



South West
NRM



Case Study

A lesson in perennial pastures

Kim Skoss with
phalaris seedhead

Introduction

Beef producers thinking about renovating paddocks with perennial pastures should heed this warning. Don't rush in.

That is the advice from Manjimup beef producer Kim Skoss. Kim completed a three-year perennial pasture demonstration with funding support from South West NRM in 2017. He said that farmers should prepare at least one year in advance of seeding to ensure perennials have a clean seed-bed and good soil fertility.

Kim's attraction to perennials was the potential reduction in supplementary feeding during autumn and winter. So, in 2013, he decided to renovate an under-performing, shallow valley with perennial phalaris, cocksfoot and lucerne, in combination with arrowleaf clover and sub clover.

It quickly became apparent why the five-hectare paddock was under-performing. Soil tests taken on the gravelly-loam soil prior to sowing in 2014 found that phosphorus was a major limiting factor.

Not only was the phosphorus level very low, but the phosphorus buffering index (PBI) was extremely high, which meant that the soil would quickly bind phosphorus and make it unavailable to plants. The situation called for high rates of phosphorus, but the expense was difficult to justify for a small grazing enterprise.

Despite this early set-back, Kim pressed on. After cultivating the paddock and spraying the germinating weeds, he employed a contractor to sow with an Atkinson drill in June 2014.

"The contractor knew what he was doing and that really helped," Kim said. "Getting the seed as shallow as possible (5-10 mm) but getting enough contact with the soil. It's an economy to use contractors given their cost and the cost of the seed."



The strike was good except for lucerne, and germination was quickly followed with fertiliser broadcast at 150kg per hectare. But growth of perennials over the first spring was slow.

Twelve months after sowing, Kim estimated that groundcover had reached 66%, with annual grasses (20%) and legumes (22%) more prominent than perennials (13%) and broad-leaved weeds (11%). More phosphorus was applied at 330kg per hectare in May 2015, but growth in the spring of 2015 was still "unremarkable". Soil tests in 2016 showed that phosphorus was still low, and the paddock continued to underperform. In 2016, the number of cow grazing days per hectare was 198, compared with 286 for an adjacent annual paddock.

While the paddock hasn't performed as well as hoped so far, Kim was encouraged by the widespread seed-set of phalaris in 2016 and the regrowth from summer rain.

But perhaps the best outcome from the project has been the valuable learning experience it has provided for other farmers.

In late 2016, Kim hosted 14 farmers on a field walk. He told them that it was a mistake to sow perennials without properly controlling annual grasses and addressing fertility issues.

"I should have seeded down a grass legume mix in the first year with a capital application of phosphorus," Kim said. "Then in 2015 I could have grazed the residue and direct-seeded following the application of a knockdown herbicide."

Perhaps the best outcome from the project has been the valuable learning experience it has provided for other farmers.



Phalaris seed heads



The comment was supported by several farmers experienced in growing perennial pastures. In a session facilitated by South West NRM, Kim and other experienced farmers were asked to provide advice to farmers who were looking to establish perennials for the first time.

Their advice included speaking to a good agronomist, hitting weeds with at least a double-knock, soil testing to address fertility issues, applying fertiliser down the shoot with seed, ensuring seeds are sown shallow, and sowing at double the recommended rate to minimise risk of failure.

Some farmers also warned against expecting any feed in the first 12 months, and emphasized the importance of resting perennials to ensure they could compete with annuals.

One farmer said it was a mental challenge to keep paddocks locked up when they appeared ready for grazing. Kim agreed, saying that he wasn't resting his perennials for long enough post-grazing.

"A 30-day recovery period in winter is too short. I'm hoping to take that out to 50-60 days in 2017."

Kim will continue to pulse graze the paddock and expects that it should become more productive over time. But for now, Kim is content with the lessons he has provided for farmers preparing to use perennial pasture for the first time.