tips&tools

FEEDBASE AND PASTURES

Grazing management for mixed perennial-based pastures

A perennial based pasture usually contains a mixture of desirable and less desirable species. Achieving a balance through grazing management is vital to pasture productivity and sustainability.

Tactics

The following tactics can be used to manipulate pasture towards the ideal balance. Some tactics may need to be implemented for only one season while others will require a longer commitment.

Late summer/autumn

Graze dry plant residues to around 1,000kg DM/ha at the autumn break so that annual legumes have space to germinate, without damaging the desirable perennial grasses or allowing too many weeds.

To specifically reduce annual weeds, retain pastures at 1,500kg DM/ha and 80% ground cover. Weed seeds are less likely to germinate in soil well covered with plant material.

To improve sub-clover content specifically, graze pastures to 800kg DM/ha for a more successful germination. Short tussock grasses such as perennial ryegrass and many native grasses can tolerate grazing to these levels. Larger tussock species such as phalaris are best maintained at more than 1,500kg DM/ha.

Autumn (after the break)

Reduce stocking rate or spell target paddocks to let desirable perennial grasses and legumes accumulate leaf to 1,000–1,500kg DM/ha. The more leaf area plants have at the start of winter the greater the growth rates through winter and competition against weeds. Patience will pay dividends after the season break.

Reduce weeds – deferred grazing after the break allows perennials to compete successfully with weed seedlings.

Increase clover – maintain pastures at around 800kg DM/ha to reduce competition from taller species on the more prostrate clover.

Key benefits

- By varying your grazing management tactics by season you can manipulate pasture towards a preferred plant-type balance.
- Managing different plant species can improve productivity and persistence.

Increase perennial grasses by seedling recruitment in targeted paddocks – defer grazing for eight weeks for seedlings to establish.

The ideal pasture is productive, relatively stable over time, resistant to weed invasion and does not need resowing. Target percentages for pasture components, as measured by % of ground covered in spring, are:

60–70%	Productive and perennial grasses
20–30%	Legumes
<10%	Weeds
<10%	Bare ground

These targets vary depending on location, pasture type, soil type, climate and topography.

Winter

Short graze periods that quickly reduce forage to target levels help maintain vigour. This also helps encourage legumes and suppress weeds. When pasture growth is slow, the rest period needs to be longer. When pasture growth is fast, the rest can be shorter.

Reduce broadleaf weeds – use spray grazing or high density grazing for a short period (3–7 days) to reduce pastures to 800kg DM/ha.

Reduce annual grasses – implement a winter-cleaning program.

Increase clover – keep plants short and vigorous. Set stock for a season or rotational graze with short rests.

Encourage young perennial grass plants – maintain at least 1,000kg DM/ha to prevent smothering by weeds and the removal of too much leaf from newly recruited plants.

Boost established perennial grasses and maximise pasture growth rates – maintain pastures above 800kg DM/ha to reduce plant decline. Use rotational grazing to allow plants to regrow after each grazing.

Spring

Maintain pastures below 2,000kg DM/ha to minimise the decline in feed quality of perennial grasses at maturity. Set stocking may be more effective than rotational grazing in spring if the need is to increase legume content and moderate herbage levels.

Reduce annual grasses – use high intensity grazing pressure at early flowering, when <1% of tillers have a seed head just visible above the flag leaf sheath – usually late winter/early spring. Maintain pastures at 1,000–1,500kg to minimise seed set. Cutting pasture for silage before weeds flower can reduce weed seed.

Improve clover content – set stock to graze pastures between 800kg and 1,500kg DM/ha to reduce shading, until clover begins flowering, then maintain below 2,000kg DM/ha.

Improve perennial grass vigour – allow pasture paddocks to set seed so desirable plants (particularly young and stressed older plants) can replenish their energy reserves. In some species (such as phalaris), flowering stem development is also linked to dormant bud production at the plant base. These buds help plants survive dry summers. Seed set provides new seedling recruits, particularly in perennial ryegrass and cocksfoot paddocks, as well as native pastures.

Maintain feed quality of perennial grasses (particularly cocksfoot, phalaris and fescue) – use short-term, high density grazing to keep pastures below 2,000kg DM/ha. It can be hard to get some paddocks below 4,000kg DM/ha, but where it is achieved, legume content generally increases.

Summer

Maintain pasture residue of 1000kg DM/ha and a minimum of 70% ground cover to preserve desirable perennial grasses, minimise weed establishment, manage run-off and reduce erosion from summer storms. On steeper paddocks aim for 100% ground cover and above 1,000kg DM/ha to protect against soil erosion.

Reduce weeds – maintain pasture above 1,500kg DM/ha and 80% ground cover to reduce gaps and retain perennial species for autumn competition.

Improve persistence of perennial grasses – avoid continuous heavy grazing in dry periods (particularly cocksfoot and young tall fescue). Maintain the dry sheaths on plants to help protect the growing points during summer. Avoid heavy grazing of any green leaf under dry conditions, particularly of species like cocksfoot and perennial ryegrass. Grazing fresh growth at this time may lead to death of plant roots, with poorer growth in autumn.

Increase recruitment of perennial grasses – defer grazing until set seed has dropped. In areas of summer rainfall, a rest of 10–12 weeks can help recruit perennial grass plants.

Maximise summer-active species – in summer rainfall areas, rotationally graze tall fescue and summer-growing natives and annuals, but defer grazing if conditions become dry.

While set stocking may be appropriate over much of summer, rotational grazing encourages better growth of desirable species, particularly when forage supplies decline or plants start to regenerate after rain.

Plant facts

Pasture growth rates are optimised when there are 3–5 leaves per grass tiller, depending on the species. Grazing encourages tillering so pastures perform best when grazed down to 1,000kg DM/ha before each rest.

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Further information

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