PPS FESCUE PROJECT: L.PDS.2004

FESCUE: A LOW RAINFALL PASTURE TOOL?

Aim: ***to demonstrate that winter active fescue can be a valuable pasture systems tool in the <550mm rainfall zone in Victoria.***

Pasture Management Protocol

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Grazing management

Rotational grazing allows plants to be rested between grazings. This allows plants to replenish carbohydrate reserves in their tiller bases (in crown of plant), improve the size of the root system and produce more leaf area for the next grazing event. Over time, the perennial plants increase in size which increases total pasture (kg DM/ha) grown over the year, will provide better ground cover and reduce invasion of weeds. Native perennial grasses and annual grass species (eg. annual ryegrass ryegrass) will also benefit from rotational grazing.

Rest periods

The length of the rest period varies with the time of the year.

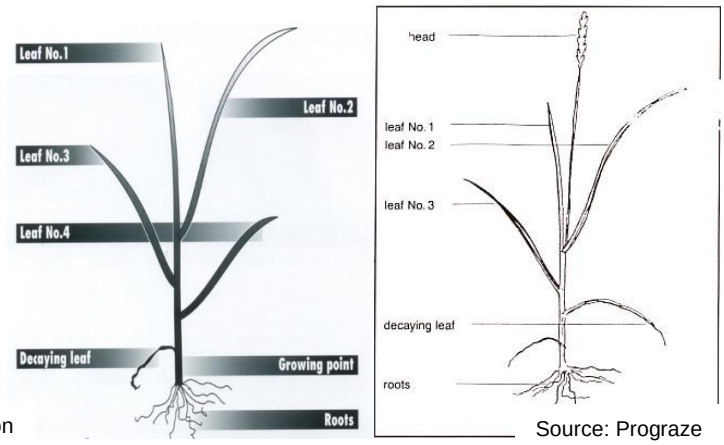
<u>From autumn to early spring:</u>
To decide when a pasture is ready to graze, the best indicator to use is the number of leaves per tiller that have regrown on the perennial grass. Once the full number of leaves have grown back per tiller, the oldest leaf will start to die. At this point the plant has replenished its maximum levels of carbohydrate reserves, so it is ready for the next grazing.

The target for perennial ryegrass and **fescue** is 3 leaves per tiller and for **phalaris** and cocksfoot it is four (Figure 1). Cocksfoot can sustain up to 5 live leaves per tiller before the oldest leaf starts to die off but grazing at the 4-leaf stage achieves a good balance between adequate rest and good feed quality. Leaf regrowth rates are driven by temperature (&moisture) not by soil fertility.

Pasture availability/Feed on offer (kg DM/ha) is another indicator that can be used to decide when a paddock is ready to graze. This works well where all paddocks in the rotation have similar species and high soil fertility. If paddocks have very different fertility levels, the paddocks will have different levels of pasture available (kg DM/ha) when they are at the appropriate leaf stage.

Some typical rest periods for paddocks, between grazings, as a guide are:

- Autumn: 30-40 days
- Winter: 40-50 days
- Spring: 18-22 days (OR can set stock for lambing)
- Summer: 70 + days (depends if get rain or not)



Source: Watson

Source: Prograze

Figure 1. Autumn-early spring: Leaf stage is an indicator of when perennial grasses are ready to graze. **Phalaris** (left) has 4 live leaves per tiller and perennial ryegrass and **fescue** have three.

From mid-spring to early summer:

Once the grasses move from the vegetative phase to the reproductive phase, leaf stage is not relevant to deciding when to graze.

For newly sown pastures, the priority is to allow the perennial grasses to run to head and flower before grazing off. If old perennial pastures have become rundown, due to overgrazing or dry conditions, allowing them to run to head in spring will improve their summer survival and growth the following year.
Phalaris usually starts to undergo stem initiation (can feel the nodes at the base of the plant) around mid-October. Rest for around 6-weeks after that to allow stem elongation and flowering to occur.
Fescue (Mediterranean/winter active) usually runs to head around a month before Phalaris.

For established pastures with good plant numbers and plant size, the priority at this time of year when growth rates are high is maintaining feed quality for as long as possible. The rest period can be shortened. The aim is for stock to trim up the pasture and maintain even utilisation, but not eat pasture down low at each grazing.

From mid-summer to the autumn break:

After the pastures have hayed off, the priority is to evenly graze the pasture off before the autumn break. The rotation can be slowed down. If the non-growth period is December to April (150 days) aiming for 2 grazings of each paddock during that time to utilise the dead feed, hence the suggested 75 days rest period. If there is some summer rain and pasture growth, this rest period can be reviewed.

Grazing duration

During the growing season, grazing a paddock for a week or less, will reduce the risk of re-grazing the newly emerging shoots (which start to grow 2-3 days after initial grazing), and this will also improve the overall pasture growth rates.

Grazing height

In dairy systems, leaving a high pasture mass residual (at least 3 cm) after grazing has been shown to increase perennial ryegrass growth rates and persistence. However, on sheep/beef farms trying to leave this amount of pasture residual after grazing is not always practical, particularly just after the autumn break. Also, different species have difference tolerances to grazing depending on their growth habit and position of growing points. For phalaris, fescue or cocksfoot pasture a more achievable target could be 1-2 cm (500-800 kg DM/ha) residual in autumn-winter. A higher pasture residual needs to be left moving into spring (eg. 4-5cm/1200-1400 kg DM/ha) and early summer (8-10cm/1800-2000 kg DM/ha). The aim is to have the dead feed eaten down to around 1000 kg DM/ha at the time of the autumn- break to allow good clover germination.