

## ON FARM HAY AND SILAGE QUALITY IN THE SOUTH WEST OF WESTERN AUSTRALIA

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Forage conservation forms an integral part of farming practices in the south west of W. A. During the dry summer period the quality of residual pasture declines rapidly and is inadequate even for maintenance of animals. To maintain milk production, to finish beef animals out of season or produce quality wool it is necessary to conserve forage during the rapid growth period in spring.

The traditional method of forage conservation is in the form of hay, although in recent years there has been a developing interest in the use of silage. As a conservation method silage making has the advantage of being less weather dependent and consequently the pasture may be cut at an earlier stage of growth when hay making is not possible and therefore at a time when quality is higher.

A study was undertaken to determine the quality of both hay and silage on a variety of farms throughout the south west of W.A. In addition, the study was used to evaluate present silage making procedures. Farms were visited at the time of cutting and the pasture sampled. The same farms were revisited when hay and silage were being fed out and both types of conserved forage were core sampled. The pasture samples and cores of hay and silage were analysed for dry matter digestibility (DMD) (in vitro) and crude protein (CP). Metabolizable energy (ME) was estimated from the dry matter digestibility values.

Preliminary results show that the quality of pasture used for silage was of a higher quality than that used for hay (DMD, 68.2 vs 64.9; ME 9.67 vs 9.17; CP 14.0 vs 11.3). The resultant silage was also of a superior quality compared with the hay (DMD 64.5 vs 61.5; ME 9.1 vs 8.65; CP 14.2 vs 10.35).

The practices used for silage making varied considerably, although all farmers did wilt prior to ensiling. Chop length varied from single to precision chop and the method of ensiling ranged from uncovered field stacks to tower silos. The best quality precision chop silage was of a higher quality than the best single chop silage (DMD 72.2 vs 66.6; ME 10.28 vs 9.43; CP 21.24 vs 15.4). In addition, the degree of compaction was greater with precision chop silage which upon visual inspection resulted in less surface wastage. Both silages were made from a pasture of similar DMD. In comparison the best hay was of a lower quality than either silage (DMD 63.4; ME 9.0; CP 11.9).

This study indicates that substantial losses in quality occurred with both methods of forage conservation. It was also shown that conserving forage as silage has the potential to produce a superior quality product.

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