

Solving problems with subtropicals

LEFT: Katambora Rhodes grass has shown significant yield responses to nitrogen applications. (Photo: S Murphy)

autumn when soil temperatures were higher, sowing seed at 10–25 mm resulted in the best emergence.

“We noticed that although seed trays in a trial were watered twice a day, the surface still dried which is the likely reason sowing at depth resulted in the best emergence.

“Bambatsi has the largest seeds of the commonly used varieties and could germinate earlier than other grasses and at a greater depth during summer and autumn.”

Grass control

Successful growers say they control annual grasses for two summers before planting tropical grasses.

The research demonstrated controlling liverseed grass for one summer reduced soil seed stores from a population of 4100 seeds per square metre to about 1000. Following for a second spring removed all liverseed grass seed.

Allowing liverseed grass to set seed in summer increased seed reserves to more than 75,000 seeds per square metre. Both liverseed and barnyard grass seedlings were more competitive than five tropical grass cultivars tested.

Fertiliser response

The response to nitrogen by subtropical grasses is becoming clearer in the northern NSW trials. Despite low rainfall through the 2006–07 summer, adding nitrogen generally increased growth rate by at least 22%.

From mid-October to May, Premier digit plots which received 100 kg N/ha, produced around 30% more herbage, when cut every two weeks, than those that received no nitrogen.

Katambora Rhodes grass plots which received 300 kg N/ha produced twice as much herbage as plots which received no nitrogen.

Total herbage was greater when cut every six weeks, however, there was also more stem which would reduce pasture quality.

Responses are expected to be higher in a wetter summer as research continues over the summer of 2007–08. ↓

More information

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> Further trial results comparing herbage yield and water efficiency of subtropicals are reported on pages 12–13. <

By Matt Crosbie

The ability of subtropical grasses to produce large quantities of forage during summer months, reduce recharge and fill feed gaps is highly attractive to graziers in summer-dominant rainfall areas such as northern NSW and parts of Western Australia.

But many growers are discouraged by agronomic issues such as the difficulty of establishing these grasses, seed quality and cost, crop nutrition issues, forage quality and management.

A team led by research agronomist Dr Sue Boschma and research scientist Dr Greg Lodge from the NSW Department of Primary Industries at Tamworth is developing a better understanding of those issues in their project with the Future Farm Industries Cooperative Research Centre.

“Seed quality is a major factor in successful establishment, which can be extremely variable in tropical grasses,” Dr Boschma said.

“One batch of seed tested in the research project contained 50 per cent weed seeds and 30% of the seed florets were empty.

“Germination was 43%, meaning only 15% of the original seed was viable. With the high cost of seed, it is important that you get a copy of the seed analysis report.”

Seed coating is often used to improve seed handling characteristics. However, it can reduce the number of seeds per kilogram, so sowing rates need to be increased to compensate.

Sowing depth

Another critical factor when establishing tropical grasses is sowing depth.

“Of the grasses we’re testing, sowing seed on the surface during spring resulted in the best emergence,” Dr Boschma said. “However, during the hot summer months and into

key points

- Seed quality is a major factor in successful establishment
- Sowing depth and annual grass control is critical for successful establishment
- Nitrogen applications have increased growth rates by up to 22%.