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Relationship between management factors with days open in crossbred cattle and constraints faced by dairy farmers of Karnataka

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Abstract

The present study on relationship between management factors in crossbred cattle and days openas well as the constraints faced by dairy farmers was purposively conducted in Bengaluru rural district of Karnataka.The data were collected using a structured pretested interview schedule from 120 respondents selected randomly from four taluks viz; Devanahalli, Doddaballapur, Hoskote and Nelamangala. The study revealed that number of artificial insemination (AI) in relation to conception and voluntary waiting period had a positive significant correlation to days open in dairy cattle. Lack of awareness on deworming of cattle was the major constraint among the respondents. Hence, the authors conclude that extension activities like meetings, discussions, mass media, etc. are to be planned and conducted by extension agencies to increase knowledge and thereby adoption of recommended practices leading to increase production and income generation.

Key Words: Crossbred Cattle, Management, Days Open, Constraints.

Introduction

India is predominantly an agrarian society where animal husbandry forms the backbone of agricultural economy. Animal Husbandry plays an important role in the socio economic development of India. Among all the states, Karnataka state stands 6th in livestock population and 11th in milk production i.e. 4.3 per cent of the India's total milk production. Few farmers in the state follow a practice called "day Open" which is the gap period from calving to next conception which is normally linked with profitability in dairy cows. Any delay in cow's conception can adversely affect the income since the maintenance cost of the cow will be amplified and income through calf as a partial revenue will decline dramatically. Days open has been widely used as a success measure for a dairy enterprise but, has very scarce literature in this regard. With this background, the study was conducted with the objectives to assess the relationship between management factors and days open and also to identify the constraints faced by dairy farmers in Bengaluru rural district.

Materials and Methods

The study was conducted in the state of Karnataka in which Bengaluru Rural districtwas purposively selected for the study since it has predominant crossbred cattle population and livelihood. Four taluks viz; Devanahalli, Doddaballapur, Hoskote and Nelamangala were randomly selected for the study. Thirty livestock farmers from each of the four talukas of Bengaluru rural district, possessing

crossbred cows were considered randomly for the study making a total of 120 respondents in the study.

The study adopted an exploratory research design and multistage random sampling technique for selection of respondents. The primary data was collected from the respondents using a pretested structured interview schedule on management factors and constraints faced by farmers and subjected to statistical analysis.

Results and discussion

Management factors in crossbred cattle

The distribution of crossbred cattle based on age, number of AI and voluntary waiting period was depicted in Table 1. The result indicated that majority (83%) of crossbred cattle was of middle and young age groups indicating the possession of comparatively young animals by the dairy farmers. Majority of the crossbred cattle (83.33%) had more than one insemination to get conceived indicating lack of knowledge regarding detection of estrous and appropriate time of presentation of the animal for insemination. Ahmad and Unmaya (2003) previously reported four inseminations. Voluntary waiting Period (VWP) is operationalised as the time between parturition and the time at which the cow is first presented for insemination. Voluntary waiting period of more than 2 months was followed by majority of the farmers indicating lack of awareness on the loss incurred in missing an estrous cycle. Results of the present study differ with the findings of Sabapara *et al*. (2010) who reported that 72 per cent had inseminated their cows in 2 months after calving.

Table 1: Distribution of crossbred cattle based on age, number of AI and Voluntary waiting period (N=120)

Sl. No.	Category	Frequency	Percentage (%)
Age			
1	Young (3-5 years)	48	40
2	Middle (6-8 years)	51	43
3	Old (9-12 years)	21	17
Number of AI			
1	One insemination	20	16.67
2	Two inseminations	42	35.00
3	Three inseminations	38	31.67
4	Four inseminations	15	12.50
5	Five inseminations	5	4.17
Voluntary waiting period (VWP)			
1	Two months VWP	32	27.00
2	Three months VWP	54	45.00
3	Four months VWP	31	26.00
4	Five months VWP	03	02.00

Body condition score: Results presented in Table 2 indicate that, 75 per cent of the crossbred cattle had the body condition score of 3, indicating overall adoption of good scientific management

factors. Ahmad and Unmaya. (2003) partially reported similar findings.

Table 2: Distribution of crossbred cattle based on body condition score (N=120)

Sl. No.	Body condition characteristics (Score)	Frequency	Percentage (%)
1	Deep cavity with no fatty tissue under skin and prominent spine with sharp horizontal processes	-	-
2	Shallow cavity with prominent pin bones. Traces of fat under skin. Horizontal process can be identified individually with round ends	-	-
3	Fat cover over entire area but pelvis can be felt. End of horizontal process can only be felt with pressure with slight depression at loin region	90	75.00
4	Entirely filled, evidence of folds and patches of fat. Processes not felt, completely rounded appearance	30	25.00
5	Buried in fat tissue or fat pads. Pelvis not palpable even with firm pressure	-	-

Days open: The distribution of crossbred cattle based on days open is depicted in Table 3. From the table, it is revealed that, majority of the animals had medium days open (147-207).

Table 3: Distribution of crossbred cattle based on days open

Sl.No.	Category	Frequency	Percentage (%)
1	Low (86-146)	34	28
2	Medium (147-207)	62	52
3	High (208-268)	24	20

Relationship of management factors with days open

Results in Table 4 indicate that number of AI in relation to conception (0.79) and voluntary waiting period (0.7434) had a positive and significant correlation (1% significance level) to days open of crossbred cattle.

Table 4: Relationship of management factors with days open(N =120)

Sl. No	Variables	Pearson's r value
1	Age of the cow	0.08205^{NS}
2	Number of AI for successful conception	0.79***
3	Voluntary waiting period	0.7434***
4	Body condition score	-0.0514^{ns}
5	Breeding practices	-0.3503^{ns}
6	Housing practices	-0.00321^{ns}
7	Health caremanagement practices	-0.01802^{ns}

*** denotes 0.01 significance level, ^{NS}-non significant

Constraints faced by dairy farmers in adoption of scientific management practices related to days open:

A perusal of Table 5 indicates that, lack of awareness regarding deworming of cattle was the major constraint among the respondents followed by non-availability of medicines at village (92.00%) and too high cost incurred in concentrate supplement feeding (92.00%). Patil *et al.* (2009) and Sabapara *et al.* (2012) also reported similar studies.

Table 5: Constraints faced by dairy farmers in adoption of scientific practices related to days open (N =120)

S.No.	Constraints faced by dairy farmers	F	%	RANK
1	No capital to invest in shed and feed	70	58.00	IV
2	Lack of space for building scientific cattle shed	25	21.00	VIII
3	Lack of knowledge about time of AI after detection of estrous	40	33.00	VII
4	Unsuccessful AI	20	13.00	X
5	AI centre not well equipped	10	8.00	XIII
6	Lack of AI service providers in evening	20	17.00	IX
7	Crossbred cows more prone to infection	20	21.00	VIII
8	Lack of sufficient personnel in the house to take the animal for breeding purpose at the right time	10	15.00	XII
9	Lack of knowledge to breed within 2-3 month of calving	40	46.00	V
10	No land for fodder production	40	33.00	VII
11	No adequate space to graze animal	10	8.00	XIII
12	Lack of Green and Dry fodder	50	42.00	VI
13	Lack of knowledge regarding balanced feeding	70	58.00	IV
14	High cost involved in feeding for production and maintenance	100	83.00	III
15	High cost incurred in concentrate supplement feeding	110	92.00	II
16	Lack of knowledge regarding scientific management practices	70	58.00	IV
19	Lack of information on space requirement for a cattle shed	20	17.00	XI
20	Lack of awareness about cattle deworming	115	96.00	I
21	Veterinary services far to provide and lack of staff	10	8.00	XIII
22	High cost of treatment	30	21.00	VIII
23	Medicines not available in village	110	92.00	II

Conclusion

The present study on relationship between management factors with days open in Bengaluru rural district revealed that number of AI in relation to conception and voluntary waiting period had a positive significant correlation to days open in dairy cattle. Lack of awareness on deworming of cattle was the major constraint among the respondents. Hence, it is concluded that extension activities like meetings, discussions, mass media, etc. are to be planned and conducted by extension agencies

to increase knowledge and thereby adoption of recommended practices leading to increase production and income generation.

Conflict of Interest: All authors declare no conflict of interest.

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