

Forage Focus



Getting the best value out of your pasture

Farming Systems

Getting value from pasture

- Increase feed when you need it
- Sowing the right cultivars
- Better returns from higher sowing rates
- Certified vs non certified seed

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Getting the best value out of your pasture is about understanding what feed you need and when you need it. It's about making the most out of your land by growing feed on farm rather than further increasing your input costs through purchasing supplementary feed.

Background

It is important to always be looking to get the best value from your land and minimising your input costs whether that be through purchase of seed, supplementary feed, water or your time. This Forage Focus discusses how you can get the best value out of your pasture. It's not about choosing the most expensive or the cheapest it's about choosing the right seed, and how to use that seed to get the best value and return from your investment. We also look at opportunities to reduce other input costs such as purchasing in feed.

More Feed when you need it

Ask most farmers when they most need feed and they would answer mid-to-late winter, when the paddocks are wet and boggy, ryegrass has stopped growing and an increase in grain feeding occurs to maintain live weight. However this doesn't need to be the case. There are a number of new ryegrasses that have been bred to Australia's harsh conditions that will remain active during the mid-to-late winter period resulting in home grown feed for longer and a reduced need to bring in supplementary feed.

Grasses such as Banquet® II Endo5 long rotation ryegrass and Base AR37 perennial ryegrass, have delivered up to 300% more feed during this period, following a late break compared to the traditional Victorian perennial ryegrass. Trials conducted at the PGG Wrightson Seeds Ballarat Research Farm have shown that these grasses bred for Australian conditions have significantly outperformed the standard grasses during mid-winter.

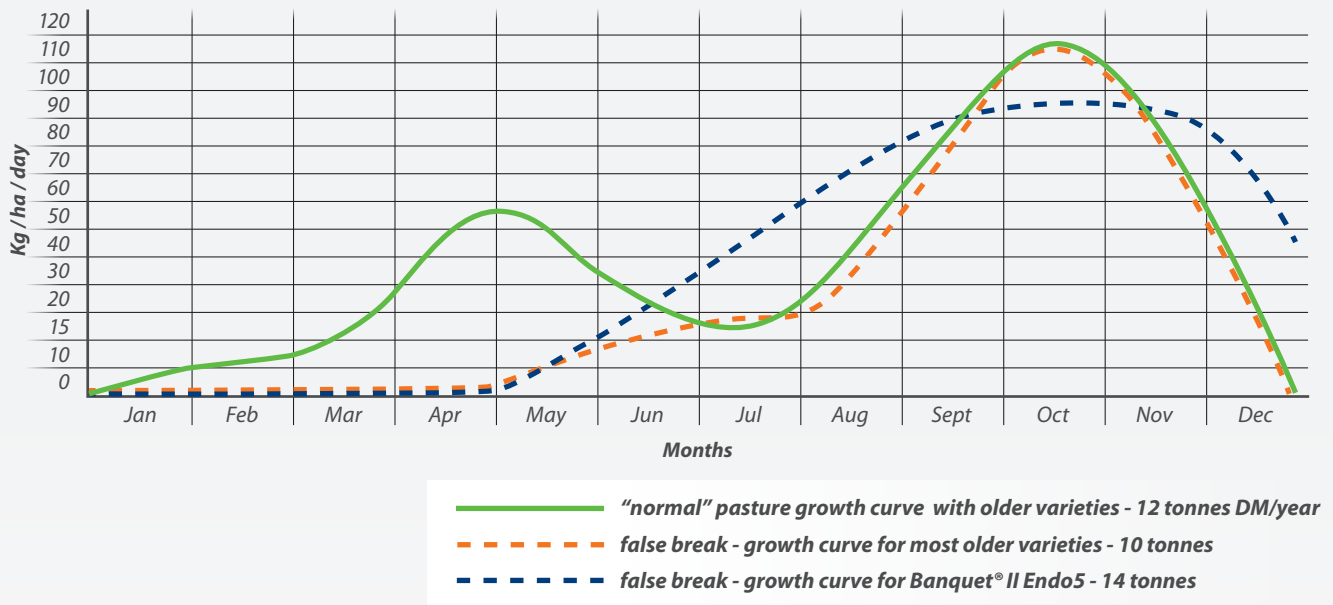
So what does this mean for you as a producer? If your "traditional pasture" has been growing at 10kg/ha/day for 60 days during mid-late winter, it will produce 600kg DM/ha. Compare that to Banquet® II Endo5 growing at 30kg/ha/day during the same period following a break, you may grow 1,800kg Dry Matter. This is an extra 1,200kg of dry matter per ha. If we compare the cost of 1,200kg of dry matter from another feed source, such as feed wheat at \$300/tonne, then we have produced \$360 worth of extra feed per hectare. This one period alone could help recover the additional costs of sowing a new improved cultivar, and provide feed at a time when you need it most.

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More feed when you need it continued

The Pasture Growth Curve Chart in Figure 1 shows the extended feed season of Banquet® II Endo5 with feed available earlier and for longer. It is also important to note that the feed peaks that are most often not required in October have been reduced for Banquet® II Endo5.

Figure 1: Pasture Growth Curve Chart



More seed equals more feed

Sowing rates for annual ryegrass pastures are typically in the 20-30kg/ha range. When sowing early and late maturing annual ryegrass, the higher the sowing rate, the higher your yields will be over winter.

A number of trials conducted by PGG Wrightson Seeds at our Research Farm in Ballarat and the Department of Primary Industry (DPI) Victoria's 30:30 Demo DAIRY programme at Terang demonstrated that when sowing rates are increased yield increases, with almost all of the extra growth occurring in the first one to two grazings.

While the maximum yield occurs at a sowing rate of about 50kg/ha, the most profitable sowing rate will be less than this and will vary with the value you place on feed during the winter period. A good way to value winter feed is at a cost equivalent to buying in supplementary feed.

Table 1 demonstrates the research that shows how a farmer can increase their profit with incremental increases in sowing rate from 20kg/ha to 44kg/ha, the optimal rate given their supplementary feed cost. It also demonstrates why they should not increase sowing rates above 44kg/ha.

This work assumes that any extra feed grown reduces your supplementary feed requirements (and cost), and as long as the seed costs less than the feed it grows it makes good business sense. In this example the farmer is purchasing barley at \$290/tonne. To fairly compare with the cost of pasture, the barley price is discounted to account for pasture utilisation (lower than barley), the pastures energy value (lower than barley) and the value of nitrogen in the barley (urea equivalent). We calculate a tonne of barley purchased at \$290/tonne can be fairly compared to a tonne of pasture grown for \$190/tonne.

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Table 1: Example of profit increase due to higher sowing rates

Sowing rate	Yield	Increase in yield	Cost of extra seed	Value of extra yield	Additional profit from lower sowing rate	Cumulative additional profit
		from lower sowing rate	assuming \$3.50/kg seed	yield multiplied by \$190/tonne	additional value minus additional cost	total additional profit over a 20 kg/ha sowing rate
kg/ha	tonne/ha	tonne/ha	\$/ha	\$/ha	\$/ha	\$/ha
20	6.70	-	-	-	-	-
30	7.22	0.52	\$35.00	\$98.80	\$63.80	\$63.80
40	7.56	0.34	\$35.00	\$64.60	\$29.60	\$93.40
44	7.64	0.09	\$14.00	\$17.10	\$3.10	\$96.50
50	7.72	0.07	\$21.00	\$13.30	\$7.70	\$88.80

Table 1 demonstrates our research that each increase in sowing rate from 20 to 44kg/ha increases per hectare profit, and that profit is maximised at a 44 kg/ha sowing rate. You can see that increasing sowing rate above 44kg/ha does not maximise profit, despite a further yield increases as extra seed costs more than the value of additional pasture it grows.

For further information on how to get this to work on your farm for your particular cost of supplementary feed, contact your PGG Wrightson Seeds Pasture Specialist or your local agronomist.

Improved breeding gives you more options

Plant breeders are continually searching for improvements in plant quality, quantity and persistence. Some of these factors include endophyte technology, ploidy and reduced aftermath heading.

Seed that includes endophyte can provide you with excellent protection from pasture pests and deliver significant improvements in pasture persistence. However it is important to choose the right endophyte so as to avoid any negative effects with the health of your livestock such as ryegrass staggers, heat stress and reduced weight gains.

A summary of the features and benefits of each of the commercially available endophytes is detailed in table 2. For further information visit pggwrightsonseeds.com.au or speak to your local PGG Wrightson Seeds Pasture Specialist.

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Table 2: PGG Wrightson Seeds Endophyte Options

	Available In	Features	Argentine Stem Weevil	Pasture Mealy Bug	Root Aphid	Black Beetle
			Pest Control			
Ryegrass without Endophyte	Various common and proprietary varieties	• Good animal production, but is susceptible to damage by any prevalent pasture insects, resulting in very poor persistence	-	-	-	-
Standard/Wild Type / High	Various common and some proprietary varieties	• Can cause ryegrass staggers	••••	••••	••	•••
AR1	Expo AR1	• Delivers excellent animal performance				
	Extreme® AR1	• Has demonstrated poor persistence in areas with major insect pest pressure from Black Beetle and Root Aphid	••••	••••	- ²	•
Endo5	Banquet® II Endo5	• Contains no Lolitrem B, the main cause of ryegrass staggers • Produces less ergovaline than many ryegrass cultivars containing standard endophyte. This said, it may produce lower animal performance levels over summer/autumn compared with AR1 and nil endophyte options	••• ¹	••••	•••	•••
AR37	Base AR37	• Shows improved persistence with higher tiller densities over time				
	Extreme® AR37	• With higher persistence, the need to renew pastures is often reduced • Can cause ryegrass staggers. which can be as severe as standard • Pastures with AR37 are recommended for cattle only	•••• ¹	••••	••••	•••

•••• = Excellent control • = Poor control - = No control

1. These endophytes control Argentine Stem Weevil larvae, but not adults. While larvae cause most damage to pastures, adults can damage emerging grass seedlings, so use of an appropriate seed treatment is recommended for sowings in Argentine Stem Weevil prone situations.

2. AR1 plants are more susceptible to root aphid than plants without endophyte

Older grass varieties such as Victorian Perennial Ryegrass ‘stay reproductive’ very quickly after removal of the initial seed head through grazing or mechanical pasture topping, resulting in reduced quality and dry matter production. There are a number of varieties that have been specifically selected for reduced aftermath heading (resuming vegetative growth after seed heart is removed) leading to higher digestibility. This means the plants have the ability to return to a leafy vegetative state more quickly and provide higher quality feed when you need it.

Some of the varieties you may wish to consider if this is a benefit that you are seeking are; Winter Star® II, Banquet® II Endo5, Base AR37, Extreme® AR37 and Extreme® AR1.

Another way of increasing the productivity on your farm is to choose cultivars that are highly palatable. Like humans, if they like the feed, they will eat more and return increased production through meat and milk.

So if it is improved palatability that you are looking for, you should be seeking out tetraploid ryegrasses.

Tetraploid ryegrasses contain increased amount of water soluble carbohydrates (sugars) and proteins, which lead to enhanced palatability and stock acceptance. Varieties of ryegrasses that have these traits include; Winter Star® II, Feast® II, Nourish, Base AR37 and Banquet® II Endo5.

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What is seed certification and how does it help you?

The Australian Seed Federation has a set of standards that the industry is expected to meet which includes measurement of germination, details of any seed weeds present in each batch of seed and confirms the seed is “true to type” of the variety being purchased.

We recommend when purchasing any seed from your rural retailer that you request a copy of the Seed Analysis Certificate to ensure that the seed is what it says it is and is good quality, has an acceptable level of germination and high level of purity. If the product you are purchasing is uncertified, there are no assurances of what the product in the bag is, or the quality and germination of that product, and whether you are introducing any new or noxious weeds to your farm.

PGG Wrightson Seeds produces seed certificates with each batch of seed to ensure that the product that you are purchasing meets Australian Seed Federation standards when it leaves any of our distribution centres. We welcome your requests for a copy of the Seed Analysis Certificate through your rural retailer or from our Customer Service Team by calling 1800 619 910.

Pasture renovation increases the value and return from your land

While there is an endless supply of information and advice regarding pasture management, the core principles of ryegrass performance and persistence are still the same. We recommend the areas to concentrate on to do the job well and maximise the value and return from your land are:

Plan and prepare for success

Implement a renewal programme which addresses any limiting factors such as drainage, soil fertility, pests and weeds. Grass to grass renewal can work well in some situations, however where factors limiting ryegrass performance are present, a well-managed break crop will set up the paddock better for a new pasture.

Choose an appropriate cultivar

Where pests are prevalent, an appropriate endophyte is the first consideration. Beyond that, the type of cultivar needs to be right for the paddock (eg fertility) and grazing management (eg rotational grazing vs set-stocking).

Establishing new pastures

Establishing new pastures is about achieving a satisfactory level of tillering and root mass. From this point, a pasture will be resilient to ongoing grazing requirements and the challenges associated with periods of summer dry or winter wet. In general terms, we consider a plant is established when it resists pulling.

Let new pastures settle in

Allowing new pasture to reach the 2.5 - 3 leaf stage before grazing will ensure plants build up energy reserves required for tillering and root growth. Do not leave new pastures beyond the third leaf stage as low light levels to the base of the canopy will shade new tillers and clover and this reduces quality. Using new pastures for silage or hay is not recommended. Grazing to a short, even residual of 1500kg DM/ha encourages new tillers and clover growth by allowing light into the base of the pasture. Broadleaf weeds will compete with tillering ryegrass for space and light, so it is important that they are controlled with a herbicide spray.

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Pasture renovation increases the value and return from your land continued

Check pastures regularly

Walk new pastures on a regular basis. Assess how far away they are from establishment targets, and plan for the necessary grazing management, fertiliser application and weed control. Check these paddocks again going into summer, and ensure they do not get overgrazed or grazed too often.

Care for your pasture

If we expect perennial pastures to last for 8-10 years, then you must put in the effort during establishment. In this regard, new pastures are no different to young stock on the farm. If we care for them appropriately, we lay the foundation for good production for many seasons.

Lets Grow Together

Planning your forage and seed requirements in advance can make a big difference to your productivity. For over 75 years PGG Wrightson Seeds have been working with farmers to get the balance right.

To discuss your growth plans call your Pasture Specialist now on 1800 619 910.