Local Land Services Western

Factsheet

Grazing management principles: No.6

Manage pasture species

Use annuals and protect perennials.

Healthy pastures are the cornerstone of a sustainable grazing enterprise. The protection of perennial pastures and the use of annuals will help make your property more productive and viable.

Each property within the Western Local Region has several different land types, each with its own characteristic range of pasture species.

Productive pastures have a balance of perennial and annual species. Perennials stabilise production and the soil surface but the annuals boost seasonal productivity.

Perennial pasture plants can rapidly shoot from 'growing points', which are found on stems or at the base of the plant. A perennial plant with a healthy root system can survive dry spells by maintaining a supply of moisture to these growing points. However, these points can easily be damaged during grazing, which may kill them.

Established perennial grasses are quicker to respond after rainfall than annuals that must establish from seed. However, annual plants have an important role to play, as they can produce highly productive growth and will often germinate in exposed areas between perennial plants.

If perennials die out during dry times, pastures may become dominated by annuals. Due to their short life cycle, annual dominated pastures risk loss of groundcover and reduced production capacity during dry seasons.

Pastures need to be managed so that perennial plants remain healthy and annuals are used when available.

Resource benefits of healthy pastures

Groundcover

A healthy perennial pasture will provide groundcover, protect the soil and catch runoff. Perennials can also protect establishing plants and dry herbage from wind and other adverse weather conditions.

Continuity of feed

The growing habits of perennial plants mean that they can respond quickly to rainfall. Having a diversity of species, including winter and summer growing plants, will allow pastures to respond to rainfall at any time of the year. This leads to a more even feed supply.

Maintain pasture balance

A good balance of perennial and annual grasses has the ability to out-compete undesirable plant species, including weeds and suppress Invasive Native Scrub (INS).

Biodiversity

Pastures which contain a high percentage of native perennial species provide valuable habitat for native fauna, and can also provide connectivity between patches of woody vegetation.

Drought resistance and recovery

Perennial plants can persist longer into dry conditions than annuals as they can maintain a moisture supply to their growing points. Energy reserves in the root system also allow perennials to recover more quickly once better seasons return.

Perennials have a life cycle of two years or more and can regrow from both seeds and 'growing points'. Examples include woollybutt grass, bladder saltbush, Mitchell grass and curly windmill grass.

Annuals often quickly germinate and grow in favourable seasons and set large amounts of seed. They seldom persist more than a year. Examples include blue crowfoot, medics and button grass.

Australian Government

Know which species you have

Every pasture species has its own particular characteristics which can be used by managers to influence pasture composition.

When managers know the characteristics of each pasture species, they can change their grazing practices to better suit desirable species and to disadvantage the undesirable ones.

Results

- Better pasture composition, dominated by perennial species with a desirable annual species component.
- Increased ability to monitor the changes in pasture composition brought about by grazing.

Implementation

- Make sure the tools (books, training) to identify species are available and know what the species' characteristics are.
- Generally, monitoring at the beginning and end of the growing season will give a good indication of on- ground changes.
- Adjust stocking rates to maintain a good balance between desirable with perennial and annual species.
- Rest paddocks once you have grazed 30% of the desirable perennial grasses and during the flowering and seeding periods of desirable species.

Figure 1: The key to maintaining pastures is to observe the level of grazing of the most perennial, palatable and productive grasses.

Case study

Andrew and Megan Mosely of Etiwanda near Cobar, keep a close eye on both pastures and stock and use grazing charts which they regularly check to make sure stock are not overgrazing pastures. They believe this has led to better pasture health and therefore greater production.

Figure 2: Where possible, plan fences to follow broadly defined land or pasture types.

Fence to land type

Where possible, plan fences to follow broadly defined land or pasture types. Different land types will have different pasture compositions, which will respond differently to grazing and other pressures, as well as to rainfall. For example, dunes have different vegetation and resilience characteristics to floodplains.

Results

- Increased evenness of pasture use within paddocks, minimising grazing impacts on pasture health.
- Better capacity to manage the best pastures. In paddocks with mixed land types, stock tend to selectively graze the best areas, stressing these pastures before moving into less preferred country. For instance, productive flats will be grazed out before stock move on to higher ground.

Implementation

- Approach your Local Land Services Western Region office to obtain satellite images, Western Lands Lease management plans and other information that shows your property's land types.
- Identify land types which need different management practices and then plan long-term fencing layout accordingly.
- Review water point locations to encourage even grazing pressure throughout the paddock. Ensure that access to all water points can be controlled.

Use no more than 30% of pasture growth by weight

Pasture plants have varying degrees of palatability according to growth phase and species. The sequence of pasture use by livestock is generally as follows:

1. green annual herbage
2. green annual grass
3. green perennial grass
4. dry herbage and grass
5. some copperburrs
6. saltbush
7. bluebush

The key to managing pastures is to observe the level of grazing of the most perennial, palatable and productive grasses. When 30% of the foliage weight of these species has been grazed, it's time to destock the paddock. Check pasture utilisation standards to determine 30% utilisation levels.

Resting pastures and maintaining plant residues will help native pastures to remain in good condition.

Retaining 70% of pasture growth results in:

- good groundcover, even during dry spells, minimising erosion risk
- maintenance of healthy perennial pasture persistence into drought and rapid pasture recovery.

Implementation

- carefully monitor the impact of grazing on pastures
- control total grazing pressure
- move stock to other paddocks or agist when pastures reach their limit of utilisation.

Use annuals

Annuals provide high-value forage for short periods of time. Recognising the value of these species and managing them as a component of a healthy native pasture:

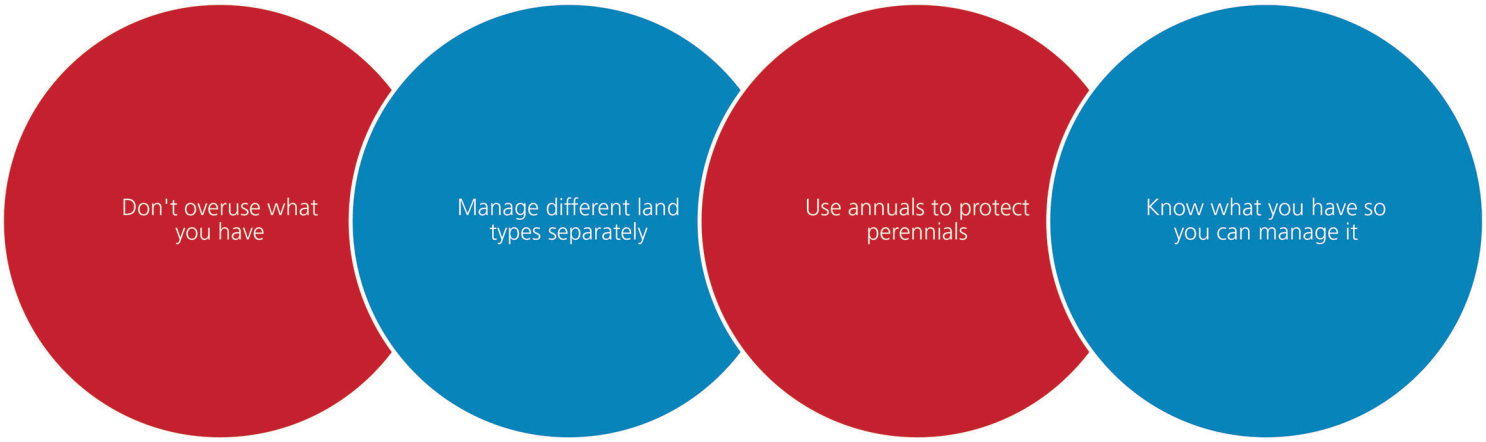
- fills feed availability gaps
- provides seasonal high pasture productivity
- provides rest for regenerating perennial plants as stock will graze palatable annuals first.

Figure 4: Button grass is another palatable herbage.

Figure 3: Blue crowfoot is a palatable annual herbage.

What are the consequences of not managing pasture species?

- Annual dominated pastures with a short growing season, poor persistence and low tolerance of drought.
- Non-persistent groundcover leading to increased erosion risk, reduced moisture infiltration and declining soil health.
- Selective grazing, resulting in the loss of the most desirable species from favoured land types.
- A degraded resource base with decreased biodiversity and productivity.



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.7 Total grazing pressure
No.8 Match stock numbers to feed availability
No.9 Rest pastures regularly

Case study

Good management, less stress – the Mosely family

DVD

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

Other fact sheets

Primefact series – in particular, Primefact 225 has photo standards for estimating pasture utilisation rates.
www.dpi.nsw.gov.au

Books

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

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. & Hacker, R., 2000

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

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