



## Studies on adoption of improved practices of cattle rearing

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**ABSTRACT:** The literacy percentage among dairy farmers of sikar district was high irrespective of organized or unorganized dairy farmers. In organized farmers, 75 per cent of dairy farmers were literate while in unorganized dairies, 72.2 per cents farmers were literate. The maximum adoption gap was 90.31 per cent for adoption of healthcare practices, followed by the breeding (79.55%), management (77.80%) and feeding (72.39%). minimum technological gap of 45.72 per cent about adoption of feeding practices followed by breeding (54.27), management (61.31) and healthcare (60.05) in organized dairy group where as, in case of unorganized dairy group the maximum. The overall minimum technological adoption gap *i.e.* 59.55 per cent was obtained in case of feeding practices followed by the improved breeding (66.91%), management (69.55%) and healthcare (77.68%). The cattle owners of organized and unorganized groups had a mean score 10.85 and 5.52, respectively with regard to extent of adoption of different feeding practices. The significant difference was observed between the organized and unorganized groups with respect to housing practices. There was significant difference in adoption of health care practices between the two groups.

**KEY WORDS:** Cattle, Breeding, Feeding, Health care

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### INTRODUCTION

Live stock sector plays an important role in the livelihood security and employment generation for rural areas in Rajasthan. Dairy farming converts available feed and fodder material in to milk and other products. The population of bovine in the state had positive growth rate of 0.43 per cent per annum mainly due to high growth in the buffalo and crossbred cattle population (Gupta *et al.*, 2007). Apart from genetic potential of cattle, its production depends mostly on managerial practices, which exhibit variation in different parts of the state. There is a large gap between the technologies generated and adoption by the dairy farmers. The present investigation was carried out to assess the adoption of different management practices by the dairy farmers.

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### MATERIALS AND METHODS

The present investigation was conducted in four Tehsils of Sikar district of Rajasthan. These Tehsils were divided into two groups of organized and unorganized dairy farmers. Each group possessed two Tehsils each for the study. For selection of villages, three villages were selected from each identified Tehsil. Thus, a total of 12 villages were included for the present investigation (six from organized group and six from unorganized group). To select respondents, 30 dairy cattle owners were randomly selected from each selected village. Therefore, 360 respondents were identified from the selected villages. Data were collected through structured scheduled from the identified respondents by applying personal interest technique. Collected data were analyzed, tabulated and interpreted in the light of the objective of the study.

### RESULTS AND DISCUSSION

The literacy percentage among dairy farmers of Sikar district was high irrespective of organized or unorganized dairy farmers. In organized farmers, 75 per cent of dairy farmers were literate while in unorganized dairies, 72.2 per cent farmers were literate (Table 1). Only 27.32 per cent were dairy farmers in

organized farms and 24.66 per cent in unorganized farms and dairy husbandry as a primary occupation (Table 2). Thus, the present investigation revealed that the literacy did not play any significant role in dairy farmers to take dairy farming as a primary occupation. However, Bora (1972) and Hazarika (1994) observed that dairy enterprise in rural Assam could be made successful only when the farmers were properly trained to act as qualified organizers among themselves in their locality.

Herd size had significant difference in adoption between different groups with regard to management practices (Table 3). As there was higher extent of adoption by big cattle owners in all the practices of management *viz.*, breeding, feeding, housing and healthcare due to higher knowledge in these scientific practices where as the medium and small groups lagged behind with regard to adoption. Table 4 shows minimum technological gap of 45.72 per cent about adoption of feeding practices followed by breeding (54.27), management (61.31) and healthcare (60.05) in organized dairy group where as, in case of unorganized dairy group the maximum adoption gap was 90.31 per cent for adoption of healthcare practices, followed by breeding (79.55%), management (77.80%) and feeding (72.39%).

The overall analysis of table shows that minimum technological adoption gap *i.e.* 59.55 per cent was obtained in

case of feeding practices followed by the improved breeding (66.91%), management (69.55%) and healthcare (77.68%). The results revealed that technological information is needed by all the farmers in recommended animal husbandry practices.

It was observed that adoption was highest in case of breeding (83.49%) followed by healthcare (64.08%), management (62.33%) and breeding practices (49.11%) as reported that by Chug (1995). Similar results have been observed by Prasad (1992) who reported that maximum extent of adoption was found in feeding (57.83%) followed by management (52.39%), healthcare (48.87%) and at least in breeding *i.e.* 48.75 per cent. Kumar (1987) reported that the extent of use of cleanly management practices was moderate to less in use among all the farmers. Sihag *et al.* (1998) and Chug (1995) indicated that the overall adoption behaviour of dairy farmers was satisfactory but still there existed a wide technological gap which needed to be built up. The practices like naval-card sealing, weaning the calf, balanced feeding, record keeping and dehorning were adopted by very few respondents.

**Breeding practice:**

There was a significant different in adoption of breeding practices between the two groups of organized and

**Table 1: Literacy status of the head of the family (%)**

| Sr. No. | Characteristics | Organized  | Unorganized | Total      |
|---------|-----------------|------------|-------------|------------|
| 1.      | Literate        | 135 (75.0) | 130 (72.2)  | 265 (73.6) |
| 2.      | Illiterate      | 45 (25.0)  | 50 (27.8)   | 95 (26.4)  |
|         | Total           | 180 (100)  | 180 (100)   | 360 (100)  |

Figures in parenthesis denote percentage

**Table 2: Occupational status of dairy farmers (%)**

| Group       | Agriculture | Dairying | Service | Business | Labour |
|-------------|-------------|----------|---------|----------|--------|
| Organized   | 40.05       | 27.32    | 23.19   | 5.01     | 4.43   |
| Unorganized | 55.36       | 24.66    | 7.52    | 2.31     | 10.15  |

**Table 3 : Herd size effect on management practices**

| Groups | No. of respondents | Mean               | Max. % of obtaining score |
|--------|--------------------|--------------------|---------------------------|
| Small  | 161                | 5.85               | 58.00                     |
| Medium | 118                | 7.57               | 75.70                     |
| Big    | 81                 | 7.72               | 77.00                     |
| SEM±   | 0.106              | C.D. (P=0.01)0.277 |                           |

**Table 4: Adoption gap of livestock keepers with respect to improved animal husbandry practices**

| Improved practices | Unorganized |                  | Organized |                  | Total |                  |
|--------------------|-------------|------------------|-----------|------------------|-------|------------------|
|                    | MPS         | Adoption gap (%) | MPS       | Adoption gap (%) | MPS   | Adoption gap (%) |
| Breeding           | 20.45       | 79.55            | 45.73     | 54.27            | 33.09 | 66.91            |
| Feeding            | 27.61       | 72.39            | 54.28     | 45.72            | 40.94 | 59.55            |
| Management         | 22.20       | 77.80            | 38.69     | 61.31            | 30.44 | 69.55            |
| Health care        | 9.69        | 90.31            | 34.95     | 65.05            | 22.32 | 77.68            |

MPS = Mean per cent score

**Table 5: Adoption of cattle management practices**

| Practices   | No. of Respondents | MPS       |             | Mean      |             | Max. % obtaining score |             | SEM± | C.D. 1% |
|-------------|--------------------|-----------|-------------|-----------|-------------|------------------------|-------------|------|---------|
|             |                    | Organized | Unorganized | Organized | Unorganized | Organized              | Unorganized |      |         |
| Breeding    | 360                | 45.73     | 20.45       | 4.52      | 2.04        | 64.50                  | 38.00       | 0.10 | 0.28    |
| Feeding     | 360                | 54.28     | 27.61       | 10.85     | 5.52        | 56.00                  | 47.50       | 0.27 | 0.75    |
| Housing     | 360                | 38.69     | 22.20       | 19.34     | 11.10       | 77.00                  | 54.00       | 0.35 | 0.98    |
| Health care | 360                | 34.95     | 9.69        | 6.99      | 2.19        | 64.20                  | 44.20       | 0.18 | 0.50    |

unorganized dairy owners (Table 5). It was adopted at significantly higher level by organized farmers as compared to unorganized farmers. The mean score of breeding practices were 4.52 and 2.04, respectively of two groups. The unorganized dairy farmers adopted less than none of them adopted improved breeding practices of artificial insemination, the reason being, due to extreme temperatures during summers. They could not identify the animal in heat, secondly the availability of green fodder for the crossbred was a problem due to lack of irrigation facilities. The reason for high level of adoption among organized dairy farmers was that they possessed good knowledge about diagnosis of pregnancy and timely removal of placenta, whereas unorganized dairy farmers lacked in knowledge related to these aspects.

#### Feeding practices:

Table 5 further shows that the cattle owners of organized and unorganized groups had a mean score 10.85 and 5.52, respectively with regard to extent of adoption of different feeding practices. None of the cattle owners belonging to unorganized group provided balanced ration to the animals. Dry animals were not fed concentrate and even milch animals were not given adequate quality of concentrate due to poor economic condition.

It was further, noted that some of the organized cattle owners were giving mineral mixture and salts to cattle regularly and also enriched the dry fodder with urea molasses on account of higher economic status and also due to the reason that they possessed higher knowledge regarding scientific feeding practices. Similar findings have also been reported by Chug (1995) and Sihag *et al.* (1998) where maximum adoption was in case of scientific feeding practices and least in breeding practices. Regarding adoption of feeding practices, the differences among the two groups with respect to feeding practices being highly significant ( $P < 0.01$ ).

#### Housing practice:

The significant difference was observed between the organized and unorganized groups with respect to housing practices. The mean value given in Table 5 indicated that there was almost equal and good adoption of scientific housing practices by the organized dairy cattle owners whereas the level of adoption was low in respondents of unorganized dairy cattle owners.

#### Health care practices:

There was significant difference in adoption of health care practices between the two groups as per given in (Table 5). The reason for lesser adoption by unorganized dairy cattle owners may be because the medicine and veterinary treatments are costly hence they opted for local treatment regarding tick control, eradication of external parasites of animals. As far as castration was concerned they did not prefer for it, rather they sold the calves and also did not feel the need of dehorning or vaccinating the animal till they were seriously ill. The probable reasons may be illiteracy, lower socio-economic status and lack of awareness regarding scientific health care practices.

Kumar (1987) in his study found that there was 68.33 per cent adoption in beneficiaries, whereas, 58.66 per cent extent of adoption in case of breeding practices. Contradictory to Prasad (1992) and Chug (1995) reported that there was 48.75 per cent and 49.11 per cent extent of adoption in breeding practices which was seen to be the least. Further results showed that in feeding practices, the unorganized and organized dairy farmers category have 47.50 per cent and 56.00 per cent level of adoption, respectively which was comparatively higher than the breeding practices. During the investigation, it was found that most of the animals were fed at *ad libitum* only during grazing and majority of the respondents chaffed the long stovers and dry grass to feed to the cattle. Results showed that unorganized cattle owners never fed mineral mixture and salts to their cattle, whereas organized cattle owners fed balanced feed, mineral mixture salts and urea molasses as per the knowledge regarding feeding and their economic status. As the organized cattle owners perceived high level of knowledge about proper feed and concentrate mixture during its advanced stage of pregnancy and time of feed a newly born calf hence extent adoption was also high in case of scientific feeding practices.

#### Conclusion:

Sensory quality of branded Shrikhand sold in Akola city was found to be excellent having 93.25 per cent overall acceptability score and showed clean, pleasant, acid flavour, while Shrikhand sold by other manufactures in Akola city was fair in sensory quality. Chemical quality of Shrikhand sold in Akola city was found to be good and was observed nearer to PFA standards.

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