

Original Research Article

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Management and Health Care Practices of Malnad Gidda Cattle in Malnad Region of Karnataka, India

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ABSTRACT

A study on Management and healthcare practices of Malnad Gidda in Malnad region of Karnataka was studied among 216 sample farmers rearing Malnad Gidda cattle and belonging to small, medium and large farmer categories. An exploratory research design was adopted and data was collected using a structured interview schedule. Majority of the respondents identified their Malnad Gidda cattle by names (99.07%); did not notice external parasite problem in their cattle (69.44%); and did not maintain any records (85.64%). Cattle sheds were mainly tiled roofed with open sides (68.98%) and flooring was either mud or mud covered with leafy vegetation (62.96%). Mangers in the sheds were kutcha type (54.63%) and were cleaned daily (97.22%). Majority of them used dung as a source of manure alone (79.62%) and disposed off urine to manure pit (95.84%). Majority of them (53.25%) used stripping method for milking their Malnad Gidda cows followed by full hand milking (44.44%) and cows were milked twice daily (91.67%). All the respondents followed sanitary procedures during milking. With respect to health management, majority of them dewormed (95.83%); had history of disease in their cattle (99.07%); vaccinated their cattle against FMD (94.90%) and vaccination against other diseases was almost absent. For treatment of their Malnad Gidda cattle, majority of them sought help of veterinarians (91.20%) and had found no mortality in the last one year (64.81%). On death of animals, majority of them (89.35%) just buried the dead carcass. Among various categories of farmers, viz, small, medium and large, significant variations were seen with respect to deworming, control of ecto-parasites and housing.

Keywords

Malnad Gidda Cattle, management, health care practices, Malnad region

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Introduction

Malnad Gidda are native to heavy rainfall hilly areas of Western Ghat region in Karnataka. They are recognized as a distinct breed (Veerendra, 2020). These cattle are distributed in Shivamogga, Uttara Kannada, Chikkamagaluru, Dakshina Kannada, Udupi, Hassan, Kodagu, Belagavi, Chamarajanagara, Davanagere, Dharawad, Haveri, and Mysore districts of Karnataka.

They are dwarf animals with small body size and weigh about 120-180 kgs. An open and kuccha type but a separate housing is provided for these cattle. Feeding system varies with seasons; they are let for grazing in forest during rainy and winter, whereas during summer they are fed with dry paddy and maize straws in addition to grazing.

Breeding by natural service with herd bull is more commonly practiced than artificial insemination (AI). Almost every agricultural household in the region keeps these cattle from the point of view of manure and milk production for home consumption (Ramesha *et al.*, 2015).

Thus, Malnad Gidda cattle play a major role in the rural economy of this region by providing manure, milk and draft power with negligible inputs. It is an integral part of the mixed agricultural milieu of the region. Breed improvement in terms of its milk productivity will go a long way in evolving a climate resilient animal, best suited for all categories of farmers of the region.

However, scientific data on management and health care practices, especially followed by different categories of farmers is scanty. In this context, a study was conducted to understand the management and health care practices of Malnad Gidda cattle in Malnad region of Karnataka.

Materials and Methods

An exploratory research design was used for the study. Shivamogga, Chikkamagaluru and Uttara Kannada districts falling in the hilly zone of Karnataka were purposively selected for the study. From these districts two taluks each having highest Malnad Gidda cattle population namely, Thirthahalli and Sagara taluks from Shivamogga district, Koppa and Sringeri taluks from Chikkamagaluru district and Siddapura and Sirsi taluks from Uttara Kannada district were selected.

Two villages were selected from each taluk and from these 12 villages, six respondents each, belonging to small (≤ 5 acres), medium (5-12.5 acres) and large farmer (>12.5 acres) farmer categories were selected constituting a total of 216 respondents. Structured interview schedule was used to collect the data. Information regarding general management, housing and healthcare aspects were studied. The data collected was tabulated and analysed using relevant statistical tools.

Results and Discussion

General management

Majority of the respondents (99.07%) identified their Malnad Gidda cattle by names. Purchasing of animals for dairy purpose through bank schemes and insuring them were less and this could be the reason for less tag identification.

Further, majority (69.44%) of respondents did not experience external parasite problem in their Malnad Gidda cattle. Only 20.83 per cent of them used acaricides to control external parasites and the rest used traditional tick control methods. Malnad Gidda being native to the Malnad region; scattered dwelling pattern of the region; consumption of various fodder tree leaves, shrubs with

acaricidal properties; use of forest green and dry leaves as bedding material in the cowsheds could be the various factors for reduced tick problem in Malnad Gidda cattle. Among the groups of farmers, significantly high number of medium farmers (88.89%) had no external parasite problem in their Malnad Gidda cattle as compared to small (59.72%) and large farmers (59.72%).

Better care and management of medium herds of Malnad Gidda cattle by such farmers could be the reason. These findings are dissimilar with that of Manjunatha (2003) who observed 63.57 *per cent* of respondents used acaricides to control external parasites, where the cattle were majorly high yielding crossbred cows. Further, majority of the respondents (85.64%) did not maintain any records such as breeding, feeding, health or milk records at all.

Housing management

Roof pattern

The results (Table 2) indicate that majority of the respondents (68.98%) had cattle sheds with tiled roofing and open sides. This was followed by sheds with 'asbestos roofing with concrete sidewall and windows' (11.57%) and tiled roofed cattle sheds with variations in wall type in small proportions. Tiled roofing, which is prepared using locally available wooden poles such as coconut, areca, bamboo, etc, and tiles, allows good aeration and is best suited for Malnad region characterized by heavy rains.

This could be the reason for majority of the respondents opting for tiled roofing. Rathore *et al.*, (2010) found that majority of the cattle keepers used thatched roof (70.50%) at Churu district of Rajasthan, where climatic conditions are entirely different. This could be based on the locally available resources there.

A significant difference among the three categories of farmers was observed. 'Asbestos roofing with concrete sidewalls and windows' (16.67%), and 'tiled roofing with thatched sides' (8.33%) were predominant among small farmers. For economic reasons higher number of small farmers might have opted for cheaper asbestos type of roofing and thatched sidewalls.

Floor pattern

With respect to floor pattern, about two-third of the respondents had either mud flooring (28.70%) or floor filled with leafy vegetation (34.26%) in their cattle sheds. This clearly reflects that the flooring pattern was routed in the tradition of manure making. In case of mud flooring, the dung and urine mixed with mud was removed and deposited in the manure pit.

Whereas, in case of floor with vegetation, dried leaves or green leaves were spread in the floor, which would mix up with dung and urine to form in suite composting. Raking of bedding material was done occasionally to avoid soiling of the animals. The bedding material was removed once in one to three months. However, one-fourth of respondents had non-slippery stone slabs (24.54%) flooring.

Such slabs were byproducts of quarry industry, which the farmers diligently used for flooring purpose. About one-tenth of them (12.51%) had cemented floor. These farmers might have opted for cement flooring in spite of high investment for its better advantages such as cleanliness, free from odor, easy washing, non-slippery, etc.

Among the groups relatively high number of small farmers (51.39%) filled dried leaves on the floor when compared to other groups of farmers.

Space constraint would have forced them to make manure in the shed itself. Whereas, cemented and stone slab laid flooring was predominant among medium and large farmers. Availability of resources among these categories of farmers would have enabled them to opt for cemented and stone slab laid flooring.

The present finding was similar with Jaysingh and Saharan (2016) who found that all the Tharparkar cattle keepers had kutchra floor in shed at western Rajasthan.

Type and cleaning of mangers

Majority of the farmers (54.63%) had kutchra mangers in their cattle sheds. The results are inconsonant with that of type of flooring pattern. In all means, the farmers with mud flooring and mud flooring filled with vegetation had kutchra mangers and those with cemented flooring and stone slab laid flooring had pucca mangers. However, almost all the respondents (97.22%) cleaned the mangers daily.

Removal of dung

Half of the respondents (50%) removed dung occasionally. The rest mostly removed twice daily. Among the different category of farmers, majority of small farmers (63.89%) removed the dung occasionally compared to medium (43.05%) and large farmers (43.06%).

This is in conjunction with floor pattern, wherein it was more of either mud floor or mud floor filled with vegetation. On contrary more of medium and large farmers removed dung twice a day or even thrice a day in some instances in accordance with floor type (either cemented or stone slab) which necessitates daily cleaning.

Use of dung

Majority of the respondents (79.62%) used dung as a source of manure alone. The rest of them used it for manure as well for plastering of walls and preparing mud floor, which is rooted in the tradition of rural folk. Only one respondent used manure for bio-gas production. This clearly indicates that manure production is the major purpose in rearing Malnad Gidda cattle in Malnad region of Karnataka. The present finding was similar with that of Purnesh (2002).

Disposal of urine

Majority of the respondents (95.84%) disposed off the Malnad Gidda cattle urine to manure pit. Irrespective of type of flooring it is a tradition to provide a urine pit in one of the corners of cattle shed among the cattle rearers and dispose off the urine collected to manure pit. This could be the reasons for such a result. Small proportion of them collected, prepared arka - a distilled urine product- and marketed it for medicinal purposes and for use in organic farming.

Milking management

Majority of the respondents (53.25%) used stripping method for milking the Malnad Gidda cows. By virtue of low productivity the udder and teats of Malnad Gidda cows would be small, wherein stripping could be easy for the farmers.

However, in good built Malnad Gidda cattle with large teats, full hand milking is possible and this is reflected in the results where two-fifth of the respondents (44.44%) were using full hand milking. The present findings were dissimilar with Rathore *et al.*, (2010), Jaysingh and Saharan (2016) and Sunil kumar (2017) who stated that majority of the respondents (81.75%), (94.06%) and

(88.80%) used knuckling method to milk the indigenous cattle in their respective areas of studies. Further, majority of the respondents (91.67%) milked Malnad Gidda cattle twice a day. i.e. in the morning and evening. These timings of milking are the most convenient and universally accepted. The present findings are similar with that of Purnesh (2002) who observed that cent *per cent* of the respondents milked the cows twice a day at Arid Western Plain zone of Rajasthan. Good to note that all the respondents followed sanitary procedures like washing their hands, buckets and utensils used for milking, wiping udder with towel, etc, during the time of milking. However, these findings are dissimilar with Nalubwama *et al.* (2016) and Sunil kumar *et al.*, (2017) wherein, the level of knowledge about sanitation among the cattle owners was low in Central Uganda and Thar desert of Rajasthan, respectively.

Health management

With regard to deworming (Table 3) almost all the respondents (95.83%) dewormed but periodicity and regularity varied significantly between the groups. High literacy rate among respondents could be the reason for such results. Significantly, high number of medium (44.44%) and large farmers (48.61%) dewormed their animals once in a year. However, small farmers dewormed but not periodically (43.05%). Less attention towards management of Malnad Gidda cattle by small farmers due to their preoccupation with other sources of livelihood could be the reason for such a trend. All most all of the respondents (99.07%) had history of disease in their Malnad Gidda cattle. The respondents perceived that Malnad Gidda cattle are quite resistant to diseases, such as mastitis, foot rot, downer cow, retention of placenta, prolapse, etc. However, since the animals graze outside, are in constant interaction with various disease agents, and have chances of

consuming various poisonous plants and herbs, they are prone for health upsets as indicated by the respondents. Majority of the farmers (94.90%) vaccinated their cattle against FMD but vaccination against other diseases was almost absent. Awareness about the ill consequences of FMD among the respondents and compulsorily FMD vaccination done by department of AH&VS, twice in a year, could be the reason for such results. However, as other diseases are uncommon and the department does not regularly do vaccinations against such diseases, the respondents might not have been vaccinating for such diseases. For treatment of Malnad Gidda cattle majority of respondents (91.20%) sought help of veterinarians. Availability of qualified professional services in the study area coupled with awareness about the importance of availing qualified personnel veterinary services could be the reason for such a result. Interestingly, a small proportion of them (5.10%) had used isolation pen for sick animals.

Majority of the respondents (64.81%) had found no mortality in their Malnad Gidda cattle in last one year. This is a clear indication of the fact that Malnad Gidda cattle are quite resistant to diseases. However, among one-fourth of them (24.07%) one mortality was observed. This was 2-5 in one-tenth (10.19%) of them. This could be due to various infectious causes and non-infectious causes such as bloat, food poisoning, plant poisoning, road accidents, accidental falls, snakebites, lightning, etc. On death of animals, majority of the respondents (89.35%), just buried the dead carcass of Malnad Gidda. However, it is heartening to note that about 7.4 *per cent* of them buried the carcass with lime. The present finding was dissimilar with that of Purnesh (2002) where 61.11 *per cent* respondents left carcass to decay in open.

Table.1 Details of parasite control in Malnad Gidda cattle

Particulars	Small farmer (n=72)	Medium farmer (n=72)	Large farmer (n=72)	Total (n=216)
Control of external parasites				
No external parasite problem	43(59.72)	64(88.89)	43(59.72)	150(69.44)
Use of acaricides	22(30.56)	1(1.39)	22(30.56)	45(20.83)
Manually picking up, use of soap, crows, turmeric, etc.	3(4.17)	3(4.17)	3(4.17)	9(4.17)
Use of power pump, tie in mist	4(5.55)	4(5.55)	4(5.55)	12(5.56)
Chi-square	25.48**			

Figures in parenthesis represent percentage; ** Significant at one per cent level

Table.2 Details of house and roof pattern

Particulars	Small farmer (n=72)	Medium farmer (n=72)	Large farmer (n=72)	Total (n=216)
Roof pattern				
Tiled roofing with open sides	45(62.50)	50(69.44)	54(75.00)	149(68.98)
Asbestos roofing with concrete side walls	12(16.67)	5(6.94)	8(11.11)	25(11.57)
Tiled roof with concrete side walls	7(9.72)	9(12.5)	7(9.72)	23(10.65)
Tiled roofing with thatched sides	6(8.33)	1(1.39)	0(0.00)	7(3.24)
Tiled roof with mud wall on all sides	2(2.78)	4(5.56)	0(0.00)	6(2.78)
Thatched roof with open sides	0(0.00)	2(2.78)	1(1.39)	3(1.39)
Open or free range housing	0(0.00)	1(1.39)	2(2.78)	3(1.39)
Chi-square	35.80**			
Floor pattern				
Mud floor	16(22.22)	21(29.17)	25(34.72)	62(28.70)
Mud floor filled with leafy vegetation /bedding material	37(51.39)	23(31.94)	14(19.44)	74(34.26)
Stone slab floor	14(19.44)	18(25.00)	21(29.17)	53(24.53)
Cemented floor	5(6.94)	10(13.89)	12(16.67)	27(12.51)
Chi-square	30.04**			
Removal of dung				
Thrice a day	0(0.00)	0(0.00)	8(11.11)	8(3.70)
Twice a day	23(31.94)	38(52.78)	33(45.83)	94(43.52)
Once a day	3(4.17)	3(4.17)	0(0.00)	6(2.78)
Occasionally	46(63.89)	31(43.05)	31(43.06)	108(50.00)
Chi-square	26.89**			

Figures in parenthesis represent percentage; ** Significant at one per cent level

Table.3 Details of deworming in of Malnad Gidda cattle

Particulars	Small farmer (n=72)	Medium farmer (n=72)	Large farmer (n=72)	Total (n=216)
Deworming				
Once in 3 m	3(4.17)	3(4.17)	1(1.39)	7(3.24)
Once in 6 m	13(18.06)	15(20.83)	17(23.61)	45(20.83)
Once in year	19(26.39)	32(44.44)	35(48.61)	86(39.81)
Done but not periodical	31(43.05)	20(27.78)	18(25.00)	69(31.95)
Not practiced	6(8.33)	2(2.78)	1(1.39)	9(4.17)
Chi-square	15.65*			

Figures in parenthesis represent percentage

* Significant at five per cent level

A study on management and health care practices of Malnad Gidda cattle was conducted among various categories of farmers. The results revealed that majority of the respondents dewormed and did not experience external parasite problem in their Malnad Gidda cattle. Cattle sheds were majorly tiled roofed with open sides and flooring was either mud or mud covered with leafy vegetation. Majority of them used dung as a source of manure alone and disposed of urine to manure pit. Majority of the respondents used stripping method for milking their Malnad Gidda cows followed by full hand milking and the cows were mostly milked twice daily.

All the respondents followed sanitary procedures during milking. With respect to health management, majority of the respondents had history of disease in their Malnad Gidda cattle, vaccinated their cattle against FMD and vaccination against other diseases was almost absent. For treatment of Malnad Gidda cattle, majority of them sought help of veterinarians and had found no mortality in their Malnad Gidda cattle in last one year. On death of animals, majority of them just buried the dead carcass. Thus, the results are indicative that the management and

health care practices of Malnad Gidda cattle are rooted in the traditions of the region and are reflective of modern scientific approach as well. Education on modern management practices are needed to improve and conserve this rare breed of cattle of Malnad region.

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