

Kikuyu makes for greener Kangaroo Island farmers

Background

Despite our long and dry summers, sandy soils and salinity, some Kangaroo Island farmers are discovering that kikuyu is proving to be a hardy pasture species well suited to the island. Island farmers have been keen to find a perennial pasture species suited to the island's unique conditions. The island soils have relatively low water holding capacity and hot dry summers can make it difficult for perennials such as ryegrass or cocksfoot to survive on the lower rainfall end of the island.

What was done

Following on from a very successful series of farm walks in March 2008, when two of Australia's leading experts in the use of kikuyu as a pasture species visited the island, many farmers on KI tried establishing small areas of kikuyu on their own properties.

Those farmers were surveyed in February 2009 to ascertain the success or otherwise of the work they undertook.

Kikuyu may have an important role to play in some of the farming systems on KI. It is a tough, hardy perennial that can, unlike many other perennials, withstand heavy grazing and set stocking. It is a summer active grass meaning it can provide green forage for livestock at a time when other pastures are of low quality and, being winter dormant, it allows annual companion species such as sub clover to grow well in the winter months. Its dense turf-like growth provides excellent soil cover during summer reducing erosion risk and, due to its

high water usage, it can reduce salinity impacts too.

It also tolerates waterlogging and is relatively drought tolerant. Freshly grazed kikuyu leaves can exceed 70% digestibility, metabolisable energy of around 10 Mg/ha dry matter (DM) and crude protein of between 10 to 20%. Additionally, it is one of the few perennial species suited to acidic infertile sands so you can understand why many KI farmers are now very keen to try planting it.

But with so many positives there has to be a negative: It has a weed risk potential. However, kikuyu does not tolerate shade, so it is unlikely to persist in native vegetation that is in good condition with dense canopy cover. So, although it does have a weed risk if poorly managed, landholders can easily reduce its weed risk through good management practices. Another concern was its impact on cropping areas. Kikuyu (unlike its cousin couch) can be easily controlled with herbicides. Or just don't plant it in areas that will be cropped and allow stock to empty out before moving them from kikuyu paddocks to cropping paddocks.

Results

Eight landholders, who had seeded kikuyu, returned surveys sent out. Kikuyu was established in the Hundreds of Dudley, MacGillivray, Menzies, Duncan and Cassini with areas sown ranging from 1.6 ha to 30 ha. Seeding rates varied from 1.5 to 6 kg/ha with an average of 2.5 kg/ha

Establishment techniques varied from:

- spraying the sites out with Roundup once
- applying two herbicide sprays and insecticide sprays
- direct drilling
- conventionally working up the paddock and rolling.

The establishment technique did not appear to have a major impact on the end result. The key issues appear to be effective initial weed kill, ensuring good seed soil contact, and sowing early from mid August to early September. There were problems with couch grass at one site, suggesting that it needed to be sprayed the summer before.

The overall success of the seeding was largely determined by the follow up rainfall and good seed soil contact with the use of press wheels. Germination across the sites varied from 20 to 40 plants/m² to nil.

There were some issues with wildlife eating what came through and also significant damage by insects. Best germinations occurred in the loamier soils. All sites that germinated certainly responded well to the late rains in December.

One advantage with kikuyu is that it will eventually thicken up! Poor establishment doesn't necessarily mean no kikuyu. However, waiting two years for a pasture is a significant cost in lost production, so money spent on thorough preparation will be rewarded with extra grazing. This may mean paying a contractor to establish the kikuyu using a precision seeder.

The other issue being investigated is the weed threat. Preliminary work indicates that old established kikuyu stands have not invaded adjacent remnant vegetation that has been fenced and is in good condition. This confirms work from WA.

Take Home Messages

- Kikuyu has the potential to become a valuable addition to pasture mixes on parts of KI
- Kikuyu may provide many economic as well as environmental benefits
- Early spring sowing plus weed and insect control is essential for successful establishment (and the odd rain dance won't go astray either!)
- Kikuyu is less likely to become an environmental weed if the adjacent native vegetation is fenced and is in good condition.

Funding/Sponsors

- National Landcare Program through Agriculture Kangaroo Island
- EverGraze Program (Meat and Livestock Australia, and Australian Wool Innovation)
- All farmers who undertook to establish kikuyu in 2008

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