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Constraints faced by smallholder dairy farmers in Ludhiana district of Punjab

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Abstract

The present study was conducted in village Jarg of Ludhiana district of Punjab. The data was collected from 50 smallholder dairy farmers owning 115 milch animals (Buffaloes = 65; Cows = 50) through an interview. The incidence of various reproductive disorders *viz.* anestrus, repeat breeding, prolapse of genitalia, dystocia, retention of fetal membranes, metritis, difficult detection of estrus and abortion was 30.7 & 20.0, 15.38 & 24.0, 7.69 & 2.0, 12.30 & 8.0, 13.84 & 10.0, 9.27 & 12.0, 3.07 & 0.0 and 3.07 & 6.0 percent in buffaloes and cows, respectively. All the farmers believed that high cost of concentrate feed, problem of disposal of old/disabled cows and male calves are major issues in dairy farming. Around 96, 92, 88 and 86 percent dairy farmers believed low cow milk fat content, low crossbred cow milk price, high male calf mortality and inadequate balanced feeding knowledge, respectively, as major constraints. Other constraints were low availability of quality green fodder (52%), low productivity in local cows and buffaloes (50%), low dry fodder availability (48%), non-availability of land for fodder cultivation (46%), lack of green fodder round the year (44%), improper housing facilities (40%), poor quality of bull (30%), lack of veterinary services (20%), lack of organized milk marketing (10%) and poor estrus detection (4%). In conclusion, small dairy farmers should be encouraged to rear high yielding animals and appropriate strategies may be formulated to optimize reproductive efficiency of the animals in the area.

Keywords: dairy farming, constraints, reproductive disorders

Introduction

Livestock is most important component of economic and social life of the rural masses in Punjab. Dairy farming is most popular and successful venture among all the possible livestock enterprises. Smallholder dairy farmers of Punjab consider dairying as their main source of income. The milk production in Punjab has grown at an annual rate of about 4 percent and stands at 11.28 MT in 2016-17 (GOI, 2017). The composition of milch animal stock has shifted towards greater domination of the buffaloes and crossbred cows and gradual disappearance of indigenous cows. As per GOI (2017), Punjab also stands first in terms of per capita milk availability (1075 gms per day) as well as in the milk yield of in-milk buffaloes (8.21 litres per day). In spite of increase in number of milch animals and total milk production over the years, productivity of milch animals is not very encouraging in the state. To enhance the production potential of milch animals the only way is to make availability of developed technologies for mass adoption and to create the required infrastructural facilities vital for adoption. The problems perceived by the dairy farmers should be taken into consideration while formulation of strategies for upliftment of dairy farming in the state. Moreover, today milk production/dairy farming has emerged as a major economic activity for small or marginal dairy farmers, therefore latest and subsidized technologies must be provided at their door steps. Keeping this in view, the present study was conducted to ascertain the problems and constraints perceived by smallholder dairy farmers in village Jarg, Ludhiana, Punjab so that the findings could be used in upliftment of dairy enterprise in the state.

Materials and Methods

The present study was conducted in village Jarg, Ludhiana, Punjab. Total 50 small dairy farmers owning 115 milch animals (Buffaloes = 65; Cows = 50) were included in the study. An interview schedule was purposively designed for the study and pretested for its suitability and feasibility before adopting it. The data was collected from each selected dairy farmer using personal interview method. Information regarding incidence of various reproductive problems and constraints in dairy farming was collected. The tabular analysis method was used to analyse the data.

Results and Discussion

Incidence of various reproductive disorders

The incidence of various reproductive disorders is presented in Table 1. Out of total 115 animals included in the study, 92.3 and 82.0 percent of buffaloes and cows, respectively, suffered from reproductive disorders. The incidence of anestrus in buffaloes and cows was 30.7 and 20.0 percent, respectively. Similarly, in earlier studies it ranged between 9.1 to 28.6 percent (Singla and Verma 1994, Taraphder 2002, Prajapati *et al.*, 2005 and Selvaraju *et al.*, 2005) [3, 4, 7, 8]. However, a study in central Punjab has reported that just 1.2 to 3.82 percent bovine suffer from anestrus (Kaur *et al.*, 2011) [2]. The repeat breeding syndrome was noticed in 15.38 and 24.0 percent of buffaloes and cows, respectively. This finding was in concurrence with the observations of other studies (Taraphder 2002, Singh *et al.*, 2003 and Kaur *et al.*, 2011) [2, 5, 8]. The incidence of prolapse of genitalia was 7.69 and 2.0, whereas dystocia 12.3 and 8.0 percent in buffaloes and cows, respectively. The incidence of dystocia has been reported in 8.0 percent of buffaloes in Ambala (Tomar and Tripathi 1995) [9], 12.6 percent in Karnal (Taraphder 2002) [8] and 6 to 14 percent in Ludhiana, Jalandhar and Sangrur districts of Punjab (Kaur *et al.*, 2011) [2]. About 13.84 and 10.0 percent buffaloes and cows suffered from retention of fetal membranes. In earlier studies, incidence of retention of placenta has ranged between 6.6 to 25.04 percent (Taraphder 2002 and Kaur *et al.*, 2011) [2, 8]. Difficult detection of estrus was also a reproductive constraint in buffaloes (3.07%), whereas in cows it was not a major problem as its incidence was nil in current study. Abnormal vaginal discharge/metritis was observed in 9.27 and 12.0 percent of buffaloes and cows, respectively. Similar findings were also reported in previous

studies (Singh *et al.*, 2003, Prajapati *et al.*, 2005 and Kaur *et al.*, 2011) [2, 3, 5]. About 3.07 percent of buffaloes and 6.0 percent of cows had aborted during the current lactation which indicated that abortion was not a major issue in the study area.

Constraints of dairy farming

Various constraints of dairy farming are summarized in Table 2. It was noted that all the farmers believed high cost of concentrate feed, problem of disposal of old/disabled cows and male calves as major issues in success of dairy venture. More than 90 percent dairy farmers believed low fat content in cow milk (96.0%) and low price of crossbred cow milk (92.0%) as major constraints in dairy farming. About 88 and 86 percent dairy farmers responded to high mortality in male calves and inadequate knowledge about balanced feeding, respectively. Other 40-52 percent farmers responded to low availability of quality green fodder (52%), low productivity in local cows and buffaloes (50.0%), low availability of dry fodder (48.0%), non-availability of land for fodder cultivation (46.0%), lack of availability of green fodder round the year (44.0%) and improper housing facilities leading to infection (40.0%). Another 30 percent farmers stressed upon problem of poor quality of bull at village level. About 20 and 10 percent farmers believed problem of lack of veterinary and organized milk marketing facilities in the village. Similar findings were also reported in previous studies (Singh and Chauhan 2006) [6]. Poor heat detection (4.0%) was not a major issue raised by the farmers which could be due to small number of animals with each farmer.

Table 1: Incidence of various reproductive problems

Problem	Buffalo (n = 65)	Cow (n = 50)
Anestrus	20 (30.7)	10 (20.0)
Repeat breeding	10 (15.38)	12 (24.0)
Prolapse of genitalia	5 (7.69)	01 (2.0)
Dystocia	8 (12.30)	4 (8.0)
Retention of fetal membranes	9 (13.84)	5 (10.0)
Metritis/abnormal vaginal discharge	6 (9.27)	6 (12.0)
Difficult detection of estrus	2 (3.07)	0 (0.0)
Abortion	2 (3.07)	3 (6.0)
Total	60 (92.30)	41 (82.0)

Figures in parenthesis indicate percentage, n: Total number of animals included in the study

Table 2: Constraints in dairy farming

Rank	Constraints	Number of farmers	Percent of farmers
I	High cost of concentrate feed	50	100.0
II	Problem of disposal of male calves	50	100.0
III	Problem of disposal of old/disabled cows	50	100.0
IV	Low fat in crossbred cow milk	48	96.0
V	Low price of crossbred cow milk	46	92.0
VI	High mortality in male calves	44	88.0
VII	Inadequate knowledge about balanced feeding	43	86.0
VIII	Low availability of quality green fodder	26	52.0
IX	Low productivity of local cows and buffaloes	25	50.0
X	Low availability of dry fodder	24	48.0
XI	Non-availability of land for fodder cultivation	23	46.0
XII	Lack of availability of green fodder round the year	22	44.0
XIII	Improper housing facilities leading to infection	20	40.0
XIV	Poor quality of bull at village level	15	30.0
XV	Lack of veterinary facilities	10	20.0
XVI	Lack of organized milk marketing facilities in village	5	10.0
XVII	Problem of heat detection	2	4.0

Conclusion

The dairy owners should be encouraged to replace their low yielding animals with high yielding buffaloes or crossbred cows. Adequate steps must be initiated to resolve constraints faced by smallholder dairy farmers through development and implementation of latest dairy technologies and organization of veterinary extension programs cum animal health services. The efforts must also be done to improve reproductive efficiency of the animals in the area to enhance profitability in dairy farming.

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