

USING SELF FEEDERS TO REDUCE WASTAGE WITH LARGE SQUARE BALES OF LUCERNE HAY

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Feeding systems that are available for feeding large bales of hay include dumping an intact bale on the ground, breaking into biscuits or feeding in hay feeders. Data for feed out wastage with sheep is limited (Milton *et al.* 2002; Holst and Stanley 2006) but anecdotal evidence suggests losses can be high as 40% (Kaiser pers. comm). We have recently designed feeders for intact or processed bales of silage or hay and these were used to compare wastage against placing unconstrained hay on the ground.

One mob of 300 lambs with a mean liveweight of 56.1 kg was supplemented with 300 g/hd.day of grain plus 4 bales of good quality lucerne hay per week (ME 9.6 MJ/kg, CP 25.1%, 88.4% DM, 330 kg weight, dimensions 2400 mm long x 900 mm wide x 850 mm high) with the entire feeding period lasting for 2 weeks. Bales were fed in a feeder or loose on the ground on each Monday and biscuits were fed in a feeder or loose on the ground on each Wednesday. Each feeding form was used twice during the 2 weeks. Uneaten hay was collected after 7 days for each feeding time, weighed and dehydrated to determine DM quantity which was classified as wastage. Feeders were rectangular, 900 mm wide, allowing full access to the hay and covered for weather protection. Wastage for each feeding form and method is shown in Table 1.

Table 1. Wastage (% DM fed) with Lucerne Hay feed in feeders or loose on the ground.

| Feeding form | Feeding method | | | | Diff |
|--------------|----------------|----------------|--------------|-----------|------|
| | Inside feeder | Outside feeder | Total feeder | On ground | |
| Bale | 3.6 | 1.5 | 5.1 | 28.5 | *** |
| Biscuits | 0.3 | 3.5 | 3.8 | 41.9 | *** |

***P<0.001 – test for feeding method with feeding form

These results illustrate the magnitude of wastage which was within the range reported previously of 20% DM for pure lucerne silage (Holst unpublished data) and 45% DM for slightly weed infested lucerne silage (Holst *et al.* in press) when fed on the ground. During the period of this study 2 rain events of 22.0 and 9.4 mm occurred 1 week apart wetting all “on ground” hay. Milton *et al.* (2002) state that for their feeding study of 55 days, 40% of the days were wet and consequently 77% more hay was required to achieve similar growth rates compared to when the hay was covered.

Considerable savings can therefore be achieved by placing hay or silage in covered feeders irrespective of the form in which the hay is fed. This also has the advantage of reducing the risk of contamination and disease transfer.

If we assume this hay was valued at \$200/t (as fed) then the additional cost of feeding on the ground was \$53/t for bales and \$87/t for biscuits. Hence, the cost for a feeder would be quickly recovered.

HOLST, P.J and STANLEY, D.F. (2006). *Inter. J. Sheep Wool Sci.* (in press).

MILTON, J.T.B., DAVIDSON R.H. and GRAY, S.J. (2002). *Anim. Prod. Aust.* **24**: 332.

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