Fitting lucerne into the mixed farming system

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Farm info.

Grower: Rob and Jen Egerton-Warburton
Location: 'Korellup', Mobrup
Property size: 4000 ha
Ave annual rainfall: 550 mm
Soil type: Forest gravels and sandy loams
Enterprise mix: Mixed farming, 10,000 sheep predominately merinos

Rob Warburton has grown lucerne for a number of years, but in his mind he was struggling to find the best fit for it in his mixed farming system.

The cost of establishment (mainly the opportunity cost of foregone production) and the low production in winter were disadvantages that weighed heavily on his mind. However, once he starting cropping into his lucerne stands, the fit was obvious.

Rob has now settled on a year-in, year-out cropping rotation on most of his lucerne paddocks, with canola the favoured crop. A number of benefits follow including: (1) the ability to grow a high value crop every second year; (2) green feed is available for weaner sheep every summer and autumn; (3) the canola crop can be grazed briefly in mid-winter to boost winter feed supply; (4) the canola crop needs minimal fertiliser nitrogen due to nitrogen fixation by the lucerne; (5) weeds are easily controlled in the pasture phase using grazing and chemical manipulation; (6) weak (typically sandy) parts of the paddock improve as the lucerne builds organic matter and recycles leached nutrients from depth, and (7) canola yields are rarely, if ever, reduced by competition from the lucerne in his high rainfall conditions.

Managing poor winter production

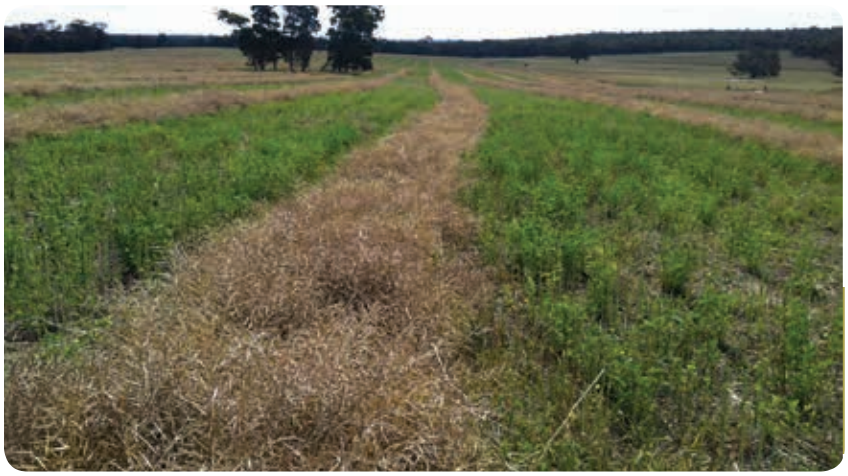
The only disadvantage to this system is the relatively poor winter pasture production from the lucerne in the year out of crop. Rob estimates this to be 10-20% lower than a good annual pasture.

However, given Rob now grazes the majority of his cereal and canola crops each winter, a lack of winter feed is much less of an issue than it used to be. As a result, the poorer winter production from the lucerne can be tolerated. And Rob says when he eventually upgrades to a disc seeder, a cereal such as oats or barley could easily be disced into the lucerne stands in autumn to improve winter feed.

Establishment of the crop and lucerne

TT Canola varieties are grown amongst the lucerne due to their high yield and low seed cost. The Atrazine applications cause some short term leaf scorching to the lucerne, but no long term damage. SpraySeed based knockdowns are also used with no detrimental impact on the lucerne. Due to the tight rotation, fungicides and MR-R varieties are used to minimise the impact of Blackleg.

Establishing lucerne can be an expensive exercise, with the opportunity cost of foregone production while the



ABOVE: Rob showing visitors a flowering canola crop growing amongst lucerne.
LEFT: The lucerne takes off once the canola crop has been swathed.

Lucerne growing happily under the ripening canola crop in late October 2013.

lucerne establishes being the single biggest cost. To reduce this cost, Rob has tried sowing lucerne under a canola crop in the past but without much success. More recently he has established lucerne on its own in August and September, just as pasture growth rates kick up, allowing a paddock to be de-stocked and sprayed out. He then spreads 2 ton/ha of lime, as low soil pH is an issue, and sprays on trace elements, before incorporating them down to 25 cm using a one-way disc plough. A highly winter active lucerne variety such as SARDI 10 is then sown.

By establishing the lucerne in spring, Rob is still able to graze the paddock through winter, reducing much of the opportunity cost. However, if the spring and early summer is dry, grazing over summer and autumn needs to be carefully managed to avoid destroying the new stand. To further reduce the opportunity cost, Rob is keen to go back and explore establishing lucerne under an IT Canola crop. A successful harvest of lucerne seed from one of his existing stands means he now has plenty of low cost seed on-hand to use for this method.

Lucerne paying its way

Having a critical mass of lucerne in the system is important for Rob. He feels that on his farm at least 100 ha of lucerne is needed over summer so that weaner sheep can rotate through a number of paddocks without having to switch back to dry feed or stubbles, which would upset rumen function and subsequent animal performance. Now that he has developed a system that is more profitable (by incorporating canola), he is happy to increase the area sown to lucerne. This solves the lack of critical mass issue he had historically when lucerne was just used as a permanent pasture on a small part of the farm.

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