



Project 3030 - The role of alternative forages in rainfed dairy

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Perennial ryegrass is the cornerstone species for Victorian rainfed dairy where rainfall is sufficient for it to persist (~750 mm pa plus). The 3030 farmlets demonstrated strong profit levels from the perennial ryegrass farmlet.

Alternative forages were included in another 3030 farmlet system resulting in higher yields of home-grown forage. To date this has transferred into only slight improvement in profit. The extra profit did not appear to warrant the extra risk and effort. There are significant learnings about the use of alternative forages that flow from this research.

Commercial dairy farmers are also involved in 3030 through "Partner Farm" groups. They have incorporated alternative forages within their farming system. A successful example comes from the NE partner farm activity. They have a planned approach to the use of forages that ensures they complement their production system.

In the NE, the seasons are too short to enable perennial ryegrass to persist without irrigation. Irrigation is limited, especially in the dry seasons being experienced. Annuals play a very important role in this environment.

- The first need is for grazable feed as soon after the autumn break as possible. In the NE dairy environment, cereals are able to be sown in late February on conserved moisture without too much risk from a false break - provided they are not sown too shallow. They provide first grazing in autumn. Up to 10% of the annual area may be in forage cereals (typically oats)
- Annual ryegrass sometimes mixed with a regrowth brassica is next to be sown (typically mid-March). Brassicas can provide rapid autumn/winter growth but will not contribute significantly to spring silage yields. The grazing of cereals allows time for the ryegrass or ryegrass/brassica mix to establish before it is required in the grazing rotation. The first grazing of ryegrass is generally a quick nip
- Cereal regrowth is then grazed and the paddock is closed for silage making in spring
- The ryegrass pastures provide the grazing from here on.
- Generation of an early high quality silage crop is very important in this environment due to the short growing season/long dry period. Cereal silage must be cut at the flag leaf to boot stage. It can yield 4 tonne DM/ha or more. Annual ryegrass is cut before it is too mature. It is possible to have silage of 11 ME and this is important for summer/autumn milk production
- If spring soil moisture is good, some summer crops may be sown. They are a higher risk crop due to variable summer rainfall but tend to be low cost. Many paddocks will have been cultivated for autumn annuals, so the cost of sowing a summer crop is relatively low in this system

This annual system is a higher cost system than a perennial system and is dictated by the growing environment. Farmers using this system tend to own their own sowing and harvesting equipment. This allows them to keep the costs down and have operations completed in a timely manner.



What can we learn from 3030 for the Gippsland situation?

If perennial ryegrass persists, then the first thing to do is ensure you manage it as best you can. There is still a lot of untapped potential on dairy farms that can come relatively cheaply via ryegrass management (see 3030 tips on ryegrass management).

Growth of perennial ryegrass doesn't match cow requirements all year round. Fodder conservation is a key to filling feed gaps. 3030 ryegrass farmlet focused on ryegrass silage quality at the expense of yield to great effect.

Other forages can be used, but higher yields do not guarantee significantly higher profit. In the 3030 farmlets, winter forages grew very successfully but there were losses through the harvesting, ensiling and feeding processes that reduced utilisation. It is important to minimise these. The quality of the alternative forage must complement the diet of the herd. For example, cereal silage conserved at the dough stage is of moderate ME, moderate to low in protein and high in NDF. It does not complement a diet that is high in fibre and low in protein but does complement a diet that is low in fibre and high in protein.

Direct grazed forages avoid the expense of conservation and feeding out. To profit from these, they must be able to yield at times of pasture shortage. Summer crops were variable in yield and grew least when the shortage of pasture was highest. Average summer rainfall was not achieved during the 4 years of the 3030 farmlets. If we return to average summer rainfall, the system using complementary forages is likely to improve its profitability. There is a risk management element to the use of summer crops associated with variable summer rainfall.

It is suggested that alternative forage crops such as cereals may have a role on turnout or leased paddocks. The potential advantage is in high silage yields and no requirement for grazing. The high yields keep cost of harvest down, but transport back to the home farm is an additional cost that needs to be watched. Given correct paddock selection and crop management, cereals are reliable high yielders. To improve quality of the silage, 3030 has looked at mixes of peas and cereals. Cereals can dominate peas, so the seed mix should be at least 50% peas by weight and tall cereal varieties should be avoided.

There are many forage options to choose from. It is easy to pick an option that looks good on paper but is either difficult to grow or does not fit into the needs of the farming system. Take time to consider what is needed first, then select a forage that fits the need. If not experienced with the forage, try it on a small scale first. You need to match the forage with the growing environment (your paddock) to ensure good yields. There are plenty of examples of failed crops that were due to the wrong crop in the wrong place. Don't add to the list.

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