Dairy Australia

FEED PLANNING

Pasture renovation in autumn

Home grown feed on a dairy farm is most often the lowest cost feed source. Repairing rundown and severely drought affected dairy pastures is a high priority but can be an expensive process. This fact sheet provides tips on methods used for resowing renovating paddocks that should give the most cost effective and quick results.

Planning your renovation program

Start by assessing and prioritising paddocks and in some cases parts of paddocks that will benefit from resowing or full renovation. These may include:

- Higher fertility areas that will respond quickly with a simple resowing and start contributing to the grazing rotation. These may be the highest priority.
- Mid-range soil fertility areas that will require more preparation time and fertiliser/effluent cost but give a good response for this winter.
- Rundown pastures – perhaps regular silage/hay paddocks that will respond well to renovation as well as the addition of strategic fertiliser to support grazing early and production of multiple fodder cuts later in the year.
- Farm areas that have not performed very well for years, and require time consuming and costly renovation. These may be a lower priority and may need short term species sown before sowing back to perennial grasses e.g. an annual ryegrass followed by a fodder crop next summer?

Test soil samples from strategic areas on the farm if this has not been done in the past three years. The results will help prioritise the paddocks to resow first, determine program and application rates of base and maintenance phosphorus, potassium and sulphur. Contact your agronomist for further information.

The workload required and costs of the renovation program will assist in deciding what paddocks and how many paddocks can be renovated.

Ensure that contractors are booked in advance and that the budget for the program includes soil testing, fertiliser, seed, contractors and extra labour if required.

KEY MESSAGES

- Select paddocks that will respond quickly to resowing/full renovation
- Choose species suitable for the soil type, rainfall and climate
- Paddock condition, time and budget will determine whether to oversow or do a full renovation
- Use appropriate fertiliser, seed, herbicides and management for best results

Species selection and purchasing seed

Secure your seed early. Pastures have been severely impacted in many dairying regions hence the demand for seed in autumn is expected to be high. Choose pasture and crop species appropriate to your rainfall, soil type and farming practices. The most commonly sown pasture species in dairying regions are ryegrasses. Other species options include fescue, cocksfoot, lucerne and winter cereals. Contact an agronomist in your area to seek information on species and varieties that perform well under the conditions in your district.

If insects are a potential threat to your newly sown pastures, consider combining techniques that might help improve the establishment of your pasture and/or crop. Seed treatments can provide protection against insect attack during establishment. Consider using seed with endophyte for protection against insects if sowing ryegrass or fescue pastures. For further information on endophytes see the Dairy Australia Understanding pasture endophytes fact sheet. If in doubt, seek professional advice to ensure the correct choice is made for your farm.

Selecting ryegrass

A key selection criteria when choosing ryegrass is to look for varieties with heading dates appropriate to your region. The later the heading date the longer the plant will hold feed quality through spring and into summer.

Selecting species for difficult soils

In those soils where ryegrasses do not persist, for example light well drained sandy soils or heavy clay cracking soils, different species may be more suitable than ryegrass.

Other species options cereals, legume and ryegrass blends

Blends can be oversown into the existing drought damaged pasture early e.g. dry sown early or at the 'break' to get the maximum feed for winter. Some of these sowing combinations or blends of species may include:

- Oats
- Barley
- Shaftal clover
- Subterranean clover
- Annual ryegrass
- Italian ryegrass
- Winter rape crops.

Note: Insect pests could be a problem, particularly redlegged earth mite and cockchafers as well as broadleaf weeds.

Table 1 Overview of traits of different types of ryegrass.

Ryegrasses	Comments
Annual	Usually persist for one year, can cope with wet feet, and produce quick winter feed, silage and hay. Suited to 500mm rainfall and irrigation.
Italian or short term	Persist from 1 to 3 years, good winter growth, good for silage and hay. Suited to districts with normally high rainfall – 600mm+ or irrigation.
Perennials	Persist from 1 to 3 years, good winter growth, good for silage and hay. Suited to districts with normally high rainfall – 600mm+ or irrigation.
Perennials	There are many varieties to select from in this category that could be sown in districts receiving as low as 500 mm rainfall through to irrigation. Avoid older varieties of ryegrasses which are now outclassed. Select from the newer varieties that are still persisting and producing well in your district under similar soil type, soil fertility and grazing conditions to your farm.See the Forage value index: select the ryegrass that suits your farm fact sheet for further information.

Soil types	Comments
Light sandy	There are some new varieties of cocksfoot grass that show good tillering growth and persistence in the light sandy soils, they will survive in districts down to 400mm+ rainfall. Other varieties of cocksfoot are more suited to 600mm and 700mm.Cocksfoots won't have the feed value of ryegrass, but can respond well to summer rains. Cocksfoots are also tolerant to acidic soils and elevated aluminium. Sow into cultivated seedbeds, seed rates vary from 5–10 kg seed/ha.
Heavy cracking clay	Summer active tall fescue grass varieties when kept well grazed are palatable, productive and persistent under dairying conditions, however they are slow growing in winter. Fescue will tolerate heavy wet soils, low to moderate salinity, and responds well to nitrogen fertiliser. There are varieties that can survive in a range of rainfall and irrigation locations. Sow into cultivated seedbeds, seed rates vary from 20–25 kg seed/ha.

Sowing method options

Resowing options include complete cultivation, shallow cultivation or oversowing. The pasture density, weed density, fibrous root mat and level of pugging damage will determine which method is most appropriate for the paddock.

Establishing ryegrass into an existing pasture

To establish ryegrass in an existing pasture removal or reduction of the clumpy pasture and weeds is critical. This can be achieved by either:

- Completely spraying out the old pasture two weeks prior to shallow cultivation and resowing.
- Grazing the damaged pasture hard to reduce the clumpy pasture and weeds and then spray with a very low rate of herbicide to, and drill sow the following day. This allows the sown grass seed to establish whilst 'suppressing' the existing ground cover.
- For irrigation paddocks, where there are large amounts of summer grasses e.g. paspalum and couch grass, full cultivation after herbicide application might be the appropriate sowing method. Allow at least 20 days for the spray to kill and breakdown the root material. Avoid sowing into a dense solid root mat soils without first going into a chemical control and cultivation program.

Application of nitrogen and phosphorus at sowing is recommended. These nutrients gives the establishing plants the best chance to quickly develop a large root system for drawing on nutrients and moisture and becoming a strong vigorous sward.

This would suit both dryland and irrigation where there is no more than 15% fibrous rooted grasses e.g. paspalum, couch and bent grasses.

Ryegrasses seeding rate may vary for uncultivated (25kg seed/ha) or cultivated (30+ kg seed/ha) sowing methods.

The recommended sowing depth for ryegrass is very shallow at 1–2 cm. Roll the surface after sowing to ensure good seed soil contact. Harrowing after sowing should be avoided as this tends to bury the seed and/or breaks up the concentration of seed and fertiliser.

Graze the new sward as soon as the plants have sufficient root system to anchor them in the soil. This may be at an approximate height of 75mm. Do the 'pull' test to check. Control weeds early, preferably after the first grazing if they are chocking the pasture.

Applications of nitrogen will maintain strong vigorous pasture growth. See Dairy Australia Nitrogen in Autumn fact sheet for more information on using nitrogen on pastures

FOR FURTHER INFORMATION

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