

**THE FARMERS GUIDE
TO SPRING PASTURE**

2013

Introduction to Agricom

Agricom researches, develops and markets a wide range of proprietary pasture and forage crop seeds to the agricultural industry.

Our core business is investing in the research and development of forage options, and in the advancement of endophyte technology to increase the profits returned back to farmers. We have partnerships in place with Grasslands Innovation a joint venture which includes Grasslanz Technology a subsidiary of AgResearch. Forage crops are also sourced from external relationships via Plant & Food Research (NZ) within the Forage Innovations joint venture programme.

We understand that there are many cultivar options currently available, so we were the first to initiate grazing system trials to identify the critical link between using a product and using the right management to achieve the

greatest return per-hectare. We also invest in an on-farm trial system to compare the different forage cultivars under a wide range of environments around New Zealand. This trialling system gives us confidence in recommending the correct cultivar for each situation. We are also active participants in the independent National Forage Variety Trials (NFVT) system co-ordinated by the NZ Plant Breeding and Research Association Inc. The NFVT data contributes to the DairyNZ Forage Value Index (FVI).

Call us now to get expert and experienced advice on how we can help you with your farm as we have a wide range of cultivars and endophyte options to suit all situations.

For more information and further comments on these and other pasture cultivars visit us at agricom.co.nz.



Foreword



Getting the most out of pasture renewal

by Mark Brown, Agricom Sales and Marketing Manager

Having high yielding, persistent ryegrass pastures must be near the top of any farmer's wish list, so selecting the right endophyte as well as the right cultivar for your farm is important.

Endophyte improves ryegrass performance as it helps protect the plant against insect pests, and no matter where you are in New Zealand there are likely to be insects damaging your ryegrass. Endophytes differ in the range of insects they control so it is important that you know what endophyte works best for you.

Argentine stem weevil can cause major damage with new pastures being especially vulnerable. Both **AR1** and **AR37** will do an excellent job at keeping this insect in check. But if your farm is in the northern half of the North Island where black beetle is a problem, **AR37** endophyte in ryegrass is your best bet. We have also seen dramatic evidence of **AR37** reducing porina populations in a field trial near Oxford in Canterbury. **AR37** will also control root aphid, a tiny insect that sucks the sap out of ryegrass and reduces its vigour.

AR37 can cause ryegrass staggers but episodes are generally less frequent and less severe than those caused by the standard endophyte. After the widespread use of **AR37** over many years ryegrass staggers has not been observed on-farm in dairy cows. However if you are in a black beetle-free area that is prone to ryegrass staggers then **AR1** will be a good choice.

A pasture renewal programme is an investment so it is worth doing well. Think about going through a cropping regime before sowing your pasture to remove pests before you start. Using a seed treatment to protect your vulnerable new seedlings from pest attack while the endophyte is still becoming active is recommended. Treat your new pasture with respect by not overgrazing.

AR37 Endophyte Unmatched Pest Protection for Ryegrass

AR37 endophyte has resistance to more pasture insects than any other ryegrass endophyte commercially available.

Endophyte is the first choice to be made when deciding on perennial ryegrass options, as endophyte has a major effect on the persistence and production of ryegrass in high insect pressure environments. Insects controlled by **AR37** endophyte include; black beetle adults, Argentine stem weevil larvae, root aphid, pasture mealy bug and porina.

Both on and off-farm trials have proven the ability of ryegrass with **AR37** endophyte to persist when under attack from these insects.

Production

In regions with high insect pressure **AR37** increases the annual production of ryegrasses when compared to the same cultivar with different endophytes (SE, **AR1** and LE). Trials run from Northland to Southland have shown the persistence and production benefits of the **AR37** endophyte.

Numerous farmers have commented on the increased production and persistence they are getting when using the **AR37** endophyte, when compared to other endophytes previously used in the same cultivar.

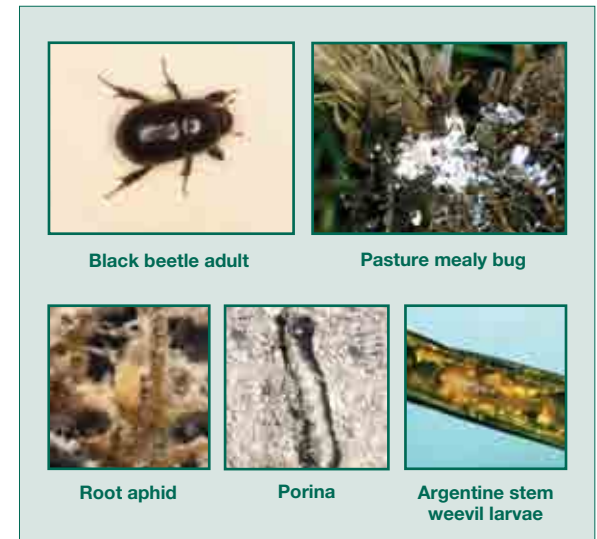
Animal trials using the same perennial ryegrass cultivar with **AR37**, **AR1** and LE endophytes have shown that the growth of sheep and milk production in dairy cows on **AR37** is the same as on **AR1** or LE. Go to ar37.co.nz for important animal health information.



AR37 offers protection against the insect pests photographed below.



Effects of different endophytes on pasture under insect pressure in Canterbury.



Grasslands®

Request

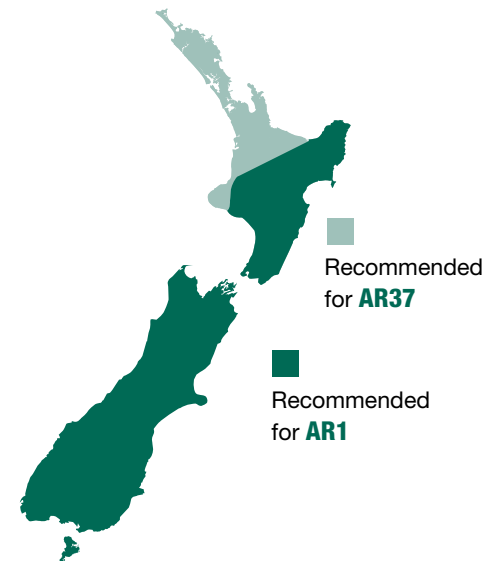
Perennial Ryegrass

**NEW
PRODUCT**

Early Production and Summer Quality

- Available with **AR1** endophyte
- Very good spring production and excellent autumn, winter growth for its type
- Very low aftermath seed head production meaning it returns to leaf production by summer
- Suited to all high performance stock systems

Request is a unique mid heading perennial ryegrass that bridges the gap with the late heading ryegrasses. **Request** has high yield potential with strong autumn and winter growth often only seen in late heading ryegrasses. **Request** also produces strongly through the spring season, typical of mid heading ryegrasses. **Request** is a very leafy summer grass with low aftermath heading, returning to vegetative production early in summer.



Heading Date: **Mid (0)**

Ploidy: **Diploid**

Dairy Pasture

Request is a persistent ryegrass with reliable early season performance providing milk production when you need it.

Example Mix	Rate (kg/ha)
Request AR1*	20
Mainstay white clover	3
Tribute white clover	2
Total	25

Sheep and Beef Pastures

Request suits sheep and beef pastures with its early growth pattern providing quality feed over the lambing period and returns to leaf production in summer providing ideal finishing pastures.

Example Mix	Rate (kg/ha)
Request AR1*	18
Tribute white clover	5
Sensation red clover	4
Choice chicory	2
Tonic plantain	1
Total	30

***AR1** is not recommended for areas where black beetle, porina or root aphid are common problem pests. Grass seed should be Superstrike® treated where Argentine stem weevil, black beetle or grass grub are a risk to seedlings.



Outstanding Production and Quality

- ➔ Available with **AR37** and **AR1** novel endophyte and LE
- ➔ Outstanding summer, autumn and winter growth
- ➔ Excellent spring quality and summer leafiness
- ➔ Excellent use of summer irrigation or natural rainfall

ONE⁵⁰ is a late-heading diploid perennial ryegrass of medium leaf and tiller size. **ONE⁵⁰** is a high performing variety with particularly strong growth from summer through to spring. **ONE⁵⁰** has proven to be a persistent option, and is available in **AR37**, **AR1** and LE endophyte options.



Heading Date: **Late (+20)**

Ploidy: **Diploid**

Dairy Pasture

ONE⁵⁰ is perfect for dairy production due to its outstanding summer and autumn growth, quality and persistence.

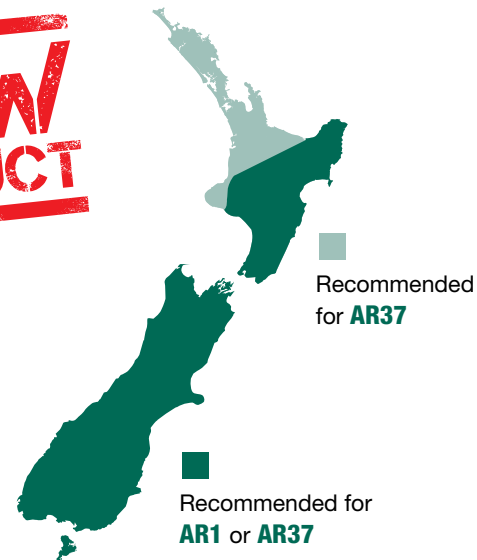
Example Mix	Rate (kg/ha)
ONE⁵⁰ AR37, AR1 or LE perennial ryegrass*	20
Mainstay white clover	3
Tribute white clover	2
Total	25

Sheep and Beef Pastures

ONE⁵⁰ is ideal for sheep and beef farms due to its increased winter growth, spring and summer quality and persistence.

Example Mix	Rate (kg/ha)
ONE⁵⁰ AR37, AR1 or LE perennial ryegrass*	18
Tribute white clover	3
Sensation red clover	4
Tonic plantain	1
Choice chicory	2
Total	28

*It is not advisable to mix **AR37** and **AR1** varieties. **AR1** is not recommended for areas where black beetle, porina or root aphid are common problem pests. Grass seed should be Superstrike[®] treated where Argentine stem weevil, black beetle or grass grub are a risk to seedlings. For more information on **AR37** endophyte, visit ar37.co.nz.



The Adaptable Ryegrass

- ➔ Available with **AR37** and **AR1** novel endophytes
- ➔ **Prospect** has been bred from a diverse range of perennial material
- ➔ Strong all-year-round performance
- ➔ A dense, fine-leaved diploid cultivar with high total production

Grasslands **Prospect** has excellent all-year-round growth and impressive tiller density that improves persistence. **Prospect** has been bred from diverse genetic material. **Prospect** is suited to a variety of situations from hill country development on sheep and beef farms, to high performance dairy systems.

Prospect has been bred, selected and successfully tested as a perennial and will function as a perennial ryegrass. Due to a small number of tip awns **Prospect** is certified as *Lolium boucheanum*.

Heading Date: **Late (+12)** Ploidy: **Diploid**

Dairy Pasture

Prospect is ideal for dairy production due to its outstanding summer, autumn and winter growth. **Prospect** has the density to be persistent under high stocking pressure.

Example Mix	Rate (kg/ha)
Prospect AR37 or AR1 perennial ryegrass**	20
Mainstay white clover	3
Tribute white clover	2
Total	25

Sheep and Beef Pastures

Prospect can be used on high producing areas where animal carrying capacity is maximised or hill country developments.

Example Mix	Rate (kg/ha)
Prospect AR37 or AR1 perennial ryegrass**	18
Tribute white clover	3
Nomad white clover	2
Sensation red clover	4
Tonic plantain	2
Total	29

*It is not advisable to mix **AR37** and **AR1** varieties. **AR1** is not recommended for areas where black beetle, porina or root aphid are common problem pests. Grass seed should be Superstrike® treated where Argentine stem weevil, black beetle or grass grub are a risk to seedlings. For more information on **AR37** endophyte, visit ar37.co.nz.



Proven and Trusted Perennial Pasture

- ➔ Available with **AR37** and **AR1** novel endophytes and LE
- ➔ Proven persistence in a wide range of New Zealand environments
- ➔ Productive under sheep, beef, and deer management
- ➔ Bred for improved rust tolerance

Samson is a proven performer with excellent yields and persistency, which excels under sheep and beef grazing systems. **Samson** was bred from a wide range of genetics from around New Zealand making it an excellent long-term pasture choice country-wide. **Samson** has been researched extensively, especially in developing the novel endophytes **AR37** and **AR1**.



Heading Date: **Mid (+3)** Ploidy: **Diploid**

Sheep and Beef Pastures

Samson has excellent spring growth and persistency under set stocking and hard winter grazing.

Example Mix	Rate (kg/ha)
Samson AR37, AR1 or LE perennial ryegrass*	20
Tribute white clover	3
Nomad white clover	2
Choice chicory	2
Tonic plantain	1
Total	28



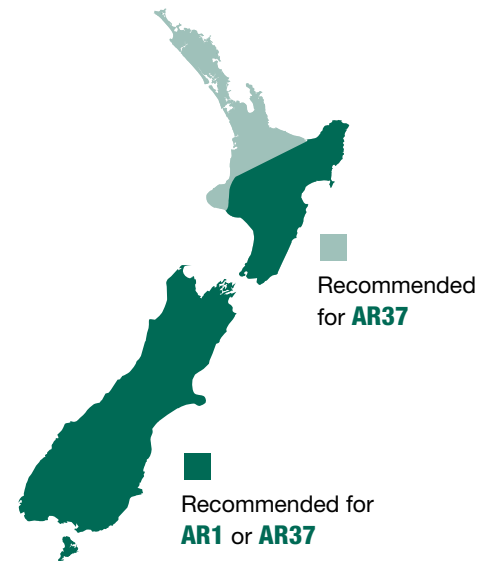
*It is not advisable to mix **AR37** and **AR1** varieties. **AR1** is not recommended for areas where black beetle, porina or root aphid are common problem pests. Grass seed should be Superstrike® treated where Argentine stem weevil, black beetle or grass grub are a risk to seedlings. For more information on **AR37** endophyte, visit ar37.co.nz.



High Quality Perennial Pasture

- Available with **AR37** and **AR1** novel endophytes
- Very late-heading date for optimum feed quality
- Tetraploid perennial with high tiller density
- Strong year-round growth

Halo is a very persistent and productive tetraploid perennial ryegrass with high tiller density. **Halo AR37** is especially appropriate in areas where insects consistently limit pasture production and persistence.



Heading Date: **Very Late (+25)** Ploidy: **Tetraploid**

Dairy Pasture

Halo has excellent summer growth and quality for increased dairy production. **Halo's** high tiller density and **AR37** endophyte helps maintain persistency in a tetraploid ryegrass.

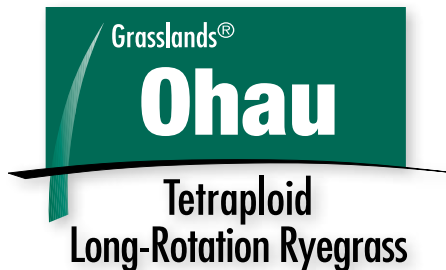
Example Mix	Rate (kg/ha)
Halo AR37 or AR1 tetraploid perennial ryegrass*	25
Mainstay white clover	3
Tribute white clover	2
Total	30

Sheep and Beef Pastures

Halo's excellent quality makes it the ideal pasture for finishing lambs and cattle over the summer and autumn periods. **Halo** also has excellent tiller density for increased persistency under close rotational grazing.

Example Mix	Rate (kg/ha)
Halo AR37 or AR1 tetraploid perennial ryegrass*	24
Tribute white clover	4
Sensation red clover	4
Tonic plantain	1
Choice chicory	2
Total	35

*It is not advisable to mix **AR37** and **AR1** varieties. **AR1** is not recommended for areas where black beetle, porina or root aphid are common problem pests. Grass seed should be Superstrike® treated where Argentine stem weevil, black beetle or grass grub are a risk to seedlings. For more information on **AR37** endophyte, visit ar37.co.nz.



Explosive Cool-Season Growth

- ➔ Available with **AR37** and **AR1** novel endophytes and LE
- ➔ Ideal for undersowing
- ➔ Very strong cool-season growth
- ➔ High-yielding ryegrass

Ohau has strong winter and early-spring growth, providing greater production during the critical lambing and calving periods. **Ohau** is the ideal option for medium term pastures with excellent quality and yield. **Ohau** is ideal for undersowing into run-out pastures, with **AR37** endophyte offering increased protection against insect attack, and improved persistence compared to Italian ryegrass options.



Heading Date: **Late (+8)**

Ploidy: **Tetraploid**

Dairy Pasture

Ohau AR37 provides very strong early-spring growth. Its tetraploid qualities encourage strong milk production. **Ohau AR37** is the ideal undersowing cultivar providing quick establishment and quality through summer and autumn and can be drilled at 15 kg/ha into run-out pastures.

Example Undersowing Mix	Rate (kg/ha)
Ohau AR37 tetraploid long-rotation ryegrass*	15
Total	15

Sheep and Beef Pastures

Ohau AR1 provides an increased amount of high quality feed over the lambing and calving period for increased animal liveweight gain. **Ohau AR1** is very compatible with clovers and herbs for aiding summer quality.

Example Mix	Rate (kg/ha)
Ohau AR1 or LE tetraploid long-rotation ryegrass*	25
Tribute white clover	3
Sensation red clover	4
Tonic plantain	2
Choice chicory	1
Total	35

*It is not advisable to mix **AR37** and **AR1** varieties. **AR1** is not recommended for areas where black beetle, porina or root aphid are common problem pests. Grass seed should be Superstrike® treated where Argentine stem weevil, black beetle or grass grub are a risk to seedlings. For more information on **AR37** endophyte, visit ar37.co.nz.



Seasonal Production And Quality

- ➔ Available with **MaxP®** novel endophyte
- ➔ Very high summer and autumn production
- ➔ Higher water-use efficiency than ryegrass
- ➔ Tolerant to insects, drought and saline conditions

Easton MaxP® is the latest tall fescue released from Agricom. **Easton MaxP®** has been developed from **Advance** tall fescue for increased production combined with superior persistence.

Easton MaxP® is the most suitable pasture for areas that are prone to hot summers as **Easton MaxP®** will continue to produce in higher temperatures where ryegrass plants can shut-down.

Easton MaxP® shows excellent summer and autumn production and quality, with excellent palatability when managed correctly.

Easton MaxP® has been bred with the AgResearch novel endophyte **MaxP®** for increased insect tolerance and persistence. **Easton MaxP®** is also resistant to black beetle, Argentine stem weevil, pasture mealy bug and root aphid while tall fescue as a species is tolerant to grass grub once established. With the increased pressure on water as a resource, tall fescue is a good pasture option with its higher water-use efficiency than ryegrass once established, and the ability to continue to produce at higher temperatures making more efficient use of the irrigation applied.

Heading Date: **Late**

Ploidy: **Hexaploid**

Example Mix	Rate (kg/ha)
Easton MaxP® tall fescue	25
Mainstay white clover	3
Tribute white clover	2
Total	30

*Herbs may be broadcast on in spring after weed control (**Choice** 1 kg, **Tonic** 2 kg).





The Persistence Difference

- ➔ Excellent second year production potential
- ➔ Low aftermath seed head for a true Italian
- ➔ Italian ryegrass available with **AR37** novel endophyte and without endophyte
- ➔ **Asset AR37** should be used as an undersowing option only

Asset was bred from surviving winter-active, second year plants. Due to these attributes **Asset** is the perfect choice if a persistent Italian ryegrass is what is required. **Asset** has a high tiller density to encourage persistency, even under occasional heavy winter grazing. **Asset** has excellent summer quality for its type, coupled with very high annual production.

Asset is the first Italian ryegrass with **AR37** endophyte. This improves the persistency of **Asset** by providing improved insect protection. **Asset AR37** can cause ryegrass staggers and should only be used as an undersowing option.

For more information on **Asset AR37** visit ar37.co.nz.

Heading Date: **Late (+14)**

Ploidy: **Diploid**

Dairy Pastures

Asset AR37 should only be used for undersowing into thinning or run-out pastures. It has improved insect protection leading to increased second year persistence.

Example Mix - Undersowing	Rate (kg/ha)
Asset AR37 Italian ryegrass	12 - 15
Total	12 - 15

Dairy Run-Offs, Beef and Sheep Pastures

Asset without endophyte is an ideal option for a short-term pasture.

Example Mix	Rate (kg/ha)
Asset without endophyte	20 - 25
Tribute white clover	3
Sensation red clover	4
Total	27 - 32

Grass seed should be Superstrike® treated where Argentine stem weevil, black beetle or grass grub are a risk to seedlings. For more information on **Asset AR37**, visit ar37.co.nz.



The Flexible Forage Herb

- Excellent winter growth
- High drymatter production
- Exceptional animal growth rates in late winter and spring
- Good milk production in summer dry periods
- High trace element content

Tonic can be added to all pasture mixes. It is also a very valuable pure stand option for early feed to increase lamb and ewe liveweight at weaning.

Tonic is also ideal in dairy environments that experience summer-dry conditions. Adding **Tonic** to summer brassica crops is an excellent option for increasing reliability of the second or third regrowth.

Tonic provides high levels of essential animal trace elements such as copper (Cu), and selenium (Se) relative to ryegrass.

Sowing Rates

Pasture Mix	Rate (kg/ha)	Pure Stand	Rate (kg/ha)
Tonic plantain	1 - 2	Tonic plantain	8 - 10



High Production Herb

- A true perennial with good persistence
- Improved drymatter production
- High summer quality
- Ideal for short-term “finishing” or milking pastures

Choice was bred in New Zealand by AgResearch Grasslands, the breeders of the original forage chicory, Puna. **Choice** has improved disease tolerance and very good early season growth. **Choice** also provides increased levels of required trace elements compared to ryegrass.

Choice gives high volumes of good quality summer feed for increased animal production. **Choice** is commonly used as a pure stand summer crop for milk production and finishing systems. **Choice** is a good source of copper (Cu).

Sowing Rates

Pasture Mix	Rate (kg/ha)	Pure Stand	Rate (kg/ha)
Choice chicory	1 - 3	Choice chicory	6 - 8





New Generation Of Robustness

- The new generation large-leaved white clover
- **Mainstay** sets a new benchmark in drymatter production for large-leaved white clover
- **Mainstay** has shown outstanding recovery from drought in the Waikato
- Primary clover option for beef and dairy systems

Each new generation of AgResearch white clovers have delivered improvement and **Mainstay** is no exception. **Mainstay** is a robust, productive, large-leaved white clover ideally suited to rotational grazing systems.

Dairy and Beef Pastures

Mainstay is the ideal large-leaved white clover for drymatter production and persistence in dairy and intensive sheep/beef systems.



NZ's Largest Selling White Clover

- Medium to large-leaved white clover
- High stolon density/leaf size ratio
- Improved out of season production for type
- Shown to be tolerant of clover root weevil

Tribute is an extremely versatile white clover that is often the base of many pasture mixes. With **Tribute's** high stolon density/leaf size ratio, it is perfect for increased production and persistence. **Tribute** can be blended with small-leaved and large-leaved cultivars to suit all grazing systems.

Dairy, Sheep and Beef Pastures

Tribute has been proven to add more versatility as part of a pasture mix. With its flexible leaf size **Tribute** is highly productive under rotational grazing and is also able to adapt to periods of set stocking.



Best Practice Pasture Establishment/Seed Treatment

Superstrike® Grass Seed Treatment

Superstrike® grass has been reformulated to provide a superior level of insecticide and fungicide protection for grass seedlings during pasture establishment. Superstrike promotes fast and vigorous seedling growth with plants showing strong root and tiller development during plant establishment. Superstrike treated grass should be sown in any situation where Argentine stem weevil, black beetle or grass grub are likely to have an effect on plant establishment.



Superstrike
grass™

Successful pasture establishment starts with planning. A rushed decision can result in late-planting, weed invasion, low feed production in the first winter and spring, and poor persistence. Use the following simple checklist to help ensure that your pasture renewal programme is successful.

Insect and Diseases	Seed Treatment
Argentine stem weevil (ASW)	Superstrike® or Poncho®
Black beetle	Superstrike®, Poncho® or Gaucho®
Grass grub	Superstrike®, Poncho® or Gaucho®
<i>Pythium</i> and <i>Fusarium</i>	Superstrike®

1. Paddock Selection

- Begin with the paddock with the greatest difference between current and potential performance, as the return on investment will be higher.
- Select paddocks early, six months is required to properly prepare for new pastures.

2. Paddock Preparation

- Control weeds and weed-seed production in the spring and summer prior to sowing a new pasture. Techniques available include grazing, mowing, silage and fodder crops.

3. Sowing

- Assess what insects are present, or likely to be, and decide on the best seed treatment or spraying options. Common problem insects are Argentine stem weevil, black beetle, grass grub, porina, and slugs (direct-drilling).
- Order seed several weeks before planting from your retailer, with instructions on the seed treatment you require (Table 1) so it will be available when you are ready to sow.
- Wait until pastures are actively growing in early-autumn and then use a knockdown spray in order to control germinating weeds. Sowing can commence 3-5 days later.
- Ensure that cultivated paddocks are even, and have a fine and firm seed bed.

- Sow seed at 10 mm depth. Deep sowing is the most common cause of poor clover establishment.
- Press-wheels or a roller are often needed for seed-soil contact and to get the pasture up quickly and evenly.
- Paddocks that are being direct-drilled should also be level and clear of excessive trash.
- Use fertiliser at sowing. Ready access to nitrogen (N) and phosphorous (P) will ensure rapid and vigorous early growth.

4. Monitoring the Paddock After Sowing

- Frequently monitor newly sown pastures for weed and insect pests. Controlling weeds early requires less chemical, is more effective and often has less impact on the sown pasture. Insect pests can decimate an emerging pasture; prompt action prevents significant plant losses and loss of production.

5. First Grazing

- First grazing should only occur once the plant has begun to tiller out and is at least 10cm high. Ensure plants are firmly anchored in the ground before grazing and avoid over-grazing or pugging damage.
- Calves or heifers are best, and avoid grazing when the soil is wet.
- Consider an application of N-based fertiliser after the first grazing to promote quick recovery and to encourage further tillering of the plants.

Other Spring Forage Products from Agricom

Complementary Cultivars

At Agricom we pride ourselves on providing a wide range of cultivars to farmers including a large range of brassicas, forage cereals, other grass species, clovers, herbs, fodder beet and ryegrass.

Legumes

Sensation Red Clover	Coolamon Subterranean Clover
Prestige White Clover	Bolta Balansa Clover
Nomad White Clover	Lightning Persian Clover
Torlesse Lucerne	Strawberry Clover Hardy Perennial Clover

Grasses

Progrow Annual Ryegrass	Savvy Cocksfoot
Kingston Perennial Ryegrass	Atom Prairie Grass
Kara Cocksfoot	Gala Grazing Brome
Sterling Tetraploid Long-Rotation Ryegrass	Supreme PLUS Long-Rotation

Brassicas

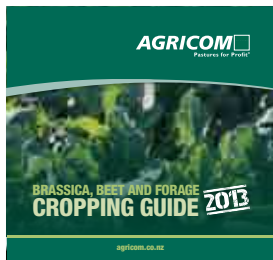
Spitfire Forage Rape
Winfred Forage Rape
Hunter Forage Brassica
Sovereign Kale
Dominion Swede
Domain Swede
New York Turnip
Rival Turnip

Cereals

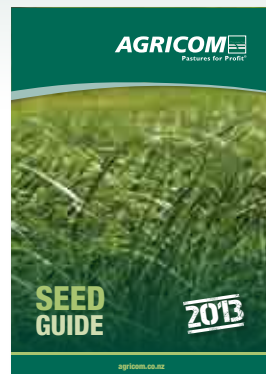
Coronet Forage Oats
Milton Forage Oats
DoubleTake Multi-graze Triticale
Prophet Forage Triticale
Crackerjack Forage Triticale
Salute Silage Barley
Monty Forage Barley

Agricom Publications

2013 Brassica, Beet and Forage Cropping Guide



2013 Seed Guide



Tall Fescue Management Guide



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AR37 is protected by NZ Patent 543849.

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