

Over-sowing summer grass pasture with annual ryegrass on North Coast farms

Julie Dart

Senior Land Services Officer - Pastures
North Coast Local Land Services, Coffs Harbour

Dr Bill Fulkerson
Field Services Officer
NORCO, Lismore

Grass seed can be broadcast across a paddock, either by hand and bucket or via a fertilizer spinner and quad bike or tractor.

Cattle are then used to graze the summer grass and trample the seed into the ground. Portable electric fencing is used to concentrate grazing pressure over the target area.

This sowing method is sub-optimal and results are variable. Follow up re-sowing may be required to even out pasture density.

Management practices in this fact sheet also apply to ryegrass conventionally over-sown into summer grass pastures.

Why would you do it?

In our region most beef pastures comprise tropical species such as *Paspalum* (*Paspalum dilatatum*), *Kikuyu* (*Pennisetum clandestinum*) or *Setaria* (*Setaria sphacelata*). These species do not grow during winter.

Typical management strategies to address the winter feed gap include:

1. Turning off weaners in autumn to reduce the stocking rate over winter.
2. Conserving home grown silage and hay and purchasing grains and concentrates

When reduced stocking rates and supplementary feeding options are not profitable, the other alternative to addressing the winter feed gap is to plant a winter active pasture or crop.

Beef: Farms with native pastures or unimproved pastures may not have the tillage and sowing equipment to sow ryegrass pastures.

Typically in our region the winter forage option is annual ryegrass or oats.

Dairy: Most dairy farmers in the region will routinely over-sow tropical grasses such as *Kikuyu* and *Setaria* with an annual ryegrass to provide a bulk of feed over the winter and spring.

In a very wet year, the use of cultivation and conventional sowing equipment could cause serious soil damage and then broadcasting seed should be considered.

Annual ryegrass establishment

In the North Coast LLS region, annual ryegrass is best sown in March and April. Although it can still be sown in May, this limits its productive capacity as establishment takes much longer in colder conditions.

The date that a variety will attempt to go to seed (terminates growth) depends on day length and cannot be manipulated by sowing date.

In a good summer season, it is tempting to wait until the summer pastures slow down before over-sowing. This can be a costly mistake.

Ryegrass germinates well at soil temperatures of 18°C and falling. *Kikuyu* growth does not slow significantly until soil temperatures drop to 11°C.

Varieties

Early maturing, tetraploid Westerwold type varieties of Annual Italian Ryegrass (*Lolium multiflorum* ssp. *westerwoldicum*) are ideal for this technique as they produce a bulk of feed quickly in autumn/winter.

The varieties have double the number of chromosomes as regular (diploid) types. They have larger seeds with better energy reserves to cope with sub-optimal sowing conditions.

Choosing a less expensive variety such as tetraploid 'Tetila' allows a financial buffer to re-sow paddocks if poor establishment occurs as a result of patchy distribution or hot & dry follow up weather.

Where insecticide seed coatings (such as Gaucho) are used for conventional sowing, grazing with-holding periods apply and must be observed.

What to do

4 weeks before sowing

- Cease fertilizer application.
- Graze hard, mulch allowing sufficient time for the mulched material to break down.
- Graze down to 4-5cm.

Sowing time

- Set up electric fences. Broadcast the seed.
- Let cattle in to graze and trample the seed in.

Seed can be broadcast up to four days ahead of grazing.

2 weeks after sowing

- Let cattle in for a light grazing to nip off summer grass re-growth to prevent shading of ryegrass. Cattle will need to be moved off again quickly (2-6 hours) to prevent excess trampling.
- After the first grazing apply a half normal rate of nitrogen fertilizer e.g 50kg Urea/Ha.

4 weeks after sowing

- Graze as above if the summer grass looks like it is shading the ryegrass seedling.

First full grazing

- First full grazing of ryegrass seedlings (leave 6cm residual) should be at about 6 weeks.
- Apply full rate of nitrogen fertilizer.

Subsequent grazing:

- Graze at 3 leaf stage to optimize pasture resilience and feed quality (by May grazing should be no less than 30 day interval).
- Move cattle on after two days. Use a back fence when strip grazing to stop cattle grazing regrowth (back-grazing) as this severely reduces ryegrass growth.
- Apply usual nitrogen fertilizer every second grazing, depending on rainfall.

Tips for success

Ryegrass seeds have 6-7 days of storage carbohydrates that the seedling uses to grow roots and early leaves. If the seedling is not producing its own carbohydrates via photosynthesis after this period it will die.

1. Minimise thatch (Kikuyu)

Kikuyu pastures accumulate a large volume of stem and dead material over the summer. When seeds are covered by this material the seedlings can die from lack of light and compounds released from the decomposing thatch. This is why we need to mulch hard about a month before sowing.

2. Sowing Depth

Sowing seed too deep (more than 1cm) is a common cause of poor ryegrass establishment. The seedling uses up its energy reserves before it can emerge.

3. Minimise shading

Shade is a very effective way to kill young seedlings, and is a particular problem when over-sowing into vigorous tropical pastures such as Kikuyu.

It is important to prevent shading from summer pastures in the first six weeks after sowing.

4. Follow up irrigation

Irrigation should be considered in the first six weeks of the establishment phase if there is insufficient rainfall.

5. Give it a try

"Even the best varieties won't grow if they stay in the shed".

More information

Annual, Italian and short rotation ryegrass varieties 2010, NSW DPI

http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0006/331746/annual-italian-and-short-rotation-ryegrass-varieties-2010.pdf

Pasture & Forage crop sowing & management guide: Richmond, Tweed & Upper Clarence, Autumn-Winter 2014, NCLLS

http://northcoast.ils.nsw.gov.au/__data/assets/pdf_file/0003/511662/Pasture-sowing-guide-AW-2014.pdf

Or contact Local Land Services on 1300 795 299.

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