

FORAGE FOCUS

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Wrightson Seeds

Guidelines for Establishment of Tetraploid Ryegrass into Kikuyu Based Pastures.

Undersowing tetraploid ryegrass into established Kikuyu pasture requires specialist agronomic management for optimum results. Key management points to be aware of are kikuyu thatch control, seeding rates and subsequent grazing program. This document is intended as a guide on the key agronomic issues you need to be aware of when using this strategy. It is strongly recommended that you talk to a consultant or agronomist for more information specific to your farm.

Kikuyu Thatch Control

The most critical factor for successful establishment of tetraploid ryegrass under kikuyu is thatch control. When trash is not effectively managed the germination and subsequent establishment of ryegrass seedlings is likely to be poor. Controlling trash build up cannot be left until just prior to sowing; it needs to be considered as an all year round process. Managing grazing rotation length to maintain pasture quality and reduce rank growth will help reduce build up of a thatch in the pasture base during the grazing season. In actively growing kikuyu this may mean maintaining a grazing rotation of 10-14 days. Strategic mulching or topping should be considered at least once during the kikuyu grazing well in advance of the ryegrass planting period.

To reduce trash at or before sowing there are several options available.

- a) Graze then mulch, either just before, or just after sowing. In practice hard mulching straight after sowing appears to work more effectively. Mulching pre – sowing tends to leave loose trash on the soil surface which can cause seeder coulter blockage and result in uneven seed placement and seedling establishment. In practice the harder you mulch at sowing the better the ryegrass establishment will be.
- b) Mow to ground level just prior to sowing and take the mown forage as silage or hay. The conserved forage will be of relatively low quality but can still be a worthwhile fit in the diet as a fibre source.
- c) Herbicides can be used to suppress kikuyu growth during the autumn ryegrass establishment period however application rates and timing are both critical for this strategy to be successful. Insufficient herbicide or poor timing will normally result in the kikuyu getting away and shading out the ryegrass seedlings before they become established. On the

other hand, too much herbicide may permanently damage or kill the kikuyu altogether.

Paraquat (eg. Gramoxone® 250), a mix of **Paraquat and Diquat** (eg Spray. Seed® 250) and **Glyphosate** (eg. Roundup®) can all be successfully used to suppress existing kikuyu pasture. The most appropriate chemical to use will depend on a number of factors including timing of ryegrass establishment and the germination conditions at sowing. In most circumstances the paraquat based defoliant sprays will do a good job although timing of application is particularly important with these sprays as they will provide only temporary kikuyu suppression. Defoliant herbicides should be applied either immediately before or immediately after sowing.

Glyphosate will provide longer term suppression of the kikuyu than paraquat. This is particularly important with early autumn sowings when kikuyu growth is still vigorous. Glyphosate may also be the better option in marginal germination conditions to allow a longer period of kikuyu suppression while the ryegrass seedlings establish. Glyphosate application rates when used for pasture suppression are more critical than with Paraquat. Only very low rates should be used (see label). Extreme caution should be taken with high rates of Glyphosate as severe damage to the established kikuyu could result.

Correct herbicide choice and application rates are critical and should be discussed with your consultant or an agronomist. It is also critical to observe and adhere to all safety recommendations when using herbicides.

Note: The earlier the planting, the higher the level of kikuyu control required.

Sowing Methods

Direct drilling is the preferred establishment method although broadcasting seed can work reasonably well provided the sowing rate is increased to compensate for the higher seedling loss. Where irrigation is available then pre – watering is preferred to watering up after sowing. Sow into a moist seed bed and once seedlings are established irrigate as required.

a) Direct Drilling

➤ Cultivar Selection

Large seed size and improved seedling vigour mean Winter Star® tetraploid annual ryegrass and Feast®II Italian ryegrass, or mixes of both Feast®II and Winter Star® are highly suitable to establishment under Kikuyu. The decision on which cultivar will best suit your circumstances will depend on a number of factors and should be made in conjunction with your agronomist or consultant.



Figure 1: Direct drilling of ryegrass seed into a well prepared seed bed ensures good establishment.

➤ Sowing Rates

Sow at 30 – 35 kg/ hectare.

➤ Fertiliser

Sow with phosphorus and nitrogen based fertilisers such as DAP, MAP or Granulock® 15 at 120 -150 kg/ha as per soil test indications. Band sowing fertiliser rather than broadcasting is recommended. Band sowing will ensure the ryegrass seedlings rather than the Kikuyu utilise the fertiliser. Once the ryegrass is up and seedlings have established apply 100 – 120 kg urea/ha. Depending on the season, urea may still stimulate some growth from the kikuyu but it should stimulate rapid leaf elongation, root development and tillering of the ryegrass and aid competition with kikuyu.

b) Broadcasting

Broadcasting can be a cost effective method of establishment although sowing rates need to be increased by 50-100% to compensate for the higher seedling loss that occurs when broadcasting. For best results, immediately after the seed has been broadcast run cattle over the area to push the seed into the soil surface, then mulch.

➤ Variety Selection

Again seed size and seedling vigour mean both Winter Star® annual ryegrass and Feast®II Italian ryegrass will establish successfully provided sowing rate recommendations are followed

➤ Sowing Rates

Sow at 45 – 50 kg/hectare

➤ Fertiliser

Broadcast DAP, MAP or Granulock® 15 at 120 -150 kg/ha after mulching. Once the ryegrass is up and seedlings have established apply 100 – 120 kg urea/ha. Depending on the season urea may stimulate some growth from the kikuyu but it should stimulate ryegrass tillering of the ryegrass and growth to a greater extent than the kikuyu.

Grazing Management

Ideally, delay grazing until young ryegrass plants are firmly rooted - which should be around four weeks after planting. In some circumstances the kikuyu may get away and start to shade out the establishing ryegrass seedlings. In this situation, graze the area very hard for a short time to delay regrowth from the Kikuyu. Only graze for a short period so as not to damage the ryegrass seedlings. Following the initial grazing, urea usage and grazing management will normally be the same as for a typical annual ryegrass pasture.

For more information contact FREECALL **Wrightson Seeds** on 1800 619 910.

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