

## RUMINAL DYSFUNCTIONS OF GOATS IN KERALA

### I. INCIDENCE AND SEASONAL DYNAMICS\*

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Incidence of ruminal dysfunctions particularly acid indigestion in bovines in India is reported to be high during the summer season (Joshi, 1970; Verma and Ganapathy, 1973; Joshi and Misra, 1974 and Prasad and Rekib, 1979). However, Chakraborty *et al.* (1974) in Assam observed the highest incidence of ruminal dysfunctions in cattle during South-West monsoon season. Data on the incidence of digestive disorders in goats is found to be limited in the literature available. Based on the results of investigations taken up recently the incidence and seasonal dynamics of digestive disorders of goats in Kerala are presented here.

#### Materials and Methods

Data on the incidence of digestive disorders among goats for a period of five years from 1982 to 1986 was collected from the records maintained at Veterinary Hospitals, Anthikad, Mannuthy and Pattikad. Based on these data the seasonal dynamics of ruminal acidosis and other types of digestive disorders of goats for the summer (February to May), rainy (June to September) and winter (October to January) seasons were analysed.

#### Results

Digestive disorders constituted 57.69 per cent of the goats treated (Table I), of which 29.37 per cent were primary digestive disorders with acid indigestion making upto 18.07 per cent. No significant difference due to season was evident in the development of primary digestive disorders though maximum animals were affected during the summer season. However, the incidence of ruminal acidosis showed significant differences between season ( $P \leq 0.05$ ) with the highest incidence during summer and the lowest during winter season (Table II).

#### Discussion

Results obtained in the present study are in conformity with the earlier findings of Balasubramanian and Ganapathy (1965); Verma and Ganapathy (1973) and Thomas (1983) in cattle that indigestion formed the major category of digestive disorders. The present observations revealed that the incidence of ruminal acidosis constituted 18.07 per cent of primary digestive disorders and were similar to those reported earlier by

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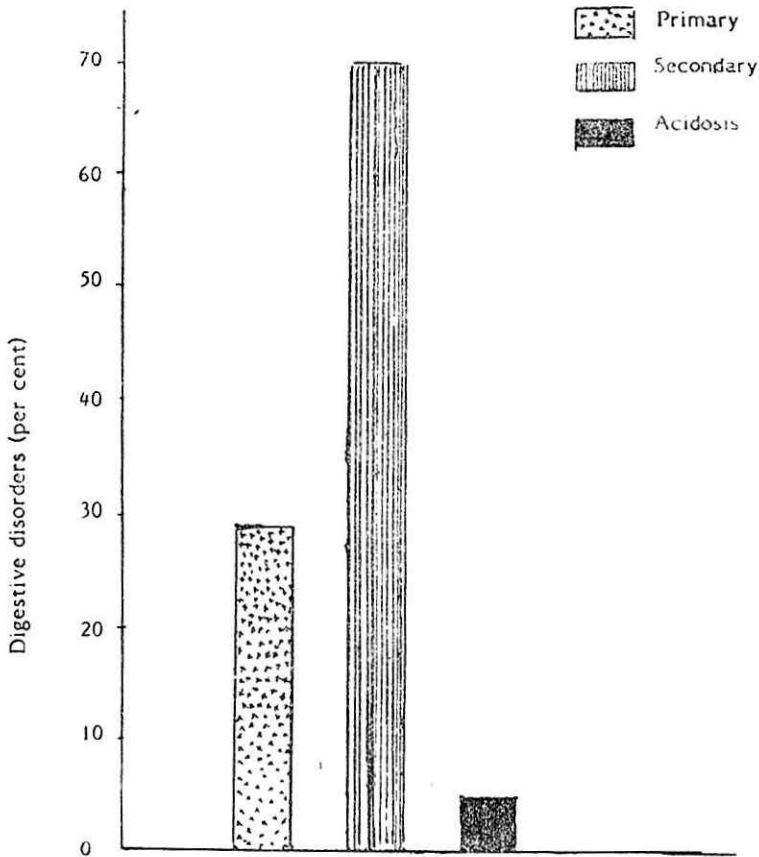


Fig.2. Percentage incidence of primary, secondary digestive dysfunctions and ruminal acidosis among digestive disorders in goats.

Joshi (1970); Prasad *et al.* (1972) and Prasad (1976). High incidence of digestive disorders in goats is believed to be due to sudden changes in feeds and fodder fed to animals especially unconventional feeds rich in carbohydrates. Shortage of good quality rations and drinking water coupled with high ambient temperature was probably responsible for their increased incidence during the summer season (Joshi and Misra, 1974 and Prasad and Rekib, 1979).

#### Summary

Digestive disorders constituted 57.69 per cent of all diseases among goats in Kerala. The incidence of primary digestive disorders was 29.37 per cent with acid indigestion forming 18.07 per cent. Seasonal variations in the incidence of ruminal acidosis were significant and the highest incidence was during summer followed by rainy and winter seasons.

Table 1  
Category-wise incidence of digestive disorders

Year	Total number of goats admitted	Total digestive disorders		Primary		Secondary		Ruminal acidosis	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
1982	3223	1759	54.28	482	27.40	1277	72.60	66	13.69
1983	3392	1776	52.36	479	26.97	1297	73.03	60	12.53
1984	3410	2043	59.91	584	28.59	1459	71.41	83	14.21
1985	2557	1580	61.79	464	29.37	1116	70.63	92	19.83
1986	2217	1379	62.20	498	36.11	881	63.89	152	30.52
Total	14799	8537	57.69	2507	29.37	6030	70.63	453	18.07

Table II  
Season-wise incidence of digestive dysfunctions

Season	Monthly average		
	Digestive disorders	Primary digestive disorders	Ruminal acidosis
Summer	40.08	15.22	2.93
Rainy	51.01	13.37	2.45
Winter	50.18	13.17	2.20

ANOVA. Influence of season on the incidence of ruminal acidosis

Sources of variation	df	SS	MSS	F
Between the season	2	10.35	5.12	4.85*
Error	42	44.39	1.06	1.00
Total	44	54.74		

\*Significant at  $P=0.05$

Values were calculated and compared after  $\sqrt{x}$  transformation.

#### Acknowledgement

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