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BRIEF COMMUNICATION

Characteristics of high performance flocks in Otago and Southland

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As lambing percentages rise, particularly above 150%, farmers must alter management to cope with the extra lambs to be reared. In 1981 a survey of 180 Otago and Southland high performance flocks was conducted to assess what management changes had accompanied the rise.

Data for lamb drop (lambs born per ewe joined) flock size, breed, stocking rate, joining weight and lambing management were requested for the preceding 2 years. Detailed lamb mortality data (1979/81) were also collected from Sheeplan records of 4 farms with high lambing percentages.

A total of 141 replics were received from which 96 were suitable for analysis. Flocks were divided into percentile groupings for lamb drop ranging from 130 to 170+ % (Table 1). An increase in lamb drop was associated with a decrease in flock size, although 6 farms with over 2000 ewes achieved lambing percentages of over 160%. Stocking rates were similar for all farms (12.5 breeding ewe/ha) except for flocks greater than 170% lambing where the mean stocking rate was 15.0 breeding ewe/ha.

Ewe mating live weight explained a proportion ($r^2=0.23$) of differences in lambing performance between flocks, but breed differences were also important as many farmers attributed the increase to a change to the Coopworth breed.

Lamb mortality (lambs dead/lambs born) ranged from 9.4% for lower lambing performance flocks (130 to 139%) to 13.8% for the highest performing flocks (170+ %). Fostering of lambs was practised by most farmers with an average 4% of lambs born

being fostered. As lamb drop increased above 150% the amount of fostering was limited by the availability of suitable ewes. About 4% of ewes were assisted at birth in all but the top lambing performance category (1.5%) the majority being single births.

A detailed examination in 4 high performance flocks (some 8700 birth records), indicated that lamb mortalities were significantly higher for singles (9.0%, $P<0.001$) than for twins (7.3%). Triplets and quadruplets had significantly greater mortalities (18.1 and 27.8%) than either singles or twins. ($P<0.001$).

Management changes including set stocking at lambing to reduce flock disturbance, provision of shelter and a greater spread of the lambing period were considered priorities once lamb drop exceeded 140%. Feed supply during lambing and early lactation and lamb mortality were the main concerns of farmers with flocks exceeding 150% lambing. Tighter control of feed allocation by identification of lambing date, the set stocking of triplet rearing ewes at lower stocking rates and supplementary feeding of triplet rearing ewes were all suggested as alternatives for improving feed allocations and ewe/lamb performance.

It would seem that farmers with prolific flocks are coping with many of the problems associated with the larger numbers of lambs and lamb mortality is being kept to reasonably low levels. However, it is apparent that feed management pre-weaning is still an area of concern.

TABLE 1 Production characteristics of surveyed flocks

Lamb drop %	No. of farms	Av. flock size ± S.E.	Av. ewe joining weights (kg) ± S.E.	Lamb Mortality % ± S.E.
170+	10	884 ± 182	62.5 ± 1.6	13.8 ± 2.0
160-169	12	1554 ± 312	64.5 ± 1.2	11.4 ± 0.8
150-159	28	1844 ± 155	59.7 ± 0.7	12.4 ± 0.4
140-149	30	2384 ± 368	59.0 ± 0.9	9.4 ± 2.6
130-139	16	3059 ± 505	57.6 ± 1.5	9.4 ± 2.0

¹lambs dead/lambs born