



Farmnote

Establishing sub-tropical perennial grasses

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This Farmnote describes the key steps for establishing Rhodes grass, panic grass, signal grass, setaria, digit grass, bambatsi panic and kikuyu, either alone or in mixtures. The aim should be to establish a productive long-term pasture with a perennial grass density of at least 10 plants/m².



Plan ahead

Plan a year ahead and reduce weed seed-set by grazing and spray-topping, especially for difficult-to-control weeds. For exposed paddocks prone to wind erosion, consider sowing a cereal to provide stubble for soil stability. Commence control of rabbits and kangaroos if they are a potential problem.

Purchase good quality seed

Select species and varieties suited to your district, soil type and intended use. Refer to Farmnote 445 for best sowing options for the northern agricultural region and to Farmnote 446 for the south coast.

Germination of commercial sub-tropical grass seed batches typically varies from 10–60%. Kikuyu (commonly >80%) is an exception. Send to an accredited seed laboratory if concerned

about the expected germination of a seed batch. Several seed companies coat their seeds. While this helps with handling and flow of fluffy seeds in machinery, it reduces the number of viable seeds per kilogram.

Seed dormancy—Panic grass, setaria and signal grass have a high proportion of seeds, referred to as *fresh seeds*, which remain dormant for 6–10 months after harvest. Consider purchasing these species the year before seeding and storing under dry conditions. Rhodes grass and kikuyu do not have such dormancy.

Control weeds and insects prior to sowing

A weed-free seed bed is essential, as sub-tropical grass seedlings are weak competitors. Weed control strategies should also aim to minimise wind erosion, particularly on exposed sites with sandy soils. One strategy is to use a selective broadleaf herbicide 6 weeks from sowing, followed by a general knockdown herbicide 2 weeks from sowing. This allows grass residues to bind the soil and reduce erosion risk.

In paddocks with a low grass density, a single knockdown herbicide 2 weeks before sowing can be used, but higher rates than autumn-winter applications will be needed to kill difficult-to-control weeds.

Two knockdown sprays (6 weeks and 2 weeks before seeding) result in good weed control but leave the paddock prone to wind erosion (unless stubbles have been retained). It also reduces the amount of winter grazing and the ability to change plans if sowing conditions deteriorate.

Apply a residual insecticide with the final knockdown herbicide (or at sowing) to control caterpillars, cutworms, aphids and redlegged earth mites.

Important disclaimer

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Sow into moisture in late winter – early spring

The best sowing times for the main regions suited to sub-tropical grasses are:

- Dongara—Kalbarri districts—early to late August
- Perth—Eneabba districts—mid-August to early September
- South coast—early September to early October

This coincides with sufficient soil temperatures for germination and the likelihood of sufficient moisture for good root development before summer.

Set-up the seeder for the best result

Machinery and implements (tynes or discs) can vary but should have the following features.

Formation of furrows—Furrows capture rainfall and increase seedling survival, particularly in dry springs. Furrow formation also scalps away non-wetting sand and removes weed seeds. Furrows should be formed to minimize sand in-fill and sides should not be too steep. Furrows of 50 mm depth are sufficient if the soil surface is moist. Deeper furrows can be used if the soil surface is dry or highly non-wetting.

Press wheels—Press wheels provide good seed contact with soil moisture. They should press soil in the furrow bottoms and minimise sand in-fill from the sides. Rounded or flat-bottomed wheels give the best results.

Optimum row spacing—Optimum row spacing is 50–60 cm. This reduces soil movement into adjacent furrows and allows annual pastures to grow between rows in the cooler months. Wider row spacings can be used in low rainfall areas to reduce moisture competition.

Sowing Rhodes grass and panic grass in alternate rows prevents the more vigorous Rhodes grass dominating mixtures of the two species.

Sow 2–5 kg/ha of seed

Use a sowing rate of 2–5 kg/ha, depending on seed quality and whether seed is coated. For uncoated seed with >40% germination, 2 kg/ha is sufficient. Higher rates should be used for seed of lower germination. Higher rates are also required for coated seeds to sow the same number of seeds per area.

Sow at a depth of 5–10 mm

Sub-tropical grasses require shallow seeding to a depth of 5–10 mm. **Seeds sown too deep will not emerge.** A common method is to drop seeds

in the bottom of furrows and press them below the surface with press wheels. Sowing directly onto the surface with no soil cover is unreliable.

Don't sow too fast

Sowing too fast causes excessive soil movement, reducing the accuracy of seed placement. Sand in-fill increases and furrows can collapse, causing deeper seed burial than intended. Speeds of 5–10 km/h generally give a good result. Check seed placement regularly and make adjustments if needed.

Control weeds and pests (insects, kangaroos and rabbits)

Summer growing weeds compete strongly with sub-tropical grass seedlings for soil moisture and their control will maximise establishment. However, if there is a major erosion risk they should be retained. Monitor the paddock for insect damage, especially over the first 6–8 weeks and control if needed. Good control of kangaroos and rabbits is essential to protect young sub-tropical grasses.

Defer grazing until grasses are well established

The first grazing of sub-tropical grasses should be deferred until they are well established and actively growing. This will vary with seasonal conditions and may not be until after the break of season. Ensure plants are firmly anchored before introducing animals.

Further information

Identifying sub-tropical grass seedlings, Bulletin No 4775

Sub-tropical grass options for the northern agricultural region, Farmnote 445

Sub-tropical grass options for the south coast, Farmnote 446

Perennial pastures for Western Australia, Bulletin No 4690'

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