

How to use decision dates in grazing

Imagine if you had clear plan for when to make decisions about grazing management for the year ahead? Wouldn't that be reassuring.

You could:

- *Forward plan stock movements.*
- *Forecast forage shortfalls.*
- *Buy any additional feeds in advance at a better price.*
- *Keep an eye out for any bargain livestock purchases if your forecast suggests you will have excess feed on hand.*
- *Keep note of potential sale cattle or cull cows if you think you may need to reduce the stock on hand to match the feed available.*

Setting clear lines in the sand on when you plan to make the important calls means you're prepared. You aren't operating in 'wait and see' mode. Imagine the impact to your business. Less stress, better livestock production, reduced risk of overgrazing and more considered sales and purchases.

The EDGE packages (developed by Meat and Livestock Australia) refer to three 'key decision dates'.

Decision date 1 — Midway through the summer growing season

Decision date 1 is all about having a quick look at how the season has progressed thus far. To do this objectively, you need to know your regions break of season threshold.

Break of season threshold

In regions that are influenced by seasonal monsoon rainfall (much of northern Australia), the break of season is defined as:

"50 mm of rain fallen over 3 consecutive days between 1 September and 31 March." Source: Grazing Land Management EDGE

Why is this a rule of thumb?

It is anticipated that receiving 50 mm over 3 days during warm weather will have been enough rain to increase soil moisture and stimulate significant plant growth.

What about regions that aren't impacted by monsoon rainfall?

Comparatively, a different rule of thumb is used in more arid regions, such as 30 mm over 5 consecutive days between 1 September and 31 March.

The variation in this rule of thumb is due to the different pasture species and land types and the ability of the pastures to respond to small amounts of rain. Dry soils with higher proportion of sand versus clay require less rainfall before plants can grow.

Marking decision date 1 in your calendar

This date does not need to be scientifically calculated, but it does need to be in the middle of the expected growing season. For example, [historical climate data](#) from the Bureau of Meteorology website shows that [Charters Towers](#) receives the majority of its annual rainfall between December and March.

There are 120 days between 1 December and 31 March, therefore, the halfway point would be 30 January. This would be the decision date, or you could select a date that is meaningful to you near this time. Local graziers in the Charters Towers region often refer to ‘receiving a break by the Ashes’, referring to the Goldfield Ashes which is a large cricket carnival held in January each year. Personalising decision dates makes them memorable and keeps them front of mind.

Historical rainfall information at Charters Towers (mm)

Statistic	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Mean	150.5	144.0	78.5	28.7	27.5	18.1	23.6	14.3	8.2	17.6	60.4	79.6
Median	133.2	104.2	69.9	18.2	9.4	8.2	6.6	1.2	1.6	7.5	39	62.4
Highest daily	186.2	142.2	76.8	61.6	122.8	37.4	56.4	86.6	30	36.4	126.8	78

Regardless of which date you choose, this is when we ask ourselves, ‘have we received what we would consider to be break of season rain yet?’

Implications of the break of season threshold

If the answer is yes, you have received 50 mm of rain in 3 days by the middle of the typical growing season, or the break of season threshold relevant for your region, we’d call this a reasonable-to-good start to the growing season. With follow-up rain you are on the way to experiencing an average or above average pasture growing season.

If you are stocked at or below your property’s safe carrying capacity, it is likely you will be able to safely maintain your existing stock numbers well into the year ahead — although it is critical to remember that these decision dates do not replace in paddock checks or pasture budgeting.

We recommend checking back in with how the season is progressing at decision dates 2 and 3.

However, in years when the rain is late to arrive (i.e. you have not reached the break of season threshold by the middle of the growing season) or it rained early but with no follow up rain (failed wet season), the outcome for the season ahead is quite different.

Late starts to the growing season, provide plants with less time to grow in comparison to 'normal' years before the environmental conditions become unfavourable.

Unfavourable growing conditions include a lack of available soil moisture, depletion of available soil nutrients, or the [minimum temperatures dropping below ideal growing conditions](#). As such, a smaller body of feed is likely to grow compared to a 'normal' season, thereby negatively impacting the stock numbers you can safely graze.

[Print off this questionnaire and put it in your diary!](#)

Decision date 2 — The end of the growing season

In the monsoon influenced areas of northern Australia the majority of the pasture growth for the year ahead has occurred by the end of the wet season. This is the time to schedule decision date 2.

Marking decision date 2 in your calendar

Continuing with Charters Towers as the example, and using historical climate data from the Bureau of Meteorology, we know that the typical rainfall season and therefore peak pasture growing season, for this area finishes at the end of March. Growth past this point will be much slower, diminishing to very little grass growth as soil moisture and minimum temperatures decline. Optimal growing conditions will be further reduced as nutrient availability in the soils are depleted and daylight hours decrease.

For these reasons, the end of the growing season makes it a perfect time to complete a [forage budget](#).

What a forage budget can tell you

A forage budget is a template that allows you to objectively compare how much pasture is available for consumption for the number and type of stock you have on hand.

At the end of the calculator?, you will have a figure estimating how many stock that area (e.g. a paddock) can sustainably accommodate until the pasture is likely to start growing again (the production point), or how many days that area can carry the number of stock you have.

Production point and green date

As discussed above, break of season rules allow you to objectively assess if there has been a good or poor start to the growing season. The production point however refers to when you can reasonably expect to have enough new pasture growth that stock will not need to be consuming previous years' pasture to sustain their nutritional needs.

To estimate your production point, you first need to know your green date.

Green date is defined as: the date at which in 70% of years, you will have received 50mm of rain over 3 consecutive days or your region's break of season threshold.

To calculate this date, you need to look at historical rainfall data. A helpful tool to work this out is climateapp.net.au. After registering for an account, follow the steps as outlined in this Northern Australia Climate Program video:

<https://youtu.be/zTuyIIESaSY?si=7PwV7HvQLIUHlyPz>

Now that you have calculated your green date, the production point when stock will not need to be utilising previous years' pasture growth, is 2-6 weeks after the green date. In the monsoon rainfall region, 3 weeks past the green date is considered a good choice.

Using Charters Towers as the example, the green date would be 26 January, with the production point (3 weeks past that) being 17 February.

A conservative approach to forage budgeting would use the production point as the end date for their forage budget.

Implications of a forage budget

If after completing a forage budget you have calculated that you will not have enough pasture to carry your existing herd through to the production point, you have some decisions to make. Moving forward, your options are:

- Reduce stock numbers to the level calculated in the forage budget.
- Purchase enough hay or feed in advance to accommodate the shortfall, keeping in mind that an average non-lactating mature cow needs to eat 8 kg of dry matter a day to maintain condition.
- Proactively seek agistment to offload grazing pressure on your paddocks.
- 'Roll the dice' and hope you have calculated your forage budget incorrectly or will get some out-of-season rainfall and additional pasture growth. However, the risk is potentially overgrazing your country, reducing its long term resilience and future functionality; impacting livestock production through reduced weight gain, poor pregnancy rates and poor animal welfare outcomes. In extreme cases, there may be significant financial impacts due to purchasing emergency feed or forced selling at poor prices.

However, if after completing the forage budget it is estimated that the pasture will last beyond the production point, there are vastly different options available.

These include:

- Leave stock numbers as they are, knowing that this will create an opportunity for pastures to set seed and potentially contribute to an improvement in land condition.
- Leave stock numbers as they are, knowing that there will be a higher residual at the end of the season, providing a buffer in case the arrival of the next wet season is late.
- Purchase additional livestock or relocate livestock from other paddocks or potentially retain stock longer if financially beneficial –.
- Consider taking on some agistment.

In the case of either scenario, if you do this at the end of the growing season, you know where you stand for the year ahead.

[Print off this questionnaire and put it in your diary!](#)

Decision date 3 — Midway through the non-growing season

Decision date 3 is a review of the forage budget estimate conducted earlier in the year at decision date 2. It provides an opportunity to assess pasture still available, pasture condition (palatable species composition) and any factors that may have impacted pasture quantity and quality. These could include out-of-season rainfall, unexpected livestock sales or purchases, frost, fire and even locusts.

The easiest way to measure the accuracy of your previous forage budget is to conduct another using the same template but adjusting the starting date and pasture yield.

Implications of decision date 3

Reviewing the forage budget made at decision date 2 allows you to ensure your estimates were reasonable or make adjustments accordingly.

If the new forage budget indicates that there will be plenty of pasture left over at the anticipated production point, there may be an option to increase livestock numbers. Alternatively, maintain stock numbers and provide the pasture an opportunity for recovery if [land condition](#) could be improved.

If the forage budget indicates that your initial pasture yield was over-estimated at decision date 2 or seasonal conditions were poorer than expected and the pasture quantity will not last, it is imperative that action is taken to not negatively impact landscape health and livestock welfare and production.

In such circumstances options include:

- reducing stock numbers either through sales or agisting/moving stock elsewhere

- purchasing enough feed to carry your stock through until the anticipated break of season ensuring this is economically feasible and practical.

If action is not taken at this time the stock will likely eat more of the residual pasture than is ideal, leaving the soil prone to erosion and weakening the ability of the existing desirable pasture tussocks to respond and grow once it rains.

Overgrazing repeatedly over a number of years will lead to land condition decline, reducing the capacity to grow perennial, productive and palatable pastures, leading to poorer livestock productivity over time.

Marking decision date 3 in your calendar

The ideal time for decision date 3 is the middle of the non-growing season.

Using Charters Towers as the example, the ideal date for decision date 3 would be mid to late July.

[Print this questionnaire and put it in your diary!](#)

Decision dates in action

Here's how beef producers Ingrid and Doug O'Neill have used decision dates in their beef cattle enterprise, north of Charters Towers.

<https://youtu.be/rTB1DPQJ9o0?si=HQLWYJo1pEibSBLV>

Conclusion

Decision dates prompt objective business decisions based on data at optimal points in time. Using decision dates allows proactive and timely decision making to enhance the likelihood of good outcomes for your circumstances. for the livestock, the country and the business.
