

## Morbidity Profile of Sangamneri Goat Maintained at Organised Farm

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**Abstract:** The present investigation entitled, "Morbidity profile of Sangamneri goat maintained at organized farm" was under taken by utilizing data generated at All India Co-ordinated Research Project on Goat Improvement, Sangamneri Field Unit, Mahatma Phule Krishi Vidhyapeeth, Rahuri, Maharashtra. The observations pertains morbidity pattern and causes of death were recorded from the records maintained at the project the period from 2007 to 2015 and utilized for the present study. During the period of 1604 morbid case were recorded out of 10334 animals. The overall morbidity during the period was 15.52 per cent. The higher morbidity was recorded in the early age i.e. 0-3 months (21.58 per cent). The highest of morbidity percentage (18.50 per cent) was found in the kid with low birth weights below 2 kg. The overall morbidity was the highest in Rainy season (17.77 per cent), followed by winter (16.45 per cent) and summer (10.45 per cent). The females 17.97 per cent werw more prone to morbidity than that of males (12.82per cent) in all age groups studied. Morbidity was observed higher in multiple births (19.98per cent) and lowest in single births (10.11per cent). The maximum number of kids infected due to disorders of Alimentary tract (50per cent), followed by General systemic (16.83per cent) disorders and Non- specific (10.35per cent). In the Alimentary disorder Diarrhea and anorexia was the major cause, while in general systemic Pneumonia, pyrexia accounted for higher morbidity in Sangamneri goat.

**Key Words:** Sangamneri goat, kid, Morbidity, Sex wise morbidity, birth weight wise morbidity.

### INTRODUCTION

India is predominantly an agricultural country, agriculture and livestock are complementary and supplementary to each other in their production. India has very large livestock production, which contributes to 31.6 per cent of the total income from agriculture and 5.21 per cent of the total Gross Domestic Product (FAO STAT, 2012). Goat is an important species of livestock reared in arid and semi-arid regions of the country. It is believed that, goat is the earliest ruminant and probably the first animal after dog to be domesticated by the man (Zeuner, 1963). The goat population of the world is 921.431 million and that of India is one fifth of the world i.e. 154.00 million (FAO STAT, 2012). There are about twenty breeds of goats in India.

Sangamneri goat is a promising dual-purpose breed both for chevon as well as milk. Goat meat is preferred as fresh, moreover there is no religious belief allotted to it. Being lean it is an excellent source for the preparation of low fat meat products. 'Sangamneri' name derived from the habitat of breed i.e. Sangamner tehsil of Ahmednagar district in Maharashtra. The goat found in Nashik, Pune and Ahmednagar districts of Maharashtra.

The morbidity in any livestock farm has significant importance as they directly affects the margin of profit. Morbidity was defined as the amount of disease in a population (Thrusfield, 1986) and included both clinical and subclinical diseases. Higher losses due to either abortions or early deaths in kids not only affect the economics but also create

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unhealthy atmosphere on the livestock farm. The success of livestock farm therefore depends mainly on the efficient control of mortality losses. The morbidity is affected by large number of factors like age group, sex, birth weight, season of birth, type of birth, genotype, and managerial practices followed on farm and changing climatic conditions. To be a successful entrepreneur it is necessary to have minimum losses due to morbidity and mortality.

## MATERIALS AND METHODS

The present investigation entitled, "Morbidity profile of Sangamneri goat maintained at organized farm" was under taken by utilizing data generated at All India Co-ordinated Research Project on Goat Improvement, Sangamneri Field Unit, Mahatma Phule Krishi Vidhyapeeth, Rahuri, Maharashtra.

The data recorded over the period from 2007 to 2015 were utilized for the present study.

The observations on the date of birth, body weight, season, age at the time of disease incidence and 3.0 kg), Age groups i.e. (Up to 3 months, 3-6 month, 6-12 months and Adults), Type of sex, type of birth and causes of morbidity. The causes of morbidity were studied as per the standard nomenclature of veterinary diseases and case paper maintained at goat project. The data of morbidity causes of morbidity were recorded from annual reports maintained at the project. The data were classified according to various effects such as Year wise morbidity pattern, Season of disease incidence i.e. (Rainy, winter and summer), Birth weight groups i.e. (Below 2.0 kg, 2.0 to 2.5 kg and above presented were tested for their significance by Chi-square test (Snedecor and Cochran, 1994).

## RESULTS AND DISCUSSION

**Table 1**  
Effect of non-genetic factors on morbidity in Sangamneri goat

Effect	Season (per cent)	Birth Weight (per cent)	Age (per cent)	Sex (per cent)	Type of birth (per cent)					
Overall Mean	15.52	15.52	15.52	15.52	15.52					
	Rainy	17.77	0-2 kg	18.50	0-3 Month	21.58	Female	17.97	Single	10.11
	Winter	16.45	2-2.5 kg	16.27	3-6 Month	13.17				
	Summer	10.45	Above 3.0 kg	6.92	6-12 Month	11.56	Male	12.82	Multiple birth	19.98
				Adult	9.24					
Chi-square value(X <sup>2</sup> )	62.19**	149.86**	202.99**	52.19**	190.05**					

\*\* = P<0.01

Results obtained under present investigation are depicted in Table 1 and 2

### Effect of season

Effect of season on morbidity was highly significant (p<0.01). The overall morbidity is significantly high in Rainy season (17.77 per cent) followed by Winter season (16.45 per cent) and the lowest in summer season (10.456 per cent). Similar pattern is also noticed in all the age group under study. The rainy season indicated more morbidity which may

because of lusters grasses, polluted water, microbial load due to high moisture hence the majour case of morbidity was digestive disorder. Since from last ten years seasons were shifting 2 to 3 months forward this is also reason for more morbidity observed in Rainy and winter. The higher kid morbidity in rainy season was also reported by Osuagwah and Akpokadje (1981) in west African dwarf goat and Khajuria *et al.* (2013) in sheep and goat which was in accordance with results obtained in present investigation.

### Effect of birth weight

The overall morbidity was significantly ( $p < 0.01$ ), highest in birth weight group below 2.0 kg (18.50 per cent) followed by 2.0 to 2.5 kg birth weight group (16.27 per cent) and the lowest in birth weight group above 3.0 kg (6.92 per cent). Similar trend was also noticed in all age groups under study. Which may be due to less immunity against various diseases as a natural phenomenon. Hence, attempt should be made to have the higher birth weight of kids by providing better feeding, health cover and management to advance pregnant and lactating does.

The higher morbidity in lower birth weight kids was also reported by Muzumdar *et al.* (1980) in pashmina kids, Singh *et al.* (1990) and Singh (1991) in black Bengal kids.

### Effect of age

The analysis of the data indicated the significant ( $p < 0.01$ ) differences in kid morbidity based on age groups. The Table clearly shows the increasing trend with advancement of age in the kid morbidity. Highest morbidity was recorded in the age group

0-3 (21.58 per cent) and lowest in Adults (9.24 per cent) age group. It indicates that kids of age group below three kg were more susceptible to the diseases as compare to kids of age groups 3-6, 6-12 and above 12 months. Which coincides with results reported by Vihan *et al.* (1986), Briend and Sherman (1993), Kashem *et al.* (2011) and Abubakar and Munir (2014) in different goat breeds.

### Effect of sex

The analysis of the data indicated that significant ( $p < 0.01$ ) differences of sex in morbidity. The overall kid morbidity for females was significantly higher (17.97 per cent) than the males (12.82 per cent). The higher kid morbidity in females obtained in present investigation resembled with findings of Ozekin and Akcapinar (1983) reported in Angora kids.

### Effect of type of birth

The analysis of the data indicated that highly significant differences of types of birth in morbidity. It was seen from the results obtained that, the highest kid morbidity was observed in kids born as multiple (19.98 per cent) in both the sexes, followed

**Table 2**  
Morbidity pattern according to age and diseases in Sangamneri goat

Group	Age group				Overall Kid Morbidity
	0-3	3-6	6-12	Adults	
General systemic	144 (16.55)	58 (15.22)	31 (19.74)	37 (20.00)	270 (16.83)
Alimentary disorder	465 (52.78)	192 (50.39)	73 (46.49)	72 (38.91)	802 (50.00)
Respiratory disorder	43 (4.89)	20 (50.24)	12 (7.64)	8 (4.32)	83 (5.17)
Urogenital disorder	36 (4.08)	27 (7.08)	5 (3.18)	6 (3.24)	74 (4.61)
Parasitic disorder	42 (4.77)	18 (4.72)	12 (7.64)	12 (6.49)	84 (5.23)
Nervous disorder	7 (0.79)	8 (2.09)	1 (0.63)	1 (0.54)	17 (1.06)
Miscellaneous	65 (7.38)	27 (7.08)	5 (3.18)	11 (5.94)	108 (6.73)
Non specific	79 (8.97)	31 (8.14)	18 (11.46)	38 (20.50)	166 (10.35)
Total	881	381	157	185	1604
Chi-Square value ( $\chi^2$ )	52.16**				

Note: Figures in the parenthesis indicates per cent morbidity

by those born as single (10.11 per cent). This might be due to higher birth weight of kids at birth and less quantity of milk availability to the kids during their pre-weaning stage in case of multiple, which affected the growth and immunity against diseases.

### Disease wise Morbidity

From the results obtained in kids revealed that more number of kids between 0-3 month age group (881) fell victim to various diseases and disorders.

Out of the total morbidity, 50.00 per cent was due to the alimentary disorder followed by general systemic disorders (16.83 per cent), non-specific disorders (10.34 per cent), miscellaneous (6.73 per cent), parasitic disorders (5.23 per cent), respiratory disorders (5.17 per cent) and the rest of the kid morbidity was due to nervous disorders (1.06 per cent).

In 0-3, 3-6, 6-12 and adult age groups alimentary disorders showed highest morbidity as 52.78, 50.39, 46.49, 38.91 per cent respectively and followed by general systemic disorders (inflammation, wound, etc) as 16.55, 15.22, 19.74, 20.00 per cent respectively. The kid morbidity coincided with the result reported by Mannan (1989), Erhaduzzman *et al.* (2007), Dohre *et al.* (2013), and Mahmood *et al.* (2014). The results indicated that due care and hygienic practices in feeding and watering should be practiced to avoid digestive tract disorders.

### CONCLUSION

The highest morbidity was found in females, in kids of 0-3 months age group having less than 2 kg birth weight, in multiple births and kids born during rainy season. Alimentary disorders (diarrhoea, anorexia, etc) contributed for maximum morbidity, followed by general systemic disorders and non-specific disorders whereas lowest morbidity case observed in case of nervous disorders.

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