# EWE SUPPLEMENTARY FEEDING REQUIREMENTS WHEN BLOCK GRAZING OR SET STOCKING

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In the Tasmanian environment in winter, pasture growth rates fall to a minimum, while in contrast, feed requirements of a ewe flock are generally rising due to advancing pregnancy. Unless the stocking rate is low, management decisions are required to ensure animal survival or to maintain production. Block grazing (intensive rotational-grazing of animals) is used in the winter by many Tasmanian sheep producers aiming to increase their carrying capacity.

An experiment investigating winter block grazing (BG) and set stocking (SS) at 3 stocking rates (SR) of 10, 13 and 15 ewes/ha provided the opportunity to compare the supplementary feeding needs of the 2 management strategies. The experiment was run from 1987-90 at Cressy Research Station, Tasmania. Each treatment contained, within 2 replicates, approximately 118 spring-lambing ewes run on perennial ryegrass - subterannean clover - white clover - based pastures. The data from 1 of the replicates of BG15 were not included in the results of 1988 as the pasture in the plot did not recover from a drought in 1987/88. The animals which were block grazed were moved every 2 days with a 90 day rotation in 1987 and 1988 while in 1989 and 1990 the rotation speed was based on a feed budget. This varied from 45 to 100 days. Block grazing started in April-May and continued until 2-3 weeks prior to lambing (mid-August). Supplementary feeding was undertaken to maintain a critical liveweight (CW) of 38 kg net of wool and conceptus weight. The principal supplementary feed was oats although a limited amount of hay was fed if the feeding period was estimated to be less than 2 weeks as a period of adjustment for oat feeding was required to avoid health problems. The hay has been included in Table 1 by converting it to estimated weight of oats on a metabolisable energy basis (1 kg of hay = 0.62 kg oats). Although not strictly reflecting the value of the 2 feed types this provides an estimate of the relative supplementary requirements of the 2 systems. A factorial analysis (data transformed by $\log_{10}$ (feed + 1) with time as a block was used to test for significance between treatments in the years when supplements were fed.

**Table 1. Amount of oats fed (or hay converted to oats on energy basis, kg) and pre-lambing liveweight (kg)**

| Stocking Rate (ewes/ha) | Grazing management | Amount of feed (kg oats/ewe.winter) 1987 | 1988 | 1989 | 1990 | Pre-lambing liveweight (kg) |
|---|---|---|---|---|---|---|
| 10 | Block grazing | — | — | — | — | 55.0 |
| | Set stocking | — | — | — | — | 57.1 |
| 13 | Block grazing | 0.2 | 0.9 | — | — | 53.2 |
| | Set stocking | 17.4 | 6.5 | — | 8.4 | 50.3 |
| 15 | Block grazing | 1.8 | 5.6 | — | 5.5 | 49.4 |
| | Set stocking | 17.9 | 10.1 | — | 8.8 | 50.0 |

BG reduced the amount of supplementary feeding ($P = 0.025$). No supplementary feeding was required at the low SR or at any SR in 1989. When set stocking at high stocking rates, the sheep eat most of the autumn-grown feed prior to the late winter period. Any carry-over feed from the summer is rejected in the autumn and will senesce before the end of winter. Consequently the ewes become deficient in pasture and require supplementary feeding to maintain weight. The BG system, however, acts as a rationing and forced-grazing system. Long rotations allow feed grown in autumn to be transferred to late winter, alleviating the slow growth-rate of pasture. Such benefits need to be weighed against the extra cost of temporary fencing associated with the block grazing technique.