

Choosing the right crop

What is the best pasture or crop to sow?

There are a range of different species appropriate for regenerating flood affected land. This may be an opportunity to reassess the forage supply in your dairy farm system. If you are considering any major changes to your forage base, please discuss your options with a skilled advisor to ensure the potential impacts to your whole farm system and exposure to risk are taken into account.

The list below outlines considerations in choosing the right species, depending on the range of paddock conditions on your farm:

- End purpose of the species e.g. lots of high quality grazing; summer feed; large bulk of feed to conserve.
- Water availability.
- Soil type/paddock layout e.g. free draining, good irrigation layout.
- Fertility of paddock.
- How the paddock fits into a whole forage system e.g. already have heaps of cereal sown; too far away from dairy to graze with milking cows; close to wheel and easy to water.
- Season outlook e.g. likely to have wet/dry autumn/winter/spring.

The more common options that will suit most farmers are:

- Perennial ryegrass.
- Annual ryegrass (with or without annual clovers).
- Italian ryegrass (with or without 'Shaftal' or other annual clovers).
- Cereals - wheat, barley, triticale and oats.
- Sub clover.
- 'Shaftal' (Maral, Persian clover).
- Lucerne.

To help decide which options might best suit you this autumn an overview on these species has been put together including pro's and con's and the situations they are best suited to.

Ryegrass

Ryegrass has been the main stay of Victorian dairy pastures for a long time now. This is because it offers many advantages.

- It can produce high yields of good quality feed.
- Depending on the farm system a large proportion of the

feed can be direct grazed, saving both time and money.

- It is suited to a large range of soil types and climatic conditions.
- It is relatively easy to establish and manage.
- It can be flexible depending on variety chosen.
- It has good resistance to pests and disease.

There is a range of ryegrass species used in pastures. The most important difference between them is their lifespan.

Perennial ryegrass such as Vic, Impact, Banquet, Avalon and Fitzroy. It will survive for more than two years with greater persistence and grazing tolerance. The major benefit of perennial ryegrass is if you have enough irrigation water they produce relatively high quality feed year round. They don't need to be sown each year and depending on forage system and cow numbers, most of it can be directly grazed. It is relatively easy to manage. When water is available at a relatively low price it provides a high quality cheap feed source.

Italian ryegrass such as Crusader and Feast II. A biennial that will normally grow for two years. The first year is the most productive as it generally thins out by the second year in the hotter, harsher environments. It can add more flexibility than a westerwold ryegrass due to its ability to keep growing into the early summer if adequate moisture is present.

Annual Westerwold ryegrass such as Tetila and Winter Star. Strictly an annual as there is almost no growth in the second year unless there is some seedling regeneration from seeds set in year one. This means they will need to be re-sown each year. The biggest difference in this group is flowering dates. Later flowering dates generally lead to a longer growing season.

Cereals

Cereals include wheat, barley, triticale, oats and to a lesser extent rye corn. Most northern Victorian dairy farmers have used these over the drought years to manage their risk. Cereals are relatively drought tolerant and generally yield better than ryegrass when moisture is limited.

During the vegetative stage their grazed quality is comparable to ryegrass. However the more mature a cereal gets the more its quality declines.

Cereals are fairly cheap (depending on variety and methods used) and simple to establish. Once understood, their management is quite simple. They are suited to a range of soil types, fertility levels and climatic conditions.

Cereals will generally suffer badly from water logging and pugging. While cereals are suitable for grazing, under most situations grazing will reduce the total yields. Cereals can only be grazed up until the time they switch over to reproductive mode (average grazing window of four to eight weeks), or large yield penalties will apply.

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Frequently, a large proportion of a cereals' yield will need to be conserved. Conservation adds extra cost onto the feed produced from cereals. This conserved feed, depending on when it was harvested, is normally only of modest quality, which can only make up a limited proportion of a dairy cows diet without milk yield penalties.

'Shaftal', Maral Persian Clover

The clover commonly referred to as 'Shaftal' or 'Maral' is a late maturing, soft-seeded Persian clover and isn't actually in the Shaftal clover family. It is a very popular clover in the northern irrigation region of Victoria as it is suitable for early irrigation starts and late irrigation finishes. Whilst it can be sown alone as a productive, high quality crop, in more recent years it is more commonly sown with Italian ryegrasses to provide a safer more balanced feed and to improve productivity during the winter when the clover growth slows.

Most often, Italian ryegrass is sown with Shaftal because it has a late maturity which matches the clover better than most annual ryegrasses. An added benefit of Shaftal is that it has the ability to germinate at much higher temperatures than most of the other clovers, ryegrass and cereals. It is often used as insurance against high early temperatures, when farmers are starting up pastures and crops early (before mid March).

Sub Clover

Sub Clovers have a wide range of maturity dates which affects the length of the growing season and potential dry matter production. Early maturing varieties will increase the likelihood of achieving seed set even if the season ends early but as a trade off, will reduce the annual production potential of the sward. Sub varieties vary in their ability to perform well in different soil types and ability to withstand water-logging. Always seek local advice on varieties.

The normal recommended sowing rates of sub clovers are for establishment only and are too low to be productive in the first autumn. So it is often necessary to sow an annual ryegrass with it to improve productivity in the first year if there isn't enough residual sub clover seed already present. Remember, the seed bank of flood affected land is likely to be reduced.

Lucerne

Lucerne is a high quality, productive perennial legume that produces most of its feed during spring, summer and autumn. It is suited to a wide range of soil types but does require a free draining soil with a pH in the range of 5 to 8 (CaCl). Due to its deep root system, once established it is quite drought tolerant, although continued dry conditions will cause the stand to thin out.

Lucerne is relatively expensive and slow to establish. It requires a longer preparation period prior to sowing to get weeds under control and soil issues managed. It requires a considerable upfront investment which normally takes a couple of productive years to be repaid.

Lucerne can be successfully established from autumn and spring sowings. Sowing in autumn often has the advantage of being able to get the soil prepared well and have a lot of control over when you sow. One of the major disadvantages of autumn sowing is that it will be very slow growing until spring time, and often it is not until late September when the first quick grazing is available. This means the paddock is out of production for a long period, and also it doesn't provide competition against weeds during this time.

Spring sowing has the advantage that the lucerne will be faster to establish due to the warmer conditions and increasing day length, and provide more competition to weeds.

Also it allows for a good weed control opportunity prior to sowing during the autumn and winter. Spring sowing can be problematic if wet conditions don't allow for machinery access to paddocks, or prevents a good seedbed being established. Wet conditions can force a delayed sowing; if sown in late spring, early hot weather can compromise the establishment of lucerne.

Despite a lot of advice to the contrary, lucerne can be re-sown into existing lucerne stands. It was believed that the older lucerne plants produced a toxin preventing the establishment of new lucerne plants however, this theory wasn't based on any science. Nonetheless, it is still high risk to oversow in to existing lucerne stands (including recently perished stands).

To get a good establishment of lucerne you need to have a good seedbed and control competition. This is very hard to do in existing lucerne stands as the old lucerne plants provide a lot of competition. Importantly, over time a lot of disease, pest and weed pressure builds up on lucerne stands. Therefore, it is recommended to grow a different type of crop/pasture in an old lucerne stand for a year or two to break the disease, weed and pest cycle.

Another short term option for a thinned out lucerne stand is to sow a winter crop through it such as a cereal or ryegrass to make it productive again for the coming season. This however, will cause further thinning of the stand and won't provide a weed, pest or disease break required for longer term re-establishment.

Key points:

- **Any major changes to your forage base will impact your whole farm system and change your exposure to risk; use a trusted advisor.**
- **All forages listed can provide quality feed at some stage; consider when you want the feed, how you will balance the diet and if you have the right conditions to get the best production possible.**