



Perennial irrigated pastures

Technical Note F24

Management level	★★★★★
Yield	★★★
Quality	★★★★★
Water use efficiency	★★
Reliability	★★★★★
Versatility	★★

Where ★★★★★ is the highest rating.

Purpose

In cooler latitudes perennial ryegrass and clover mixtures will persist for some years, so reducing pasture costs compared with annuals. Tall fescue (*Festuca arundinacea*) is a temperate grass that can persist in the subtropics of south east Queensland for at least three years, although cow acceptance and intake are greatly reduced during winter from persistent varieties. In Queensland, very few farmers have repeatedly planted fescue because of low animal acceptance, even though results from quality tests are similar to other temperate grasses.

Throughout the subtropics small favoured areas in mild climatic regions such as Gowrie Junction and Warwick on the Darling Downs, are colonised by perennial mixtures of white clover with perennial ryegrass. Mostly though, perennial ryegrass is not present in Queensland, nor persistent for more than 3-years outside of cool-temperate environment of Tasmania and New Zealand.

Establishment

Perennial ryegrass pastures are established as for annuals, but at approximately half the seeding rates and with just light grazing for the first 3 months. Fescue seedlings are weak, and the grass is slow to establish and susceptible to competition from other sward plants. Sow in autumn at 20 kg seed/ha, with low rates of companion legumes (1 - 2 kg/ha), using similar methods to ryegrass. Graze lightly in the first winter. Once established the grass is very deep

rooted and persistent and will stand heavy stocking.

Water use

Depending on locality and winter rainfall, perennial ryegrass pastures will require more than 6 ML irrigation water each year because swards require water during the cool and warm growing seasons. It may need to be applied each 3 days during to maximise establishment seedlings.

Soil fertility

Perennial ryegrass pastures have similar N needs to annual pastures. Fescue is tolerant of a wide range of soils of different fertility, structure, pH and salinity. It is recommended that fertiliser inputs are based on soil tests. Adequate fertiliser is essential to the pasture performance. Fescue will require 125 kg urea/ha after each grazing, in total 400 - 800 kg urea/ha.

Diseases and pests

There are few pests of importance, and grazing often is sufficient for control. Army worms may invade pasture. Fescue may develop leaf and crown rust during summer.

Growth and grazing

Fescue is grazed as for ryegrass. Fescue will continue to provide grazing during summer and total yield is 8 to 14 t DM/ha. Forage quality is high, with similar CP and NDF to ryegrass during the cooler months. However, during spring and summer the quality of fescue becomes more like that of the tropical grasses, with NDF levels over 55% DM.

Pasture yield for perennial ryegrass pastures is typically in the range 6 to 12 t DM/ha, reflecting the slower growth during autumn and winter.

Weeds

Similar to ryegrass.

Animal health

Perennial ryegrass and fescue can contain endophytes which is a fungus that lives mostly at the base of the plant and moves upwards during seed development. Some of these endophytes are naturally occurring in perennial ryegrass and fescue whilst others are selected and called novel endophytes. They may assist the plant in the prevention of disease and increase drought tolerance, but they may also have a negative impact on an animal production and health and can cause toxicity and “fescue foot” in cows . The incidence of problems Queensland is highly variable because endophytes are seasonal and perennial ryegrass and fescue must make up a large part of the diet.

Further information

Contact the DAFF Customer Service Centre by Phone 13 25 23, or
Email callweb@daff.qld.gov.au

More technical notes can be found at:
www.dairyinfo.biz

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Lake (1995). Dairying Technical handbook.

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