Use this guide to match the right cultivars to your class of country:

Easier country	Specialist finishing country	Harder country

EASIER COUNTRY

These are reliable general purpose perennial pastures, suitable for both breeding and finishing stock. They do best with reasonable soil fertility (Olsen P 15+ minimum, preferably 20+). Endophyte choice is critical for persistence and insect control.

agriseeds® ALTO
Perennial Ryegrass

- Proven all-round ryegrass, persistent with excellent year-round growth. Late flowering (+14 days).
- Fine leaved, densely tillered = higher tolerance of set stocking, intense grazing & treading damage on wetter soils.
- Two endophyte options:
  - ***Alto* with *AR1*** - for staggers free pasture with excellent lamb LWG.
  - ***Alto* with *AR37*** - is a better option where *Alto AR1* will not persist well, e.g. areas with porina pressure. Can cause staggers.

agriseeds WITH NEA2 endophyte

TROJAN

PERENNIAL RYEGRASS

NEW CULTIVAR, available ex harvest.

- Persistent, with improved cool season growth (winter & early spring) & summer & autumn yield.
- Late flowering (+16 days) with low aftermath heading for better spring/summer feed quality & easier management.
- Relatively fine leaved & densely tillered.
- Available with *NEA2* endophyte; this provides good animal health, with no staggers, plus good insect control.

Excellent persistence.

Results of our Mt Possession (inland central Canterbury) trial are an excellent example of the persistence of *Trojan* with *NEA2*. The trial has been running for four and a half years under average soil fertility and normal set stocking management with sheep.

2005-10 Mt Possession ryegrass persistence.

Entry	Ryegrass ground cover (%)*	
Trojan NEA2	**63**	**a**
Samson AR1	59	a
Hillary AR1	55	ab
Bronsyn AR1	46	bc
Meridian AR1	44	c
Pacific WE	29	d
Nui	27	d

*Trial sown on 31 October 2005, point analysis undertaken on 21 April 2010 to assess ryegrass ground cover.

SPECIALIST FINISHING COUNTRY

These are high performance pastures designed to maximise animal growth.

Three different cultivars give you a choice of short, medium and long-term options.

agriseeds®

TABU

Italian Ryegrass

- Fast establishing short term pasture.
- Unbeaten for total yield in the latest National Forage Variety Trials (NVFT) summary, growing up to 16 t DM/ha over 12 months.
- Great cool season growth – yields 20% more DM than a new perennial ryegrass pasture in winter & early spring.
- Grew winter lambs at over 15 kg LW/ha/day in trials.

agriseeds Harper hybrid ryegrass

- Medium term, 2-3 year pasture.
- Rapid establishment with excellent DM yield in winter and early spring.
- Highly palatable, for good animal performance & easier management.
- Combines well with red clover (e.g. *Tuscan*) for improved summer yield & quality.
- Available with *AR1* endophyte.

agriseeds Bealey Perennial Ryegrass

- Tetraploid 5 year + pasture.
- Very palatable, with high ME for improved animal intake & performance.
- High year-round yield; excellent winter & summer growth.
- Very late flowering (+25 days); improves feed quality in late spring & summer.
- Available with *NEA2* endophyte, for good insect control & staggers free grazing.

HARDER COUNTRY

These are non-ryegrass pastures for areas where perennial ryegrass does not persist well.

Pasture brome suits free draining soils. Cocksfoot is recommended for tough country. Both are often best sown with sub-clover, as well as white clover.

agriseeds
ELLA
Fine leaved Cocksfoot

- The most persistent pasture grass species.
- *Ella* is finer leaved & won't take over pasture as much as traditional cultivars; can be sown as part of a ryegrass based pasture without dominating the sward.
- Deep rooting & hardy for better persistence than ryegrass.
- Slow to establish, & needs care when establishing pure swards. Cocksfoot becomes unpalatable if it gets too long.
- Sow at 8-10 kg/ha as a pure sward, or add 2-3 kg to perennial ryegrass based seed mix for improved summer growth.

Bareno

Pasture Brome

- Robust drought tolerant permanent pasture for free-draining soils where perennial ryegrass doesn't persist.
- Palatable, even when seedheads are present; a major advantage over cocksfoot, fescue or ryegrass.
- Deep rooted, hardy; stays greener than ryegrass into summer.
- Clover compatible – supports high legume content.
- Less cool season growth than ryegrass; slower to establish.

Tips for growing & managing *Bareno*.

- Establishes best in warm conditions; sow early when soil temperature is above 12°C (late summer/early autumn).
- Summer fallowing is recommended for more reliable autumn establishment.
- Sow seed shallow, 15-20 mm. Take care when drilling – the large seed doesn't flow well through some drills.
- Do not overgraze in year one to allow plants to fully establish.
- Avoid prolonged baring out of pastures in dry conditions.

ENDOPHYTES

Endophytes are natural fungi present in perennial and some hybrid ryegrasses. They protect plants from a range of insects, improving pasture persistence.

There are several endophytes available, so it's important to understand the differences between them. Choosing the correct endophyte is critical for pasture persistence.

Inoculating new endophyte into ryegrass.

Insect control rating for different endophytes.

These ratings are indicative and may vary slightly between cultivars. If Argentine stem weevil or black beetle are present at sowing, appropriate seed treatment (e.g. *Agricote*) is recommended to protect seedlings during establishment.

Diploid ryegrasses (e.g. *Alto, Trojan, Harper*).

Insect	*AR1*	*NEA2*	*AR37*	*Standard* endophyte
Black beetle	♦	♦♦♦	♦♦♦	♦♦♦
Argentine stem weevil	♦♦♦♦	♦♦♦♦	♦♦♦♦[1]	♦♦♦♦
Pasture mealybug	♦♦♦♦	(♦♦♦♦)	♦♦♦♦	♦♦♦♦
Root aphid	-[2]	♦♦	♦♦♦♦	♦♦
Porina	-	Not tested	(♦♦♦)[3]	♦

Key to table: - = No control; ♦= Low level control; ♦♦= Moderate control; ♦♦♦= Good control; ♦♦♦♦= Very good control; () = Provisional result.

(1) *AR37* provides good control of Argentine stem weevil larvae, but no control of adults. While larvae cause most damage to pastures, adults can cause damage to emerging grass seedlings, so use of an appropriate seed treatment is recommended for *AR37* sowings in stem weevil prone situations. (2) *AR1* plants are more susceptible to root aphid than plants *Without* endophyte. (3) Control of porina in *AR37* pastures only applies to the *AR37* ryegrass component. Other species that are palatable to porina (such as white clover) will still be damaged.

Sheep & lamb performance for different endophytes.

These ratings are indicative. Animal performance and health can vary under different management systems and between seasons.

	AR1	*NEA2*	*AR37*	*Endo5*	*Standard* endophyte
Freedom from ryegrass staggers	♦♦♦♦	♦♦♦♦	♦♦♦[2]	♦♦♦♦	♦♦[1]
Animal production	♦♦♦♦	♦♦♦♦	♦♦♦♦[3]	♦♦♦	♦♦[1]

Key to table:

♦♦ = Moderate animal performance; ♦♦♦ = Good performance; ♦♦♦♦ = Very good performance.

(1) *Standard* endophyte can cause severe ryegrass staggers, can significantly decrease lamb growth rates in summer and autumn, and significantly increase dags. (2) Ryegrass containing *AR37* endophyte can cause severe ryegrass staggers, but the frequency of ryegrass staggers is much lower than for ryegrass with *Standard* endophyte. *One*[50] *AR37* may give rise to higher instances of ryegrass staggers in some situations.(3) Lambs grazing ryegrass containing *AR37* endophyte can have reduced LWG during periods of severe staggers.

CLOVERS

Clovers are the key driver of N fixation and summer live weight gain in pastures. We recommend a 50:50 mix of *Apex* and *Weka* white clovers. Red clover can improve summer quality for 2-4 years. Sub-clover is a good option for harder country where white clover does not persist well.

agriseeds Tuscan

Red Clover

- Boosts pasture growth & quality in summer/autumn, as a 2-4 year option.
- More prostrate habit, with good grazing tolerance.
- Red clover persists best under less intensive stocking rates &/or extended summer grazing rotations.
- Contains moderate phyto-oestrogens so take care feeding high levels to stock during mating.

APEX White Clover

- Very persistent medium-small leaved clover, specifically bred to perform under summer dry sheep grazing.
- Improved drought & pest tolerance, including good tolerance of clover root weevil.
- High yielding, producing significantly more DM than *Huia*.

agriseeds weka White Clover

- Medium-large leaf size, with high stolon density and strong spreading habit.
- Higher yielding than *Apex*, but not quite as persistent.
- Good tolerance of clover root weevil, dry conditions, pugging & hard grazing.

SEED TREATMENT

AgriCOTE®

Agricote seed treatment helps protect new pasture from the pests and diseases that can cause establishment failure.

Establishment is a critical time for new pastures. Plant density determines potential future performance, and it's the time new plants are most vulnerable.

Agricote seed treatment aids good, even plant establishment by helping protect your seedling plants from insects and fungal diseases, and by supplying nutrients to clovers.

Order your seed with *Agricote* treatment to get the following:

Feature	*Agricote Clover**	*Agricote Grass**
Insect protection	Clover root nematode	Argentine stem weevil Black beetle
Disease protection	Damping off diseases	Damping off diseases
Lime	✓	
Molybdenum	✓	

* Normal sowing rates apply for *Agricote* treated seed.