



SOUTH WEST 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.



South West Victoria: Forage Value Index 2021 – ANNUAL RYEGRASS

Cultivar		FVI SW Vic	Autumn	Winter	Early spring	Late spring	Summer	Endophyte	Ploidy	Heading date	Marketer	No. of trials	No of trials (SW Vic)
SF Pinnacle AGF	■	288	120	99	101	107	144	Nil	T	Late	AGF Seeds (Seed Force in WA only)	7	1
SF Speedyl	■ ■	263	104	99	101	106	147	Nil	T	Late	Seed Force	6	1
Mach 1	■ ■ ■	239	100	105	100	108	138	Nil	T	Mid	Agricom	8	1
Hogan	■ ■ ■	233	100	104	101	106	139	Nil	T	Late	Barenbrug	5	1
Jivet	■ ■ ■	222	103	101	100	106	138	Nil	T	Late	DLF Seeds	7	1
WinterStar II	■ ■ ■	213	88	103	102	108	135	Nil	T	Late	PGG Wrightson Seeds	6	1
Zoom	■ ■ ■	205	127	103	101	105	124	Nil	T	Late	Cropmark Seeds	3	1
Ascend	■ ■ ■	200	88	102	97	109	139	Nil	T	Mid	PGG Wrightson Seeds	8	1
Fuze	■ ■ ■ ■	186	100	105	102	106	127	Nil	D	Late	Barenbrug	4	0
Bullet	■ ■ ■ ■	185	108	102	100	107	126	Nil	T	Late	Notman Pasture Seeds	3	1
SF Adrenalin	■ ■ ■ ■	170	100	104	103	106	124	Nil	T	Late	Seed Force	3	1
Dash	■ ■ ■ ■	165	103	98	97	106	131	Nil	T	Very Late	Cropmark Seeds	4	0
Vortex	■ ■ ■ ■	146	90	105	102	106	121	Nil	T	Mid-Late	Barenbrug	4	1
Arnie	■ ■ ■ ■	136	114	106	102	105	110	Nil	D	Late	Barenbrug	3	1
SF Sultan	■ ■ ■ ■ ■	61	91	102	102	104	108	Nil	D	Late	Seed Force	5	1
Tetila (standard)		0	100	100	100	100	100	Nil	T	Early	Many	4	1
Dargo (DoubleCrop)	■ ■ ■ ■ ■ ■	-29	100	109	102	100	84	Nil	D	Early	Vicseeds	5	1
Burst	■ ■ ■ ■ ■ ■ ■	-37	82	105	98	101	96	Nil	T	Mid	Vicseeds	4	1

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), Kiwa 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

South West Victoria Autumn seasonal performance – ANNUAL RYEGRASS

Cultivar	Autumn	Winter	Early Spring	Late Spring	Summer	FVI SW Vic	Endophyte	Ploidy	Heading Date	Marketer	No. of trials
Zoom	127	103	101	105	124	205	Nil	T	Late	Cropmark Seeds	3
SF Pinnacle AGF	120	99	101	107	144	288	Nil	T	Late	AGF Seeds (Seed Force in WA only)	7
Arnie	114	106	102	105	110	136	Nil	D	Late	Barenbrug	3
Bullet	108	102	100	107	126	185	Nil	T	Late	Notman Pasture Seeds	3
SF Speedyl	104	99	101	106	147	263	Nil	T	Late	Seed Force	6
Dash	103	98	97	106	131	165	Nil	T	Very Late	Cropmark Seeds	4
Jivet	103	101	100	106	138	222	Nil	T	Late	DLF Seeds	7
Dargo (DoubleCrop)	100	109	102	100	84	-29	Nil	D	Early	Vicseeds	5
Mach 1	100	105	100	108	138	239	Nil	T	Mid	Agricom	8
Hogan	100	104	101	106	139	233	Nil	T	Late	Barenbrug	5
Fuze	100	105	102	106	127	186	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	170	Nil	T	Late	Seed Force	3
SF Sultan	91	102	102	104	108	61	Nil	D	Late	Seed Force	5
Vortex	90	105	102	106	121	146	Nil	T	Mid-Late	Barenbrug	4
WinterStar II	88	103	102	108	135	213	Nil	T	Late	PGG Wrightson Seeds	6
Ascend	88	102	97	109	139	200	Nil	T	Mid	PGG Wrightson Seeds	8
Burst	82	105	98	101	96	-37	Nil	T	Mid	Vicseeds	4

South West Victoria Winter seasonal performance – ANNUAL RYEGRASS

Cultivar	Winter	Early Spring	Late Spring	Summer	Autumn	FVI SW Vic	Endophyte	Ploidy	Heading Date	Marketer	No. of trials
Dargo (DoubleCrop)	109	102	100	84	100	-29	-29	D	Early	Vicseeds	5
Arnie	106	102	105	110	114	136	136	D	Late	Barenbrug	3
Vortex	105	102	106	121	90	146	146	T	Mid-Late	Barenbrug	4
Burst	105	98	101	96	82	-37	-37	T	Mid	Vicseeds	4
Fuze	105	102	106	127	100	186	186	D	Late	Barenbrug	4
Mach 1	105	100	108	138	100	239	239	T	Mid	Agricom	8
Hogan	104	101	106	139	100	233	233	T	Late	Barenbrug	5
SF Adrenalin	104	103	106	124	100	170	170	T	Late	Seed Force	3
WinterStar II	103	102	108	135	88	213	213	T	Late	PGG Wrightson Seeds	6
Zoom	103	101	105	124	127	205	205	T	Late	Cropmark Seeds	3
SF Sultan	102	102	104	108	91	61	61	D	Late	Seed Force	5
Ascend	102	97	109	139	88	200	200	T	Mid	PGG Wrightson Seeds	8
Bullet	102	100	107	126	108	185	185	T	Late	Notman Pasture Seeds	3
Jivet	101	100	106	138	103	222	222	T	Late	DLF Seeds	7
Tetila (standard)	100	100	100	100	100	0	0	T	Early	Many	4
SF Pinnacle AGF	99	101	107	144	120	288	288	T	Late	AGF Seeds (Seed Force in WA only)	7
SF Speedyl	99	101	106	147	104	263	263	T	Late	Seed Force	6
Dash	98	97	106	131	103	165	165	T	Very Late	Cropmark Seeds	4

South West Victoria early Spring seasonal performance – ANNUAL RYEGRASS

Cultivar	Early Spring	Late Spring	Summer	Autumn	Winter	FVI SW Vic	Endophyte	Ploidy	Heading Date	Marketer	No. of trials
SF Adrenalin	103	106	124	100	104	170	Nil	T	Late	Seed Force	3
WinterStar II	102	108	135	88	103	213	Nil	T	Late	PGG Wrightson Seeds	6
Vortex	102	106	121	90	105	146	Nil	T	Mid-Late	Barenbrug	4
Dargo (DoubleCrop)	102	100	84	100	109	-29	Nil	D	Early	Vicseeds	5
SF Sultan	102	104	108	91	102	61	Nil	D	Late	Seed Force	5
Fuze	102	106	127	100	105	186	Nil	D	Late	Barenbrug	4
Arnie	102	105	110	114	106	136	Nil	D	Late	Barenbrug	3
SF Pinnacle AGF	101	107	144	120	99	288	Nil	T	Late	AGF Seeds (Seed Force in WA only)	7
SF Speedyl	101	106	147	104	99	263	Nil	T	Late	Seed Force	6
Hogan	101	106	139	100	104	233	Nil	T	Late	Barenbrug	5
Zoom	101	105	124	127	103	205	Nil	T	Late	Cropmark Seeds	3
Jivet	100	106	138	103	101	222	Nil	T	Late	DLF Seeds	7
Bullet	100	107	126	108	102	185	Nil	T	Late	Notman Pasture Seeds	3
Mach 1	100	108	138	100	105	239	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	165	Nil	T	Very Late	Cropmark Seeds	4
Ascend	97	109	139	88	102	200	Nil	T	Mid	PGG Wrightson Seeds	8

South West Victoria late spring seasonal performance – ANNUAL RYEGRASS

Cultivar		Late Spring	Summer	Autumn	Winter	Early Spring	FVI SW Vic	Endophyte	Ploidy	Heading Date	Marketer	No. of trials
Ascend	■	109	139	88	102	97	200	Nil	T	Mid	PGG Wrightson Seeds	8
WinterStar II	■ ■	108	135	88	103	102	213	Nil	T	Late	PGG Wrightson Seeds	6
Mach 1	■ ■	108	138	100	105	100	239	Nil	T	Mid	Agricom	8
Bullet	■ ■	107	126	108	102	100	185	Nil	T	Late	Notman Pasture Seeds	3
SF Pinnacle AGF	■ ■	107	144	120	99	101	288	Nil	T	Late	AGF Seeds (Seed Force in WA only)	7
Vortex	■ ■	106	121	90	105	102	146	Nil	T	Mid-Late	Barenbrug	4
Dash	■ ■	106	131	103	98	97	165	Nil	T	Very Late	Cropmark Seeds	4
SF Speedyl	■ ■	106	147	104	99	101	263	Nil	T	Late	Seed Force	6
Jivet	■ ■	106	138	103	101	100	222	Nil	T	Late	DLF Seeds	7
Fuze	■ ■	106	127	100	105	102	186	Nil	D	Late	Barenbrug	4
Hogan	■ ■	106	139	100	104	101	233	Nil	T	Late	Barenbrug	5
SF Adrenalin	■ ■	106	124	100	104	103	170	Nil	T	Late	Seed Force	3
Arnie	■ ■	105	110	114	106	102	136	Nil	D	Late	Barenbrug	3
Zoom	■ ■	105	124	127	103	101	205	Nil	T	Late	Cropmark Seeds	3
SF Sultan	■ ■	104	108	91	102	102	61	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	-29	Nil	D	Early	Vicseeds	5

South West Victoria Summer seasonal performance – ANNUAL RYEGRASS

Cultivar	Summer	Autumn	Winter	E.Spring	L.Spring	FVI SW Vic	Endophyte	Ploidy	Heading Date	Marketer	No. of trials
SF Speedyl	147	104	99	101	106	263	Nil	T	Late	Seed Force	6
SF Pinnacle AGF	144	120	99	101	107	288	Nil	T	Late	AGF Seeds (Seed Force in WA only)	7
Ascend	139	88	102	97	109	200	Nil	T	Mid	PGG Wrightson Seeds	8
Hogan	139	100	104	101	106	233	Nil	T	Late	Barenbrug	5
Mach 1	138	100	105	100	108	239	Nil	T	Mid	Agricom	8
Jivet	138	103	101	100	106	222	Nil	T	Late	DLF Seeds	7
WinterStar II	135	88	103	102	108	213	Nil	T	Late	PGG Wrightson Seeds	6
Dash	131	103	98	97	106	165	Nil	T	Very Late	Cropmark Seeds	4
Fuze	127	100	105	102	106	186	Nil	D	Late	Barenbrug	4
Bullet	126	108	102	100	107	185	Nil	T	Late	Notman Pasture Seeds	3
SF Adrenalin	124	100	104	103	106	170	Nil	T	Late	Seed Force	3
Zoom	124	127	103	101	105	205	Nil	T	Late	Cropmark Seeds	3
Vortex	121	90	105	102	106	146	Nil	T	Mid-Late	Barenbrug	4
Arnie	110	114	106	102	105	136	Nil	D	Late	Barenbrug	3
SF Sultan	108	91	102	102	104	61	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	-29	Nil	D	Early	Vicseeds	5

Disclaimer

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