

# South-west Victoria Forage Value Index Perennial 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 is updated each year with new trial data so that farmers can have up-to-date information on the performance of newly released varieties and how they compare to existing established varieties. The FVI 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. The FVI is calculated by multiplying the Performance Value of each cultivar (i.e. total kilograms dry matter produced per hectare per season) by its Economic Value (i.e. the estimated value of this extra production per season). Performance Values for each variety are determined by industry assessed trial data. 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. This minimum trial requirement will increase over the next couple of years. 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.



# Delivering for Dairy

Figure 1 Map of trial locations across South-eastern Australia used in the 2025 FVI.



### **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.

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 current 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.

### **Coloured bars**

The FVI for each cultivar is expressed as a numerical value and is also assigned within a coloured bar. The FVI value is a prediction of extra operating profit per hectare over and above the reference cultivar in each species, which always has an FVI value of zero. Cultivars within the same-coloured bar are not significantly different to each other 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 and metabolisable energy). The number of trials in which the cultivar has been tested 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.

### Autumn seasonal values for Annual and Italian ryegrass FVIs

In 2023, performance values for autumn in the Annual and Italian ryegrass FVIs were removed from the index. The first harvest was not taken from the majority earlier PTN trials until after 31 May and this meant that data for autumn, defined as March-May yield in the FVI, which reflects very early establishment in these varieties was too limited for us to fully be confident it accurately reflected differences in the varieties at this time of the year. Since then a sufficient amount of new trial data has become available to allow the autumn performance values for annual and Italian ryegrass to be reintroduced to the FVI calculation for this 2025 update. This issue does not affect the Perennial ryegrass FVI as thise trials run for three years and so sufficient autumn yield data is always collected in years two and three of these trials.

### Forage quality - Annual and Italian ryegrass

A new feature of the 2025 FVI is the expansion of forage quality estimates at a varietal level from Perennial ryegrass, to now also include some Annual and Italian ryegrass varieties. Metabolisable energy (ME) was the measure chosen to provide an indication of seasonal forage quality for each cultivar.

Pasture samples were collected at an individual plot level and ME concentration was measured using near infrared (NIR) spectroscopy analysis across all five FVI seasons. Metabolisable energy is presented in the FVI tables below as megajoules of ME per kg of dry matter. Performance values for ME were calculated using the same statistical methodology used to create seasonal and total annual dry matter yield values for each cultivar.

For annual and Italian ryegrass, the forage quality trait has not been incorporated into the overall FVI ranking for each cultivar in each region. Two trials were analysed for forage quality in 2024 in Annual and Italian ryegrass and not every variety was included in those two trials. However, farmers can still look at the mean yearly and seasonal forage quality value for each cultivar, to get an initial idea of the variation in ME between the different cultivars.

### Forage quality - Perennial ryegrass

For the 2025 Perennial FVI, we have included forage quality as a sub-trait in the overall FVI calculation for each variety. This marks an significant evolution of the index to one that is based on more than one trait of economic importance to farmers (dry matter yield) to a genuine multi-trait index. The methodology used to achieve this is outlined in detail in the following paper:

Lewis, C.D., Smith, K.F., Jacobs, J.L., Ho, C.K.M., Leddin, C.M., Moate, P.J. and Malcolm, B., 2024. Using a two-price market value framework to value differences in metabolisable energy concentration of pasture across seasons. Agricultural Systems, 217, p.103939.

Afford NEA2 468 432 36 8 4 125 137 104 103 128 NEA2 Tetraploid Late Barenbrug Australia 11.30 8   Base A373 419 3%0 23 25 12 124 135 103 101 126 AR37 Tetraploid Late DLF Seeds 11.20 8   Maxsyn NEA4 379 356 23 4 13 122 122 12 NEA4 Diploid Late DLF Seeds 11.20 12   Bealey NEA2 360 331 29 14 3 122 125 102 101 126 NEA2 Tetraploid Very Late Barenbrug Australia 11.20 128 Reado Tetraploid Wery Late Barenbrug Australia 11.30 128 120 NEA2 Tetraploid Wery Late Barenbrug Australia 11.30 128 120 NEA2 Tetraploid Wery Late Barenbrug Australia 11.30 128 120 NEA2 Tetraploid Wery Late Barenbrug Australia 11.3	Cultivar		FVI SW Vic	FVI DM	FVI ME	Total trials	SW Vic trials	Autumn	Winter	Early spring	Late spring	Summer	Endophyte	Ploidy	Heading date	Marketer	Metabolisable energy (ME)	Trials ME measured
Maxsyn NEA4 380 370 10 9 4 126 132 102 98 127 NEA4 Diploid Mid Barenbrug Australia 11.05 1   Three60 AR37 379 356 23 4 3 126 143 102 96 118 AR37 Diploid Late DLF Seeds 11.20 1   Beoley NEA2 300 331 29 14 3 122 125 102 101 126 NEA2 Tetraploid Very Late Barenbrug Australia 11.20 11.20 1   Reward Endos 342 309 34 20 11 119 125 N2 Tetraploid Very Late Barenbrug Australia 11.30 13 104 99 114 AR37 Diploid Mid DLF Seeds 11.00 11 3 11 103 97 122 RGT18 Diploid Mid RAGT 11.00 11 3 11.11 3 3 111 3 11.11 3 11.11 3 11.11	4front NEA2		468	432	36	8	4	125	137	104	103	128	NEA2	Tetraploid	Late	Barenbrug Australia	11.36	3
Three60 AR37 379 356 23 4 3 126 143 102 96 118 AR37 Diploid Late DLF Seeds 11.20 1   Becley NEA2 360 331 29 14 3 122 125 102 101 126 NEA2 Tetraploid Very Late Barenbrug Australia 11.28 4   Reward EndoS 342 309 34 20 11 119 127 98 101 126 EndoS Tetraploid Very Late DLF Seeds 11.34 8   Reason AR37 322 314 8 4 3 121 136 104 99 114 AR37 Diploid Mid DLF Seeds 11.00 1   Nuestle RGTI8 321 314 7 3 2 117 134 103 97 125 SE Diploid Mid RAGT 11.00 1   One50 SE 320 308 12 5 2 119 134 103 97 121 NEA	Base AR37		419	396	23	25	12	124	135	103	101	126	AR37	Tetraploid	Late	DLF Seeds	11.20	8
Bedley NEA2 360 331 29 14 3 122 125 102 101 126 NEA2 Tetraploid Very Late Barenbrug Australia 11.28 4   Reward Endo5 342 309 34 20 11 119 127 98 101 126 Endo5 Tetraploid Very Late DLF Seeds 11.34 8   Reason AR37 322 314 8 4 3 121 136 104 99 114 AR37 Diploid Mid DLF Seeds 11.02 1   Hustle RGT18 321 314 7 3 2 117 134 103 97 122 RGT18 Diploid Mid RAGT 11.00 1 3   One50 SE 320 308 12 5 2 119 134 103 97 121 NEA2 Diploid Mid DLF Seeds 11.05 3 2 16 130 97 121 AR1 Diploid Mid DLF Seeds 11.13 4 4	Maxsyn NEA4		380	370	10	9	4	126	132	102	98	127	NEA4	Diploid	Mid	Barenbrug Australia	11.05	1
Reward Endods 342 309 34 20 11 119 127 98 101 126 Endos Tetraploid Very Late DLF Seeds 11.34 8   Reason AR37 322 314 8 4 3 121 136 104 99 114 AR37 Diploid Mid DLF Seeds 11.02 1   Hustle RGT18 322 314 7 3 2 117 134 103 97 122 RGT18 Diploid Mid RAGT 11.00 11.0 1   OneSO SE 320 308 12 5 2 119 134 103 97 121 NE42 Diploid Late DLF Seeds 11.11 3   Array NEA2 300 77 10 8 122 134 102 97 121 NE42 Diploid Mid DLF Seeds 11.13 4   Legion AR37 300 75 9 2 118 122 107 100 117 AR37 Diploid	Three60 AR37		379	356	23	4	3	126	143	102	96	118	AR37	Diploid	Late	DLF Seeds	11.20	1
Reason AR37 322 314 8 4 3 121 136 104 99 114 AR37 Diploid Mid DLF Seeds 11.02 1   Hustle RGT18 321 314 7 3 2 117 134 103 97 122 RGT18 Diploid Mid RAGT 11.00 1   OneS0 SE 321 304 17 8 5 117 129 103 97 125 SE Diploid Mid RAGT DLF Seeds 11.00 1   Array NEA2 320 308 12 5 2 119 134 103 97 121 NEA2 Diploid Very Late Barenbrug Australia 11.05 2   Legion AR37 316 310 5 9 2 118 124 107 100 121 AR1 Diploid Mid DLF Seeds 11.03 4   Kidman AR1 256 271 25 12 9 116 130 99 100 117 AR3 </td <td>Bealey NEA2</td> <td></td> <td>360</td> <td>331</td> <td>29</td> <td>14</td> <td>3</td> <td>122</td> <td>125</td> <td>102</td> <td>101</td> <td>126</td> <td>NEA2</td> <td>Tetraploid</td> <td>Very Late</td> <td>Barenbrug Australia</td> <td>11.28</td> <td>4</td>	Bealey NEA2		360	331	29	14	3	122	125	102	101	126	NEA2	Tetraploid	Very Late	Barenbrug Australia	11.28	4
Hustle RGT18 321 314 7 3 2 117 134 103 97 122 RGT18 Diploid Mid RAGT 11.00 1   One50 SE 321 304 17 8 5 117 129 103 97 125 SE Diploid Late DLF Seeds 11.11 3   Array NEA2 320 308 12 5 2 119 134 103 97 121 NEA2 Diploid Very Late Barenbrug Australia 11.05 2   Legion AR37 316 310 5 9 2 118 124 107 100 121 AR1 Diploid Mid DLF Seeds 11.13 4   Kidman AR1 7 300 17 10 8 122 134 100 117 AR37 Diploid Late DLF Seeds 11.13 4   Hustle AR1 2 259 249 10 16 6 114 120 100 117 AR1 Diploid M	Reward Endo5		342	309	34	20	11	119	127	98	101	126	Endo5	Tetraploid	Very Late	DLF Seeds	11.34	8
OneSO SE 321 304 17 8 5 117 129 103 97 125 SE Diploid Late DLF Seeds 11.11 3   Array NEA2 320 308 12 5 2 119 134 103 97 121 NEA2 Diploid Very Late Barenbrug Australia 11.05 2   Legion AR37 317 300 17 10 8 122 134 102 95 120 AR37 Diploid Mid DLF Seeds 11.13 4   Kidman AR1 316 310 5 9 2 118 124 107 100 121 AR1 Diploid Early Barenbrug Australia 10.99 4   Platform AR37 296 271 25 12 9 116 130 99 100 117 AR37 Diploid Mid RAGT 11.05 3   Jackal AR1 225 219 6 8 2 115 117 101 100 117 AR1	Reason AR37		322	314	8	4	3	121	136	104	99	114	AR37	Diploid	Mid	DLF Seeds	11.02	1
Array NEA2 320 308 12 5 2 119 134 103 97 121 NEA2 Diploid Very Late Barenbrug Australia 11.05 2   Legion AR37 317 300 17 10 8 122 134 102 95 120 AR37 Diploid Mid DLF Seeds 11.13 4   Kidman AR1 316 310 5 9 2 118 124 107 100 121 AR1 Diploid Early Barenbrug Australia 10.99 4   Platform AR37 296 271 25 12 9 116 130 99 100 117 AR37 Diploid Late DLF Seeds 11.05 5   Jackal AR1 225 219 6 8 2 115 117 101 100 117 AR1 Diploid Mid AGFT 11.05 5   Jackal AR1 215 202 14 12 5 114 121 99 95 120 SE	Hustle RGT18		321	314	7	3	2	117	134	103	97	122	RGT18	Diploid	Mid	RAGT	11.00	1
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Kidman AR1 316 310 5 9 2 118 124 107 100 121 AR1 Diploid Early Barenbrug Australia 10.99 4   Platform AR37 296 271 25 12 9 116 130 99 100 117 AR37 Diploid Late DLF Seeds 11.23 4   Hustle AR1 259 249 10 16 6 114 120 100 121 AR1 Diploid Mid RAGT 11.05 5   Jackal AR1 225 219 6 8 2 115 117 101 100 117 AR1 Diploid Mid AGT 10.98 4   Platinum 218 213 5 7 2 114 127 96 99 116 Low Diploid Late Valley Seeds 10.98 4   Matrix SE 215 202 14 12 5 114 121 99 95 120 SE Diploid Late	Array NEA2		320	308	12	5	2	119	134	103	97	121	NEA2	Diploid	Very Late	Barenbrug Australia	11.05	2
Platform AR37 296 271 25 12 9 116 130 99 100 117 AR37 Diploid Late DLF Seeds 11.23 4   Hustle AR1 259 249 10 16 6 114 120 102 100 121 AR1 Diploid Mid RAGT 11.05 5   Jackal AR1 225 219 6 8 2 115 117 101 100 117 AR1 Diploid Mid AGT 11.05 5   Jackal AR1 225 219 6 8 2 115 117 101 100 117 AR1 Diploid Mid AGF 100 4   Platinum 218 213 5 7 2 114 121 99 95 120 SE Diploid Late Valley Seeds 11.09 4   Matrix SE 215 202 14 12 12 98 96 118 AR37 Diploid Late DLF Seeds 11	Legion AR37		317	300	17	10	8	122	134	102	95	120	AR37	Diploid	Mid	DLF Seeds	11.13	4
Hustle AR1 259 249 10 16 6 114 120 102 100 121 AR1 Diploid Mid RAGT 11.05 5   Jackal AR1 225 219 6 8 2 115 117 101 100 117 AR1 Diploid Mid AGF Seeds 11.00 4   Platinum 218 213 5 7 2 114 127 96 99 116 Low Diploid Late Valley Seeds 10.98 4   Matrix SE 215 202 14 12 5 114 121 99 95 120 SE Diploid Late Valley Seeds 10.98 4 5   One50 AR37 200 191 8 21 10 112 122 98 96 118 AR37 Diploid Late DLF Seeds 11.03 7   AusVic 173 175 -2 5 4 100 107 102 103 115 Low Diploi	Kidman AR1		316	310	5	9	2	118	124	107	100	121	AR1	Diploid	Early	Barenbrug Australia	10.99	4
Jackal AR1 225 219 6 8 2 115 117 101 100 117 AR1 Diploid Mid AGF Seeds 11.00 4   Platinum 218 213 5 7 2 114 127 96 99 116 Low Diploid Late Valley Seeds 10.98 4   Matrix SE 202 14 12 5 114 121 99 95 120 SE Diploid Late Valley Seeds 11.09 5   One50 AR37 200 191 8 21 10 112 122 98 96 118 AR37 Diploid Late DLF Seeds 11.03 7   AusVic 173 175 -2 5 4 110 107 102 103 115 Low Diploid Mid Various 10.91 2 2 3 4 101 107 102 103 115 Low Diploid Mid Various 10.91 2 2 3 <td>Platform AR37</td> <td></td> <td>296</td> <td>271</td> <td>25</td> <td>12</td> <td>9</td> <td>116</td> <td>130</td> <td>99</td> <td>100</td> <td>117</td> <td>AR37</td> <td>Diploid</td> <td>Late</td> <td>DLF Seeds</td> <td>11.23</td> <td>4</td>	Platform AR37		296	271	25	12	9	116	130	99	100	117	AR37	Diploid	Late	DLF Seeds	11.23	4
Platinum 218 213 5 7 2 114 127 96 99 116 Low Diploid Late Valley Seeds 10,98 4   Matrix SE 215 202 14 12 5 114 121 99 95 120 SE Diploid Late Valley Seeds 10,98 4   Matrix SE 200 191 8 21 10 112 122 98 96 118 AR37 Diploid Late DLF Seeds 11.03 7   AusVic 173 175 -2 5 4 110 107 102 103 115 Low Diploid Mid Various 10.91 2 2   Avalon AR1 77 77 -1 13 6 104 109 95 102 107 AR1 Diploid Mid Various 10.92 3   Wintas II 62 53 9 4 1 101 107 94 106 103 Nil Diploid	Hustle AR1		259	249	10	16	6	114	120	102	100	121	AR1	Diploid	Mid	RAGT	11.05	5
Matrix SE 215 202 14 12 5 114 121 99 95 120 SE Diploid Late Cropmark Seeds 11.09 5   One50 AR37 200 191 8 21 10 112 122 98 96 118 AR37 Diploid Late DLF Seeds 11.03 7   AusVic 173 175 -2 5 4 110 107 102 103 115 Low Diploid Mid Various 10.91 2   Avalon AR1 77 77 -1 13 6 104 109 95 102 107 AR1 Diploid Mid Various 10.92 3   Wintas II 62 53 9 4 1 101 107 94 106 103 Nil Diploid Mid Tasglobal Seeds 11.06 11	Jackal AR1		225	219	6	8	2	115	117	101	100	117	AR1	Diploid	Mid	AGF Seeds	11.00	4
One50 AR37 200 191 8 21 10 112 122 98 96 118 AR37 Diploid Late DLF Seeds 11.03 7   AusVic 173 175 -2 5 4 110 107 102 103 115 Low Diploid Mid Various 10.91 2   Avalon AR1 77 77 -1 13 6 104 109 95 102 107 AR1 Diploid Mid Various 10.92 3   Wintas II 62 53 9 4 1 101 107 94 106 103 Nil Diploid Mid Tasglobal Seeds 11.03 1	Platinum		218	213	5	7	2	114	127	96	99	116	Low	Diploid	Late	Valley Seeds	10.98	4
AusVic 173 175 -2 5 4 110 107 102 103 115 Low Diploid Mid Various 10.91 2   Avalon AR1 77 77 -1 13 6 104 109 95 102 107 AR1 Diploid Mid Various 10.91 3   Wintas II 62 53 9 4 1 101 107 94 106 103 Nil Diploid Mid Tasglobal Seeds 11.06 10	Matrix SE		215	202	14	12	5	114	121	99	95	120	SE	Diploid	Late	Cropmark Seeds	11.09	5
Avalon AR1 77 77 -1 13 6 104 109 95 102 107 AR1 Diploid Mid Various 10.92 3   Wintas II 62 53 9 4 1 101 107 94 106 103 Nil Diploid Mid Various 10.92 3	One50 AR37		200	191	8	21	10	112	122	98	96	118	AR37	Diploid	Late	DLF Seeds	11.03	7
Wintas II   62   53   9   4   1   101   107   94   106   103   Nil   Diploid   Mid   Tasglobal Seeds   11.06   1	AusVic		173	175	-2	5	4	110	107	102	103	115	Low	Diploid	Mid	Various	10.91	2
	Avalon AR1		77	77	-1	13	6	104	109	95	102	107	AR1	Diploid	Mid	Various	10.92	3
Victorian SE 0 0 0 24 11 100 100 100 100 SE Diploid Early Various 10.93 8	Wintas II		62	53	9	4	1	101	107	94	106	103	Nil	Diploid	Mid	Tasglobal Seeds	11.06	1
	Victorian SE		0	0	0	24	11	100	100	100	100	100	SE	Diploid	Early	Various	10.93	8

Hybrid cultivars	FVI SW Vic	FVI DM	FVI ME	Total trials	FVI SW Vic	Autumn	Winter	Early spring	Late spring	Summer	Endophyte	Ploidy	Heading date	Marketer	Metabolisable energy (ME)	Trials ME measured
Samurye NEA12	716	700	16	4	2	127	147	120	103	154	NEA12	Tetraploid	Late	Barenbrug Australia	11.11	1
Shogun NEA	391	376	15	6	2	108	132	114	98	131	NEA	Tetraploid	Late	Barenbrug Australia	11.11	4
Victorian SE	0	0	0	24	11	100	100	100	100	100	SE	Diploid	Early	Various	10.93	8

### Notes

1 The overall FVI for each variety is in the bolded column. This comprises the sum of the FVI DM and FVI ME value for each variety.

2 A separate hybrid cultivar list has been created for varieties that have Perennial x Italian ryegrass parentage. See the Hybrid v Perennial section on page four for further details.

3 Metabolisable energy (ME) is presented for each cultivar as megajoules of ME per Kg of dry matter. This value also contributes to the overall FVI value for each variety (see FVI ME column).

4 Cultivars with greater number of trials are more proven and users can have greater confidence in their position in the rankings. Most newer cultivars with just three or four trials of data will have more trial information filtering through to the FVI over the next year or two to improve their reliability and confidence in their position on 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. The FVI DM value is generated using seasonal DM yield and the FVI ME value is generated from metabolisable energy (ME) differences between varieties.
Total trials	To be included in the Perennial ryegrass Forage Value Index database, each cultivar must have data from at least three, three-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 Victorian Perennial ryegrass. This is a percentage ranking – per cent better or worse than Victorian ryegrass. For example, Victorian 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 Victorian in that particular FVI season. A cultivar that is 97 means it produced 97 per cent of the dry matter produced by Victorian in that particular FVI season. A cultivar that is 97 means it produced 97 per cent of the dry matter produced by Victorian 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 that 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.
Metabolisable energy	A measure of the Forage Quality of each cultivar, measures as megajoules of ME/kg of dry matter. Cultivars with higher ME values are likely to have greater milk production potentic for the same level of dry matter intake. This value for each variety contributes to its FVI ranking via the FVI ME component of the index.

### Separate hybrid ryegrass FVI sub-list

Hybrid ryegrasses, positioned between Italian and Perennial varieties, excel in both growth and persistence. Hybrids will generally have superior winter and early spring production compared to Perennial ryegrass due to their Italian ryegrass parentage. Therefore they provide an option to maximise production over a shorter time period of around 2–4 years. Developed by crossing Italian with Perennial ryegrass, their longevity or persistence will generally be less than Perennial ryegrass, but more than Italian ryegrass.

Care must be taken in selecting the hybrid ryegrass for your system as there are use patterns ranging from shorter-term (2–3 years), to medium (3–4 years), to longer-term where hybrids essentially perform like a Perennial ryegrass. This depends on the level of Italian vs Perennial parentage in the hybrid variety. Generally the more Perennial in nature the parentage is, the less winter and early spring production it will exhibit, but there are exceptions to the rule. The agronomic characteristics depend on the genetic background and breeding objectives. As hybrids are common in intensive production, where farmers are looking to maximise annual forage production, optimal pasture management is crucial for maximising performance and longevity.

Given the fit of hybrids into a Perennial dairying system, and the relatively short three-year PTN trial and evaluation program that feeds into the FVI, hybrids have been listed in the Dairy Australia FVI to assist farmers in understanding their fit and benefit relative to Perennial ryegrass over that timeframe. However, they are listed in a separate sub-list to the true Perennial varieties in recognition of the fact that they are not the same. In an ideal scenario, longer Perennial ryegrass trials of five years or more would reflect both the yield and persistence of yield over a longer period for each variety but logistical and resourcing constraints within the PTN mean that for now, Perennial ryegrass varieties are evaluated over a three-year timeframe. This is under review at present within the PTN to see if longer Perennial trials are feasible.

Give all data in the Perennial and hybrid ryegrass FVI reflects yield performance over three years, care must be taken in understanding the positioning and value of hybrids listed in the FVI tables, their benefit to your system in respect to seasonal growth patterns, and the expected longevity before sowing a hybrid variety. It is highly recommended to consult with your agronomist when deciding between a Perennial or hybrid variety.

### **Economic values**

The economic values are a key aspect of the overall Forage Value Index. While the performance values are the same across all regions in the FVI at present, the seasonal value of the extra pasture is different across the regions. Hence, localised regional tables are provided to more accurately reflect the marginal value of a kilogram of ryegrass in the different parts of the country. The methodology with which the economic values are calculated for the FVI changed in 2022, and now new updates to these economic values using the same methodology have been used in the 2025 FVI update.

### New market value approach adopted from 2022 FVI onwards

The new approach for calculating economic values simplifies the way extra seasonal pasture production is valued. Seasons when grazed pasture is typically in deficit and in surplus are defined for each FVI region. For example, in Gippsland, pasture was assumed to be in deficit during summer, autumn and winter, and in surplus during early and late spring. Extra pasture produced in a period when it is typically in deficit is of greater value than periods when it is typically in surplus. In seasons of deficit, extra pasture is valued as its maximum replacement cost; as purchased supplementary feed, and in seasons of surplus it is valued at its minimum salvage value; as standing hay to be conserved. Market prices of feeds delivered to each region were used to establish these maximum and minimum economic values on an equivalent nutritive value basis.

# How the new approach for calculating economic values affects the ranking of cultivars in the $\ensuremath{\mathsf{FVI}}$

A previous release of the FVI was used prior to the 2023 FVI update to compare the two methods of calculating the economic values, to assess whether it made a difference to the FVI rankings. The FVI of 19 Perennial ryegrass cultivars was calculated using the economic values from the original case study farm method and the market value approach, across the three Victorian regions. The 19 cultivars were compared to a common reference cultivar (Victorian), which was assigned a value of zero. Using the economic values calculated by the original case study farm method, the 19 cultivars were calculated to be worth an extra \$0-\$180 per ha more than Victorian ryegrass, the reference cultivar. Using the economic values calculated by the market value approach, the same 19 cultivars were calculated to be worth an extra \$24-\$200/ha more than the same reference cultivar. Hence, it is clear that there is good agreement between the two methods for calculating the economic values.

### Advantages of the market value approach

There are several advantages to using the market value approach. First, the economic values are applicable to all producers who buy and sell substitutes for grazed pasture, and who experience similar timings of pasture surpluses and deficits. This removes the limitations of having a single representative farm for each region. Second, the simplified approach makes it easier to communicate how the economic values have been calculated. This enables farmers to more easily consider how the FVI rankings relate to their individual circumstances. Lastly, regional differences can be accounted for in seasonality of pasture supply, and feed types and prices, and the economic values are relatively straightforward to update once established.

### Update to 2025 economic values

Using the same two-prove market value framework as described above, the feed prices used in the economic value calculations for 2025 were updated to reflect 2022 dollar values instead of 2020 dollar values. The estimated cost of hay conservation (used for the salvage value component of the equation) was also updated to reflect 2022 average prices. This allowed inflation to be accounted for and resulted in both feed cost and conservation costs used being 10 per cent greater than the previously used values.

### New economic values updated for 2025 onwards

The 2025 update of the FVI used newly updated economic values for all three ryegrass species, as described on the previous page in detail. In South-west Victoria, Northern Victoria, Gippsland and Tasmania, grazed pasture was assumed to be in deficit during autumn, winter and summer, and surplus during early spring and late spring. In South-coast NSW and North-coast NSW, grazed pasture was assumed to be in deficit during autumn and winter and surplus during early spring, late spring, and summer.

Separate economic values for dry matter yield have now been calculated for Perennial ryegrass cultivars and for Annual/Italian ryegrass cultivars for the Victorian and Tasmanian regions. This aims to better reflect differences in the seasonal nutritive value of Perennial versus Annual/Italian ryegrasses when calculating the economic values.

### Perennial ryegrass seasonal yield economic values for the 2025 Forage Value Index (\$/kg DM)

Region	Autumn	Winter	Early spring	Late spring	Summer
South-west Victoria	0.40	0.41	0.34	0.32	0.36
Northern Victoria	0.39	0.40	0.33	0.31	0.35
Gippsland	0.45	0.46	0.39	0.36	0.40
Tasmania	0.43	0.45	0.35	0.33	0.39

### Annual and Italian ryegrass seasonal yield economic values for the 2025 Forage Value Index (\$/kg DM)

Region	Autumn	Winter	Early spring	Late spring	Summer
South-west Victoria	0.37	0.37	0.29	0.29	0.35
Northern Victoria	0.38	0.38	0.30	0.30	0.36
Gippsland	0.42	0.42	0.35	0.35	0.40
Tasmania	0.41	0.42	0.31	0.31	0.38
South-coast NSW	0.44	0.44	0.37	0.37	0.36
Mid-north coast NSW	0.47	0.48	0.38	0.38	0.38

### Perennial ryegrass forage quality economic values for the Forage Value Index (cents/MJ ME)

Region	Autumn	Winter	Early spring	Late spring	Summer
South-west Victoria	1.1	1.1	0.9	0.9	1.1
Northern Victoria	1.1	1.1	0.6	0.6	1.1
Gippsland	1.2	1.2	0.7	0.7	1.2
Tasmania	2.4	2.4	0.5	0.5	2.4



# South-west Victoria: Autumn seasonal performance – Perennial RYEGRASS

Cultivar	FVI SW Vic	Autumn	Winter	Early spring	Late spring	Summer	Endophyte	Ploidy	Heading date	Marketer	Total trials	Autumn metabolisable energy
Three60 AR37	379	126	143	102	96	118	AR37	Diploid	Late	DLF Seeds	4	10.6
Maxsyn NEA4	380	126	132	102	98	127	NEA4	Diploid	Mid	Barenbrug Australia	9	11.0
4front NEA2	468	125	137	104	103	128	NEA2	Tetraploid	Late	Barenbrug Australia	8	11.1
Base AR37	419	124	135	103	101	126	AR37	Tetraploid	Late	DLF Seeds	25	10.9
Bealey NEA2	360	122	125	102	101	126	NEA2	Tetraploid	Very Late	Barenbrug Australia	14	11.0
Legion AR37	317	122	134	102	95	120	AR37	Diploid	Mid	DLF Seeds	10	10.9
Reason AR37	322	121	136	104	99	114	AR37	Diploid	Mid	DLF Seeds	4	10.6
Reward Endo5	342	119	127	98	101	126	Endo5	Tetraploid	Very Late	DLF Seeds	20	11.0
Array NEA2	320	119	134	103	97	121	NEA2	Diploid	Very Late	Barenbrug Australia	5	10.6
Kidman AR1	316	118	124	107	100	121	AR1	Diploid	Early	Barenbrug Australia	9	10.7
Hustle RGT18	321	117	134	103	97	122	RGT18	Diploid	Mid	RAGT	3	10.6
One50 SE	321	117	129	103	97	125	SE	Diploid	Late	DLF Seeds	8	10.8
Platform AR37	296	116	130	99	100	117	AR37	Diploid	Late	DLF Seeds	12	10.8
Jackal AR1	225	115	117	101	100	117	AR1	Diploid	Mid	AGF seeds	8	10.7
Platinum	218	114	127	96	99	116	Low	Diploid	Late	Valley Seeds	7	10.6
Matrix SE	215	114	121	99	95	120	SE	Diploid	Late	Cropmark Seeds	12	10.7
Hustle AR1	259	114	120	102	100	121	AR1	Diploid	Mid	RAGT	16	10.8
One50 AR37	200	112	122	98	96	118	AR37	Diploid	Late	DLF Seeds	21	10.7
AusVic	173	110	107	102	103	115	Low	Diploid	Mid	Various	5	10.7
Avalon AR1	77	104	109	95	102	107	AR1	Diploid	Mid	Various	13	10.7
Wintas II	62	101	107	94	106	103	Nil	Diploid	Mid	Tasglobal Seeds	4	10.8
Victorian SE	0	100	100	100	100	100	SE	Diploid	Early	Various	24	10.7

Hybrid cultivar	FVI SW Vic	Autumn	Winter	Early spring	Late spring	Summer	Endophyte	Ploidy	Heading date	Marketer	Total trials	
Samurye NEA12	716	127	147	120	103	154	NEA12	Tetraploid	Late	Barenbrug Australia	4	10.8
Shogun NEA	391	108	132	114	98	131	NEA	Tetraploid	Late	Barenbrug Australia	6	10.8
Victorian SE	0	100	100	100	100	100	SE	Diploid	Early	Various	24	10.7

# South-west Victoria: Winter seasonal performance – Perennial RYEGRASS

Cultivar	FVI SW Vic	Winter	Early spring	Late spring	Summer	Autumn	Endophyte	Ploidy	Heading date	Marketer	Total trials	Winter metabolisable energy
Three60 AR37	379	143	102	96	118	126	AR37	Diploid	Late	DLF Seeds	4	11.1
4front NEA2	468	137	104	103	128	125	NEA2	Tetraploid	Late	Barenbrug Australia	8	11.5
Reason AR37	322	136	104	99	114	121	AR37	Diploid	Mid	DLF Seeds	4	11.0
Base AR37	419	135	103	101	126	124	AR37	Tetraploid	Late	DLF Seeds	25	11.6
Hustle RGT18	321	134	103	97	122	117	RGT18	Diploid	Mid	RAGT	3	11.2
Legion AR37	317	134	102	95	120	122	AR37	Diploid	Mid	DLF Seeds	10	11.3
Array NEA2	320	134	103	97	121	119	NEA2	Diploid	Very Late	Barenbrug Australia	5	11.2
Maxsyn NEA4	380	132	102	98	127	126	NEA4	Diploid	Mid	Barenbrug Australia	9	11.3
Platform AR37	296	130	99	100	117	116	AR37	Diploid	Late	DLF Seeds	12	11.5
One50 SE	321	129	103	97	125	117	SE	Diploid	Late	DLF Seeds	8	11.2
Reward Endo5	342	127	98	101	126	119	Endo5	Tetraploid	Very Late	DLF Seeds	20	11.8
Platinum	218	127	96	99	116	114	Low	Diploid	Late	Valley Seeds	7	11.4
Bealey NEA2	360	125	102	101	126	122	NEA2	Tetraploid	Very Late	Barenbrug Australia	14	11.7
Kidman AR1	316	124	107	100	121	118	AR1	Diploid	Early	Barenbrug Australia	9	11.4
One50 AR37	200	122	98	96	118	112	AR37	Diploid	Late	DLF Seeds	21	11.4
Matrix SE	215	121	99	95	120	114	SE	Diploid	Late	Cropmark Seeds	12	11.4
Hustle AR1	259	120	102	100	121	114	AR1	Diploid	Mid	RAGT	16	11.5
Jackal AR1	225	117	101	100	117	115	AR1	Diploid	Mid	AGF seeds	8	11.4
Avalon AR1	77	109	95	102	107	104	AR1	Diploid	Mid	Various	13	11.4
Wintas II	62	107	94	106	103	101	Nil	Diploid	Mid	Tasglobal Seeds	4	11.6
AusVic	173	107	102	103	115	110	Low	Diploid	Mid	Various	5	11.5
Victorian SE	0	100	100	100	100	100	SE	Diploid	Early	Various	24	11.5

Hybrid cultivar	FVI SW Vic	Autumn	Winter	Early spring	Late spring	Summer	Endophyte	Ploidy	Heading date	Marketer		
Samurye NEA12	716	147	120	103	154	127	NEA12	Tetraploid	Late	Barenbrug Australia	4	11.6
Shogun NEA	391	132	114	98	131	108	NEA	Tetraploid	Late	Barenbrug Australia	6	11.6
Victorian SE	0	100	100	100	100	100	SE	Diploid	Early	Various	24	11.5

# South-west Victoria: Early spring seasonal performance – Perennial RYEGRASS

Cultivar	FVI SW Vic	Early spring	Late spring	Summer	Autumn	Winter	Endophyte	Ploidy	Heading date	Marketer	Total trials	
Kidman AR1	316	107	100	121	118	124	AR1	Diploid	Early	Barenbrug Australia	9	11.4
Reason AR37	322	104	99	114	121	136	AR37	Diploid	Mid	DLF Seeds	4	11.8
4front NEA2	468	104	103	128	125	137	NEA2	Tetraploid	Late	Barenbrug Australia	8	11.8
Base AR37	419	103	101	126	124	135	AR37	Tetraploid	Late	DLF Seeds	25	11.6
One50 SE	321	103	97	125	117	129	SE	Diploid	Late	DLF Seeds	8	11.5
Hustle RGT18	321	103	97	122	117	134	RGT18	Diploid	Mid	RAGT	3	11.5
Array NEA2	320	103	97	121	119	134	NEA2	Diploid	Very Late	Barenbrug Australia	5	11.3
AusVic	173	102	103	115	110	107	Low	Diploid	Mid	Various	5	11.3
Maxsyn NEA4	380	102	98	127	126	132	NEA4	Diploid	Mid	Barenbrug Australia	9	11.4
Three60 AR37	379	102	96	118	126	143	AR37	Diploid	Late	DLF Seeds	4	11.9
Hustle AR1	259	102	100	121	114	120	AR1	Diploid	Mid	RAGT	16	11.4
Bealey NEA2	360	102	101	126	122	125	NEA2	Tetraploid	Very Late	Barenbrug Australia	14	11.7
Legion AR37	317	102	95	120	122	134	AR37	Diploid	Mid	DLF Seeds	10	11.5
Jackal AR1	225	101	100	117	115	117	AR1	Diploid	Mid	AGF seeds	8	11.4
Victorian SE	0	100	100	100	100	100	SE	Diploid	Early	Various	24	11.3
Matrix SE	215	99	95	120	114	121	SE	Diploid	Late	Cropmark Seeds	12	11.5
Platform AR37	296	99	100	117	116	130	AR37	Diploid	Late	DLF Seeds	12	11.7
One50 AR37	200	98	96	118	112	122	AR37	Diploid	Late	DLF Seeds	21	11.4
Reward Endo5	342	98	101	126	119	127	Endo5	Tetraploid	Very Late	DLF Seeds	20	11.7
Platinum	218	96	99	116	114	127	Low	Diploid	Late	Valley Seeds	7	11.3
Avalon AR1	77	95	102	107	104	109	AR1	Diploid	Mid	Various	13	11.3
Wintas II	62	94	106	103	101	107	Nil	Diploid	Mid	Tasglobal Seeds	4	11.4

Hybrid cultivar	FVI SW Vic	Autumn	Winter	Early spring	Late spring	Summer	Endophyte	Ploidy	Heading date	Marketer	Total trials	Early spring metabolisable energy
Samurye NEA12	716	120	103	154	127	147	NEA12	Tetraploid	Late	Barenbrug Australia	4	11.5
Shogun NEA	391	114	98	131	108	132	NEA	Tetraploid	Late	Barenbrug Australia	6	11.5
Victorian SE	0	100	100	100	100	100	SE	Diploid	Early	Various	24	11.3

# South-west Victoria: Late spring seasonal performance – Perennial RYEGRASS

Cultivar	FVI SW Vic	Late spring	Summer	Autumn	Winter	Early spring	Endophyte	Ploidy	Heading date	Marketer	Total trials	
Wintas II	62	106	103	101	107	94	Nil	Diploid	Mid	Tasglobal Seeds	4	11.0
AusVic	173	103	115	110	107	102	Low	Diploid	Mid	Various	5	10.8
4front NEA2	468	103	128	125	137	104	NEA2	Tetraploid	Late	Barenbrug Australia	8	11.3
Avalon AR1	77	102	107	104	109	95	AR1	Diploid	Mid	Various	13	10.9
Base AR37	419	101	126	124	135	103	AR37	Tetraploid	Late	DLF Seeds	25	11.3
Bealey NEA2	360	101	126	122	125	102	NEA2	Tetraploid	Very Late	Barenbrug Australia	14	11.4
Reward Endo5	342	101	126	119	127	98	Endo5	Tetraploid	Very Late	DLF Seeds	20	11.4
Platform AR37	296	100	117	116	130	99	AR37	Diploid	Late	DLF Seeds	12	11.1
Victorian SE	0	100	100	100	100	100	SE	Diploid	Early	Various	24	10.8
Hustle AR1	259	100	121	114	120	102	AR1	Diploid	Mid	RAGT	16	11.1
Kidman AR1	316	100	121	118	124	107	AR1	Diploid	Early	Barenbrug Australia	9	10.9
Jackal AR1	225	100	117	115	117	101	AR1	Diploid	Mid	AGF seeds	8	11.0
Reason AR37	322	99	114	121	136	104	AR37	Diploid	Mid	DLF Seeds	4	10.9
Platinum	218	99	116	114	127	96	Low	Diploid	Late	Valley Seeds	7	11.0
Maxsyn NEA4	380	98	127	126	132	102	NEA4	Diploid	Mid	Barenbrug Australia	9	10.9
Hustle RGT18	321	97	122	117	134	103	RGT18	Diploid	Mid	RAGT	3	11.2
Array NEA2	320	97	121	119	134	103	NEA2	Diploid	Very Late	Barenbrug Australia	5	11.0
One50 SE	321	97	125	117	129	103	SE	Diploid	Late	DLF Seeds	8	11.4
One50 AR37	200	96	118	112	122	98	AR37	Diploid	Late	DLF Seeds	21	11.1
Three60 AR37	379	96	118	126	143	102	AR37	Diploid	Late	DLF Seeds	4	11.4
Matrix SE	215	95	120	114	121	99	SE	Diploid	Late	Cropmark Seeds	12	11.2
Legion AR37	317	95	120	122	134	102	AR37	Diploid	Mid	DLF Seeds	10	11.1

Hybrid cultivar	FVI SW Vic	Autumn	Winter	Early spring	Late spring	Summer	Endophyte	Ploidy	Heading date	Marketer	Total trials	Late spring metabolisable energy
Samurye NEA12	694	103	154	127	147	120	NEA12	Tetraploid	Late	Barenbrug Australia	4	11.2
Victorian SE	0	100	100	100	100	100	SE	Diploid	Early	Various	24	10.8
Shogun NEA	378	98	131	108	132	114	NEA	Tetraploid	Late	Barenbrug Australia	6	11.2

### South-west Victoria: Summer seasonal performance - Perennial RYEGRASS

Cultivar	FVI SW Vic	Summer	Autumn	Winter	Early spring	Late spring	Endophyte	Ploidy	Heading date	Marketer	Total trials	Summer metabolisable energy
4front NEA2	468	128	125	137	104	103	NEA2	Tetraploid	Late	Barenbrug Australia	8	11.0
Maxsyn NEA4	380	127	126	132	102	98	NEA4	Diploid	Mid	Barenbrug Australia	9	10.6
Reward Endo5	342	126	119	127	98	101	Endo5	Tetraploid	Very Late	DLF Seeds	20	10.8
Bealey NEA2	360	126	122	125	102	101	NEA2	Tetraploid	Very Late	Barenbrug Australia	14	10.7
Base AR37	419	126	124	135	103	101	AR37	Tetraploid	Late	DLF Seeds	25	10.6
One50 SE	321	125	117	129	103	97	SE	Diploid	Late	DLF Seeds	8	10.7
Hustle RGT18	321	122	117	134	103	97	RGT18	Diploid	Mid	RAGT	3	10.6
Kidman AR1	316	121	118	124	107	100	AR1	Diploid	Early	Barenbrug Australia	9	10.5
Hustle AR1	259	121	114	120	102	100	AR1	Diploid	Mid	RAGT	16	10.5
Array NEA2	320	121	119	134	103	97	NEA2	Diploid	Very Late	Barenbrug Australia	5	11.1
Matrix SE	215	120	114	121	99	95	SE	Diploid	Late	Cropmark Seeds	12	10.6
Legion AR37	317	120	122	134	102	95	AR37	Diploid	Mid	DLF Seeds	10	10.9
Three60 AR37	379	118	126	143	102	96	AR37	Diploid	Late	DLF Seeds	4	11.1
One50 AR37	200	118	112	122	98	96	AR37	Diploid	Late	DLF Seeds	21	10.4
Platform AR37	296	117	116	130	99	100	AR37	Diploid	Late	DLF Seeds	12	11.0
Jackal AR1	225	117	115	117	101	100	AR1	Diploid	Mid	AGF seeds	8	10.5
Platinum	218	116	114	127	96	99	Low	Diploid	Late	Valley Seeds	7	10.5
AusVic	173	115	110	107	102	103	Low	Diploid	Mid	Various	5	10.2
Reason AR37	322	114	121	136	104	99	AR37	Diploid	Mid	DLF Seeds	4	10.8
Avalon AR1	77	107	104	109	95	102	AR1	Diploid	Mid	Various	13	10.3
Wintas II	62	103	101	107	94	106	Nil	Diploid	Mid	Tasglobal Seeds	4	10.5
Victorian SE	0	100	100	100	100	100	SE	Diploid	Early	Various	24	10.3

Hybrid cultivar	FVI SW Vic	Autumn	Winter	Early spring	Late spring	Summer	Endophyte	Ploidy	Heading date	Marketer	Total trials	Summer metabolisable energy
Samurye NEA12	716	154	127	147	120	103	NEA12	Tetraploid	Late	Barenbrug Australia	4	10.5
Shogun NEA	391	131	108	132	114	98	NEA	Tetraploid	Late	Barenbrug Australia	6	10.5
Victorian SE	0	100	100	100	100	100	SE	Diploid	Early	Various	24	10.3

#### Disclaimer

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