

COMPARATIVE STUDY OF FACTORS CONTRIBUTING TO THE MORTALITY IN LAMBS AND KIDS

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Data pertaining to various factors supposed to be concerned with mortality among lambs and kids were obtained from the record of the Livestock Experiment Station, Rakh Kheirewala, District Leyyah for the period 1981-88, to suggest improved management practices for securing better survival percentage in them. The overall average lamb and kid mortality among different breeds was 8.76 and 13.76% respectively, about 56% higher in kids than in lambs. Breedwise mortality among lambs of Thalli, Pak-Karakul, Sipli and Kachhi was 10.74, 9.15, 5.27 and 4.53%, whereas among kids of Nachi, Beetal, Dara Din Panah, Teddy and Pak-Angora breeds was 7.56, 9.47, 15.86, 18.08 and 10.20% respectively. Sexwise, there was a minor difference in mortality of male and female kids, whereas among lambs it was 4.82 and 3.94% respectively. The overall mortality rate decreased with the increase in age of both lambs and kids. The overall frequency distribution of mortality among lambs increased with the increase in birth weight, whereas the kid mortality was inversely proportional to birth weight. The lamb and kid mortality increased with shift from single to multiple births. The flock size affected the mortality significantly in both lambs and kids. Lambs born in summer (dry hot) suffered the highest death losses (33.37%), whereas it was the highest among kids born in spring (31.96%). Pneumonia was the single disease which caused the highest losses in lambs and kids.

INTRODUCTION

The success of sheep/goat farming is measured in terms of the number of lambs/kids successfully reared in a given season since lamb/kid mortality is one of the major problems that may adversely affect the success of any sheep/goat enterprise. The information on causes of mortality among lambs/kids is quite meagre. Besides diseases, there are a number of other factors which may contribute to the mortality of lambs/kids. Various factors that might contribute to the lamb/kid mortality were studied with a view to evolve improved management practices for securing better sur-

vival percentage among them which is considered an important prerequisite for successful sheep and goat farming.

MATERIALS AND METHODS

Data pertaining to various factors supposed to be concerned with mortality among lambs and kids were obtained from the record of the Livestock Experiment Station, Rakh Kheirewala, District Leyyah for the period from 1981 to 1988. The record of the following breeds of sheep and goats was used to determine the possible causes associated with mortality among lambs and kids from birth to weaning age (120 days).

i. Breeds of sheep

Thalli, Sipli, Kachhi and Pak-Karakul

ii. Breeds of goat

Beetal, Nachi, Dara Din Panah, Teddy and Pak-Angora. Data in respect of the following factors supposed to be associated with mortality in lambs/kids, were collected:

1. Species
2. Breed
3. Sex of lamb/kid
4. Age of lamb/kid
5. Birth weight
6. Types of birth
7. Season of birth
8. Flock size
9. Age of dam
10. Breeding system (controlled breeding, stray breeding/mating)
11. Predators (wolf, dog and snake)
12. Diseases

To find out the possible relationship between mortality and various factors, the data were analysed. Significance of differences among associations of various factors contributing to the mortality in lambs and kids of different breeds maintained at the Rakh Kheirewala Farm was statistically tested by Chi-square (χ^2) test.

RESULTS AND DISCUSSION

A. Lamb Mortality

The overall percentage mortality among lambs of Thalli, Pak-Karakul, Sipli and Kachhi was 10.74, 9.15, 5.27 and 4.53; sexwise it was 4.82% in male lambs and 3.94% in female lambs (Table 1).

The trend in mortality did not seem consistent as far as various breeds were concerned. These results were in close proximity with those reported by some workers

(Cumliwski, 1980; Tomar, 1984). Cumliwski (1980) reported that lamb mortality of three mutton breeds was 8.4, 7.6 and 10.4% whereas in three wool breeds it was 7.6, 6.6 and 8.0%. Tomar (1984) observed that the annual mortality in Corriedales, Coimbatores and their crossbreds averaged 23.64, 8.57, 3.81 and 6.84% respectively. The differences in sexwise mortality might be due to better care and protective measures provided to female sucklers than to the male animals at the farm. This was supported by Schoning and Sagartz (1986). They observed more mortality in male lambs than in female.

There was a low mortality rate in lambs born with birth weight up to 2 kg and beyond which the mortality increased with the increase in birth weight. This did not actually reflect reduced death loss rather it was due to small number of lambs involved. Moreover, such lambs were given special attention and care that enhanced their survival rate. More mortality in birth weight group of 2.5 kg and above is due to large number of lambs involved, stress due to over-crowding, improper colostrum feeding and more chances of spread of infection. These results were supported by Poonia *et al.* (1983) who reported that mortality increased with the increase in birth weight. Kornel and Vasudevan (1984) reported that birth weight was one of the significant factors affecting the survival of lambs.

The lambs born in the summer dry hot season were more prone to death than those born during other seasons (Table 2). This is because of high summer temperature which tended to be stressful for the lambs and scarcity of fodder during this season made the conditions rather adverse for the lambs. Season of birth was one of the significant factors affecting the survivability of lambs (Taiwo and Buwanendran, 1985). The high-

est percentage of deaths among lambs was due to pneumonia (39.42%), followed by enteritis (21.07%) and other diseases (Table 3).

B. Kid Mortality

The average kid mortality of all breeds was 13.76%, whereas mortality among kids

Table 1. Effect of sex on lamb mortality in various breeds

Breed	Male		Female		Overall mortality	
	Number died	Mortality (%)	Number died	Mortality (%)	Number died	(%)
Thalli	131	6.01	103	4.73	234	10.74
Pak-Karakul	80	4.72	75	4.43	155	9.15
Sipli	12	2.63	12	2.63	24	5.27
Kacchi	24	3.02	12	1.51	36	4.53
Total/Overall	247	4.82	202	3.94	449	8.76

Table 2. Seasonwise distribution of births and mortality in all breeds of lambs

Seasons	Births		Death		Overall mortality (%)
	Number	Percentage	Number	Percentage	
Winter (1st Dec. - 15 Feb.)	435	8.49	19	4.23	4.37
Spring (16 Feb. - 30 April)	2008	39.20	134	28.84	6.67
Summer: dry hot (1st May - 30 June)	809	15.79	270	7.13	33.37
Summer: humid hot (1st July - 15 Sep.)	391	7.63	10	2.23	2.56
Autumn (16 Sep. - 30 Nov.)	1480	28.89	16	3.57	1.08
Overall	5123	100	449	100	8.76

Table 3. Effect of diseases on lamb mortality in various breeds

Breed	Percentage mortality due to					
	Pneumonia	Enteritis	Pox	Debility	Haemonchus	Others
Sipli	45.83	37.5	-	-	-	-
Pak-Karakul	43.87	11.61	4.51	7.74	0.65	5.16
Kachhi	44.44	25.00	2.78	-	-	8.33
Thalli	35.04	8.97	11.54	6.84	11.11	7.26
Overall average	39.42	21.07	7.79	6.24	6.01	6.24

Table 4. Effect of sex on kid mortality in various breeds

Breed	Male mortality		Female mortality		Overall mortality	
	Number	Percentage	Number	Percentage	Number	Percentage
Nachi	17	4.76	10	2.80	27	7.56
Beetal	65	5.09	56	4.36	121	9.47
Dara Din Panah	22	7.12	27	8.74	49	15.86
Teddy	211	18.79	223	9.29	434	18.08
Pak-Angora	55	5.91	40	4.29	95	10.20

of Nachi, Beetal, Dara Din Panah, Teddy and Pak-Angora breeds was 7.56, 9.47, 15.86, 18.08 and 10.20% respectively (Table 4). This table showed the sexwise mortality which was 7.01 and 6.75% among male and female sucklers respectively. The possible reason was more multiple births with low birth weight in Teddy goats leading to less disease resistance than kids of other breeds. The chances of survival of young ones having low birth weight are often much less compared to those born with normal birth weight (Prasad, 1983). Kid mortality rate was significantly different among different

breeds of goats (Chawla *et al.*, 1982). Male kids suffered higher mortality than female kids (Koul *et al.*, 1988).

The kid mortality tended to decrease with the increase in birth weight up to 2.50 kg and beyond 2.50 kg it increased with the increase in birth weight in all breeds except Dara Din Panah and Pak-Angora. The young ones having low birth weight suffered more mortality than those having high birth weight (Prasad, 1983). The highest rate of mortality among kids of different breeds was due to pneumonia (34.16%), followed by

enteritis (24.11%) and other diseases. Significant losses due to kid mortality as assessed from this study were supported by Chawla *et al.* (1982) and Koul *et al.* (1988). They reported that pneumonia was the major cause of kid mortality followed by enteritis and other diseases.

Conclusions

- i. On an average 56% more mortality was observed in kids than in lambs.
- ii. Pneumonia as a single disease caused the highest mortality in lambs and kids.
- iii. The highest mortality was observed in young ones born in summer season.

Suggestions

- i. Controlled breeding and better management of ewes/does before lambing/kidding and better care of lambs/kids upto four months of age can reduce the mortality.
- ii. Synchronization of oestrus for lambing/kidding in favourable season and proper housing be provided for reduction in losses.
- iii. Proper vaccination, dipping and deworming against various diseases be done.
- iv. Laboratory diagnosis of various samples from diseased animals should be thoroughly carried out.

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