



NORTHERN VICTORIA FORAGE VALUE INDEX 2021

ANNUAL RYEGRASS



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 in different dairy regions of southeast Australia. The FVI was initially launched in 2017 for perennial ryegrass only, and in 2021 has been expanded to include two additional species of ryegrass - Annual and Italian ryegrass.

How it is calculated

The FVI is calculated by multiplying the Performance Value of each cultivar (i.e. total kilograms dry matter produced per hectare per "FVI" season) by its Economic Value (i.e. the estimated value of this extra production per "FVI" season). There are five FVI seasons and these are outlined in more detail on page 4.

Performance Values 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 protocols. The trials vary in duration depending on the species (three years for perennial cultivars, one year minimum for annual and Italian cultivars).

Reference cultivar

The Performance Value is expressed as a percentage change relative to a reference cultivar of ryegrass (a widely recognised cultivar by the industry), which differs for each species. The reference cultivar will always have an overall FVI of 0. In the annual ryegrass FVI, the reference cultivar is a certified source of Tetila.

Economic values

Economic Values (EVs) are determined by assessing the economic value of extra pasture grown during the respective seasons through an economic analysis of 'case study' farms in four different dairying regions in southeast Australia. For 2021, EVs currently only exist for the three Victorian dairy regions plus Tasmania, as these were the regions used for the perennial ryegrass FVI initially launched in 2017. From 2022 onwards, EVs will be developed and published for other regions of Australia where annual and Italian ryegrass are also widely used.

Information in the FVI tables

The FVI for each cultivar is expressed both individually as a number, and in collective groups as a colour, whereby those cultivars with the same colour are not significantly different to each other. The green colour indicates those cultivars that have performed the best in each region and have the most potential to contribute to operating profit. 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 is also included in the table. A cultivar needs to be included in at least three trials to qualify for inclusion in the FVI and the more trials it is included in – the more reliable the ranking is for that cultivar.

Future developments and improvements

Currently the FVI rankings are based on yield only, from independent trials run by the Pasture Trial Network. In the coming years, nutritive value data will be collected for each cultivar and included in the FVI tables and calculations for all species, as well as persistence for perennial ryegrass. Whilst we acknowledge that yield is not the only trait affecting the relative profitability of one cultivar over another, the FVI in its current form still provides a valuable independent indicator of the relative difference between cultivars and will continue to evolve and improve as it is updated with more trial data and new traits in the coming years.



Northern Victoria: Forage Value Index 2021 - ANNUAL RYEGRASS

| Cultivar | FVI Nth Vic | Autumn | Winter | Early spring | Late spring | Summer | Endophyte | Ploidy | Heading date | Marketer | No. of trials | No. of trials (N Vic) |
|--------------------------|-------------|------------|------------|--------------|-------------|------------|------------|----------|--------------|-----------------------------------|---------------|-----------------------|
| SF Pinnacle AGF | 272 | 120 | 99 | 101 | 107 | 144 | Nil | T | Late | AGF Seeds (Seed Force in WA only) | 7 | 2 |
| SF Speedyl | 240 | 104 | 99 | 101 | 106 | 147 | Nil | T | Late | Seed Force | 6 | 2 |
| Mach 1 | 226 | 100 | 105 | 100 | 108 | 138 | Nil | T | Mid | Agricom | 8 | 3 |
| Hogan | 218 | 100 | 104 | 101 | 106 | 139 | Nil | T | Late | Barenbrug | 5 | 1 |
| WinterStar II | 212 | 88 | 103 | 102 | 108 | 135 | Nil | T | Late | PGG Wrightson Seeds | 6 | 3 |
| Jivet | 205 | 103 | 101 | 100 | 106 | 138 | Nil | T | Late | DLF Seeds | 7 | 2 |
| Zoom | 204 | 127 | 103 | 101 | 105 | 124 | Nil | T | Late | Cropmark | 3 | 1 |
| Fuze | 187 | 100 | 105 | 102 | 106 | 127 | Nil | D | Late | Barenbrug | 4 | 2 |
| Bullet | 182 | 108 | 102 | 100 | 107 | 126 | Nil | T | Late | Notman Pasture Seeds | 3 | 1 |
| SF Adrenalin | 174 | 100 | 104 | 103 | 106 | 124 | Nil | T | Late | Seed Force | 3 | 1 |
| Ascend | 171 | 88 | 102 | 97 | 109 | 139 | Nil | T | Mid | PGG Wrightson Seeds | 8 | 3 |
| Vortex | 154 | 90 | 105 | 102 | 106 | 121 | Nil | T | Mid-Late | Barenbrug | 4 | 1 |
| Arnie | 152 | 114 | 106 | 102 | 105 | 110 | Nil | D | Late | Barenbrug | 3 | 1 |
| Dash | 140 | 103 | 98 | 97 | 106 | 131 | Nil | T | Very Late | Cropmark | 4 | 2 |
| SF Sultan | 73 | 91 | 102 | 102 | 104 | 108 | Nil | D | Late | Seed Force | 5 | 1 |
| Dargo (DoubleCrop) | 0 | 100 | 109 | 102 | 100 | 84 | Nil | D | Early | Vicseeds | 5 | 2 |
| Tetila (standard) | 0 | 100 | 100 | 100 | 100 | 100 | Nil | T | Early | Many | 4 | 2 |
| Burst | -37 | 82 | 105 | 98 | 101 | 96 | Nil | T | Mid | Vicseeds | 4 | 2 |

Notes

- 1 Tetila (standard) is the reference cultivar for the annual ryegrass FVI. It is a certified source of Tetila that was used in the trials. The reference cultivar in the FVI is always zero, and the FVI for all other cultivars in the list are measured against this line.
- 2 Data to create the performance values for each cultivar was taken from eight annual ryegrass trials. The trials were located in the following regions and were measured at various stages between 2014 and 2019 – Leongatha, Terang, Howlong (x2), Kiewa Valley, Taree and Aberdeen (x2). Next years update to the Annual FVI will include more trials from Victoria, NSW and also Tasmania.
- 3 The FVI's for each cultivar are based on a combination of trials across several sites as described above, with the no of trials in each region column included to provide an indication of the amount of actual trial data in that region that contributed to the FVI for that particular cultivar.
- 4 Individual data from trials that have been published is available on the Pasture Trial Network website at tools.mla.com.au/ptn/#/home

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. Select from any of the cultivars in the green bars. |
| FVI | The rating is based on the outcome of economic and performance values for each cultivar. |
| Seasonal performance | A performance value is based on the difference in dry matter production between a cultivar's seasonal performance and that of Tetila annual ryegrass. This is a percentage ranking – percent better or worse than Tetila ryegrass. For example, Tetila 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 Tetila in that particular FVI season. A cultivar that is 97 means it produced 97 per cent of the dry matter produced by Tetila 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 as per the Australian Seed Federation Pasture Seed Database. |
| No. of trials | To be included in the Annual Ryegrass FVI, each cultivar must have data from at least three, one-year trials. |

New Economic values for 2021 release

The 2021 updated FVI tables is accompanied by updated economic values for the value of an additional kilogram of ryegrass within each of the five FVI seasons in the four regions. The values were updated to reflect greater volatility in the hay and grain market over the last few years and are based on a five-year rolling average of hay and grain prices within each of the four regions. The new economic values used are presented in the following table:

| Region | Autumn (\$) | Winter (\$) | Early Spring (\$) | Late Spring (\$) | Summer (\$) |
|---------------------|-------------|-------------|-------------------|------------------|-------------|
| South West Victoria | 0.34 | 0.36 | 0.24 | 0.30 | 0.41 |
| Northern Victoria | 0.36 | 0.42 | 0.46 | 0.42 | 0.33 |
| Gippsland | 0.44 | 0.58 | 0.49 | 0.29 | 0.45 |
| Tasmania | 0.35 | 0.37 | 0.38 | 0.11 | 0.18 |

Northern Victoria Autumn seasonal performance – ANNUAL RYEGRASS

| Cultivar | Autumn | Winter | Early Spring | Late Spring | Summer | FVI Nth Vic | Endophyte | Ploidy | Heading Date | Marketer | No. of trials |
|--------------------------|------------|------------|--------------|-------------|------------|-------------|------------|----------|--------------|-----------------------------------|---------------|
| Zoom | 127 | 103 | 101 | 105 | 124 | 204 | Nil | T | Late | Cropmark Seeds | 3 |
| SF Pinnacle AGF | 120 | 99 | 101 | 107 | 144 | 272 | Nil | T | Late | AGF Seeds (Seed Force in WA only) | 7 |
| Arnie | 114 | 106 | 102 | 105 | 110 | 152 | Nil | D | Late | Barenbrug | 3 |
| Bullet | 108 | 102 | 100 | 107 | 126 | 182 | Nil | T | Late | Notman Pasture Seeds | 3 |
| SF Speedyl | 104 | 99 | 101 | 106 | 147 | 240 | Nil | T | Late | Seed Force | 6 |
| Dash | 103 | 98 | 97 | 106 | 131 | 140 | Nil | T | Very Late | Cropmark Seeds | 4 |
| Jivet | 103 | 101 | 100 | 106 | 138 | 205 | Nil | T | Late | DLF Seeds | 7 |
| Dargo (DoubleCrop) | 100 | 109 | 102 | 100 | 84 | 0 | Nil | D | Early | Vicseeds | 5 |
| Mach 1 | 100 | 105 | 100 | 108 | 138 | 226 | Nil | T | Mid | Agricom | 8 |
| Hogan | 100 | 104 | 101 | 106 | 139 | 218 | Nil | T | Late | Barenbrug | 5 |
| Fuze | 100 | 105 | 102 | 106 | 127 | 187 | Nil | D | Late | Barenbrug | 4 |
| Tetila (standard) | 100 | 100 | 100 | 100 | 100 | 0 | Nil | T | Early | Many | 4 |
| SF Adrenalin | 100 | 104 | 103 | 106 | 124 | 174 | Nil | T | Late | Seed Force | 3 |
| SF Sultan | 91 | 102 | 102 | 104 | 108 | 73 | Nil | D | Late | Seed Force | 5 |
| Vortex | 90 | 105 | 102 | 106 | 121 | 154 | Nil | T | Mid-Late | Barenbrug | 4 |
| WinterStar II | 88 | 103 | 102 | 108 | 135 | 212 | Nil | T | Late | PGG Wrightson Seeds | 6 |
| Ascend | 88 | 102 | 97 | 109 | 139 | 171 | Nil | T | Mid | PGG Wrightson Seeds | 8 |
| Burst | 82 | 105 | 98 | 101 | 96 | -37 | Nil | T | Mid | Vicseeds | 4 |

Northern Victoria Winter seasonal performance – ANNUAL RYEGRASS

| Cultivar | Winter | Early Spring | Late Spring | Summer | Autumn | FVI Nth Vic | Endophyte | Ploidy | Heading Date | Marketer | No. of trials |
|--------------------------|------------|--------------|-------------|------------|------------|-------------|------------|----------|--------------|-----------------------------------|---------------|
| Dargo (DoubleCrop) | 109 | 102 | 100 | 84 | 100 | 0 | Nil | D | Early | Vicseeds | 5 |
| Arnie | 106 | 102 | 105 | 110 | 114 | 152 | Nil | D | Late | Barenbrug | 3 |
| Vortex | 105 | 102 | 106 | 121 | 90 | 154 | Nil | T | Mid-Late | Barenbrug | 4 |
| Burst | 105 | 98 | 101 | 96 | 82 | -37 | Nil | T | Mid | Vicseeds | 4 |
| Fuze | 105 | 102 | 106 | 127 | 100 | 187 | Nil | D | Late | Barenbrug | 4 |
| Mach 1 | 105 | 100 | 108 | 138 | 100 | 226 | Nil | T | Mid | Agricom | 8 |
| Hogan | 104 | 101 | 106 | 139 | 100 | 218 | Nil | T | Late | Barenbrug | 5 |
| SF Adrenalin | 104 | 103 | 106 | 124 | 100 | 174 | Nil | T | Late | Seed Force | 3 |
| WinterStar II | 103 | 102 | 108 | 135 | 88 | 212 | Nil | T | Late | PGG Wrightson Seeds | 6 |
| Zoom | 103 | 101 | 105 | 124 | 127 | 204 | Nil | T | Late | Cropmark Seeds | 3 |
| SF Sultan | 102 | 102 | 104 | 108 | 91 | 73 | Nil | D | Late | Seed Force | 5 |
| Ascend | 102 | 97 | 109 | 139 | 88 | 171 | Nil | T | Mid | PGG Wrightson Seeds | 8 |
| Bullet | 102 | 100 | 107 | 126 | 108 | 182 | Nil | T | Late | Notman Pasture Seeds | 3 |
| Jivet | 101 | 100 | 106 | 138 | 103 | 205 | Nil | T | Late | DLF Seeds | 7 |
| Tetila (standard) | 100 | 100 | 100 | 100 | 100 | 0 | Nil | T | Early | Many | 4 |
| SF Pinnacle AGF | 99 | 101 | 107 | 144 | 120 | 272 | Nil | T | Late | AGF Seeds (Seed Force in WA only) | 7 |
| SF Speedyl | 99 | 101 | 106 | 147 | 104 | 240 | Nil | T | Late | Seed Force | 6 |
| Dash | 98 | 97 | 106 | 131 | 103 | 140 | Nil | T | Very Late | Cropmark Seeds | 4 |

Northern Victoria early Spring seasonal performance – ANNUAL RYEGRASS

| Cultivar | | Early Spring | Late Spring | Summer | Autumn | Winter | FVI Nth Vic | Endophyte | Ploidy | Heading Date | Marketer | No. of trials |
|--------------------------|---|--------------|-------------|------------|------------|------------|-------------|------------|----------|--------------|-----------------------------------|---------------|
| SF Adrenalin | ■ | 103 | 106 | 124 | 100 | 104 | 174 | Nil | T | Late | Seed Force | 3 |
| WinterStar II | ■ | 102 | 108 | 135 | 88 | 103 | 212 | Nil | T | Late | PGG Wrightson Seeds | 6 |
| Vortex | ■ | 102 | 106 | 121 | 90 | 105 | 154 | Nil | T | Mid-Late | Barenbrug | 4 |
| Dargo (DoubleCrop) | ■ | 102 | 100 | 84 | 100 | 109 | 0 | Nil | D | Early | Vicseeds | 5 |
| SF Sultan | ■ | 102 | 104 | 108 | 91 | 102 | 73 | Nil | D | Late | Seed Force | 5 |
| Fuze | ■ | 102 | 106 | 127 | 100 | 105 | 187 | Nil | D | Late | Barenbrug | 4 |
| Arnie | | 102 | 105 | 110 | 114 | 106 | 152 | Nil | D | Late | Barenbrug | 3 |
| SF Pinnacle AGF | | 101 | 107 | 144 | 120 | 99 | 272 | Nil | T | Late | AGF Seeds (Seed Force in WA only) | 7 |
| SF Speedyl | | 101 | 106 | 147 | 104 | 99 | 240 | Nil | T | Late | Seed Force | 6 |
| Hogan | | 101 | 106 | 139 | 100 | 104 | 218 | Nil | T | Late | Barenbrug | 5 |
| Zoom | | 101 | 105 | 124 | 127 | 103 | 204 | Nil | T | Late | Cropmark Seeds | 3 |
| Jivet | | 100 | 106 | 138 | 103 | 101 | 205 | Nil | T | Late | DLF Seeds | 7 |
| Bullet | | 100 | 107 | 126 | 108 | 102 | 182 | Nil | T | Late | Notman Pasture Seeds | 3 |
| Mach 1 | | 100 | 108 | 138 | 100 | 105 | 226 | Nil | T | Mid | Agricom | 8 |
| Tetila (standard) | | 100 | 100 | 100 | 100 | 100 | 0 | Nil | T | Early | Many | 4 |
| Burst | | 98 | 101 | 96 | 82 | 105 | -37 | Nil | T | Mid | Vicseeds | 4 |
| Dash | | 97 | 106 | 131 | 103 | 98 | 140 | Nil | T | Very Late | Cropmark Seeds | 4 |
| Ascend | | 97 | 109 | 139 | 88 | 102 | 171 | Nil | T | Mid | PGG Wrightson Seeds | 8 |

Northern Victoria late spring seasonal performance – ANNUAL RYEGRASS

| Cultivar | | Late Spring | Summer | Autumn | Winter | Early Spring | FVI Nth Vic | Endophyte | Ploidy | Heading Date | Marketer | No. of trials |
|--------------------------|-----|-------------|------------|------------|------------|--------------|-------------|------------|----------|--------------|-----------------------------------|---------------|
| Ascend | ■ | 109 | 139 | 88 | 102 | 97 | 171 | Nil | T | Mid | PGG Wrightson Seeds | 8 |
| WinterStar II | ■ ■ | 108 | 135 | 88 | 103 | 102 | 212 | Nil | T | Late | PGG Wrightson Seeds | 6 |
| Mach 1 | ■ ■ | 108 | 138 | 100 | 105 | 100 | 226 | Nil | T | Mid | Agricom | 8 |
| Bullet | ■ ■ | 107 | 126 | 108 | 102 | 100 | 182 | Nil | T | Late | Notman Pasture Seeds | 3 |
| SF Pinnacle AGF | ■ ■ | 107 | 144 | 120 | 99 | 101 | 272 | Nil | T | Late | AGF Seeds (Seed Force in WA only) | 7 |
| Vortex | ■ ■ | 106 | 121 | 90 | 105 | 102 | 154 | Nil | T | Mid-Late | Barenbrug | 4 |
| Dash | ■ ■ | 106 | 131 | 103 | 98 | 97 | 140 | Nil | T | Very Late | Cropmark Seeds | 4 |
| SF Speedyl | ■ ■ | 106 | 147 | 104 | 99 | 101 | 240 | Nil | T | Late | Seed Force | 6 |
| Jivet | ■ ■ | 106 | 138 | 103 | 101 | 100 | 205 | Nil | T | Late | DLF Seeds | 7 |
| Fuze | ■ ■ | 106 | 127 | 100 | 105 | 102 | 187 | Nil | D | Late | Barenbrug | 4 |
| Hogan | ■ ■ | 106 | 139 | 100 | 104 | 101 | 218 | Nil | T | Late | Barenbrug | 5 |
| SF Adrenalin | ■ ■ | 106 | 124 | 100 | 104 | 103 | 174 | Nil | T | Late | Seed Force | 3 |
| Arnie | ■ ■ | 105 | 110 | 114 | 106 | 102 | 152 | Nil | D | Late | Barenbrug | 3 |
| Zoom | ■ ■ | 105 | 124 | 127 | 103 | 101 | 204 | Nil | T | Late | Cropmark Seeds | 3 |
| SF Sultan | ■ ■ | 104 | 108 | 91 | 102 | 102 | 73 | Nil | D | Late | Seed Force | 5 |
| Burst | ■ ■ | 101 | 96 | 82 | 105 | 98 | -37 | Nil | T | Mid | Vicseeds | 4 |
| Tetila (standard) | ■ ■ | 100 | 100 | 100 | 100 | 100 | 0 | Nil | T | Early | Many | 4 |
| Dargo (DoubleCrop) | ■ ■ | 100 | 84 | 100 | 109 | 102 | 0 | Nil | D | Early | Vicseeds | 5 |

Northern Victoria Summer seasonal performance – ANNUAL RYEGRASS

| Cultivar | Summer | Autumn | Winter | E.Spring | L.Spring | FVI Nth Vic | Endophyte | Ploidy | Heading Date | Marketer | No. of trials |
|--------------------------|------------|------------|------------|------------|------------|-------------|------------|----------|--------------|-----------------------------------|---------------|
| SF Speedyl | 147 | 104 | 99 | 101 | 106 | 240 | Nil | T | Late | Seed Force | 6 |
| SF Pinnacle AGF | 144 | 120 | 99 | 101 | 107 | 272 | Nil | T | Late | AGF Seeds (Seed Force in WA only) | 7 |
| Ascend | 139 | 88 | 102 | 97 | 109 | 171 | Nil | T | Mid | PGG Wrightson Seeds | 8 |
| Hogan | 139 | 100 | 104 | 101 | 106 | 218 | Nil | T | Late | Barenbrug | 5 |
| Mach 1 | 138 | 100 | 105 | 100 | 108 | 226 | Nil | T | Mid | Agricom | 8 |
| Jivet | 138 | 103 | 101 | 100 | 106 | 205 | Nil | T | Late | DLF Seeds | 7 |
| WinterStar II | 135 | 88 | 103 | 102 | 108 | 212 | Nil | T | Late | PGG Wrightson Seeds | 6 |
| Dash | 131 | 103 | 98 | 97 | 106 | 140 | Nil | T | Very Late | Cropmark Seeds | 4 |
| Fuze | 127 | 100 | 105 | 102 | 106 | 187 | Nil | D | Late | Barenbrug | 4 |
| Bullet | 126 | 108 | 102 | 100 | 107 | 182 | Nil | T | Late | Notman Pasture Seeds | 3 |
| SF Adrenalin | 124 | 100 | 104 | 103 | 106 | 174 | Nil | T | Late | Seed Force | 3 |
| Zoom | 124 | 127 | 103 | 101 | 105 | 204 | Nil | T | Late | Cropmark Seeds | 3 |
| Vortex | 121 | 90 | 105 | 102 | 106 | 154 | Nil | T | Mid-Late | Barenbrug | 4 |
| Arnie | 110 | 114 | 106 | 102 | 105 | 152 | Nil | D | Late | Barenbrug | 3 |
| SF Sultan | 108 | 91 | 102 | 102 | 104 | 73 | Nil | D | Late | Seed Force | 5 |
| Tetila (standard) | 100 | 100 | 100 | 100 | 100 | 0 | Nil | T | Early | Many | 4 |
| Burst | 96 | 82 | 105 | 98 | 101 | -37 | Nil | T | Mid | Vicseeds | 4 |
| Dargo (DoubleCrop) | 84 | 100 | 109 | 102 | 100 | 0 | Nil | D | Early | Vicseeds | 5 |

Disclaimer

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