Western Australia Forage Value Index
Annual ryegrass - 2025 update

The Forage Value Index (FVI) is a tool that helps Australian dairy farmers and their advisors to make more informed decisions when selecting ryegrass cultivars.

It provides an accurate, reliable and independent assessment of the potential economic value of ryegrass cultivars across three different species (Perennial, Annual and Italian ryegrass) in a number of dairy-producing regions across Australia. To be included in the FVI database, each cultivar must have data from at least three trials that have been conducted using strict industry approved protocols. For Perennial ryegrass, trials must be three years in length, while Annual and Italian ryegrass trials must be a minimum of one full growing season.

Reference varieties

Across the three different species of ryegrass, the Performance Value is expressed as the percentage change in yield relative to a selected reference cultivar that effectively acts as the genetic base for that species in the FVI.

Figure 1 Map of trial locations in Western Australia that contributed to the FVI in 2025

Delivering for Dairy

The reference cultivar is a well-known variety for each ryegrass species, where farmers and advisors are more likely to have a good understanding and knowledge of its performance over many years across various environments. The reference cultivars for each species are as follows:

- Perennial ryegrass: **Victorian Ryegrass (Vic Rye)**
- Annual ryegrass: **Tetila (from a certified source to ensure consistency across trials)**
- Italian ryegrass: **Crusader.**

Western Australia FVI now available for 2025 sowing season

The annual ryegrass FVI was first developed for Western Australia in 2024. This year an additional trial was added for 2025 and the list updated for the upcoming sowing season. Before 2024, it was not possible to produce an FVI for the region as the PTN variety trials done in the eastern states of Australia, which have been used to create FVI lists for Victoria, Tasmania and NSW, were not suitable for use to create a WA-specific FVI. The reason for this is explained in greater detail in the Frequently Asked Questions document that can be found **HERE** on the Dairy Australia website. Briefly, it was evident that there was a substantial difference between how the same varieties of Annual and Italian ryegrass ranked in trials in WA, compared to on trial sites in the eastern states.

For this reason, it was decided to use local trial data from WA only to create an FVI for the region. It has taken a few years to obtain a critical mass of trial data that can be used to make an aggregated FVI list for WA. For the 2025 sowing season, 11 trials were completed and available to use that were conducted over the previous nine years in the high rainfall area of South-west WA. The map shows the locations of each trial site in the WA FVI for 2025.

Main FVI list for Western Australia

Unlike the other regions in the FVI, there are no economic values used in the Western Australia FVI. Instead, varieties are ranked only on the basis of differences in total dry matter yield across the full growing season. The reference variety for the Annual ryegrass FVI in WA is Tetial, and this has a nominal value of 100 (representing 100 per cent). Every other variety in the list is measured against this standard. The cultivar at the top of the FVI list has a value of 105, for example. This means it produced 105 per cent of the total annual DM yield produced by Tetila on average, across the 11 trials.

The coloured bars are an indicator of statistical difference between varieties. Varieties or cultivars with the same coloured bar are not statistically different from each other in terms of dry matter yield, at the 95 per cent confidence interval.

The FVI information allows users to rank cultivars according to their region and user nominated attributes (e.g. seasonal yields, ploidy, heading date, endophyte). The number of trials in which the cultivar has been tested in Western Australia is also included in the table.

Seasonal yield tables

The accompanying tables of cultivar performance during the various FVI seasons are of particular importance to dairy farmers, depending upon their farming system and calving pattern. For example, dairy farmers that calve in the autumn might favour those cultivars that have a higher performance value for autumn and winter as they would likely value greater winter growth in their pastures. The vast majority of trial data comes from the Pasture Trial Network (PTN), and users can now check out the details of individual trials on the PTN in addition to the FVI rankings. They can be accessed at **etools.mla.com.au/ptn** or by scanning the QR code.

In Western Australia, there are four FVI seasons. Winter represents all dry matter harvested before 1 August. Early spring is August and September. Late spring is October and November and Summer is any dry matter harvested in trials from 1 December onwards.

Forage Quality

Forage Quality values for each variety in each season were recently added to the eastern states FVI lists across all species. This is the culmination of several years of data collection and analysis at a varietal level for Metabolisable Energy from multiple plot trials in Victoria, New South Wales and Tasmania.

In WA, this information is not available as only dry matter yield was measured in the trials used. Forage quality however is clearly an important differentiator between varieties in WA, particularly given how similar the dry matter yield potential is between cultivars.

For this reason, in the 2023 Annual ryegrass trial at Busselton, samples were collected and analysed for forage quality (Metabolisable Energy) at three different cuts during the growing season. The results of the analysis are outlined below the main FVI table on page four. It is important to note that these differences in forage quality between varieties do not have any influence on how each variety is ranked on the FVI list. In the future, it is hoped that sufficient forage quality data can be collected to add this in future, but for now that is not the case.

Western Australia: Forage Value Index 2025 – ANNUAL RYEGRASS

Variety	Overall yield*	Total trials	Winter	Early spring	Late spring	Summer	Endophyte	Ploidy	Heading date	Marketer
Hogan	105	7	124	101	100	112	Nil	T	Late	Barenbrug Australia
Evoke	103	4	110	102	101	106	Nil	T	Late	Valley Seeds
Speedyl	103	8	118	101	99	107	Nil	T	Late	RAGT
Atomic	102	3	110	101	100	107	Nil	T	Mid	Upper Murray Seeds
Astound	102	6	106	101	101	105	Nil	T	Mid	Valley Seeds
Abundant	102	4	114	102	101	98	Nil	T	Early	DLF Seeds
Mach 1	102	5	109	100	100	107	Nil	T	Mid	DLF Seeds
RGT Menvyl	102	3	112	100	100	105	Nil	T	Late	RAGT
Vortex	101	3	108	100	99	105	Nil	T	Mid-Late	Barenbrug Australia
Pinnacle	101	5	111	100	99	104	Nil	T	Late	AGF Seeds/(RAGT in WA)
Adrenalin 2	101	6	115	99	98	104	Nil	T	Late	RAGT
Dargo	101	3	108	100	100	101	Nil	D	Early	Various
Rozen	101	5	111	99	98	103	Nil	D	Late	RAGT
Ascend	100	8	103	98	101	103	Nil	T	Mid	DLF Seeds
Tetila	**100**	**9**	**100**	**100**	**100**	**100**	**Nil**	**T**	**Early**	**Various**
Fuze	99	7	98	98	99	101	Nil	D	Late	Barenbrug Australia
Finefeed	99	4	102	98	99	100	Nil	D	Mid	Valley Seeds

* Currently there are no economic values for the WA FVI. Varieties are ranked on the basis of total annyal dry matter yield, in a simiar manner to seasonal dry matter yield. The reference cultivar (Tetila) always has a value of 100 and other cultivars are measured against Tetila in each season. For example, a variety with 103 is predicted to produce 103 per cent of the DM that Tetila does.

A minimum of three trials is required for a variety to be listed in the Western Australia annual ryegrass FVI. The more trials there are, the greater confidence users of the FVI can have in a varieties position in the list.

Legend

Heading	Description
Cultivar	A plant variety that has been produced by selective breeding. Cultivars are as listed as on the Australian Seed Federation Pasture Seed Database.
Colour bars	Cultivars with the same colour are not significantly different from each other.
FVI	The rating is based on the outcome of economic and performance values for each cultivar.
Total trials	To be included in the Italian ryegrass Forage Value Index database, each cultivar must have data from at least three, one-year trials.
Seasonal performance	A performance value is based on the difference in dry matter production between a cultivar's seasonal performance and that of Crusader Italian ryegrass. This is a percentage ranking – percent better or worse than Crusader ryegrass. For example, Crusader is always 100 for each FVI season. A cultivar that is 110 means that it produced 110 per cent of the dry matter produced by Crusader in that particular FVI season. A cultivar that is 97 means it produced 97 per cent of the dry matter produced by Crusader in that particular FVI season.
Autumn	March/April/May
Winter	June/July
Early spring	August/September
Late spring	October/November
Summer	December/January/February
Endophyte	A fungus which protects plants from a range of insect pests. Different types of endophytes affect persistence, dry matter production, insect pest species and nutritive value in different ways.
Ploidy	The number of chromosomes per cell in the plant. A diploid ryegrass has two, while a tetraploid has four.
Heading date	The date when 50 per cent of the plants of a variety have emerged seed heads in a typical year. Heading dates are listed on the Australian Seed Federation Pasture Seed Database.
Marketer	The company marketing the cultivar.

Busselton 2023 Annual ryegrass PTN trial – Forage Quality

One of the ten trials used to create the FVI for WA was conducted in Busselton in 2023. The individual trial dry matter yield results from this site will be available to view on the PTN MLA E-Tool from April 2024, but in addition to dry matter yield, forage quality samples were taken at cut 3 (23 August 2023) cut 5 (17 October 2023) and cut 6 (9 November 2023 - which was also the final cut of this trial).

Twelve varieties were tested in the trial, across a range of maturities and it included some diploids and tetraploids.

The relationship between Metabolisable Energy (ME) and neutral detergent fibre (NDF) is presented on the following graphs for each of the three cuts. While there was a very strong inverse relationship between ME and NDF at all times, whereby ME declined as the NDF of the pasture samples increased, there was no clear differences between the varieties on 23 August (cut 3) and 17 October (cut 5).

Figure 2 ME vs NDF - 23 August 2023 (plus pre-harvest photo)

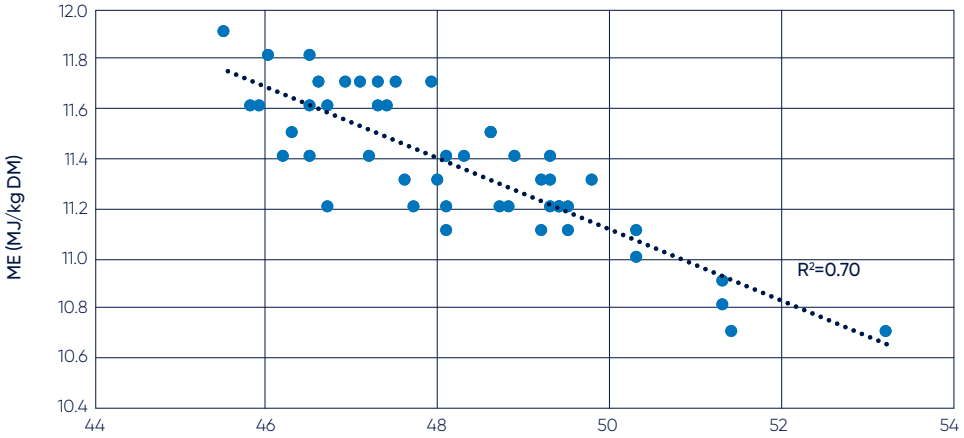
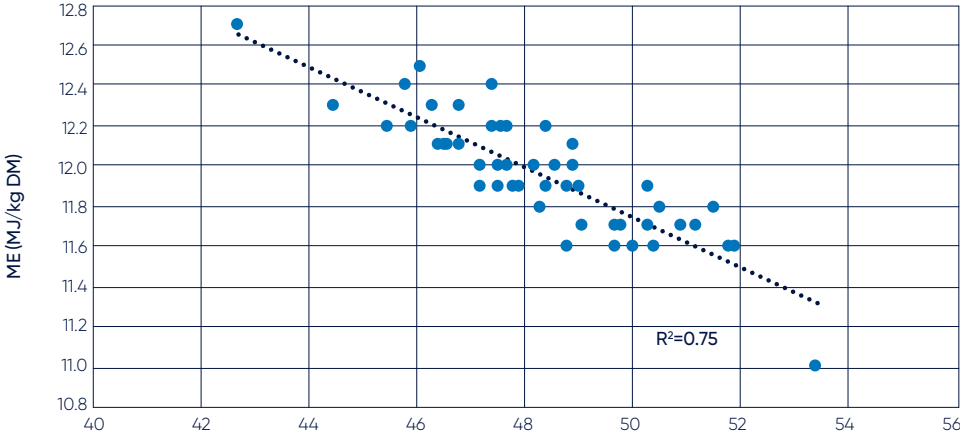
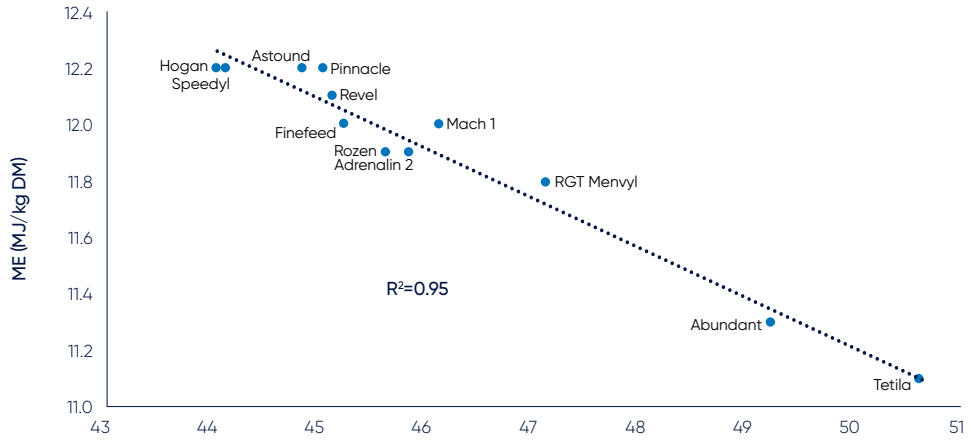


Figure 3 ME vs NDF - 17 October 2023 (plus pre-harvest photo)



However, in cut 6, there was a very clear varietal effect as shown in the graph below. For this cut, a composite sample of each of the four replicates for each variety was tested, and it was clear that the early maturing ryegrass varieties were significantly lower in ME than the late maturing varieties. It is important for farmers to be aware of this difference as it currently is not reflected in the FVI rankings shown on page three.

Figure 4 ME vs NDF - 9 November 2023 (plus pre-harvest photo)



This is just a snapshot into the importance of forage quality as a trait when evaluating varieties. Dry matter yield is critical of course, but a difference of 1 MJ of ME between varieties per kilogram of dry matter is very significant and will have a big effect on the milk production potential of that variety. Farmers should be aware that even if the yield potential of two varieties is very similar, there may still be a significant economic benefit to one variety over another if there is a big difference in forage quality varieties at any given timepoints of the season.

Western Australia winter seasonal performance – ANNUAL RYEGRASS

Variety	Winter	Early spring	Late spring	Summer	Endophyte	Ploidy	Heading date	Marketer	Total trials
Hogan	124	101	100	112	Nil	T	Late	Barenbrug Australia	7
Speedyl	118	101	99	107	Nil	T	Late	RAGT	8
Adrenalin 2	115	99	98	104	Nil	T	Late	RAGT	6
Abundant	114	102	101	98	Nil	T	Early	DLF Seeds	4
RGT Menvyl	112	100	100	105	Nil	T	Late	RAGT	3
Pinnacle	111	100	99	104	Nil	T	Late	AGF Seeds/(RAGT in WA)	5
Rozen	111	99	98	103	Nil	D	Late	RAGT	5
Atomic	110	101	100	107	Nil	T	Mid	Upper Murray Seeds	3
Evoke	110	102	101	106	Nil	T	Late	Valley Seeds	4
Mach 1	109	100	100	107	Nil	T	Mid	DLF Seeds	5
Dargo	108	100	100	101	Nil	D	Early	Various	3
Vortex	108	100	99	105	Nil	T	Mid-Late	Barenbrug Australia	3
Astound	106	101	101	105	Nil	T	Mid	Valley Seeds	6
Ascend	103	98	101	103	Nil	T	Mid	DLF Seeds	8
Finefeed	102	98	99	100	Nil	D	Mid	Valley Seeds	4
Tetila	**100**	**100**	**100**	**100**	**Nil**	**T**	**Early**	**Various**	**9**
Fuze	98	98	99	101	Nil	D	Late	Barenbrug Australia	7

Western Australia early spring seasonal performance – ANNUAL RYEGRASS

Variety	Early spring	Late spring	Summer	Winter	Endophyte	Ploidy	Heading date	Marketer	Total trials
Abundant	102	101	98	114	Nil	T	Early	DLF Seeds	4
Evoke	102	101	106	110	Nil	T	Late	Valley Seeds	4
Astound	101	101	105	106	Nil	T	Mid	Valley Seeds	6
Hogan	101	100	112	124	Nil	T	Late	Barenbrug Australia	7
Speedyl	101	99	107	118	Nil	T	Late	RAGT	8
Atomic	101	100	107	110	Nil	T	Mid	Upper Murray Seeds	3
RGT Menvyl	100	100	105	112	Nil	T	Late	RAGT	3
Dargo	100	100	101	108	Nil	D	Early	Various	3
Mach 1	100	100	107	109	Nil	T	Mid	DLF Seeds	5
Vortex	100	99	105	108	Nil	T	Mid-Late	Barenbrug Australia	3
Tetila	**100**	**100**	**100**	**100**	**Nil**	**T**	**Early**	**Various**	**9**
Pinnacle	100	99	104	111	Nil	T	Late	AGF Seeds/(RAGT in WA)	5
Adrenalin 2	99	98	104	115	Nil	T	Late	RAGT	6
Rozen	99	98	103	111	Nil	D	Late	RAGT	5
Fuze	98	99	101	98	Nil	D	Late	Barenbrug Australia	7
Ascend	98	101	103	103	Nil	T	Mid	DLF Seeds	8
Finefeed	98	99	100	102	Nil	D	Mid	Valley Seeds	4

Western Australia late spring seasonal performance – ANNUAL RYEGRASS

Variety	Late spring	Summer	Winter	Early spring	Endophyte	Ploidy	Heading date	Marketer	Total trials
Astound	101	105	106	101	Nil	T	Mid	Valley Seeds	6
Abundant	101	98	114	102	Nil	T	Early	DLF Seeds	4
Evoke	101	106	110	102	Nil	T	Late	Valley Seeds	4
Ascend	101	103	103	98	Nil	T	Mid	DLF Seeds	8
Atomic	100	107	110	101	Nil	T	Mid	Upper Murray Seeds	3
Mach 1	100	107	109	100	Nil	T	Mid	DLF Seeds	5
Tetila	**100**	**100**	**100**	**100**	**Nil**	**T**	**Early**	**Various**	**9**
Dargo	100	101	108	100	Nil	D	Early	Various	3
RGT Menvyl	100	105	112	100	Nil	T	Late	RAGT	3
Hogan	100	112	124	101	Nil	T	Late	Barenbrug Australia	7
Vortex	99	105	108	100	Nil	T	Mid-Late	Barenbrug Australia	3
Fuze	99	101	98	98	Nil	D	Late	Barenbrug Australia	7
Finefeed	99	100	102	98	Nil	D	Mid	Valley Seeds	4
Pinnacle	99	104	111	100	Nil	T	Late	AGF Seeds/(RAGT in WA)	5
Speedyl	99	107	118	101	Nil	T	Late	RAGT	8
Rozen	98	103	111	99	Nil	D	Late	RAGT	5
Adrenalin 2	98	104	115	99	Nil	T	Late	RAGT	6

Western Australia summer seasonal performance – ANNUAL RYEGRASS

Variety	Summer	Winter	Early spring	Late spring	Endophyte	Ploidy	Heading date	Marketer	Total trials
Hogan	112	124	101	100	Nil	T	Late	Barenbrug Australia	7
Atomic	107	110	101	100	Nil	T	Mid	Upper Murray Seeds	3
Mach 1	107	109	100	100	Nil	T	Mid	DLF Seeds	5
Speedyl	107	118	101	99	Nil	T	Late	RAGT	8
Evoke	106	110	102	101	Nil	T	Late	Valley Seeds	4
Vortex	105	108	100	99	Nil	T	Mid-Late	Barenbrug Australia	3
Astound	105	106	101	101	Nil	T	Mid	Valley Seeds	6
RGT Menvyl	105	112	100	100	Nil	T	Late	RAGT	3
Adrenalin 2	104	115	99	98	Nil	T	Late	RAGT	6
Pinnacle	104	111	100	99	Nil	T	Late	AGF Seeds/(RAGT in WA)	5
Rozen	103	111	99	98	Nil	D	Late	RAGT	5
Ascend	103	103	98	101	Nil	T	Mid	DLF Seeds	8
Fuze	101	98	98	99	Nil	D	Late	Barenbrug Australia	7
Dargo	101	108	100	100	Nil	D	Early	Various	3
Finefeed	100	102	98	99	Nil	D	Mid	Valley Seeds	4
Tetila	**100**	**100**	**100**	**100**	**Nil**	**T**	**Early**	**Various**	**9**
Abundant	98	114	102	101	Nil	T	Early	DLF Seeds	4

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