientific feeding of dairy animals was the second most serious constraint followed by the high cost of dry fodder, low availability of green fodder throughout the year, poor availability of dry fodder throughout the year and low availability of water for the animal. The probable reason for this was, most of the dairy farmers were engaged in dairy farming along with agriculture secondly most of them were grow cash crop and irrigation of water is also a problem, leading to a lack of availability and high price of feed and fodder for the animal. These findings are supported by the findings of Dabas *et al.* (2004), Patil *et al.* (2009), Kumar *et al.* (2012), Bulbul *et al.* (2015), Patel *et al.* (2016), Malik *et. al.* (2017) and Sheikh *et al.* (2019).

Table 1: Feeding constraints faced by dairy farmers (n=150)

S. No.	Constraints	Gerret score	Ave. score	Rank
1	High cost of concentrate feed or feed ingredients	9475	63.16	I
2	Inadequate knowledge about the scientific feeding of dairy animals	8443	56.28	II
3	The High cost of dry fodder	7596	50.64	III
4	Low availability of green fodder throughout the year	7410	49.4	IV
5	Poor availability of dry fodder throughout the year	6527	45.51	V
6	Low availability of water for animal	5549	39.99	VI

Breeding Constraints

The details of the rank for various breeding constraints regarding breeding were given in Table 2. The analysis revealed that low genetic potential of the local animal was the first and foremost constraint. This is obvious due to the milk production capacity of local animals is much lower than the crossbred animal. The second major hurdle was not availing a good number of fertility camp for breeding animals, followed by poor conception rate and treatment of repeaters is not rewarding and rank third, paying a high price for AI service was ranked fourth and less satisfactory AI service was ranked fifth.

This might be due to respondents under the study were progressive dairy farmers and they were solely depending on A.I. for the breeding of animals and the workforce of AI workers was not enough to reach every farm personally, leading to above constraints. To overcome these constraints government and dairy cooperatives have to think about increasing the number of infertility camp and make it available to the maximum number of dairy farmers. Secondly, it was revealed that exposure to training and even extension participation of farmers is less, so government and dairy cooperatives have to manage to provide vocational training and scientific information through village meetings. These findings have been getting supported by the findings of Kumar *et al*. (2012), Mdshahid *et al.* (2013), Mohan *et al.* (2014), Bulbul *et al.* (2015), Patel et *al.* (2016) and Sheikh *et al.* (2019).

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Table 2: Breeding constraints (n=150)

S. No.	Constraints	Garret score	Ave. score	Rank
1	Low genetic potential of the local animal	8595	57.3	I
2	Not availing a good number of fertility camp for breeding animals	7405	49.36	II
3	Poor conception rate and treatment of repeaters is not rewarding	7310	48.73	III
4	Paying a high price for AI service	7105	47.36	IV
5	Less Satisfactory AI service	7085	47.23	V

Health and Management Constraints

The constraints faced by progressive dairy farmers in health and management were presented in Table 3. Lack of awareness and knowledge about the importance of vaccination was found most serious constraint and ranked first, followed by lack of proper knowledge about clean milk production, the high charge levied by veterinary staff for performing medical assistance and lack of knowledge about the right time of drying up a pregnant animal. Similar findings also reported by Tailor *et al.* (2012), Narayan *et al.* (2014) and Sheikh *et al.* (2019).

Table 3: Health and management constraints (n=150)

S. No.	Constraints	Garret score	Ave. score	Rank
1	Lack of awareness and knowledge about the importance of vaccination	8734	58.22	I
2	Lack of proper knowledge about clean milk production	7410	49.4	II
3	The high charge levied by veterinary staff for performing medical assistance	7254	48.36	III
4	Lack of knowledge about right time of drying up a pregnant animal	6602	44.01	IV

Other Constraints

Non-ruminative price for milk and less efficient extension department for transfer of technology was found the serious most constraints in other category. This might be due to lesser extension activities carried out regarding livestock framing as compare to agriculture farming. Less number of training provided to dairy farmer regarding scientific dairy farming was ranked second followed by complexity in the procedure for obtaining loans and poor availability of labours round a year.

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Table 4: Other constraints (n=150)

S. No.	Constraints	Garret score	Ave. score	Rank
1	Non-ruminative price for milk	8985	59.9	I
2	Less efficient extension department for Transfer of Technology	7635	50.9	II
3	Less number of training provided to dairy farmer regarding scientific dairy farming	7325	48.83	III
4	Complexity in the procedure for obtaining loans	7180	47.86	IV
5	Poor availability of labours round a year	6375	42.5	V

Conclusion

It appears from the study that dairy farming is hindered by constraints in all major areas of dairy farming i.e. feeding, breeding, administrative and other. Government and cooperative dairy convey training programmes like EDP (Entrepreneurship Development Programme), ATMA (Agricultural Technology Management Agency), KVK (Krishi Vigyan Kendra), university and state animal husbandry department are very active but dairy farmers did not take advantage of it as they feel it as not mandatory. But there is a need to focus on imparting training to make a homemade concentrate with available resources. The extension wing should be made powerful and active to pass on the scientific information and resolve the constraints of dairy farmers.

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