

Piece of cake!

Animals love tetraploids. That simplifies management, and makes life easier for your stock, too. It's not just the higher ME, legume-friendly grazing; tetraploids are softer. Every bite takes less effort, encouraging animals to eat more.



Animals work hard on pasture – a cow might take 25,000 bites a day, a ewe 40,000 – softer leaves of the likes of 4front make a big difference to their life!



Dairy farmers typically find milk production lifts on tetraploid paddocks, and stock finishers achieve faster LWG.

Mixing 4front & Maxsyn

While 4front can be sown alone, mixing 4front with a diploid perennial ryegrass like Maxsyn extends tetraploid benefits to a wider range of farm systems.

Some farmers struggle to avoid over grazing straight tetraploids, and don't get the persistence they want. Adding a denser, finer diploid ryegrass to the mix makes it more robust. Diploid plants protect the tetraploid.



Pre-grazing
Tetraploid plants (dark green) & diploid (light green) are mixed up.



Post-grazing
Tougher diploid stems help protect tetraploid plants from over-grazing.

On many farms tetraploid/diploid perennial ryegrass pasture is now the norm, striking a near-ideal balance between palatability and robustness, growing more ME/ha and being much easier to manage than straight diploid perennial ryegrass.

Suggested seed mixes

4front can improve animal performance and environmental outcomes across many farm systems. Below are three examples.

Dairy		kg/ha
Top performing tetraploid pasture, with Captain to reduce N leaching.	4front perennial ryegrass	25-30
	Kotuku white clover	2
	Weka white clover	2
	Captain CS plantain	2
	Total	31-36

Dairy		kg/ha
Top performing tetraploid/diploid mix pasture, for greater robustness & density.	4front perennial ryegrass	15
	Maxsyn perennial ryegrass	10
	Kotuku white clover	2
	Weka white clover	2
	Total	29

Sheep, Beef, Deer		kg/ha
Top performing tetraploid/legume/plantain finishing pasture.	4front perennial ryegrass	22-25
	Weka white clover	3
	Morrow red clover	4
	Captain CS plantain	2
	Laser Persian clover	3
Total	34-37	



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4front

Lead from the front



4front NEA2 takes you to the forefront of tetraploid perennial ryegrass, in animal performance, easy grazing, and superior year-round growth. It's better for the environment too.

 **BARENBRUG**

Our R&D team always strives to breed what farmers want. For tetraploid perennial ryegrass the aim has been to:

1. keep the palatability and easy management,
2. but in a stronger, more robust pasture
3. with extra DM yield too please!

4front NEA2 achieves all these.

Whether you sow it alone, or with *Maxsyn*, *4front* can improve both animal performance and environmental outcomes. It brings new opportunities to help take our industry where it needs to be.



Best of the best

4front sets a new bar for performance. The highest yielding tetraploid perennial we've bred, it also outgrows several other cultivars. Equally important is the way it does this, with high yield across all seasons.

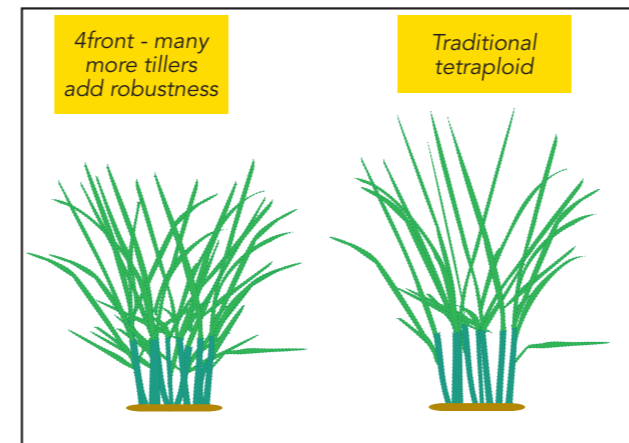
Seasonal DM yields Kirwee National Forage Variety Trial, run under rotational grazing 2016-2019

Entry	Autumn	Winter	Early Spring	Late Spring	Summer	Annual
<i>4front</i> NEA2	3050 a	608 ab	1277 bd	2526 ab	3306 a	10966 a
AberGreen AR1	2954 ab	546 ab	1266 bd	2623 a	2904 cf	10506 ab
Base AR37	2869 ab	538 b	1175 de	2422 bc	3255 ab	10438 ab
SF Hustle AR1	2838 ab	596 ab	1239 be	2299 ce	3150 ac	10416 ac
Bronsyn SE	3031 ab	557 ab	1336 ab	2191 ef	2989 be	10400 ac
Trojan NEA2	2860 ab	599 ab	1188 ce	2361 cd	3068 ad	10374 ac
Governor AR1	2968 ab	643 a	1447 a	2246 df	2770 ef	10297 bc
One50 AR37	2882 ab	606 ab	1087 e	2272 de	3001 be	10079 bc
Platform AR37	2991 ab	550 ab	1108 e	2263 de	2827 df	9986 bc
SF Moxie AR1	2797 b	605 ab	1321 ac	2113 f	2659 f	9751 c
Trial Mean	2863	598	1272	2278	2956	10220
LSD (5%)	244	102	146	143	289	661

*Data from Kirwee, Canterbury trial P216KIR. Statistical significance lettering is given, yields with the same letter are not significantly different at the 5% LSD level. Breeding lines and non-commercial lines have been removed.

More tillers = greater persistence

The more tillers in a pasture, the more robust it is. *4front*'s enhanced tillering helps it persist, with 23% more tillers than *Viscount*.



Tiller density (Relative to *Viscount*=100%)

Entry	Tiller density
<i>4front</i> NEA2	123
Base AR37*	111
<i>Viscount</i> NEA4	100
100% = tillers/m ²	5668

*Assessed over 3 trials at Waikato, Canterbury & Southland. Base AR37 only in 2 trials.

Lose less N and GHG

With higher animal intakes and easier management, *4front* can help lighten your farm footprint.

Tetraploid ryegrass-based pastures, or tetraploid/diploid mixes, allow farm system changes to reduce N leaching while improving pasture growth and animal intakes, which is the future direction dairy farming needs to take.

A dramatic example of this is the Lincoln University Dairy Farm (LUDF). It has cut N leaching by 40% and greenhouse gases (GHG) by about 22%, by making a range of systems changes including:

- Capturing more photosynthesis – pre-grazing covers are 300 kg DM/ha higher with tetraploids, growing an extra 1.2 t DM/ha/year across the farm.
- Longer grazing round (average 4 days longer) meaning fewer grazings per paddock and 30% better N use efficiency.
- Higher per cow production (+26 kg MS/cow) from fewer cows and better pasture intakes.
- Applying 170 kg/ha/year less N fertiliser.

LUDF could not have achieved this without sowing tetraploid ryegrass in every paddock but one. Download the *4front* System from www.barenbrug.co.nz to learn more.



Cows grazing *4front*/Maxsyn pasture at LUDF. Tetraploid/diploid mixes have been key in growing more DM plus increasing cow intakes.