



ISSN (E): 2277- 7695
ISSN (P): 2349-8242
NAAS Rating: 5.03
TPI 2020; 9(2): 40-43
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www.thepharmajournal.com
Received: 28-12-2019
Accepted: 30-01-2020

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Rearing practice of small ruminants for meat production: An exploratory study in Karnataka

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Abstract

The present study was conducted to acquire the first-hand information on existing rearing practices of small ruminants in Tumakuru district of Karnataka. A total of 120 small ruminant farmers were randomly selected for the study. Majority (61.67%) of the farmers practiced extensive grazing, did not provide concentrates (79.17%) and supplementary ration (81.66%). In case of housing management 96.66 per cent of animal houses were built with kuccha floor and without manger feeding facility. There was a considerable gap existing between recommended scientific management practices and the existing management practices, like pre-feeding of chaffed fodder, feeding of balanced ration, supplementary feeding, disinfection of shed, precautionary measures against sick and diseased sheep and goats and discarding carcass from sick and diseased sheep and goats.

Keywords: Karnataka, meat production and small ruminants

Introduction

Small ruminants play an important role in providing food and employment to the human beings. They contribute significantly to the national economy and provide sustained income and livelihood to the small and marginal farmers. Sheep and goats are ideally suited for the poorest of the poor because of short gestation period, low input with moderate output, low risk capital investment and low cost of maintenance. Sheep and goat rearing being a traditional practice among rural poor, they are considered as poor man's ATM or moving bank as they provide financial assistance to the farmers round the clock in all types of situations.

There are around 143 sheep and goat markets in Karnataka, which operate on weekly basis (Sheep Board Karnataka, 2015) [7] and the most common criterion used by respondents for selling of sheep and goats was based on muscle thickness at loin and thigh region. Several middlemen were involved in the marketing of livestock as well as meat, thus affecting the profit margins of the farmers getting hardly 40 to 50 per cent of the price that the consumer actually pays (Padma and Thind, 2002) [5].

As sheep and goat population is high in Tumakuru district of Karnataka, the study entitled "Rearing practice of small ruminants for meat production - An exploratory study in Karnataka" was carried out to understand the rearing practices in Tumakuru district. Considering the above facts, the present study was carried out with the specific objective to explore the rearing practices of small ruminants for meat production.

Materials and Methods

An exploratory research design using multistage random sampling technique was adopted for the study. The study was conducted in Tumakuru district of Karnataka state. Four taluks viz. Chiknayakanhalli, Koratagere, Pavagada and Sira taluks were selected for the study according to the small ruminants' population. From four taluks, five villages were randomly selected for the study and six sheep and goat rearing farmers from each village were randomly selected. Thus total, 120 sheep and goat rearing farmers constituted as the sample for the study. The respondents were personally interviewed using pre-tested interview schedule. For the purpose of statistical analysis of collected data the statistical tools like frequency and percentage were selected.

Results and Discussion

1. Distribution of sheep and goat farmers based on the rearing and feeding practices

The data from the table 1 revealed that majority (61.67%) of the sheep and goat farmers practiced extensive grazing method, feeding both green and dry fodder (99.17%). Glances on availability of green fodder indicated that, majority (38.33%) of respondents were feeding naturally grown green grasses. The reasons could be attributed that no cost was involved in grazing and also grazing being commonly practiced to feed animals, wherever grazing land is available. Majority of the marginal and small farmers depended on naturally grown grasses. The data furnished on varieties of green fodder and dry fodder revealed that, majority (42.50% & 37.50%) of the respondents feeding to their sheep and goats was as per the availability and based on what they were cultivating in their field. The data presented on method of feeding fodder revealed that, majority (94.17%) of the respondents fed fodder as such to their sheep and goat and (51.67%) of the respondents used lake water as a source of drinking water. Even while feeding cultivated grass, chaffing was not practiced which indicated lack of awareness on advantages of chaff feeding. Majority (93.33% & 79.17%) of the respondents did not practice fodder enrichment nor provided concentrate to their sheep and goat. This indicates the need for more awareness programs educating the farmers on the advantages of fodder enrichment as well as concentrate feeding.

Knowledge about balanced ration revealed that, majority (95%) of the sheep and goat farmers did not know about

balanced feeding, did not provide mineral mixture (95%), were not feeding supplementary ration (81.66%) and not preserving the green fodder (98.33) indicating the necessity of more awareness programs on these practices.

The data furnished on preservation of dry fodder revealed that, majority (82.50%) of respondents were practicing hay making with heap method and also allowed their animals for grazing during adverse climatic condition (91.67%). It points that the farmers follow the traditional method of preserving dry fodder and extensive system of rearing. The data on raising of orphan lamb/kids revealed that, majority (46.67%) of the respondents raised orphan lamb/kids both on milk of other animals and foster mother, indicating their knowledge on management of orphan lambs/kids.

The results were in line with the findings of Mehta *et al.* (1995) ^[4], Virojirao *et al.* (2008) ^[10], Meena *et al.* (2011) ^[3], Dinaker (2013) ^[11] and Sunkara *et al.* (2017) ^[9].

2. Distribution of sheep and goat farmers based on housing management

The data in the Table 2 on housing of small ruminants indicated that, majority (47.50%) of the respondents housed sheep and goat beside their house, with thatched roofing (54.16%) and kuccha flooring (96.66%). Glances at manger facility depicted that, majority (96.66%) of the respondents did not have manger facility for feeding their sheep and goat and most (62.50%) of them fed while tying. Majority (72.50%) of the respondents were not practicing any fly control measures and (93.33%) of the farmers did not have drainage facility in the shed.

Table 1: Distribution of sheep and goat farmers based on the rearing and feeding practices (n=120)

Sl. No.	Rearing and Feeding practices	F	%
1. Rearing practice			
	a. Extensive grazing	74	61.67
	b. Intensive grazing / Stall feeding	01	0.83
	c. Semi intensive grazing	24	20.00
	d. Nomadism	21	17.50
2. Type of roughage			
	a. Green fodder	01	0.83
	b. Dry fodder	-	-
	c. Green fodder + Dry fodder	119	99.17
3. Availability of green fodder			
	a. Naturally grown green grasses	46	38.33
	b. Cultivated	30	25.00
	c. Purchased	-	-
	d. Cultivated +purchased	29	24.17
	e. Purchased +naturally grown green grasses	15	12.50
4. Variety of Green fodder			
	a. As per the availability	51	42.50
	b. Naturally grown green grasses	30	25.00
	c. Fodder plants +Naturally grown green grasses	39	32.50
5. Variety of dry fodder			
	a. As per the availability	45	37.50
	b. Ground nut hay	29	24.17
	c. Horse gram Stover	35	29.17
	d. Red gram husk	10	8.33
	e. No practice	01	0.83
6. Method of feeding green and dry fodder			
	a. As such	113	94.17
	b. After chaffing	07	5.83
7. Sources of drinking water			
	a. Well	-	-
	b. Deep Well	49	40.83
	c. Tap water	09	7.50
	d. Lake water	62	51.67

8. Fodder enrichment			
	a. Yes	08	6.67
	b. No	112	93.33
9. Concentrate feeding			
	A. Practice concentrate feeding	25	20.83
	a. Source of concentrates		
	i. Homemade	21	17.50
	ii. Compounded feed	03	2.50
	iii. Homemade+Compounded feed	01	0.83
	B. Did not practice concentrate feeding	95	79.17
10. Knowledge about balanced feeding			
	a. Yes	06	5.00
	b. No	114	95.00
11. Feeding of mineral mixture			
	a. Yes	06	5.00
	b. No	114	95.00
12. Feeding of supplementary ration(during flushing, late pregnancy and for lactating animals)			
	a. Yes	22	18.34
	b. No	98	81.66
13. Preservation of green fodder (silage making)			
	a. Yes	02	1.67
	b. No	118	98.33
14. Preservation of dry fodder (Hay making)			
	a. Yes	99	82.50
	b. No	21	17.50
15. Grazing during adverse climatic condition			
	a. Yes	110	91.67
	b. No	10	8.33
16. Raising of orphan lamb / kids			
	a. Milk of other animals	48	40.00
	b. Foster mother	16	13.33
	c. Milk of other animals + Foster mother	56	46.67
	d. Any other	-	-

Table 2: Distribution of sheep and goat farmers based on housing management (n=120)

Sl. No.	Housing management	F	%
1. Housing of small ruminants			
	a. Beside the house	57	47.50
	b. Separate shed	41	34.17
	c. Below the shade of tree	01	0.83
	d. Open area	21	17.50
2. Type of roof provided			
	a. Asbestos sheet	15	12.50
	b. Pucca roof	04	3.34
	c. Thatched roof	65	54.16
	d. No roof	36	30.00
3. Type of floor provided			
	a. Kuccha	116	96.66
	b. Cemented	04	3.34
	c. Any other	-	-
4. Manger facility			
	a. Yes	04	3.34
	b. No		
	i. On the ground	15	12.50
	ii. On concrete floor	01	0.83
	iii. Bamboo basket	17	14.16
	iv. Iron basket	08	6.67
	v. Any other (Tie and hang the fodder)	75	62.50
	Feeding without manger Total	116	96.66
5. Fly control facility			
	a. Fly killer	-	-
	b. Mosquito net	-	-
	c. Any other (Put smoke)	33	27.50
	d. None	87	72.50
6. Drainage facility			
	a. Yes	08	6.67
	b. No	112	93.33
7. Electricity facility			

	a. Yes	49	40.83
	b. No	71	59.17
8. Protection during night time			
	i. Using watch dogs	03	2.50
	ii. Night shifts	02	1.67
	iii. Fencing	06	5.00
	iv. Electrical fencing	-	-
	v. Using watch dogs+ Night shifts	09	7.50
	vi. Using watch dogs+ Fencing	05	4.17
	vii. Night shifts+ Fencing	25	20.83
	viii. Using watch dogs+ Night shifts+ Fencing	70	58.33

This indicated the need of awareness programs on prevention and control measures of vector borne diseases and as well as hygienic measures to be followed in the housing management. Regarding electricity facility, majority (59.17%) of the sheep and goat farmers did not have electricity facility in the shed and majority (58.33%) of the sheep and goat farmers protected their sheep and goat using watch dogs, night shifts and fencing. The results were in accordance with the findings of Gupta *et al.* (2011) ^[2], Sakthivel *et al.* (2012) ^[6], Dinakar (2013) ^[1] and Shivakumar *et al.* (2017) ^[8].

Conclusion

There was a considerable gap existing between recommended scientific management practices and the existing management practices, like feeding of chaffed fodder, feeding of balanced ration, supplementary feeding, disinfection of shed, precautionary measures against sick and diseased sheep and goats. In case of housing management majority of animal houses were built with kuccha floor and without manger feeding facility. This indicates the need for more awareness programs educating the farmers on the advantages of scientific management practices as well as housing standards.

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