

WHAT DO FARMERS SAY?

Farmer 1: *Morrow* red clover with *Shogun* hybrid ryegrass, high performance finishing feed for lambs and beef cattle in Manawatu; grazed for 3.5 years.

“As a red clover, it performs amazingly well throughout the year, predominantly in spring and summer.”

Farmer 2: *Morrow* red clover as a straight sward, sown 2015 on dry, silt flats to finish weaned lambs and feed ewes set stocked for lambing.

“Lambs born on Morrow weighed 37 kg, 4 kg more than lambs off our other pastures. It’s worth its weight in gold to us, having that DM off those stony flats.”

BEHIND THE BREEDING

“Improved grazing tolerance has always been one of our main breeding goals for red clover, especially as we look ahead towards farm systems of the future which will probably depend more and more on farmers keeping legumes in their pastures.

“Yield was also a key aspect of *Morrow’s* development, as was increased flowering. But these two characteristics typically act against each other! So to get a red clover that yields as well as *Morrow*, with the number of flowers it produces, is really good.” *Lily Chin, Barenbrug Agriseeds clover breeder.*



SOWING MORROW

Perennial ryegrass - Breeding ewes		kg/ha
High late spring & summer quality.	<i>Tyson</i> diploid perennial ryegrass	16-20
<i>Morrow</i> provides extra N fixation.	<i>Weka</i> white clover	2
	<i>Apex</i> white clover	2
	<i>Morrow</i> red clover (coated)	6
	<i>Captain CSP</i> plantain	2
Total		28-32
Perennial ryegrass - Finishing		kg/ha
Fantastic feed quality combined with animal performance.	<i>Viscount</i> tetraploid perennial ryegrass	16
	<i>Shogun</i> tetraploid hybrid ryegrass	10
	<i>Weka</i> white clover	2
	<i>Apex</i> white clover	2
	<i>Morrow</i> red clover (coated)	6
<i>Captain CSP</i> plantain		2
Total		38
High LWG crop		kg/ha
High LWG animal performance 2-3 year crop.	<i>Captain CSP</i> plantain	10
	<i>Kotuku</i> white clover	3
	<i>Morrow</i> red clover (coated)	6
	<i>Vista</i> balansa clover	3
	<i>Laser</i> Persian clover	3
Total		25
Hybrid ryegrass		kg/ha
Late spring & summer quality with extra N fixation.	<i>Shogun</i> tetraploid hybrid ryegrass	30
	<i>Kotuku</i> white clover	2
	<i>Morrow</i> red clover (coated)	6
	<i>Laser</i> Persian clover	4
Total		42

MORROW

RED CLOVER



**Multi-stemmed
red clover**



Member of the Royal Barenbrug Group

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FAMILY MATTERS

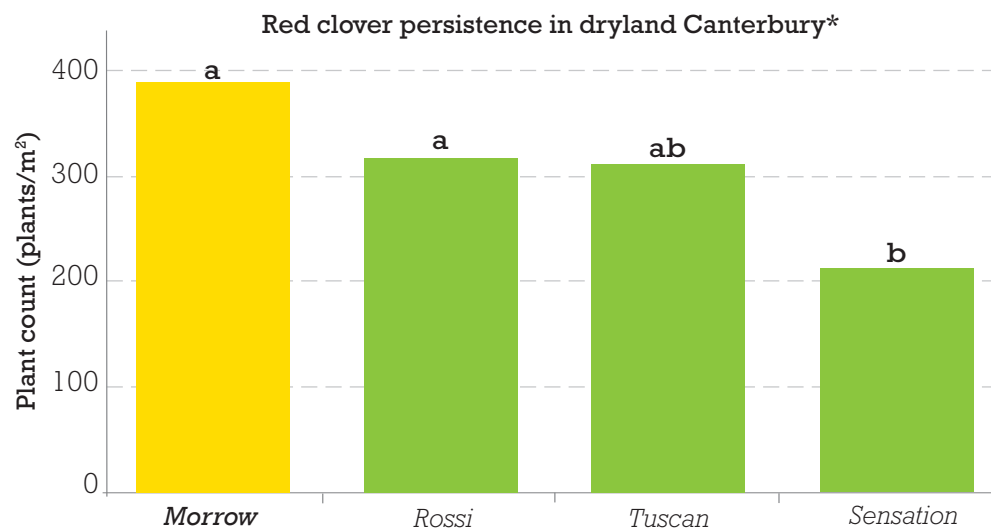
Morrow comes from a tough family. Most red clovers wouldn't last long under intensive rotational dairy grazing on light, summer dry North Island soils. But *Morrow's* parents did. Over time, they adapted, survived, and stood out as good growers, even through droughts.

We selected the best of those genetics for improved yield, persistence and flowering to create a game-changing, multi-stemmed red clover for production and persistence under grazing.

WHY SOW MORROW?

Longevity

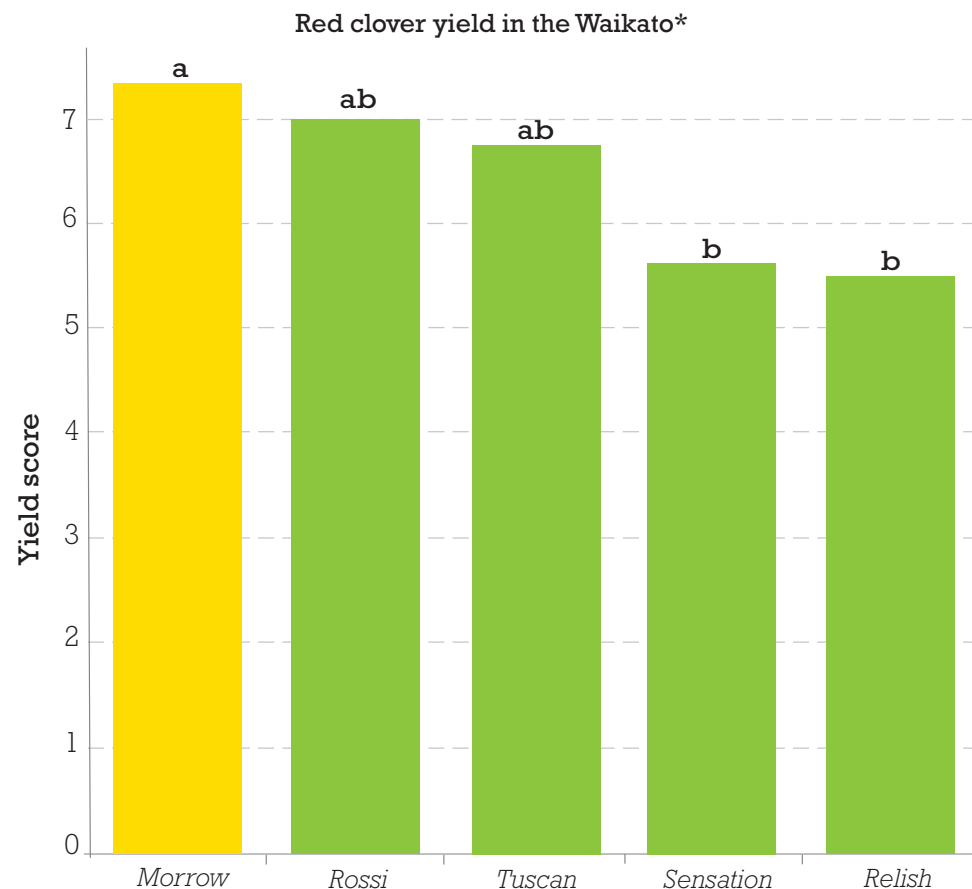
Red clovers biggest drawback has always been limited persistence under grazing. *Morrow's* improved grazing tolerance – helped by its semi-prostrate form and high stem count - means it will keep boosting production year on year. Like all red clovers *Morrow* will persist best on free-draining soils under a longer summer grazing round.



* Data from 2 years of pure sward trial, grazed by sheep. Trial sown 2013.

More total yield

For 8 years *Morrow* has been a standout in our trials, delivering more total yield.



* Data from average of 3 years scores under dairy grazing, sown 2014. Yield visually scored on 1-9 basis, where 9 = highest yield.



Summer advantage - when it counts

High ME and high DM together create ideal summer finishing feed, giving high quality as grass ME drops off, and driving rapid liveweight gains for lambs and cattle.

Red clover seasonal yield in dryland Canterbury.*

Entry	Early Spring	Late Spring	Summer	Autumn	Winter	Total yield
<i>Morrow</i>	6.4 a	7.0 a	7.4 a	7.7 a	5.4 a	6.8 a
<i>Tuscan</i>	6.1 ab	6.7 a	5.5 b	6.0 b	6.1 a	6.1 ab
<i>Rossi</i>	5.2 ac	5.7 ab	5.3 bc	6.3 ab	5.5 a	5.5 b
<i>Relish</i>	4.3 c	4.3 b	3.7 c	5.3 b	3.0 b	4.0 c
Trial mean	4.9	5.6	5.4	5.8	4.4	5.3
%CV	20.1	18.0	16.5	18.4	21.3	12.8

*Data from 2 years of pure stand trial, grazed by sheep. Trial sown 2016. Yield visually scored on 1-9 basis, where 9 = highest yield.

CRW tolerance

Clover root weevil remains a pest of white clover throughout NZ, particularly in Northland where the biocontrol wasp hasn't established. Red clover is more tolerant of clover root weevil, providing pasture species diversity and extra legume content.

Free N

Red clover fixes its own nitrogen, adding it naturally to pastures in a slow, continual way. This will be ever more important to provide N on farm, as fertiliser comes under increasing environmental scrutiny. *Morrow* can fix over 200 kgN/ha/year based on its yield (about 25 kgN per t DM grown).

Phyto-oestrogen

Morrow has medium oestrogen levels. This means care needs to be taken to avoid grazing when mating ewes or hoggets, 3-6 weeks either side of mating.