

OVINE FOOTROT - A FIELD OBSERVATION

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Footrot, an infectious disease of sheep and goats caused by *Dichelobacter nodosus*, is a serious sheep disease in Australia. Flock infection can bring significant financial loss due to reduced production and the high cost of on-going treatment. The data presented here show the rapid and substantial penalty that occurred when 1 plot of sheep from a grazing management experiment was accidentally infected with *D. nodosus*.

The experiment at Cressy Research Station was a 3 x 2 x 2 factorial design containing 3 stocking rates, 2 grazing managements and 2 replicates. There had been no evidence of footrot in any of the sheep grazing the 12 plots prior to December 1988. In October 1988, however, *D. nodosus* (elastase positive) was isolated from foot swabs of lame sheep in plot 1. Lambing commenced on 1 September with lamb marking in early October and weaning on 5 October. There were approximately 60 ewes in each plot. It is thought that the infection first occurred just prior to or during lambing. The effect of this footrot outbreak on the mean liveweight of ewes and lambs in plot 1 as compared to ewes and lambs at the same stocking rate (3 plot average) is presented in Table 1. The liveweight average of the 4 plots of ewes and lambs in the higher stocking rate plots is also tabulated.

Table 1. Ewe liveweights (kg) pre-lambing (pre-lamb), and at marking (mark) and weaning (wean) and lamb weights at birth, marking and weaning

Mean liveweights with different letters differ significantly ($P < 0.01$)

Ewe group	Stocking rate (ewes/ha)	No. of ewes	Ewe liveweight (kg)			Lamb liveweight (kg)		
			Pre-lamb	Mark	Wean	Birth	Mark	Wean
Plot 1	13	60	56.9a	54.2a	48.1a	4.0a	9.8a	20.6a
3 plots	13	180	52.1b	53.9a	55.5b	4.3ab	11.0b	24.9b
4 plots	15	236	50.7b	52.9a	54.1b	4.4b	10.7ab	25.4b

The ewes from plot 1 had significantly higher liveweights before the infection but by weaning their mean liveweight was significantly lower ($P < 0.01$). The results show that the mean ewe liveweight in plot 1 fell by 8.8 kg from pre-lambing to weaning while the average of mean liveweights from the other 3 plots at 13 ewes/ha increased by 3.4 kg. Even the mean ewe liveweight in the higher stocking rate plots increased in weight and mean liveweight was greater than that from plot 1 ($P < 0.01$). In previous years the mean ewe liveweight from higher stocking rate plots was always lower than mean ewe liveweight from plot 1. Fifty percent of the ewes in plot 1 lost more than 5 kg between marking and weaning while 16.7% lost 10 kg or more. Stewart (1989) in reviewing the literature suggested that under field conditions there can be considerable (5 to 10 kg) loss in body weights in sheep affected by virulent footrot. In this situation, because conceptus weight is included in the pre-lambing weight (estimated at 8 kg) and shearing occurred between marking and weaning (fleece weight estimated at 3.8 kg at marking), the condition of plot 1 ewes effectively remained similar while the ewes from the other plots gained body weight substantially through the spring. The mean liveweight of the lambs in plot 1 was also significantly lower than the mean liveweight of lambs from the plots at the same stocking rate at marking and was 4.3 kg lower at weaning ($P < 0.01$). These observations in controlled conditions emphasise the effect footrot can have in a short period of time.

STEWART, D. J. (1989). In 'Footrot and Foot Abscess of Ruminants.' (Eds J. R. Egerton, W. K. Yong and G. Riffkin.) pp. 5-39. (CRC Press.)