



Building a feed wedge

Key messages

- Capitalise on pasture growth now and build a feed wedge
- Aim to graze at the 3 leaf stage or canopy closure to maximise pasture production
- Use best practice ryegrass management concepts where possible
- Aim to have rotation set up by the 2nd round
- Carefully cost supplementary feed options
- Manage pasture pests and weeds if needed

High pasture consumption is integral to profitable dairy farming and is a key profit driver. Two low cost tactics to assist in reducing feed costs are managing ryegrass and establishing a feed wedge. If implemented well these management techniques can increase the amount of pasture grown, ultimately reducing the farm supplementary feeding costs.

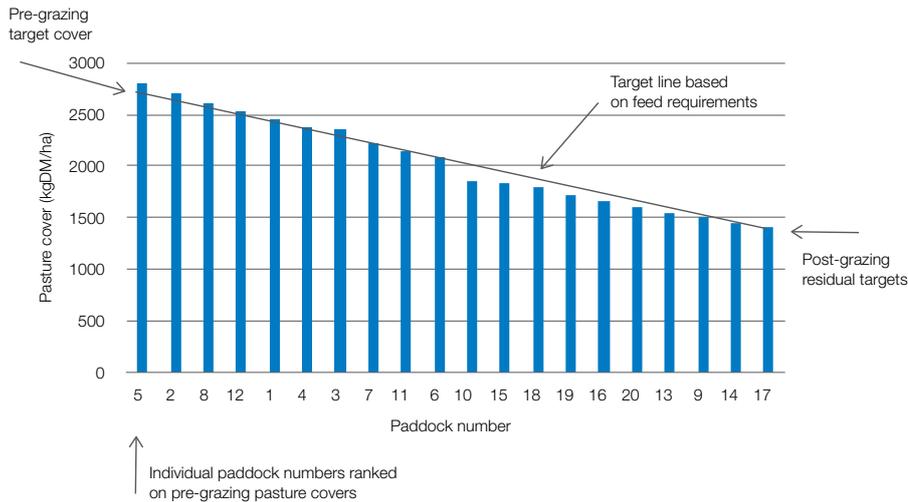
Managing feeding during a slow pasture growth period is challenging. It requires a compromise between increasing cash flow in the short term by grazing pasture before the optimum growth has been achieved (thus reducing supplementary feeding cost), and achieving highest long term profit by allowing optimum pasture growth to take place but needing to use more supplement in the shorter term.

This fact sheet covers the issues around establishing a feed wedge. [Managing ryegrass pastures](#) is a further fact sheet that can be found on the [Dairy Australia website](#).

What is a feed wedge?

The term 'feed wedge' is used to describe the situation that occurs when a good grazing rotation is established. The paddocks close to grazing have more pasture available per hectare and represent the 'fat' end of the pasture wedge. These pastures will be at 3 leaf stage and/or canopy closure (approximately 2500kgDM/ha in winter). Paddocks that have just been grazed represent the thin edge of the wedge and could be described as pastures with 4 – 6cm residual (approximately 1400-1600kgDM/ha). All other paddocks, spread evenly in between, are at different stages of regrowth and make up the middle of the wedge. The following figure depicts a feed wedge with an ideal range of pasture cover over all paddocks of the farm (see *Figure 1*).

Figure 1. Building a feed wedge



To create a visual depiction of a feed wedge, the average pasture cover/dry matter/height of paddocks should be determined and noted down. When these paddocks are ranked in order of pasture cover a visual of a feed wedge is created.

This provides the following benefits.

- › quantifying average pasture cover over the farm
- › have targets for both pre and post grazing residuals
- › helps identify surplus and deficits early
- › reduce stress with pasture management decisions
- › improve the timeliness of pasture management decisions
- › pasture allocation to herd is known making supplementary feeding consistent
- › provide cows with a consistent feed mix of pasture and supplements
- › improved ryegrass management – See [Managing ryegrass pastures fact sheet](#).

Building a feed wedge

In practice, a feed wedge is built when the grazing rotation is correct. Optimum pasture growth occurs when ryegrass is managed so that grazing occurs at the 2–3 leaf stage (at canopy closure) and paddocks are grazed to leave a 4–6 cm residual between clumps.

In the short term, as a feed wedge is built there is less pasture to offer the herd each day and a larger feed gap is created requiring extra feed inputs. The payback from this is the production of more pasture and overall reduced feed costs in the medium term.

The extra feed inputs required may come from:

- › using nitrogen to increase growth rates on paddocks with improved species, moisture and no pasture pests or weeds. Further information can be found on the [Winter nitrogen fact sheet](#) on the Dairy Australia website.
- › introducing existing and newly sown annual crops into the rotation
- › feeding out existing fodder supplies
- › purchasing extra fodder or grain/concentrates to fill the feed gap. [Don't gamble with feed quality fact sheet](#) provides information on costing feeds based on dry matter, energy or crude protein
- › sourcing agistment for dry and young stock.

Reducing the feed demand is another tactic to increase the feed available. Culling under-performing animals is an option but keep in mind how this may impact on the business later.

When introducing supplementary feeds some tactics to protect the long term productivity of existing pastures could include:

- › feeding cows on a feed pad before they go to the paddock
- › giving access to the paddock for a day or night feed only (only offering pasture once per day)
- › fully feeding on sacrifice paddocks with no access or access to only a small area of pastures
- › On-off grazing where the cows are only allowed into the paddock for a short period before being removed and fed on another sacrifice area until the next milking.

Example of building a feed wedge

In practice it is hard to establish the rotation after the break. All paddocks will be at around the same leaf stage, so you can't wait until all paddocks are at the 3 leaf stage, as very quickly after this, paddocks in the later part of the rotation will be at fourth leaf stage with net growth reducing.

A practical compromise (in the autumn only) is to allow the pastures to grow to at least the 2nd leaf stage before starting the rotation. The 2nd and 3rd leaf stage is the “zoom” stage when pasture growth increases substantially. Start grazing with a slow rotation (40–50 days) in place so that pasture cover is building.

While establishing the rotation you will need to use a sacrifice or run off area to feed cows enough supplement to meet their needs while you wait until some paddocks are at the 2 leaf stage and start a rotation of 30–40 days when you reach this stage.

A variable rotation length should be used for the first rotation. In the first phase you will be offering little pasture as the paddocks won't have reached their full growth potential. As you move across the farm (the feed wedge) there will be more pasture available each grazing, and the rotation length can be extended as long as you are still on top of pasture quality. If you move across the farm grazing area too slowly you risk building up pasture that is beyond the 3 leaf stage (and past canopy closure) which can lead to pasture waste. After the first rotation you will have developed a feed wedge, and the rotation length can be adjusted to ensure that the paddock at the top of the wedge is at the ideal grazing stage.

Figure 2 Using a variable rotation

Rotation length (days)	Number of days	Area per grazing (ha)	Total Area Grazed (ha)
20	7	6	42
30	10	4	40
40	13	3	39
Total	30		121

An example of using a variable rotation to extend the rotation length and build a feed wedge on a 120 hectare farm is shown in *Figure 2*.

Using this process over 30 days, the area allocated has been systematically reduced, but the pasture allocation to the herd has remained consistent (as long as pasture growth is occurring).

Aim to have the rotation extended to 50 days by early mid/June. If you can hold a 50 day round it will get you to the end of July, a 30–35 day round from late July will get you to early September from which point clear improvement in pasture growth rates may be seen.

An aim is to have the rotation set up by the beginning of the 2nd rotation. This does not always happen and based on the leaf stage in the paddock about to be grazed, you can tell if you are too early or late getting back to the first paddock. If the 'next paddock' to be grazed

is not at the 3 leaf stage the rotation may need to be extended again to account for this.

By winter the ideal rotation length will be between 45 and 75 days dependent on leaf emergence rates (15–25 days) for your region.

Balance your grazing rotation with seasonal conditions and your calving pattern. If you dry off all or most cows and destock the farm for a period in winter, you may be able to adopt a more aggressive grazing strategy now. If you milk cows through winter make sure to plan for the feed demand from pasture in winter.

Monitor your rotation by:

1. checking the leaf stage of the 'next' paddock that cows are going into
2. checking pasture residuals
3. prevent back grazing if the herd is in a paddock for more than 2–3 days.

Summary

Although extending the rotation length will create some short term demand for feed and this will provide a challenge where feed reserves are low and cash flow is tight, every attempt should be made to lengthen the rotation. Practically this minimises the fluctuation in pasture allocated on a day to day basis so that supplements can be consistent and ultimately reduces feed costs as pasture growth rates are optimised.