Producer Case Study – Philip Headlam

Clean slate offers perennial opportunity

Philip and Lucy Headlam were excited about starting with a clean slate on their 184 ha grazing property at Pipers Brook. And a strategic approach has seen them investigate all the options when it comes to establishing productive and persistent perennial pastures.

“When we bought the property about five years ago, everything was bush and our first step was to do a whole-farm plan through NRM North,” Philip explained.

“We always aimed to strive for a balance of natural vegetation and livestock production.

Almost immediately after we took over, fi re burnt the lot. While this certainly wasn’t part of our plan, I knew the country would recover and it has been rewarding to watch.

Even though the fi re impacted enormously on the property, the plan allowed a strategic approach to rebuilding. Some farms are over-cleared, however we have been able to establish a farm with laneways, shelter belts and paddocks to create a balance of native vegetation and livestock production.

Pasture trial and error

When it came to establishing pastures, we went with what had worked for us in the past on our other properties — a perennial ryegrass (Matrix), legume and plaintain mix.

Perennial ryegrass grows well, producing high-quality feed and it persists in our conditions.

We sowed everything at once and about 80% of the paddocks were a success, but 20% of the property didn’t establish well and I have been looking for a grass option for these paddocks, which I suspect have a fairly low pH compared with the more successful paddocks.

A Tasmanian Institute of Agriculture (TIA) pasture trial on the property allowed me to see what suits our environment and investigate options I wouldn’t necessarily have looked at.

Perennial pasture researcher Eric Hall, TIA, is looking at the ability of a range of grass–legume mixes to persist and produce under our conditions and grazing management.

At this stage I think the Megatas cocksfoot has been the best performer. It established well, responded to summer rain more than any of the other grasses, seems to have the best winter production and has recovered quickly from grazing.

I was really impressed by the cocksfoot's establishment — it outperformed anything else under the same conditions. You would expect ryegrass, with a bigger seed, would get the jump, but there were simply more cocksfoot plants there.

I am surprised the Megatas is so productive and palatable to the stock — Porto cocksfoot had such a poor reputation for being rank, clumpy and unpalatable. Megatas is a less clumpy variety and more leafy.

Putting Megatas to the test

Although Megatas performed well visually, it still needed to convince me in terms of feed value. But a recent feed test has convinced me it can compete favourably with the ryegrass at this time of year in terms of nutrition (see Table 1).

Eric's trial is looking not only at individual species performance, but how they work together in a mix in terms of pasture composition over time. This is important to us as we run with a pasture mix that includes legumes and plantain.

I like the idea of the plantain as it has a deep root system and it can fi nd nutrients below the grasses. It seems to have gone quite well where we have included it — across about half of the farm.

We've also included a fair bit of white clover and sub-clover in our mix. For the first couple of years white clover dominates and you worry about the grasses. But the clovers supply nitrogen to the grasses and the grasses start to come through.

Hopefully the pastures will produce a greater bulk of spring and summer feed as they are more grass dominant.

Table 1 Comparison of feed test results for Matrix perennial ryegrass and Megatas cocksfoot

Species (variety)	Sample date	Dry matter (%)	Estimated energy (ME MJ/kg DM)	Crude protein (% of DM)	Neutral detergent fibre (% DM)	Digestibility of organic DM (%)
Ryegrass (Matrix)/clover	5/07/12	16.7	10.4	24.5	38.5	66.2
Cocksfoot (Megatas)/clover	5/07/12	21.2	10.2	23.4	43.1	65.0

Source: Philip and Lucy Headlam

Preparation for sowing

We started preparing our new paddock in autumn for sowing pasture during spring. Low pH is one of our biggest concerns.

By applying and working in 4.5t/ha of 50% powder lime and 50% agricultural lime we are targeting soil pH levels above 6. This approach improves nutrient availability, but we need to be aware of releasing molybdenum and potentially locking up copper.

After cleaning up any remaining weeds, we were keen to sow in mid September, but wet conditions meant we couldn't get on the paddock until mid October. We went with a mix of: cocksfoot (Megatas), fescue (Quantam), plantain (Tonic), strawberry clover (Palestine), red clover (Astred) and bladder clover (Bartolo).

Immediately after sowing the tap turned off — a case of feast followed by famine throughout spring. The pasture struggled to germinate and establish on little moisture. It received about 23 mm before Christmas, which was followed by a quick graze to encourage tillering.

Summer was dry and we have only just received a decent rain during late March — the Megatas started to respond immediately.

On-farm trial decision support

Having pasture trials on farm allows us to see which species perform in our situation. The trial is in the general paddock grazing rotation, providing a realistic indication of overall performance in a farm environment.

When it comes to a final decision on a new pasture mix, a combination of local knowledge, seed company information, journal articles and trial results come into play. Ultimately we need an easily-established productive pasture that will persist and provide high feed value throughout the year. Finally, it forms part of a landscape along with native shelter belts, healthy riparian zones, laneways and smaller paddocks in an attempt to create the ultimate grazing experience.

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Eric Hall, Research Agronomist with TIA

During the past, grazing systems in the low rainfall (< 700 mm) areas of Tasmania have relied heavily on the 'traditional' perennial pasture species — perennial ryegrass and white clover — to provide year-round ground cover. However, changing rainfall patterns, resulting in below average annual rainfall, and longer drier summers have seen these species no longer adapt to this environment.

The failure of these species to persist and the resulting lack of perennial vegetation cover across the region has become a major threat to the sustainability of the land and agricultural industries it supports. This has led to a long-term loss of production and productivity in the affected areas. Large areas are devoid of plant cover, particularly through summer, resulting in increased risk of soil erosion, salinity and weed invasion.

During the past 10 years the Tasmanian Institute of Agriculture (TIA) has developed and commercially released a number of alternative species and varieties, including Megatas cocksfoot. These plants can tolerate harsh conditions including drought, low soil pH, hot summers, wind, pasture grubs and intensive grazing pressure.

During 2009 TIA initiated a series of on-farm demonstrations with the assistance of Caring for Our Country Funding. The aim was to showcase the value of the material developed by TIA's pasture breeding program and to overcome the lack of perennial cover through the demonstration and promotion of the environmental and production benefits to be gained from using these new 'alternative' long-lived perennial species and varieties.

Philip and Lucy Headlam are members of the Pipers River Neighbourhood Group (PRNG), an active and forward thinking group of farmers, who are keen to extract the best out of their patch of soil while protecting it as the valuable resource it is.

During 2010 with funding support from Tamar Natural Resource Management, TIA and the PRNG, a 0.75ha pasture demonstration showcasing TIA's new varieties was established on Philip and Lucy's property.

The establishment of this type of demonstration has proved to be an excellent change management tool. Farmers are known for looking over the fence and are more likely to change their practices if the benefits of improved farming practices can be demonstrated "by someone else". Well done Philip and Lucy.

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