Local Land Services Western

Factsheet

Grazing management principles: No.9

Rest pastures regularly

Healthy pastures are critical to a productive and sustainable grazing enterprise.

Excessive grazing pressure will cause pastures to decline, leading to a decrease in perennial, palatable and productive pasture species, an increase in erosion risk and an abundance of undesirable pasture species.

The semi-arid landscapes of the Western Local Region need careful management to maintain their productivity, especially during drought. Resting pastures is one recommended strategy to deal with the constraints of the region's semi-arid climate.

What keeps a pasture going?

For a pasture to remain productive, perennial plants must be in good condition with a healthy root base so they can quickly re-shoot after rainfall. They must also be able to regenerate from seed. The flowering and seeding stages of life can take up to two months or more in desirable perennial plants.

Perennial plants use their roots as a "food reserve". As they are grazed, they draw from these reserves to re-shoot. Under continual grazing pressure, the plant's ability to replenish these reserves is reduced. If a plant then becomes stressed, such as during a dry spell, it can run out of food reserves and die.

In general, both perennial and annual grasses are stimulated by light grazing. They can tolerate moderate grazing, especially if they are allowed a period of rest. However, continuous and heavy grazing will cause the death of perennials. Perennials must then compete with annuals and weeds to re-establish from seed.

Annuals have a competitive advantage as they typically establish rapidly and produce more seed in a faster timeframe than perennials. However, annual-dominated pastures produce less dry matter, are less able toare less able to cope with and recover from dry spells and this can result in reduced groundcover once rain returns, allowing erosion and weed invasion to occur.

Resource benefits of resting pastures

Regeneration

Resting pastures at critical times will allow them to replenish reserves, set seed and regenerate. In low rainfall rangelands, restoring pastures through active reseeding programs is impractical.

Drought resilience

Rested perennial pastures are more able to use available moisture, increasing their chance of surviving through droughts.

Weed resilience

A healthy, vigorous native pasture resists the invasion of exotic plant species that degrade the production and biodiversity values of the pasture. Robust pasture growth also competes with the establishment of invasive native scrub seedlings.

Faster drought recovery

Perennial pastures in good condition will re-shoot quickly after rain. Immediate seedling recruitment of perennial plants is assisted by maintaining a good soil seed bank. If the seed bank is depleted, plants require time to set seed before regeneration can occur.

Biodiversity

Periodic resting of pastures assists in retaining native habitat. When perennial pasture species grow out and re-seed, they provide valuable cover and food resources for wildlife.

Groundcover

Groundcover is vital for the protection of soil surfaces from erosion, the capture of rainfall, the retention of pasture seedbanks and for creating a suitable environment for seedling establishment. Resting assists in the build-up of groundcover by enabling greater plant establishment as well as the accumulation of dead plant material on the soil surface. Resting also promotes the recovery of biological algal crusts on the soil surface between pasture plants, which assist with soil stability.

Spelling for dry seasons and drought

- The energy reserves of plants are low coming out of a dry spell. When the first growing rain falls, plants will put out green leaf to capture energy and replenish reserves.
- Grazing at this time can severely hamper plant recovery or regeneration and may put them at risk of being eaten out.
- Resting pastures for one to two months at the break of the season will give them time to replenish their reserves, regain productivity and withstand renewed grazing pressure.
- Spelling can also benefit pastures going into drought. A heavily grazed pasture can have a weakened root system making it difficult to persist into the early stages of drought.

Manage for what you want

- Focus grazing management on the condition and needs of the key perennial, palatable and productive species present.
- To influence pasture composition, rest pastures when desirable species are re-seeding or while seedlings are becoming established.
- Read the other fact sheets in this series, *No.2: Control access to watering points* and *No.5: Manage pasture species* for further information.

Case Study

Andrew and Megan Mosely of Etiwanda near Cobar, have a detailed grazing plan, which includes moving stock so that paddocks can have up to 120 days rest.

They would like to extend this to 150-180 days. On Etiwanda, Andrew and Megan have achieved lowered costs and increased production, as well as an increase in soil carbon from 0.6% to 0.88%.

Read the *Good management, less stress* case study in this series for more information on the operation at Etiwanda.

Figure 2: Ideally rest paddocks when pasture is seeding.

Figure 1: Focus grazing management on the condition and needs of the key perennial, palatable and productive species present.

Flowering and seeding

- Seeding is important to maintain a healthy, vigorous pasture. Resting will prevent stock from disrupting pasture flowering and seed set.
- Different species will flower at different times, so be aware of what species are in each paddock and when they are flowering.
- Once plants have dropped their seed, grazing can resume and may even benefit regeneration by helping break up soil surface and bury the seed in the soil.

When to move stock

- When paddocks are being grazed, monitor groundcover and the condition of desirable pasture species.
- De-stock at trigger points, such as 30% utilisation of palatable perennial grasses, to avoid over-grazing.
- Careful attention needs to be paid to possible preferential grazing where more than one land type occurs within a paddock. This needs to be monitored as extra spelling time or additional fencing may be required.

It is not only domestic stock that impact on pastures

- Control of other animals, such as feral goats or kangaroos, is crucial for the full beneficial effects of resting of pastures to be realised.
- Close off watering points in destocked paddocks to help reduce the pressure of these other animals.
- Monitor de-stocked paddocks carefully.
- Consider TGP fencing.

Do what you can, when you can

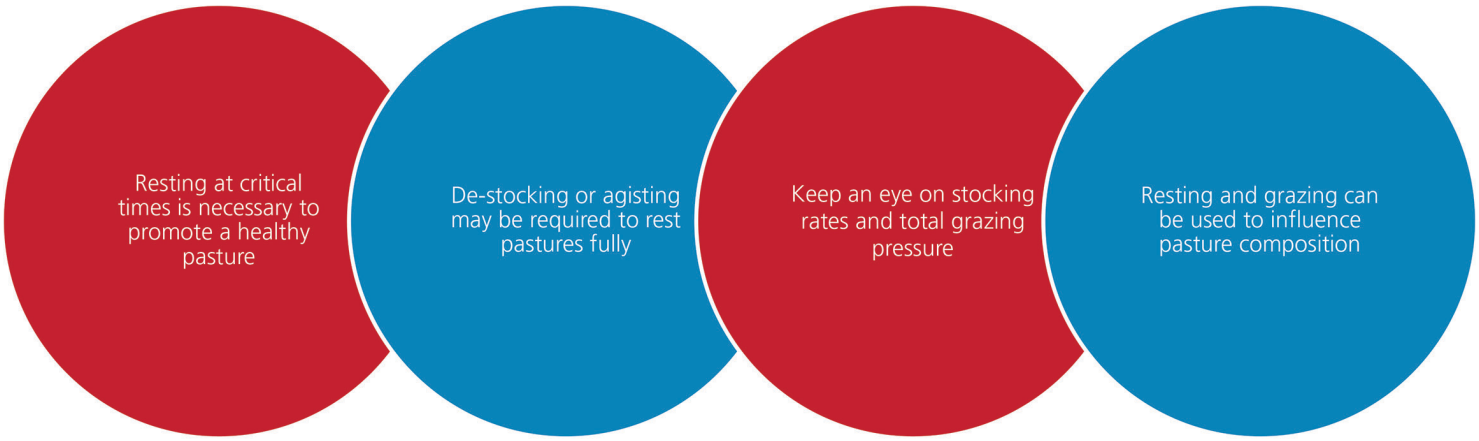
- Aim to rest each paddock every three to four years during pasture flowering and seeding.
- The use of a sacrifice paddock is a good practice going into, during, or coming out of, a drought – one paddock will suffer but the rest will get the chance to regenerate.
  Another benefit is that supplementary feeding can be easier in a small number of sacrifice paddocks.
- The use of sacrifice pasture also gives pasture in other paddocks a chance to use the moisture they have and recover once the drought is over.
  Sacrifice paddocks should be monitored for the presence of weeds and control measures implemented if necessary.

Figure 4: Grazing paddocks need monitoring for groundcover condition.

Figure 3: Aim to rest a paddock every three to four years during pasture flowering and seeding.

What are the consequences of not resting pastures?

- Droughts will be harder to deal with and recovery periods longer.
- Pastures will be characterised by:
    - old plants with few, young, regenerating plants
    - exotic weeds with little pastoral or biodiversity value
    - survival of invasive native scrub seedlings
    - domination by annual species that provide only temporary groundcover.
- Poor livestock production as productive pasture species are lacking.



Further reading

Other fact sheets in this series

No.1 Actively control feral animals
No.2 Control access to watering points
No.3 Maintain and improve groundcover
No.4 Manage for drought
No.5 Manage invasive native scrub (INS)
No.6 Manage pasture species
No.7 Total grazing pressure
No.8 Match stock numbers to feed availability

Case study

Good management, less stress – the Mosely family

DVD

Looking over the Fence – grazing management in the rangelands, Western Catchment Management Authority, 2013

Books

Best management practices for extensive grazing enterprises – Hacker R, Beange L, Casburn G, Curran G, Gray P, Warner J, 2005

Semi-Arid Zone Research – CSIRO Wildlife and Ecology, 1997

A Grazier's Guide to –Local Land Services offices have a number of the guides in this series, including Belah-Bluebush, Saltbush Plains, Mallee, Mulga, Bimble-Box Pine and Saltbush-Bluebush Country

The Glove Box Guide to Tactical Grazing Management for the semi-arid woodlands – Campbell T and Hacker R, 2000

Managing native pastures – a grazier's guide – Partridge I, 1992

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