CHAMPIONS
OF THE FVI
UPPER NORTH ISLAND

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FORAGE VALUE INDEX

The Forage Value Index (FVI) is a welcome relief for anyone looking for more objective data on ryegrass cultivars in the NZ market.

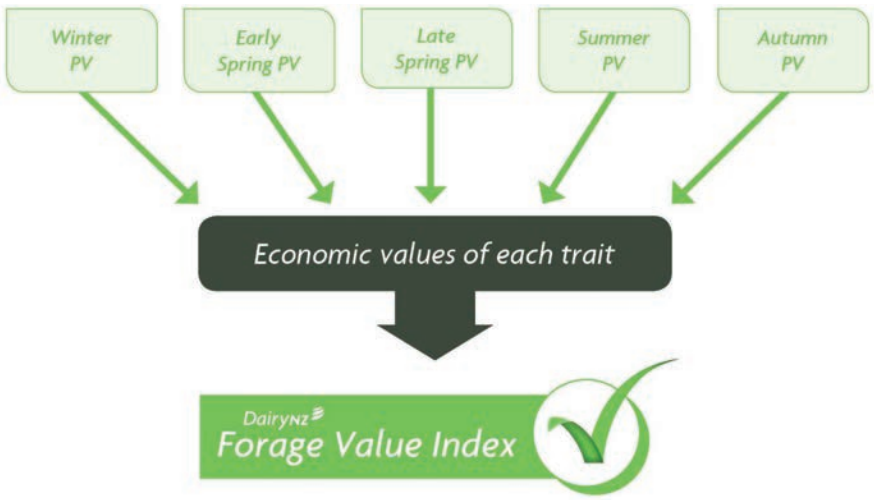
DairyNZ has worked with the country's main seed suppliers (including Agriseeds) to develop a profit index for ryegrass for dairy farmers, similar to 'breeding worth' in cows.

These show that old plant genetics don't stack up, and just how important choosing the right cultivar is.

This booklet presents the FVI data what it means, and how to use it.

FVI at a glance

- **Profit $/ha**
  The FVI provides a $/ha value on the predicted extra profit to a dairy farm from sowing different ryegrass cultivars, compared to pre-1996 cultivars as the genetic base. In each table cultivars are split into 5 groups, each with a star rating (5 star = top, 1 star = bottom).
- **Ryegrass types**
  There are separate FVIs for perennial ryegrass, 12 month ryegrass, i.e. Italians and winter feed, i.e.annual ryegrass.
- **Regions**
  The FVI divides New Zealand into four regions – each with their own economic values – reflecting the differing farm systems through New Zealand.
- **Seasonal growth**
  As seasonal growth can be important, this is also rated for each cultivar on a 5=good, to 1=poor.



How a cultivars' FVI is calculated

1. The FVI is based on seasonal DM yield data (or PV = performance value) of ryegrass cultivars from the industry run National Forage Variety Trials (NFVT).
2. A 'Farmax Dairy Pro' model shows how a dairy farm operates including MS production, costs and operating profit. This model determines the economic value (EV) in farm operating profit for extra pasture grown in each season (e.g. early spring feed is very valuable, at $0.42 - $0.48/kgDM for different regions, when feed is short; In late spring feed is only worth $0.17 - $0.29 as farms are often in a feed surplus and extra pasture may need made into silage).
3. The NFVT yield data for each cultivar (PV) is then multiplied by the value of that DM yield (EV), to calculate the predicted $/ha farm operating profit which is the cultivars' FVI.

Perennial Ryegrass Forage Value List

DairyNZ Forage Value Index

Evaluation date: Oct 2015

Cultivars are sorted by star rating, and then by confidence level

Note: Perennial ryegrass FVI is currently a combination of seasonal dry matter performance values and economic values

*Cultivars with SE are not recommended as they can cause ryegrass staggers in summer and may reduce milksolids production at this time

**Cultivars with AR1 endophyte are not recommended as they provide limited protection against black beetle

Cultivar	FVI[1] (Star rating)	FVI Star Band ($/ha)	Conf[2]	Performance Values[3] (1-5 Rating)					Endo[4]	Ploidy[5]	HD[6]	Marketer
				Winter	Early Spring	Late spring	Summer	Autumn				
One50 AR37	★★★★★	$621 to $755	10+	5	4	3	5	5	AR37	D	L	Agricom
Prospect AR37			10	5	4	4	5	4	AR37	D	L	Agricom
Trojan NEA2			9	5	5	5	5	4	NEA2	D	L	Agriseeds
Base AR37			5	4	4	4	5	5	AR37	T	VL	PGG Wrightson Seeds
Alto AR37	★★★★	$487 to $620	10+	5	4	4	4	4	AR37	D	L	Agriseeds
Ultra AR1**			8	3	3	3	4	4	AR1	D	L	Cropmark Seeds
Request AR37			7	5	4	5	3	4	AR37	D	M	Agricom
Matrix SE*			5	3	4	4	5	4	SE	D	VL	Cropmark Seeds
Bealey NEA2	★★★	$353 to $486	10+	4	3	1	4	3	NEA2	T	VL	Agriseeds
Alto AR1**			10+	3	3	3	3	3	AR1	D	L	Agriseeds
Halo AR37			10+	4	3	1	4	4	AR37	T	VL	Agricom
One50 AR1**			8	3	3	1	4	4	AR1	D	L	Agricom
Banquet II Endo5			6	3	3	2	4	3	Endo5	T	L	PGG Wrightson Seeds
Arrow AR1**			6	2	4	3	3	3	AR1	D	M	Agriseeds
Expo AR1**			5	3	4	3	3	3	AR1	D	L	PGG Wrightson Seeds
Expo AR37			4	5	3	3	3	3	AR37	D	L	PGG Wrightson Seeds
Samson SE*	★★	$219 to $352	8	2	3	4	3	2	SE	D	M	Agricom
Samson AR37			4	4	2	1	1	3	AR37	D	M	Agricom
AberMagic AR1**			4	2	1	3	3	3	AR1	D	L	Germinal
Nui SE*	★	$85 to $218	10+	1	3	2	1	1	SE	D	M	Common
Ohau AR37			6	4	3	4	1	1	AR37	T	L	Agricom
Pacific SE*			3	1	3	5	1	1	SE	D	M	PGG Wrightson Seeds

[1] 5 = top rank, 1 = bottom rank, [2] Confidence (number of trials), [3] Winter = Winter dry matter production (May-June), Early Spring = Early spring dry matter production (July-Aug), Late Spring = Late spring dry matter production (Sept-Oct), Summer = Summer dry matter production (Nov-Jan), Autumn = Autumn dry matter production (Feb-Apr), [4] Endophyte, [5] Ploidy (D=Diploid, T=Tetraploid). [6] Heading date (M=Mid, L=Late, VL=Very late). For more information visit www.dairynz.co.nz/fvi

PERENNIAL RYEGRASS EXAMPLE

Sowing Trojan perennial ryegrass is predicted to give $377/ha/year extra farm operating profit over sowing Nui, each year, on an upper North Island dairy farm.

We have taken the average operating profit/ha of the upper and lower values in the FVI to show what the benefits could be

Even though Trojan seed costs more than Nui, it delivers this extra benefit per hectare!

Cost/benefit of using *Trojan* over *Nui*

	Trojan	*Nui*
Average FVI Value	$688	$152
Cost of seed/ha	$209	$50
Net benefit (FVI Value - seed cost)	$479	$102
Trojan advantage $/ha per year	$377/ha	

This is worked out by subtracting the Trojan net benefit from the Nui net benefit.
i.e. $479 less $102 = $377/ha/year

12 Month – Ryegrass Forage Value List

Dairynz Forage Value Index

Evaluation date: Oct 2015

Cultivars are sorted by star rating and then by confidence level

- The short term ryegrasses are sown by dairy farmers for 12 month production
- The FVI for 12 month ryegrasses is a combination of seasonal dry matter performance and economic values only
- WE is without endophyte or also referred to as nil endophyte
- 12 month options include Hybrid and Italian ryegrasses.

Type	Cultivar	FVI (Star rating)[1]	FVI Star Band ($/ha)	Conf[2]	Performance values[3] (1-5 rating) EST	Winter	Early Spring	Late spring	Summer	Endo[4]	Ploidy[5]	HD[6]	Marketer
▲	Shogun NEA	★★★★★	$709 to $933	4	3	5	5	5	5	NEA	T	Very Late	Agriseeds
□	Tabu WE	★★★★	$486 to $708	10+	4	5	4	3	4	WE	D	Late	Agriseeds
□	Asset AR37			10+	4	5	2	2	4	AR37	D	Late	Agricom
□	Feast II WE	★★★	$262 to $485	10	3	3	1	2	3	WE	T	Late	PGG Wrightson Seeds
□	Lush AR37			8	5	5	2	1	3	AR37	T	Late	PGG Wrightson Seeds
□	Sonik WE			7	3	4	4	2	3	WE	D	Late	Cropmark Seeds
□	Asset WE			4	3	3	1	3	4	WE	D	Late	Agricom
□	NA	★★	$39 to $261										
□	Moata WE	★	-$184 to $38	10+	1	1	1	1	1	WE	T	Late	Common

▲ Hybrid □ Italian

[1]5= Top rank, 1 = Bottom rank, [2]Confidence (number of trials), [3]EST = establishment dry matter production (Mar-May), Winter = Winter dry matter production (June-July), Early spring= Early spring dry matter production (Aug-Sept), Late spring = Late spring dry matter production (Oct-Nov), Summer = Summer dry matter production (Dec-Feb), [4]Endophyte WE is without endophyte, [5]Ploidy (D=Diploid, T=Tetraploid), [6]Heading date. For more information visit www.dairynz.co.nz/fvi

12 MONTH RYEGRASS EXAMPLE

Sowing Shogun hybrid ryegrass is predicted to give $766/ha extra farm operating profit, and sowing Tabu Italian ryegrass an extra $611/ha, over sowing Moata as a 12 month pasture in the upper North Island.

Note: Shogun also has the huge added advantage of persisting for up to three years.

Cost/benefit of using *Shogun* over *Moata*

	Shogun	*Moata*
Average FVI Value	$821	-$73
Cost of seed/ha	$194	$66
Net benefit (FVI Value - seed cost)	$627	-$139
Shogun advantage $/ha per year	$766/ha	

This is worked out by subtracting the Shogun net benefit from the Moata net benefit.
i.e. $627 less -$139 = $766/ha/year

Cost/benefit of using *Tabu* over *Moata*

	Tabu	*Moata*
Average FVI Value	$597	-$73
Cost of seed/ha	$125	$66
Net benefit (FVI Value - seed cost)	$472	-$139
Tabu advantage $/ha per year	$611/ha	

Winter Feed – Ryegrass Forage Value List

- The short term cultivars are sown by dairy farmers for fast establishing, high quality winter-spring production
- The FVI for Winter Feed is a combination of seasonal dry matter performance and economic values only
- WE is without endophyte or also referred to as nil endophyte
- Winter Feed options include Annual and Italian ryegrasses

DairyNZ Forage Value Index

Evaluation date: Oct 2015

Type	Cultivar	FVI (Star rating)[1]	FVI Star Band ($/ha)	Conf[2]	Performance values[3] (1-5 rating) EST	Winter	Early Spring	Endo[4]	Ploidy[5]	HD[6]	Marketer
☐	Tabu WE			10+	4	5	5	WE	D	Late	Agriseeds
☐	Asset AR37			10	4	5	3	AR37	D	Late	Agricom
☐	Lush AR37	★★★★★	$227 to $293	7	5	5	3	AR37	T	Late	PGG Wrightson Seeds
☐	Sonik WE			6	3	4	5	WE	D	Late	Cropmark Seeds
■	Hogan WE			5	5	5	3	WE	T	Late	Agriseeds
■	Winter Star II WE	★★★★	$161 to $226	3	4	4	3	WE	T	Late	PGG Wrightson Seeds
☐	Feast II WE			10+	3	3	3	WE	T	Late	PGG Wrightson Seeds
☐	Asset WE	★★★	$95 to $160	3	3	3	2	WE	D	Late	Agricom
■	Zoom WE			3	3	3	2	WE	T	Late	Cropmark Seeds
■	Progrow WE	★★	$29 to $94	5	4	2	1	WE	D	Late	Agricom
☐	Moata WE	★	-$37 to $28	10+	1	1	2	WE	T	Late	Common
■	Tama WE			10	1	2	1	WE	T	Late	Common

■ Annual ☐ Italian

[1]5= Top rank, 1 = Bottom rank, [2]Confidence (number of trials), [3]EST = Establishment dry matter production (Mar-May), Winter = Winter dry matter production (June-July), Early spring = Early spring dry matter production (Aug-Sept), [4]Endophyte, [5]Ploidy (D=Diploid, T=Tetraploid), [6]Heading date. For more information visit www.dairynz.co.nz/fvi

WINTER FEED RYEGRASS EXAMPLE

Sowing Hogan annual ryegrass is predicted to give $222/ha extra farm operating profit, and sowing Tabu Italian ryegrass an extra $206/ha, over sowing Tama as a winter feed in the upper North Island.

Cost/benefit of using *Hogan* over *Tama*

	Hogan	*Tama*
Average FVI Value	$260	-$5
Cost of seed/ha	$109	$66
Net benefit (FVI Value - seed cost)	$151	-$71
Hogan advantage $/ha per year	$222/ha	

This is worked out by subtracting the Hogan net benefit from the Tama net benefit.
i.e. $151 less -$71 = $222/ha/year

Cost/benefit of using *Tabu* over *Tama*

	Tabu	*Tama*
Average FVI Value	$260	-$5
Cost of seed/ha	$125	$66
Net benefit (FVI Value - seed cost)	$135	-$71
Tabu advantage $/ha per year	$206/ha	

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