



Implementing wet season spelling to improve and recover pasture condition

Findings from Wambiana grazing trial

Why spell in the wet season?

Wet season spelling is essential to maintain and improve pasture condition. Research shows that the critical time to spell is early in the wet season when plants are regrowing after the long dry season. While an early wet season spell is good, a longer, full wet season spell is best, especially for pastures in poorer condition.

Cattle are selective grazers, so preferred 3P (perennial, palatable and productive) grass species are often overutilised, even at light stocking rates. Without occasional rest, 3P grasses can weaken, die and be replaced with less productive, unpalatable grasses or weeds. Wet season spelling gives 3P grasses a chance to rebuild root reserves, increase vigour and set seed. It also gives seedlings a chance to establish without being pulled out by grazing.



Image 1 Wet season spelling (above right) is essential to give grazed paddocks like that on the left a chance to recover.

Wet season spelling is essential to maintain and improve pasture condition

Spelling helps ensure there is a feed reserve for later in the year, for animals that need special care like weaners or to accumulate fuel for fire.

Importantly, spelling involves removing all cattle from a paddock for all or part of the wet season. Even a few head left in a paddock will still overgraze preferred areas and grasses, continuing the degradation cycle.

When is wet season spelling needed?

All paddocks need occasional spelling; however, wet season spelling is needed if:

- 3P grasses account for less than 40% of pasture, with unpalatable species like wiregrass and/or annual grasses and forbs dominating
- 3P grasses are small, weak, rarely produce seed and respond poorly to rain
- paddock yields and ground cover are low
- preferred grasses are heavily grazed, often down to their bases
- there is distinct patch grazing with tall rank grass next to heavily grazed patches.

Findings from the Wambiana grazing trial

The Wambiana grazing trial which is co-funded by MLA and DAF, has shown that while recovery with wet season spelling can be slow, spelling during the growing season is still essential and allows faster recovery post drought. The recovery in basal area shown in Figure 1 was largely due to the cumulative effect of small numbers (1 every 10 m²) of seedlings establishing each year.

The *Ecograz* project (2001) on goldfields and basalt landtypes in the Upper Burdekin showed rapid improvements in yield and composition were possible with early wet season spelling, provided pasture utilisation rates were conservative (25-35% utilisation rate).

Utilisation rate

Utilisation rate is the amount of feed eaten relative to the amount grown over a growing season.

Importantly, results from the Wambiana trial and elsewhere show stocking rate is just as important as (if not more important than) spelling in determining pasture condition. There will be little, if any, benefit from spelling if stocking rates are too high. Higher stocking rates will damage pasture condition even if wet season spelling is applied.

The Wambiana trial has also shown that incorporating regular spelling increases liveweight gains in the longer term.

How to implement wet season spelling

Selecting paddocks to spell

Decide which paddock(s) you are going to spell well before the wet season. Consider:

- the current pasture condition
- when the paddock was last spelled.

Removal of animals

Animals should be removed at the end of the dry season or when convenient with musters.

Try to ensure the paddocks to be spelled have good ground cover at the end of the dry (50% is the minimum recommended level) to maximise rainfall infiltration.

Remember to consider where these animals will be moved to. Do not overgraze a paddock just to give another a wet season spell.

At the latest, paddocks should be locked up once conditions allow pasture growth (e.g. after about 50 mm of rain has fallen over 2 days). Local long-term rainfall data can help you predict when this might be in your region. For example, Charters Towers usually has 50 mm fall in two days by 28 January.

How long should you spell for?

At a minimum, paddocks should be spelled for the first 6 to 8 weeks of the wet season, when plants are most sensitive to grazing. However, a full wet season spell will give the greatest benefit, as the late growing season is when grasses store reserves to drive growth for the next year. If paddocks are in poor condition, a full wet season spell may be required for several years.

Closely monitor unspelled, grazed paddocks throughout the wet season for over utilisation. If this happens it is best to open up spelled areas or sell cattle to reduce pressure on grazed paddocks.

In a very dry year when forage is scarce it might be best not to spell to avoid over-grazing other paddocks.

What if the wet season fails?

Remember, if you have had a failed wet season, the paddock has not had a wet season spell.

After wet season spelling

Once the desirable 3P species have set seed, cattle can be reintroduced to the paddock.

However, ensure stocking rates match the amount of feed present. This can be determined using a forage budget to ensure sufficient residue remains at the end of the dry season.

Spelling will not buffer the effects of higher stocking rates.

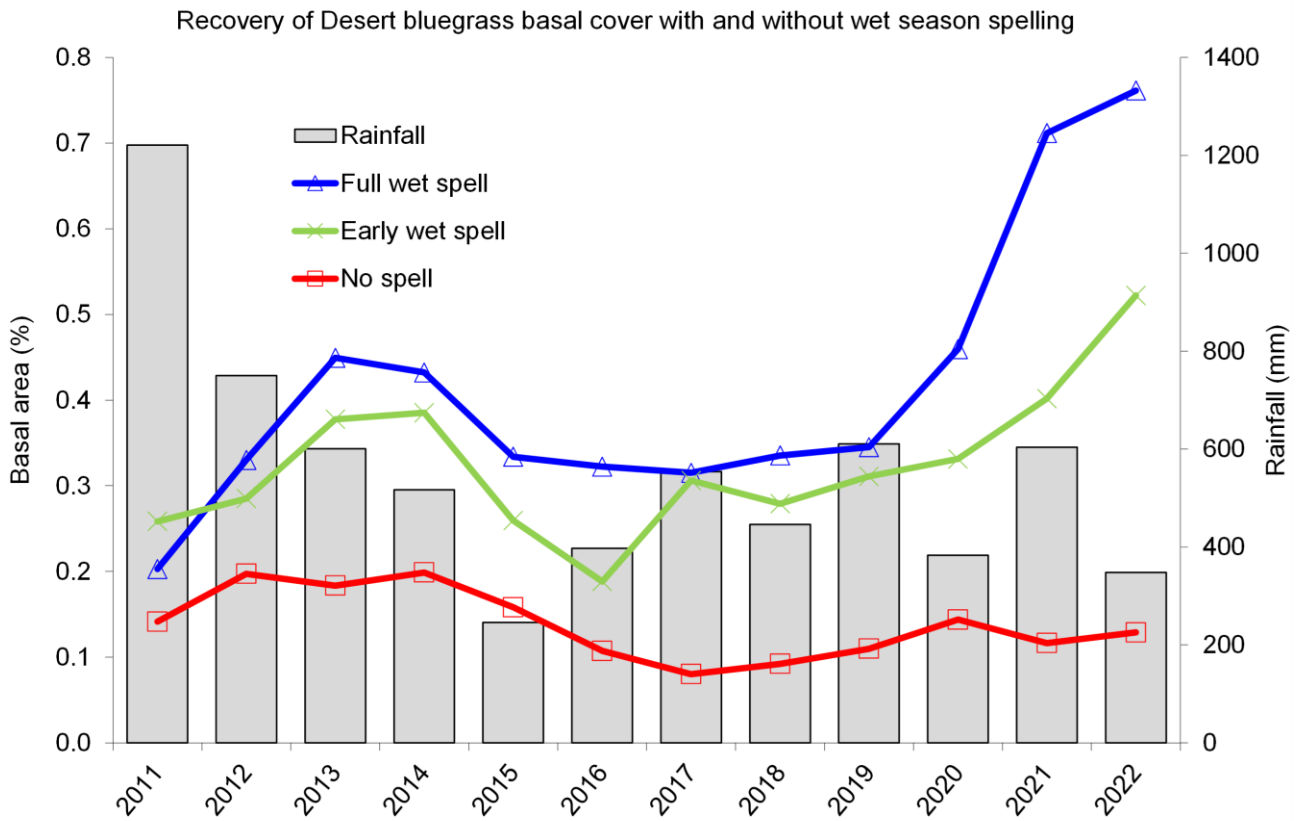
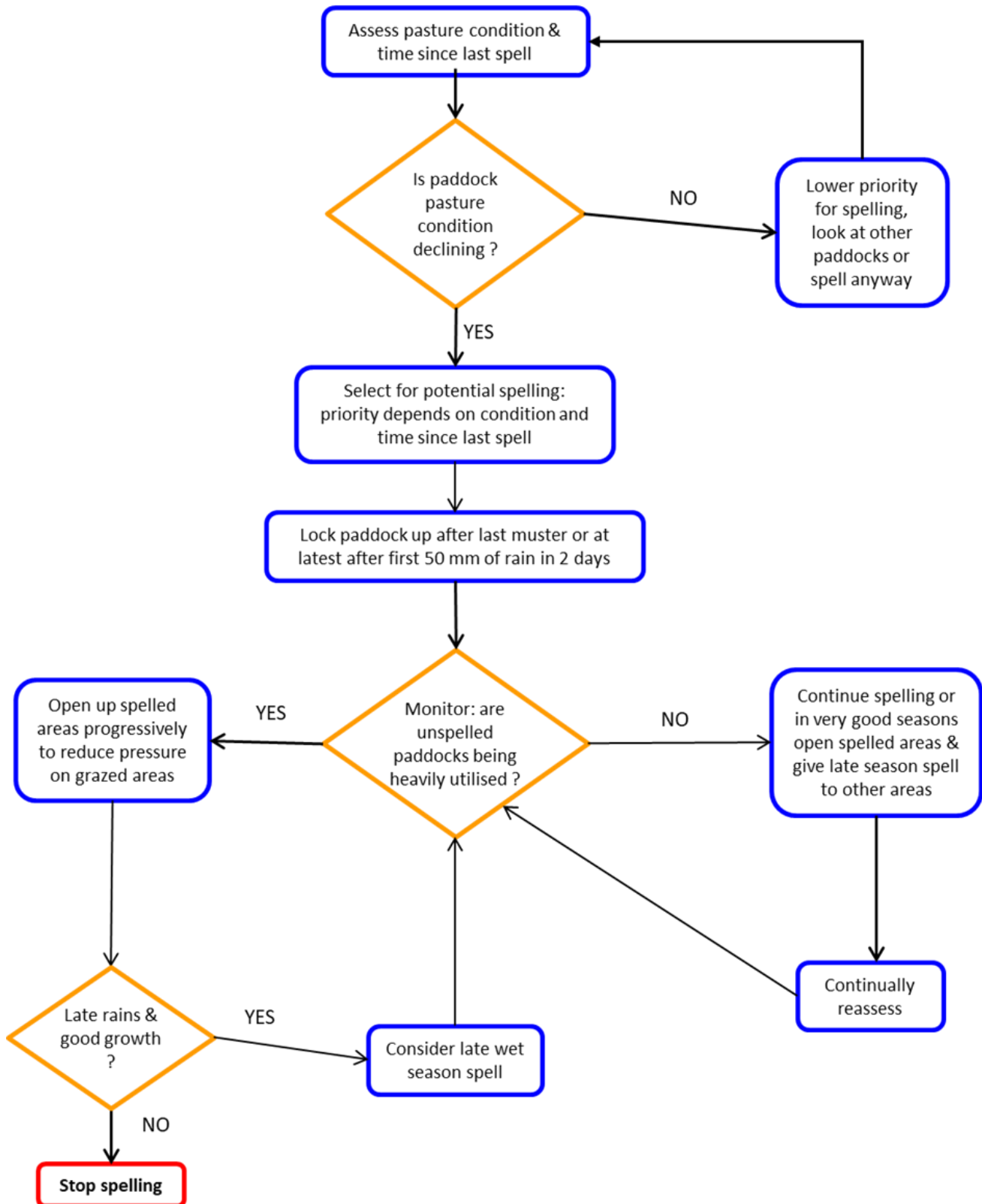


Figure 1 Under moderate stocking at the Wambiana trial, annual wet season spelling, especially for a full wet season, led to faster recovery after the 2014/15 drought on C condition land.

Importantly, stock numbers should be around or lower than the long-term carrying capacity (LTCC) of the paddock, ensuring the positive effects of the spell are not lost.

Flow diagram for wet season spelling





Tools to help implement wet season spelling

- Monitor pasture growth alerts for your area www.longpaddock.qld.gov.au/forage/
- Historical rainfall data www.longpaddock.qld.gov.au/silo/
- Assessing paddock ground cover vegmachine.net/ or www.longpaddock.qld.gov.au/forage/
- FutureBeef provides the latest practical tools, scientific insights and relevant, timely advice futurebeef.com.au/
- Attend a Grazing Land Management (GLM) EDGE course futurebeef.com.au/
- *The Ecograzed project: developing guidelines to better manage grazing country*, Ash et al (2001) CSIRO, Townsville, 44 p.

More information

For more information contact your local extension officer futurebeef.com.au/contact-us/