

## Managing large stubble loads in 2011

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Two years of on-farm demonstrations have presented important outcomes for Landcare groups at Harden, Junee Reefs, Mirrool Creek, Holbrook and Henty who are considering their stubble management options.

Cootamundra conservation farming officer TONY PRATT reports, following Hillston district agronomist [Barry Haskins' story](#) in *Agriculture Today's* November crops and grains feature on valuing abundant stubble after the good season.



Harden-Murrumburrah Landcare members discuss a new machinery evaluation and demonstration at a trial site for stubble management at Harden.

Objectives of the on-farm demonstrations have been to conserve moisture during the summer and autumn between crops, to leave a protective cover on the soil to avoid erosion, and to show the best ways of dealing with stubble loads using a variety of machinery so that crop sowing is not affected.

Fallow efficiency, a yardstick to compare treatments, is a measure of the moisture saved between harvest and sowing and is affected by ground cover, weed control and efficiency of moisture infiltration.

Stubble management starts at harvest with decisions such as cutting height and distribution of residues from the header.

Stubble loads across the paddock can vary markedly if stubble is not spread evenly by the header, often compounded with increasingly large header fronts.

Producing short pieces and an even spread of the cut straw across the full header front width at harvest is essential to maximise ground cover and decomposition and minimise residue concentration and the potential for blockages at sowing.

Without efficient straw spreaders, the build up of residue in the header trail can significantly inhibit crop establishment, causing greater handling difficulties at sowing, especially if moisture is present, leaving stubble wetter in the header trail.

An increase in stubble height over 450 millimetres creates issues for tine machines but when the cutting height is lowered, harvest costs are increased, the evenness of the stubble spread is reduced and there is higher risk of damage to the header from rocks and sticks.

Grain losses at harvest can also increase if the operator is trying to process too much straw through the header.

The lower the harvest cutting height, the more uneven the spread of chopped straw behind the header.

The decision whether the stubble is grazed or left standing is made immediately after harvest.

The demonstrations threw up various schools of thought on grazing stubbles.

If you are dependant on using livestock to break up stubbles to prevent sowing machinery from blocking, dealing with the bare soils over summer and autumn is often a problem.

CSIRO trials indicate that the principal effect of livestock on fallow efficiency appears due to removal of cover rather than surface compaction resulting from trampling.

However, the feed value of stubble declines rapidly after harvest, so within a few weeks the damage to soil structure by livestock can be greater than the grazing value.

Retained stubble can significantly improve infiltration of summer rainfall events, particularly in locations subject to more intense rain and on soil types susceptible to surface sealing.

Stubble left standing will protect soil from wind and water erosion but row spacing needs to be wide enough to allow interrow sowing using GPS guidance, or sowing gear must be able to handle larger stubble loads using discs in preference to tines.

Summer weeds significantly effect summer fallow efficiency, and investment in control in most regions is low risk and very profitable.

Up to 75% of soil moisture can be lost to weeds over the fallow period if control is not timely.

Use of knockdown herbicides, such as glyphosate, needs to be carefully managed to avoid resistance as several sprays

often need to be applied during a wet summer.

As always, rotating chemical groups helps to avoid resistance.

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