

Pairing perennials proves profitable

estern Australian couple, Thys and Erin Gorter, have discovered the wonders of finishing prime lambs on perennial pastures. Thanks to their *EverGraze®* Supporting Site, the pair established a mix of lucerne and chicory and are now enjoying the savings reaped from reduced supplementary feed costs.

"We had read about chicory and saw it as a an alternative to the feedlot and high pellet costs, to finishing or backgrounding our prime lambs," Thys said.

"Having successfully used lucerne on other parts of the farm we chose to add it to the mix as risk management strategy in case the chicory didn't work. Parts of the paddock were also more suited to lucerne, being high and gravelly.

We chose SARDI 10 lucerne for its winter production, Puna was the only longer-term chicory seed we could get! Other varieties were not an option, as we wanted this pasture to last at least five years.

We included lucerne to also act as a source of nitrogen for the chicory.

Starting out

We sowed a 32-hectare *EverGraze* Supporting Site mid-September 2006 after spray topping during spring 2005. We top-dressed during January, 2006 (3:2 phosphorus/potash).

Weed control is critical when establishing a mixed-species perennial pasture. We targeted broadleaf weeds before sowing otherwise options would later be restricted.

It also is important to have a paddock system that supports sound grazing management and prevents overgrazing. We constructed fences and troughs post-sowing however, it would be ideal beforehand.

key points

- Combining lucerne and chicory can provide an alternative to finishing prime lambs
- Site preparation and infrastructure set-up is crucial to the successful establishment of perennial pastures
- Aim to allow pastures to recover sufficiently after grazing.

farm info.

Case study: Thys and Erin Gorter Location: Mobrup, Western Australia Property size: 920 ha Mean annual rainfall: 300 mm Soils: Gravel loam and sand over clay (on trial site) Enterprises: Grains, wool



Interest in Thys and Erin's pastures was evident with a good roll up at an EverGraze field day during October 2008. INSET: Chicory recruits.

Establishment

A contractor sowed the chicory and lucerne in alternate rows at 10 millimetre depth, or as shallow as the disc machine would allow. Discs minimised soil disturbance and press wheels helped germination rates.

The alternate rows seemed a logical way to ensure an even spread of the species across the paddock. It was also a better way of controlling the sowing rates.

During October 2006 we applied 50 kilograms per hectare of mono-ammonium phosphate (MAP).

We experienced a major locust infestation that was untreated. The locust damage to lucerne was extensive, although it recovered, but they didn't affect the chicory at all!

During spring 2007, we sprayed for high levels of red-legged earth mites, which damaged both the chicory and lucerne.

Broadleaf weed management (erodium and capeweed) proved a problem after

establishment. We chose not to spray during the first autumn, which was a mistake. The weeds, especially the capeweed, set the lucerne back as it didn't tolerate the competition. Worse still, after the capeweed got too large there were few or no chemical options. Grazing helped but it was a case of waiting until the following autumn to spray.

Pest and weed control in this mix was challenging because we relied on contractors. This can compromise the timing of (some) sprays. Plus the mix of plant species reduced the amount of spray options. This placed a heavy emphasis on paddock preparation.

Grazing management

Since establishing the pasture we have grazed large mobs of sheep for short periods, allowing plants to recover between grazes.

While the stocking rates so far do not break any records, it is the out-of-season feed and flexibility as a back grounding system that really makes these species valuable to us. When grazing a mixed stand grazing needs to be tightly controlled. The 32 ha site was grazed as a whole during the beginning, which meant there were too few stock on it to obtain an even graze. The lucerne was selectively grazed and it took a longer time for the stock to get a taste for the chicory. Smaller grazing areas and higher stock numbers were needed to prevent grazing selectivity. By splitting the paddock up into quarters and rotating the same number of stock the feed was used more efficiently and allowed each section to be rested. A trough was placed in each section to ensure adequate water availability.

Seedling recruitment

It is a wise idea to let chicory go to seed during the first 18 months. This will allow for seedling recruitment and result in an increased pasture density during future years.

Nutritional management

We fertilise the paddock annually with 100-150 kg/ha (super-potash). We will need to re-apply the lime as we believe lime levels decline over time and higher levels help lucerne persist.

It is important to maintain a base level of phosphorus and potassium. The pH must remain above 5.2 as lucerne persistence

(and general performance) is significantly affected by aluminium levels in the soil. Aluminium is highly active at a pH below 5.2. Before sowing lucerne the pH at depth (10-20 cm) needs to be checked as this can also have a significant effect on performance.

Establishment year review

Our mixed perennial pasture system has seen us view summer rain as a positive rather than a negative.

Grazing management is the key to maintaining the longer-term persistence of a mixed perennial pasture stand. Some sections of the site are showing signs that one species may outlast the other. Weed issues plagued us during the first year. Their impact is not to be underestimated!

The lucerne/chicory combination was used to finish and background our lambs. The lambs recorded sound growth rates reaching target weights about 2-3 weeks earlier than we had planned. This meant they were on grain for a fortnight less.

Looking forward

There is also the possibility of using the combination for Vitamin E supplementation prior to the feedlot. Research has suggested that grazing ewes on chicory for 10 days prior to mating can increase ovulation, however

there are still questions to be answered on this topic. Even with small areas sown to the perennial pasture mix the system provides us with the ability to provide Vitamin E to young stock without having to inject them. This alone is a real advantage in our farming operation during summer.

ture farm

We may need to add more clover to the paddock to increase the legume content. Serradella may be more suited to the lower sandy country. This is something to consider in the establishment year of paddocks with low subclover seed banks. While the clover is not necessarily required for nitrogen fixation (lucerne can do this), it does provide excellent winter and spring feed. Annual grasses still provide great benefit during winter and spring.

The cost benefits

The cost benefits of finishing lambs to target weights in the chicory/lucerne paddock and a reduced time on pellets in the feedlot far outweigh the costs of establishing the perennial pasture." \checkmark

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By Paul Omodei, AgVino

• The success Erin and Thys Gorter are having with their lucerne and chicory combination is thanks to the couple's strong focus on grazing management.

Erin and Thys split a large paddock into four small paddocks allowing them to run large numbers of stock for short periods of time.

Importantly, they made sure they had the necessary fence and water infrastructure in place before they started – because you cannot cell graze unless each paddock has water!

The decision was made to sow lucerne basically because a legume was needed to feed the chicory. During spring and summer, the lucerne takes over from the clover in supplying nitrogen to the non-nitrogen producing chicory and other grass species such as ryegrass and barley.

The combination of lucerne and chicory is not ideal — it is a bit tricky but it is

highly palatable to livestock and highly productive for the bottom line.

Perennials have traditionally not been popular in south-west Western Australia because set stocking on annual pastures is usual practice.

If cell grazed lucerne and chicory are great sources of feed during shoulder periods — early Autumn and summer — when annual pastures are not available.

Perennials are able to capitalise on early rainfall, say 30 mm, when it occurs before the main break. Whereas annuals will still need to germinate and get out of the ground.

During spring perennials will still be hanging on when the annuals have set seed and died. They go into a lull during winter but that's ok because that's when the annuals are performing.

Lucerne and chicory will persist during summer and provide green fed when everything is else is brown. This green feed is a great source of Vitamin E, especially for young animals.

This season has been a perfect example. The Gorter's perennial paddocks have been green since spring, allowing them to run ewes and weaners. The stock have dosed up on Vitamin E without the need to yard them. Young stock, for example, need only graze lucerne for two days to receive their monthly Vitamin E quota.

The secret to making the most of perennial pastures is treating them with caution during winter and summer but grazing them hard during spring.

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