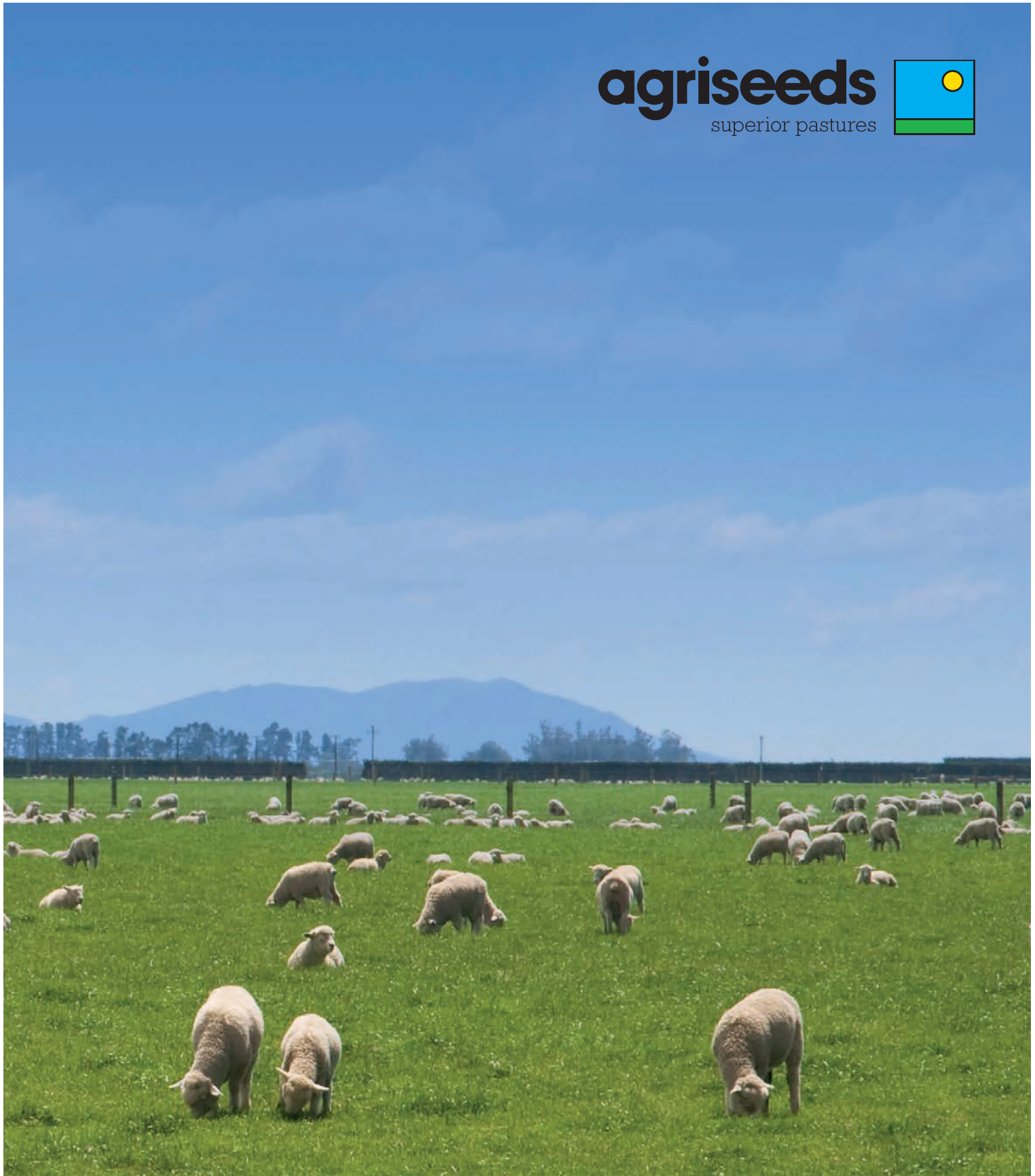
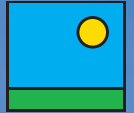


agriseeds
superior pastures



FINISHING PASTURES
FOR SHEEP &
BEEF FARMS

Profitable finishing pastures

Specialist finishing pastures help grow stock faster by producing extra high quality feed in both winter and summer. For best results:

- Integrate these pastures into your existing farm system to grow stock to the right size at the right time, and;
- Establish and manage them well to capture their full benefits.

These species are less persistent than permanent pasture, so they cost more upfront. However, costs can be offset by integrating them into a pasture renewal programme.

Several options are available, each with its own system fit. This booklet explains how to select and manage finishing pastures for more profitable production on your farm.

This booklet focuses on the finishing pastures as indicated in the red box in the table below. For information on our longer term pastures order the 'Permanent pastures for summer dry sheep & beef farms' booklet from www.agriseeds.co.nz

Pasture type	Short term finishing pasture	2-4 year finishing pasture	High yield, persistent pasture	Persistence key requirement	Toughest, non-ryegrass situations
Cultivars	<i>Hogan</i> <i>Tabu</i> <i>501 Chicory</i> <i>Interval</i>	<i>Shogun</i> <i>Bealey</i> <i>Tuscan</i>	<i>Trojan</i> <i>Alto</i>	<i>Rohan SPR</i>	<i>Bareno</i> <i>Safin</i>
Description	High performance ryegrass or crops.	High performance tetraploid ryegrass or red clover, best suited for specialist finishing pastures.	Excellent balance of high DM yield and very good persistence, to suit many situations.	<i>Rohan SPR</i> takes things a step further, as a very persistent ryegrass suited to tougher conditions.	Some situations are too tough or dry for ryegrass. This is where <i>Bareno</i> pasture brome and <i>Safin</i> cocksfoot suit.

Increasing persistence →

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HOGAN

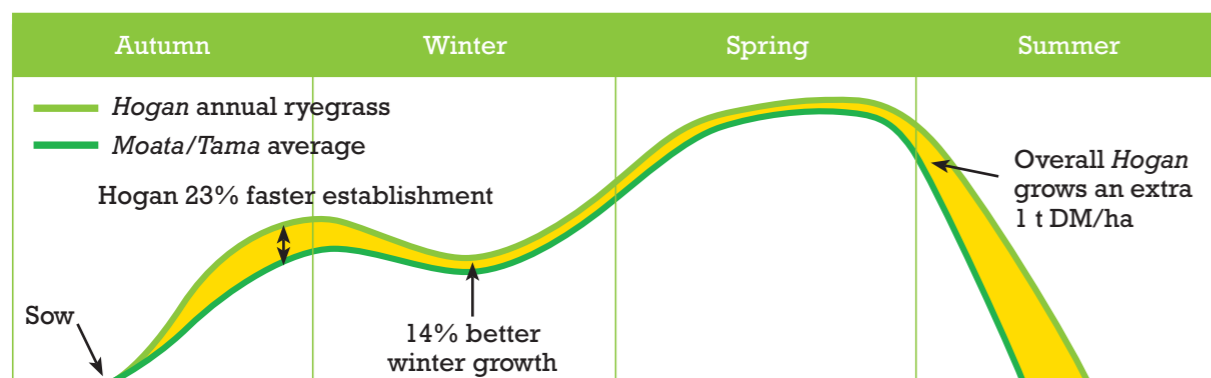
ANNUAL RYEGRASS

In brief: A new tetraploid annual, *Hogan* has exceptional establishment and DM yield in winter and spring. It is ideal as a 6-8 month finishing crop, producing 1 t DM/ha over older cultivars. This extra DM is worth up to \$380/ha.

Profitable investment

Hogan establishes rapidly, a big plus for farms seeking 'fast feed' in autumn, particularly following dry summers.

It out-produces the old cultivars *Moata* and *Tama* by 1 t DM/ha in the industry-run National Forage Variety Trials. This extra growth is worth up to \$380/ha, or 38c/kg DM, for nutritious cool season feed at 12+ ME. In other words you get an 8-10 fold return on investment for the extra \$35-\$45/ha it costs to sow *Hogan* over *Moata* or *Tama*.



Nutritious feed

Hogan annual ryegrass is a very palatable tetraploid with the potential to grow lambs at over 300 g/day in winter finishing.

Typical seed mix

Hogan annual ryegrass can be sown alone, or mixed with oats or brassica as a winter crop.

Cultivar	kg/ha
<i>Hogan</i> annual ryegrass*	30

**Hogan* sowing rate is higher as it is a tetraploid with larger seed.



TABU

ITALIAN RYEGRASS

In brief: *Tabu* is the industry standard for *Italian* ryegrass. It is very fast establishing and nutritious, with high winter yields like *Hogan* annual ryegrass, but greater persistence over 12-18 months.

Top seller – for a good reason

Tabu is New Zealand's top selling *Italian* ryegrass, with exceptional yield, establishment speed and palatability. It has proven its consistent performance on farms since its release in 2001.

Tabu fits into farm systems in between *Hogan* (8 month option) and *Shogun* (2-3 year option on page 6). *Tabu* is ideal as a 12-18 month pasture, for paddocks which will be sown in new pasture or crop in the following year.

Over 12 months *Tabu* grows on average 15 t DM/ha, depending on both soil fertility and moisture. Dry summers reduce yields by as much as 5 t DM/ha/year.

High animal performance

Tabu provides high levels of animal performance. In winter lamb finishing trials with On Farm Research in Hawke's Bay, lambs on *Tabu* grew at 316 g/day, with a stocking rate of 48 lambs/ha. On a per hectare basis, *Tabu* averaged 15.2 kg liveweight gain/day through winter.



Winter lamb finishing trials in Hawke's Bay, lambs on *Tabu* grew at 316 g/day.

Typical seed mixes

12-18 month Italian ryegrass	kg/ha
<i>Tabu</i> Italian ryegrass	20

Often *Tabu* is sown with red clover, to improve summer growth and feed quality.

Italian ryegrass/red clover	kg/ha
<i>Tabu</i> Italian ryegrass	20
<i>Tuscan</i> red clover*	4
Total	24

*Red clover is tap rooted, so it doesn't spread like white clover, and thus needs to be sown at least 4 kg/ha.

SHOGUN NEA

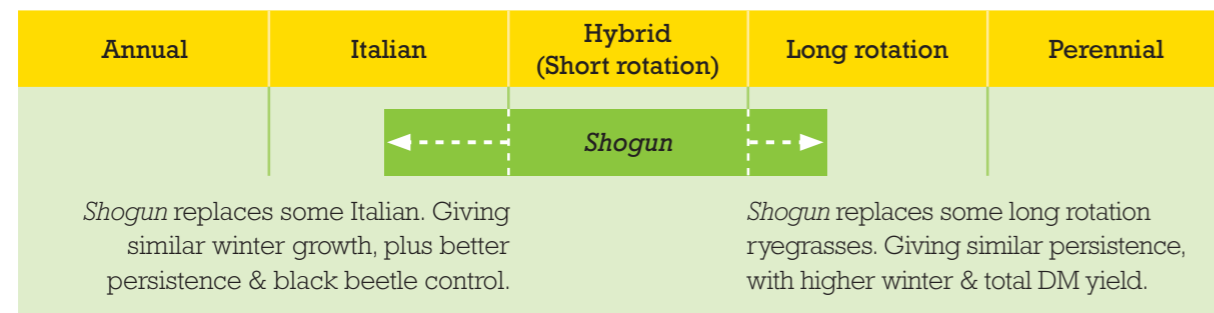
HYBRID RYEGRASS

In brief: *Shogun* has created new finishing opportunities for sheep, beef and deer. It grows like Italian ryegrass in winter, perennial ryegrass in summer, and is a 3 year option. This means *Shogun* produces the highest 12 month yields of any ryegrass, with excellent feed quality thanks to being a very late heading (+26 days) tetraploid.

Shogun redefines hybrid ryegrass

Shogun has created a new position for hybrid ryegrass on New Zealand farms.

- Its persistence means it can replace the use of Italian ryegrass, for lower resowing costs and flexibility in resowing time (see page 8).
- It also replaces some perennial/long rotation ryegrass, as its high cool season growth allows stock to be finished or replacements grown out over winter.



Extreme palatability differences seen in animal testing trials in spring, when there were no fences between plots set stocked with lambing ewes. *Shogun* with NEA is front left and back right; *Alto SE* ryegrass is front right and back left.

High feed quality

Shogun has shown itself to be a very palatable tetraploid ryegrass. Summer feed quality is also very good with its very late heading date (+26 days) and it produces little aftermath heading or seeding through the summer.

NEA endophyte & persistence

A key reason for *Shogun*'s improved persistence over Italian ryegrass is its natural NEA endophyte, which limits insect damage.

Shogun with NEA endophyte has good control of black beetle. Under good grazing management *Shogun* is a 2-3 year option in summer dry areas, and can last longer in summer moist conditions.

Typical seed mix

High performance finishing pasture	kg/ha
<i>Shogun</i> hybrid ryegrass*	30
<i>Weka</i> white clover	1.5
<i>Apex</i> white clover	1.5
<i>Tuscan</i> red clover	4
Total	37

**Shogun* sowing rate is higher as it is a tetraploid with larger seed.

Undersowing is direct-drilling seed into a thin pasture, without any prior herbicide, to thicken the pasture and improve its productivity. Timing is important when undersowing, and it works best where there is space for new plants to establish, before weeds take over that space.

Undersowing to boost thin pasture	kg/ha
<i>Shogun</i> hybrid ryegrass	14-20*
<i>Weka</i> white clover	1
<i>Apex</i> white clover	1
Total	16-22

*Sowing rate depends on how thin pasture to be undersown is. Use the higher rate for thinner pastures.

THE 'SHOGUN' SYSTEM

In brief: Many traditional breeding properties want to set up a 'finishing unit' within the farm, to grow and finish stock quickly at key periods. *Shogun's* excellent growth in winter and early spring, plus its palatability, allow more lambs to be finished off mum. It's excellent growth in summer and autumn growth increases finishing options at other times.

Finishing lambs off mum

This has always been a key goal for efficient farmers, for several reasons:

- Early lamb drafts tend to coincide with higher schedule prices,
- The weaning check is avoided, and with it up to 2 weeks potential lost LWG, and;
- Feed is freed up for other stock classes.

The key to achieving this not so much feed quality (which is good in early spring), but rather the quantity of feed available for lactating ewes with lambs at foot.

Shogun fits perfectly here. During this period, it typically grows 30-50% more than a good perennial ryegrass pasture, or 100% more than an older pasture.

Three year system

While *Shogun* grows like an Italian, its persistence allows multiple paddocks to be built up in a farm system as shown below. Starting with sowing in autumn 2016, there will be 3 paddocks in the system by spring 2018. Where possible, keep them together – they will be easier to manage. *Shogun* suits better soils and soil fertility, where its very high yield potential will be better realised.

	Autumn 2016	Autumn 2017	Autumn 2018	Spring 2018	Autumn 2019
Old pasture	Shogun hybrid ryegrass				Trojan ryegrass
Old pasture	Interval rape	Shogun			
Old pasture	Hogan 501 Chicory		Shogun		
Old pasture	Tabu			Shogun	

The plan above can be changed to suit different situations. There are several different rotation options including *Interval rape*, *501 Chicory*, *Hogan* annual ryegrass and *Tabu* Italian ryegrass.

Grass grows grass

To maximise lamb growth rates pre-weaning, the key is maintaining the right pasture cover. Pasture growth (and lamb growth) is only 60% of its potential at 800 kg DM/ha and around 80% of its potential at 1000 kg DM/ha. Pastures need to be >1500 kg DM/ha to reach their full potential for both DM production and lamb growth.

Conditions don't always allow good pasture covers over the whole farm, but the *Shogun* paddocks can be used strategically to finish some lambs early. Key tips:

- Lamb onto pasture covers of 1600-1800 kg DM/ha. For *Shogun* this is typically a leafy pasture 8-9 cm tall.
- Stock the paddocks to maintain 1500 minimum cover.

Summer-autumn finishing

Shogun also has excellent growth through summer and autumn, moisture permitting. As a very late heading tetraploid it maintains good quality and palatability for a ryegrass, and should be sown with both red and white clover (as suggested on page 7) to further improve pasture quality.

Management

Shogun should be treated as a crop to get the best out of it. Because it is so palatable, it is easy to overgraze; doing so will lessen its potential growth, and reduce persistence if overgrazing continues unchecked during extended dry periods.

Agriseeds has produced a handy '*Shogun Stick*' to carry in the ute or on the bike. This simple free guide shows when to put stock onto *Shogun* and take them off again for best results – contact Agriseeds for yours today.



BEALEY ^{NEA2}

PERENNIAL RYEGRASS

In brief: *Bealey* is a very palatable tetraploid perennial ryegrass. It is ideal as a 4-5 year finishing pasture, with less cool season growth than *Shogun* ryegrass, but better persistence. If needed *Bealey* can be mixed with *Trojan* ryegrass to improve persistence.

A good feed for longer

Bealey is a tetraploid perennial ryegrass that boosts animal performance by combining the key elements of high feed quality, palatability, high yield and excellent seasonal growth.

High feed quality

Bealey has very high palatability. It is more upright than our diploid cultivars, allowing good clover content, further boosting animal performance. *Bealey's* very late heading (+25 days) improves late spring feed quality. Available with *NEA2* or *Low* endophyte for great animal health.

Getting the best from Bealey

Due to its high palatability, to get the best from *Bealey* avoid continual hard grazing and/ or prolonged set stocking through dry periods. In wet winter conditions avoid treading or pugging damage by cattle.

Mixing Bealey & Trojan

In some situations better pasture persistence is required, and this can be achieved by adding the denser, more robust diploid ryegrass *Trojan*, to the *Bealey* pasture mix. This will reduce potential LWG over sowing straight *Bealey*, but typically increases pasture persistence by 2-3 years.

Typical seed mix

4-5 year finishing pasture	kg/ha
<i>Bealey</i> ryegrass*	30
<i>Weka</i> white clover	2
<i>Apex</i> white clover	2
<i>Tuscan</i> red clover	4
Total	37

Where 6-8 year pasture required	kg/ha
<i>Bealey</i> tetraploid ryegrass*	15
<i>Trojan</i> diploid ryegrass	10
<i>Weka</i> white clover	2
<i>Apex</i> white clover	2
Total	28



**Bealey* sowing rate is higher as it is a tetraploid with larger seed.

501

CHICORY

In brief: *501 Chicory* is a spring sown multi-graze summer crop that provides very high animal growth rates, with excellent insect tolerance. It can be sown alone as a summer crop, or mixed with red clover.

Great growth

501 Chicory is a 6-8 month summer crop. With good soil fertility it will typically grow 7-10 t DM/ha in drier years, and up to 13-15 t DM/ha with good moisture. It needs to be rotationally or block grazed, typically every 25-35 days depending on growth.

Stock adapt quickly to chicory, and it consistently provides growth rates 30% higher than ryegrass and clover. In autumn, *501 Chicory* can be direct drilled with ryegrass to provide a ryegrass/chicory mixed pasture for the following year.

Establishment

501 Chicory establishes very quickly, so there is less down time before the first grazing, and you can get an extra grazing compared with some other cultivars.

Sow into a firm, fine, weed-free seed bed where soil temperatures are consistently above 12°C in spring while soil moisture is still available. Roll before and after sowing to help get a uniform germination. First grazing should occur when plants reach the seven leaf stage.

Chicory + red clover

The combination of *501 Chicory* + *Tuscan* red clover performs well. Like *501*, *Tuscan* red clover has a deep taproot for a significant growth advantage in summer dry conditions. *Tuscan* grows well between the chicory plants filling gaps often otherwise taken up by weeds. *Tuscan* also fixes nitrogen reducing fertiliser requirements for the crop.

Note that in the mix *Tuscan* does not look as tall or 'flashy' as *501*. However, *Tuscan* has a much higher DM percentage than chicory, so provides more feed than you might think.

Typical seed mixes

Chicory summer crop	kg/ha
<i>501 Chicory</i>	8-10

Chicory/red clover crop	kg/ha
<i>501 Chicory</i>	6-8
<i>Tuscan</i> red clover	3
Total	9-11



TUSCAN

RED CLOVER

In brief: *Tuscan* was bred for persistence, high DM yield and improved grazing tolerance. It provides excellent quality feed over summer and autumn, and suits all farm types.

Very high feed value

Red clover is a tap rooted legume with very high feed value. It has good summer growth and drought tolerance, but little winter growth. It performs best on free draining soils.

Red clover is commonly sown either on its own, with chicory, or most commonly is sown as a part of a finishing pasture (e.g. with *Shogun* ryegrass) to boost summer animal growth rates.

Red clovers contain phyto-oestrogens so care should be taken if feeding high levels, particularly pure red clover stands, to breeding stock during mating. This mainly applies in the late summer and autumn periods when it is growing well.

Performance

Tuscan is an early flowering diploid cultivar with medium leaf size, which has high DM yield with improved persistence under grazing. It can produce up to 15 t DM/ha a year, but yield is often lower in summer dry situations.

It provides excellent quality feed and very high animal growth rates in summer and autumn.

Typical seed mixes

As part of a specialist finishing pasture (e.g. with *Tabu* or *Shogun* ryegrass) sow *Tuscan* at 4 kg/ha, because it is tap rooted and doesn't spread.

Specialist red clover crop	kg/ha
<i>Tuscan</i> red clover	8-10



INTERVAL

RAPE

In brief: *Interval* is a very hardy, late maturing tall rape. It provides high DM yields and is an ideal summer finishing crop for cattle, or winter crop for all stock classes.

Flexible and fast

Interval is a tall, fast establishing rape which has proved very tough and drought hardy. It is ideal for summer, autumn and winter feed.

Interval can be sown from spring through to early autumn to provide high quality feed in about 90-110 days. Spring sowings can be grazed in summer/early autumn then left to regrow for winter feed.

DM yield

Interval has excellent DM yield, and will typically produce 5-8 t DM/ha depending on conditions. With good moisture and soil fertility yields of 10 t DM/ha are possible.

Tall rape

Interval is a tall rape, which gives it high yielding potential, but with thicker stems than other tall rapes. Thus it is best used as either a winter crop for all stock types, or as a summer finishing crop for cattle.

Other characteristics

Interval has excellent tolerance of dry conditions. It also has strong frost tolerance and resistance to powdery mildew.

Typical seed mixes

Rape crop	kg/ha
<i>Interval</i> rape	4



WHITE CLOVERS

White clover, and often red clover, are added to finishing pastures. As well as fixing atmospheric N, clover provides palatable, high ME feed for rapid LWG.

In brief: Sow at 3 kg/ha bare seed (or 4 kg/ha coated) mixing a higher yielding medium leaved cultivar (e.g. *Weka*) with a smaller leaved persistent type (e.g. *Apex*).



Apex spreads strongly across bare ground, increasing legume content.

White clover is a key component in 2-4 year finishing systems for several reasons. It has high feed value (each kg DM it produces grows animals 30% faster than grass) plus warm season growth and ability to fix nitrogen.

Compared to grass, white clover is more difficult to establish. To achieve high clover content, take care when sowing these cultivars. Clover seed is small, with minimal energy reserves. It needs to be sown shallow (2-3 mm), with plenty of light and space available after seedlings emerge. If drilling, putting ryegrass and clover in the same row suppresses clover, so where possible use a roller drill or broadcast cover. Alternatively if your drill (or your contractor's) has a separate small seed box, order clover seed separately and sow it through this.

Correct soil fertility is essential. Clover is sensitive to soil pH, growing best over 5.6. Ensure adequate phosphate, sulphur and molybdenum levels.

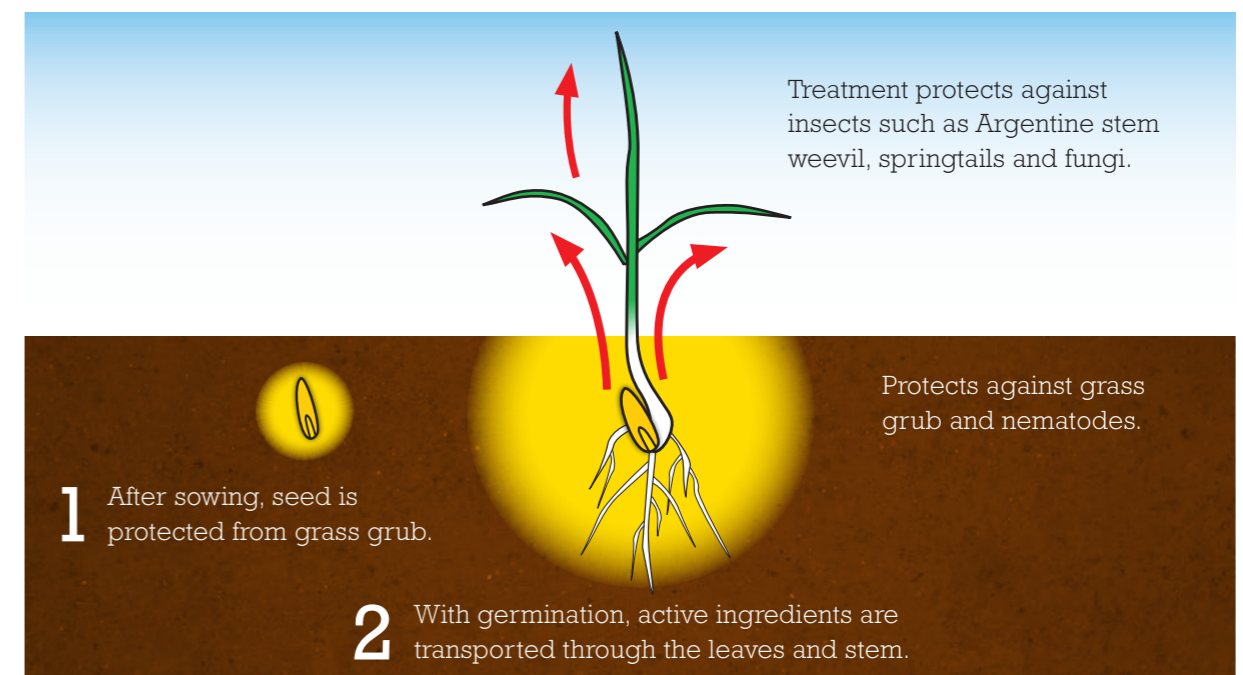
<i>Weka</i> white clover	<i>Apex</i> white clover
<ul style="list-style-type: none"> • <i>Weka</i> is a medium leaved cultivar with high DM yields. • It has good tolerance of clover root weevil and dry conditions. • Mix with <i>Apex</i> in dryland sheep & beef systems. 	<ul style="list-style-type: none"> • <i>Apex</i> is a persistent smaller leaved clover. • It has a high stolon density, very good drought tolerance, resistance to leaf rust, pepper spot and clover rot. • It has good clover root weevil tolerance.

AGRICOTE SEED TREATMENT

In brief: Sowing treated seed (e.g. *AGRICOTE*) is a key step in achieving strong, even pasture establishment.

Seed treatment is the process of coating individual grass, clover, or other seeds with a mix of fungicides and insecticides (and sometimes nutrients) to protect and enhance establishment.

Agriseeds *AGRICOTE* seed coatings contain enough insecticide and fungicide to last for approximately six weeks post-sowing, the time that young plants are most vulnerable to insect attack and disease. The active ingredients are systemic, so as well as protecting the seed itself, they 'grow' through the plant tissue of the seedling as it emerges from the ground.



New *AGRICOTE* clover formulation

Agriseeds has released a new clover seed treatment adding a formulation of nutrients (N, P, Mn, Zn, Mo and lime) necessary for seedling and root vigour. These can be unevenly distributed in a soil, so the new seed treatment ensures they are available to the young plant.

These nutrients add to the nematicide and fungicide used in the previous *AGRICOTE Clover* seed treatment.



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