OUR 2019 STAR PERFORMERS

Find out more about our Star Performers on PAGE 6.

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Pictured on the front page: Dairy Heifers, Glomar Holstein Stud in Bundalaguah, Gippsland

The recommendations made in this publication are to be used as a guide only. For specific recommendations suited to your particular requirements, contact your local agronomist or farm advisor.
We are proudly all Australian, independent and family-owned. We supply quality seed and expert advice to our customers from the Western District to Gippsland and North East Victoria, to the Goulburn Valley and the Riverina. Call us to find the closest quality pasture seed retailer near you.

Each year new projects come onto the market, some better than others – and we see the results first hand on our customers’ farms as well as in our own trials. We know the products we sell inside and out.

Come visit us for a chat at the Elmore, Sungold and Warragul Field Days. We would love to meet you.

December 2018 marked the 30 year partnership of brothers Mike and John Smyth in the family business.

The Smyth family has been in the seed industry for almost 70 years, with MJ (Mick) Smyth starting in 1952. This is a remarkable milestone for us, and we thank our staff and our customers for getting us there – it is something we are very proud of.
Establishing & Managing New Pastures

The grass you grow and the hay and silage you cut on your own farm, add up to the cheapest stock feed there is. Renovated pastures improve the number of stock you can carry and can significantly increase the real estate value of your farm. Because the cost of establishing a new pasture can add up, and because the selected paddock will be out of action during its renovation, it pays to prepare for pasture renovation as you would for any investment, with some careful thought and planning.

PRE SOWING CHECKLIST

Choose the right paddock
Generally, the best paddock to renovate is the lowest performer, making it the one that has the biggest potential for a productivity increase. But in some cases you may be better off to select the paddock most likely to be successful whilst you are still gaining experience with pasture establishment.

Do a soil test and address possible soil problems
Testing your soil first is common sense, because pastures sown into poor, infertile soil will not do well.

Establish an optimal seed bed
Depending on your sowing method, paddocks that are earmarked for renovation should either be grazed heavily in late summer/early autumn to reduce trash levels, or if you intend to cultivate a paddock in readiness for renovation, you should apply lime or gypsum at the same time and create a firm, fine, level seed bed.

Choose the right pasture seed variety
The key to success is to select seed varieties that are most likely to thrive in your soil type as well as in the conditions of your particular location – including rainfall.

ONE50 is a new generation late-heading perennial ryegrass
- ONE50 has outstanding dry matter production and is ideal for producing high quality feed for silage and hay
- Outstanding summer, autumn and winter production
- High quality late feed
- Available with AR37 endophyte for persistence and production advantages

www.agricom.com.au
It pays to go for certified, quality seed products that are scientifically developed over years, and proven to perform. To get a variety that is right for you, you can develop an idea by looking at this guide and then have a chat with your local pasture agronomist.

Go for quality seed
Look for this logo when you purchase seed. Smyth Seeds comply with the Australian Seed Federation (ASF) National Code of Practice commit to packaging and labelling seed to accurately reflect what is inside the bag. This includes full details of the species and % of purity and germination.

Beat the rush and order pasture seed early
The autumn sowing season represents a peak in demand in every store, and popular seed varieties may have slight delivery delays. Get in early by placing an order in late summer, so short delays do not prevent you from sowing in the perfect conditions.

SOWING CHECKLIST

Choose the right time for sowing
Autumn is the preferred time for sowing pasture, because you are most likely to find a combination of good soil moisture and suitable soil temperature at that time. These conditions provide you with the best chances for optimum germination of your seed.

Control weeds by spraying
Deal with weeds swiftly at the time of sowing because they steal valuable light, nutrients and moisture from the seed you are trying to establish.

Choose the right sowing method
The most successful sowing methods are direct drilling or sowing into a cultivated seed bed. Most pasture seeds are small and only require a shallow (about 1 cm) sowing depth, so ensure that you don’t ‘bury’ the seed too deep as it might never manage to emerge.

Provide a boost and fertilise
You will give your seed a head start if you provide a source of nitrogen (not greater than 25 units) and phosphorus at sowing, because it boosts germination and vigorous seedling development.

‘Tuck’ your seed into their bed
Seed soil contact is critical because it helps to seal in moisture around the seed, and therefore provides an ideal environment for the seeds to germinate and develop roots. In order to improve the hold the soil has on the seed, consider dragging harrows, mesh or similar behind your seed drill or use a light, rubber-tyred roller to improve seed- soil contact. (Avoid rolling wet soils that are likely to ‘crust’.)

CONTROLLING PASTURE PESTS

At the first sign of damage to your crop, try and identify the problem pest and then speak to your local pasture agronomist.

There are numerous pest that will adversely affect pastures, these include but are not limited to; Argentine stem weevil, Army worms, Black-headed pasture cockchafer, Clover mite, Redheaded pasture cockchafer, Slugs. Find the most common pests and how to identify them below. Reference: http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-insects-and-mites

Red Legged Earth Mite (RLEM) is a species of earth mite and is a major pasture pest in southern Australia.

Adult RLEM are 1mm in length and approximately 0.7 - 0.8mm wide, with 8 red-orange legs and have a blue-black coloured body with a characteristic red mark on their back. Typical damage appears as ‘whitening’ of the attacked foliage that can often be mistaken as frost damage. BOM are most damaging to newly establishing pastures, greatly reducing seedling survival and retarding development. In severe cases, entire crops may need re-sowing following BOM attack.

Lucerne Flea will cause damage to pastures and crops (not just Lucerne) and is a significant pest in southern Australia. In pastures they have a preference for Lucerne and sub clover, grasses are non-preferred hosts but significant damage can be done to ryegrass.

The adult lucerne flea is approximately 3mm long with light green-yellow colouring and an irregular pattern of darker patches over the body. Lucerne fleas are wingless, have globular abdomens and can jump large distances relative to their size. They consume the succulent green cells of leaves avoiding the more fibrous veins and leaving behind a layer of leaf membrane. This makes the characteristic small, clean holes in leaves which can appear as numerous small ‘windows’. In severe infestations this damage can stunt or kill plant seedlings.
Endophyte in your pasture

THE ROLE OF ENDOPHYTE EXPLAINED

Endophyte is a naturally occurring fungus primarily found in perennial ryegrass and fescue. It forms a symbiotic relationship with the plant, where it lives within the plant drawing nutrients and in return provides resistance to insect pests, drought and overgrazing (Grasslanz, NZ).

The endophyte can only be transferred from one plant to another plant of the same species through seed. During the reproductive phase the endophyte grows into the seed head of the parent plant and is therefore passed on to daughter plant through seed, it cannot be transferred between adult plants growing in pasture (www.AR37.co.nz).

There are many different forms of endophyte found naturally and they change in their presence of alkaloids (toxins found in endophyte which give it protection). New strains of endophyte can be transferred to seed through infection. This is a costly exercise and has been used to transfer novel endophytes such NEA2, AR1, Endo5, AR37 etc. into ryegrass cultivars.

Right: The lifecycle of ryegrass endophyte (Neotyphodium lolii) - Grasslanz, NZ.

THE MAIN ALKALOIDS IDENTIFIED IN ENDOPHYTE AND WHAT THEY DO:

Lolitrem B: Provides some insect protection, however can cause ryegrass staggers.

Ergovaline: Provides protection against some important insect pests, however in high concentrations can cause heat stress in grazing animals and loss of production.

Peramine: Deters some insect pests but has no effect on animal performance.

Loline: Lotine is toxic to a broad range of insect pests, non-toxic o stock. Has some root activity.

Epoxy-janthitrems: Toxic to a broad range of insect pests, can cause ryegrass staggers in some situations.

Endophytes ability to protect the adult plant from insects, drought and overgrazing is due to compounds called alkaloids. Alkaloids produced by the Endophyte are toxic to a number of insect pests and also grazing stock, when plants are under stress and being overgrazed. Some alkaloids produced only deter insect pests (e.g. peramine and loline) and others can be detrimental to animal health (e.g. lolitrem B) and can affect animal performance when in high concentrations (e.g. ergovaline).

The key to a successful endophyte is finding an endophyte that provides excellent pest resistance, while at the same time reduces the risk of compromising animal performance (www.AR37.co.nz). Research in recent years has been done in finding and developing novel endophytes (endophytes that differ in concentrations of alkaloids). The aim is finding a novel endophyte that gives increased insect protection without conferring adverse effects on animal health.
Standard endophyte
Standard endophyte contains lolitrem B, peramine and ergovaline alkaloids. Has shown to be persistent offering good protection against a number of insect pests, however doesn’t offer protection against root aphid.
It will cause heat stress and ryegrass staggers in stock if overgrazed during the summer period or when under stress. Offers better persistence than Nil, AR1, Endo5 and NEA2 endophytes. Standard endophyte is still commonly used.

NIL endophyte
Nil endophyte ryegrass pastures are safe to grazing animals as they don’t contain alkaloids. The problem that arises is the lack of insect protection as a result of having no alkaloids and as a consequence nil endophyte ryegrasses often fail to persist, unless in areas with cooler summers and high rainfall.

AR1 endophyte
Provides very good control of pasture mealy bug.
Variable control of root aphid.
Mild deterrence to black beetle adults.
Safe to the grazing animal.
Recommended for dairy, sheep and cattle. Currently the only recommended safe endophyte for horses and alpacas.

NEA2 endophyte
NEA2 is a combination of two endophyte strains. Provides good control of pasture mealy bug, good control of adult black beetle, moderate control of root aphid.

AR37 endophyte
AR37 provides good control of pasture mealy bug and root aphid. Provides some control of the adult black beetle and shows resistance to Argentine stem weevil larvae.

GrubOUT® U2
Good protection against insect pests, including grass grub larvae, black beetle adults and larvae, black field crickets, red headed pasture cockchafer and Argentine stem weevil.

PROVEN, RELIABLE, HIGH PERFORMING & PERSISTENT

The benchmark for proven high production and pasture quality on Victorian farms. At +23 days heading date, Matrix carries its quality longer into spring. Ideal for new pastures or for over-sowing into existing run-out or damaged pastures.

For further information on Matrix contact our regional agronomists:
North & East Victoria, NSW, QLD: Adam Sheedy – 0428 132 096
Western Districts, SA, Tasmania: Bruce Hume – 0427 607 375

www.cropmark.com.au
Why Heading Date Selection Matters

TOWARDS ACHIEVING PEAK PRODUCTION

Ryegrass Heading Dates indicate the expected maturity rate of cultivars relative to Nui perennial ryegrass. This is measured from autumn-sown seed when 50% of plants reach head emergence. Flowering is then expected four weeks after heading.

Actual heading dates may differ due to location, climate and grazing techniques, but chart rankings will remain the same due to their relative heading dates being maintained.

The differences in heading dates gives you the opportunity to choose the best fit for your fodder requirements: whether that is late winter, spring, or early summer. Peak production during these different times can be achieved with proper cultivar selection and sowing and grazing management.

Earlier heading varieties tend to be suited to the drier areas of the ryegrass zone. These varieties tend to produce the bulk of their overall production in winter and spring.

Later heading varieties tend to be suited to areas of higher rainfall (or irrigation). Good high-quality growth continues later into the year, maintaining production into late spring and early summer.

Is your grass bred and grown in Australia?

Ours is.

• High quality tetraploid annual
• Extremely cost effective
• Produces excellent silage
• Very fast to establish
• Certified and PBR quality seed
# Heading Date Chart

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Ploidy: d = diploid, t = tetraploid</th>
<th>Endophyte Status: Standard, Low, Nil, AR1, AR37, NEA2, AR37, U2, NA = not applicable</th>
<th>Sowing Rate kg/ha</th>
<th>Heading Date Relative to Nui (Nui = 0)</th>
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<td></td>
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<td>As sole grass</td>
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<tr>
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<td>AR37</td>
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<td>BEALEY</td>
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<td>NEA2</td>
<td>8-15</td>
<td>18-20</td>
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<td>18-20</td>
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<td>Standard</td>
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<td>18-20</td>
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<tr>
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<td>NA</td>
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<td>25-30</td>
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<tr>
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<tr>
<td>ZOOM</td>
<td>t</td>
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</table>
Rye Grasses

THE NUTRITIONAL BACKBONE OF EVERY PASTURE

SHOULD I CHOOSE A DIPLOID OR TETRAPLOID RYEGRASS?

When selecting a ryegrass either by itself or in a blend, the type of soil you have and the intensity of the grazing you intend to do are key to making a choice of either diploid or tetraploid varieties.

What is the difference?

- Diploids tolerate poorer and less fertile soils, dry conditions and closer grazing (2-5cm post grazing)
- Tetraploids require higher fertility soils, moist or irrigated conditions and lax grazing (5-7cm post grazing)

For your easy reference in this publication, we have marked all ryegrass varieties with either (d) for diploid or (t) for tetraploid.

PERENNIAL RYEGRASS

*Lolium perenne*

Perennial ryegrass is the backbone of most permanent pastures because it is the most efficient and cost effective method of supplying a highly nutritious, long term feed option for any grazing enterprise.

Cultivars vary greatly in maturity, growth habit, resistance to disease and rainfall requirements with a variety available to suit many regions of southern Australia. Perennial ryegrass pastures can persist for more than 5 years with minimal intervention, and therefore cost.

Heading Dates (relative to Nui) are displayed with each variety:

- Early maturing: -20 to -7
- Late maturing: +8 to +21
- Mid maturing: -6 to +7
- Very late maturing: +22 to +35

Zoom tetraploid annual ryegrass is a specialist forage for winter feed and hay/silage crops. Zoom is quick to establish, shows exceptional autumn, winter growth and rapid re-growth. Being tetraploid, Zoom is a highly palatable, high quality feed that animals love.

**BENEFITS:**

- 6-8 months specialist winter feed
- Widely used and thoroughly proven high yield performance
- High quality, maintained for long into spring
- Highly palatable to livestock
- Potential of multiple grazings plus a cut of silage or hay
- An ideal break crop between maize and other crops

For further information on Zoom contact our regional agronomists:

North & East Victoria, NSW, QLD: Adam Sheedy – 0428 132 096
Western Districts, SA, Tasmania: Bruce Hume – 0427 607 375

www.cropmark.com.au
AUSVIC (d) -7
With rapid establishment and early maturity, AusVic offers high yields and persistence to suit dryland beef or sheep grazing.
Rainfall: 550 – 650 mm+
Endophyte: Nil – No Staggers

★ AVALON (d) +3
A mid maturing variety that has good late season growth and improved disease resistance. Avalon suits dairy and high-end beef grazing enterprises.
Rainfall: 650 mm+
Endophyte: AR1 and SE

BASE (t) +22
A very late maturing, high yielding, densely tillered ryegrass. Base has excellent late season quality feed with higher tiller density. Base will produce and persist better under rotational grazing and is well suited to beef and dairy operations.
Rainfall: 650 mm+
Endophyte: AR37

BEALEY (t) +25
Bealey is a very late maturing palatable tetraploid with excellent feed quality, long season performance and persistence. It offers excellent insect tolerance and performs well in temperate regions.
Rainfall: 650 mm+
Endophyte: NEA2

★ BOLTON (d) -8
A cost effective early-maturing diploid with growth peaks in winter and early spring. Bolton was bred specifically for the sheep beef market as a replacement for Victorian, to be more productive in low fertility soils. Bolton is not suitable for use in dairy pastures.
Rainfall: 550 mm+
Endophyte: SE

CAMEL (d) -7
A very early maturing diploid with good autumn-winter growth. Camel is drought tolerant and persistent and suits beef and sheep grazing.
Rainfall: 550 mm
Endophyte: Nil

HALO (t) +25
Halo is a very late maturing tetraploid ryegrass suited to high rainfall areas. It offers excellent feed all year round, holding its quality well into summer. Halo comes with AR37 endophyte offering increased resistance to insects.
Rainfall: 650mm+
Endophyte: AR37

IMPACT 2 (d) +16
A late maturing densely tillered variety with strong autumn-spring growth. Impact 2 suits high performance grazing enterprises.
Rainfall: 650mm+
Endophyte: AR37

KAI (t) +20
Very fast establishment and re-growth, with strong winter activity, and high overall seasonal and annual yields. Has a medium-erect growth habit, and is well suited to grazing by all livestock types, with high pasture quality and good disease resistance.
Rainfall: 650mm+
Endophyte: Low

KINGSGATE (d) -3
A new mid-maturing diploid variety bred as a Kingston replacement. Densely tillered with excellent ground cover, Kingsgate has improved rust tolerance compared to Kingston. Kingsgate is suited to cattle and sheep grazing and is only available in standard endophyte.
Rainfall: 700mm+
Endophyte: SE

MATILDA (d) -24
Matilda is a Kangaroo Valley type ryegrass. Performance is similar or better than Kangaroo Valley. Economical alternative, proven to be a good producing ryegrass suited to Victorian conditions and recommended for 600mm+ rainfall where good winter growth is required. Can cause ryegrass staggers.
Rainfall: 600mm+
Endophyte: SE

★ MATRIX (d) +23
Matrix is a very late maturing, densely tillered general purpose type. High annual yields, strong winter growth and palatability for improved feed quality in late spring.
Rainfall: 650mm+
Endophyte: SE, LE

NUI (d) 0
Nui can be described as the NZ equivalent to Australia’s Vic Perennial Rye, that is, an older common variety to which newer varieties were once compared. Nui is still used as the standard when positioning flowering dates of other perennial ryegrasses which is why it has a 0 heading date.

★ ONE50 (d) +21
ONE50 is a proven product, highly suitable for Australian conditions. It is ideal for producing high quality feed for silage and hay in difficult spring environments. Because of ONE50’s late-heading date it maintains production into late-spring and early-summer, featuring outstanding dry matter production and excellent persistence and recovery from grazing. Its yield potential is best realised in fertile, productive conditions.
Rainfall: 650mm
Endophyte: AR1, SE, AR37
PROSPECT (d) +12
A dense, fine-leaved cultivar with high production, suited to dairy, sheep and beef grazing enterprises. Prospect is a solid year-round performer with high dry matter yields.
Rainfall: 650mm+
Endophyte: AR37

REQUEST (d) 0
A new mid heading ryegrass with very low aftermath seeding; Request will return to leaf production by summer. Very good spring, autumn and winter production. Suited to both cattle and sheep grazing.
Rainfall: 650mm+
Endophyte: AR37, AR1

VICTORIAN (d) -10
An early-maturing persistent ryegrass best suited to marginal regions with lower rainfall. Victorian is a low cost option for early feed, offering good winter growth and persistence. Improved varieties such as Bolton, offer better feed quality and yields.
Rainfall: 550mm+
Endophyte: SE

HYBRID RYEGRASS
*Lolium boucheanum syn Lolium hybridum*
Crossing perennial ryegrass with Italian ryegrass develops hybrid ryegrasses. The resulting types range from those that resemble Italian ryegrass (known as short-rotation ryegrasses), with high yields and having larger leaves, persisting from 1-4 years; to types almost as persistent as perennial ryegrass (known as long-rotation ryegrasses).

Hybrid ryegrass can be used in situations where you require some persistence 2-4 years, but don’t want to compromise winter growth. For example, hybrids can be used to oversow perennial pastures to bulk up feed and extend growth before a renovation is undertaken. They are able to establish well due to their fast early growth and can compete with established plants.
Rainfall: 650mm+ or Irrigation
Seed count: 500,000/kg diploids
250,000/kg tetraploids
Sowing rate: 5-15kg/Ha Mixes
20-30kg/Ha as Sole Grass

OHAU (t) +5
A high yielding long rotation hybrid with a medium heading date. It has been selected for strong re-growth and palatability. Excellent cool season growth combined with late season summer feed quality for high animal performance.
Rainfall: 650mm+
Endophyte: AR1, AR37 & SE

SHOGUN (t) +26
Late-flowering long-rotation type with very strong establishment vigour. High year-round total forage yield, combined with good persistence and resistance to rust.
Rainfall: 650mm+
Endophyte: NEA2

ITALIAN RYEGRASS
*Lolium multiflorum*
Italian ryegrasses are a highly nutritious and productive short term pasture option for areas with mild summers and reliable rainfall or irrigation. Generally used for the production of quality hay or silage, Italians may also be used to oversow depleted perennial pastures for fast growth and short term improvement. Italian ryegrasses can persist for up to 3 years but will generally thin out over hot summers requiring annual oversowing to maximise benefits.
Rainfall: 450mm+ or Irrigation (Depending on cultivar)
Seed count: 500,000/kg diploids
260,000/kg tetraploids
Sowing rate: 15-30kg/Ha (Depending on seed size and rainfall/irrigation)

BLADE (d) +24
With lush leaves it is highly palatable, and being a week later than most other diploid Italians, its pasture quality is carried through later into spring.
Rainfall: 650mm+

CRUSADER (d) +18
Rapid establishment, strong autumn-winter growth and high yields supports Crusader’s reputation as a consistent top performer providing maximum yield potential for winter feeding. Late head date provides extended feed option late spring to early summer.
Rainfall: 650mm+

SONIK (d) +17
Rapid establishment and regrowth, with strong production across all seasons. Highly palatable, with lush highly digestible leaves.
Rainfall: 650mm+

THUMPA (t) +22
New high yielding tetraploid Italian ryegrass which was selected for rapid establishment and excellent autumn and winter yields.
Rainfall: 650mm+
ANNUAL RYEGRASS
Westerwald Types
Annual ryegrasses will persist for one year and are ideal for a short term winter crop. With rapid establishment and excellent winter growth, this variety is best used for multiple grazings and for the production of hay or silage.
Rainfall: 450mm+ or Irrigation
Seed count: 500,000/kg diploid
30,000/kg tetraploids
Sowing rate: 15-30kg/Ha Depending on seed size and rainfall/irrigation)

BONANZA (t) +8
Bonanza will respond favourably and establish quickly when planted into warm soils. Bonanza exhibits excellent early growth and is ideal for grazing and silage.
Rainfall: 450mm+

BURST (t) +1
Fast to establish with good overall winter and spring dry matter production. Burst is a highly palatable and cost effective option in producing quality winter yields.
Rainfall: 450mm+

DARGO (d) -3
An Australian bred annual diploid offering strong seedling vigour, rapid establishment and quick quality early feed. Ideally suited to dryland farming systems, offering excellent winter and spring production and good grazing recovery allowing hay/silage production after grazing.
Rainfall: 450mm+

GUARDIAN (d) +5
An early maturing heavy seeding type. Distinctive broad leaf with high winter production if sown early.
Rainfall: 450mm+

NEW TETILA/BETTA TETILA (t) -3
Quality Assurance practices during seed production ensures consistent quality is guaranteed in these Tetila varieties. Rapid establishment, early maturity and improved grazing and hay production are the main benefits of this low cost annual tetraploid.
Rainfall: 450mm+

ZOOM (t) +16
Very fast establishing, has exceptional growth over autumn, winter and spring combined with good disease resistance. It is ideally suited as a winter break crop between maize and other crops.
Rainfall: 450mm+

WIMMERA ANNUAL RYEGRASS
Lolium Rigidum
A freely seeding, drought tolerant annual ryegrass that can produce large amounts of quick feed in marginal areas. Chemical resistance has made it a problem in cropping areas and in some conditions annual ryegrass toxicity (ARGT) can cause major health issues in grazing stock.
Rainfall: 350mm+
Seed count: 460,000/kg diploids
230,000/kg tetraploids
Sowing rate: 5-15kg/Ha (Depending on rainfall)

WIMMERA (d)
See general description above. Can cause ARGT. Matures rapidly in drought conditions.
Rainfall: 350mm+

CRUSADER - THE INVESTMENT YOU CAN RELY ON

• Proven on-farm performance
• Strong autumn and winter growth
• High quality hay and silage option
• Rapid regrowth from hard grazing
• Excellent establishment vigour
COCKSFOOT
*Dactylis glomerata*
A deep-rooted perennial grass of high to moderate drought tolerance (depending on cultivar), native to Northern Europe and the Mediterranean regions. The first varieties were introduced to Australia from Northern Africa in the 1930’s. The perceived lack of quality has been an issue for some time. Some new cultivars are of higher quality. Persistence and quality can be further improved by attention to grazing management. There are two distinct types: Northern European types that are summer active and Mediterranean types that are summer dormant. Cocksfoot needs reasonably well-drained soils to persist, and will tolerate soils of very low pH.

**Rainfall:** 350mm – 750mm  
**Seed count:** 1,500,000/kg  
**Sowing rate:** 1-3kg/Ha Mixes 5-8kg/Ha as Sole Grass

KAINUI
Bred for high yields, good compatibility within pasture mixes, and strong root development for summer dry tolerance. Soft ryegrass-like leaves, with very good disease resistance. Well suited for inclusion in pasture mixes or as the sole grass in a specialist pasture.

**Rainfall:** 600mm+

SAVVY
Unlike many cocksfoot varieties, Savvy has exceptional disease resistance, meaning plants stay green, healthy and more palatable for longer. Savvy has been bred to tolerate hard sheep grazing, and softer and more palatable to animals.

**Rainfall:** 600mm+

**VISION**
A deep rooted cocksfoot that has a semi erect growth habit with good winter activity, high palatability and persistence. It is a cross between Kara and Wana cocksfoots providing high yields and is very compatible in blends.

**Rainfall:** 500mm+

WANA
A mid-season flowering, dense, aggressive cultivar with good tolerance to over-grazing. It has a prostrate growth habit, is a useful sheep grazing type and is well suited to more marginal, summer dry environments.

**Rainfall:** 400mm+

YARCK
A Mediterranean x European type with vigorous seedling establishment, high winter growth and softer, more palatable leaves. Yarck has the ability to respond and grow with summer rainfall.

**Rainfall:** 400mm+

TALL FESCUE
*Festuca arundinacea*
A deep-rooted perennial grass native to Europe, the Mediterranean region, and Asia. It is suited to soils of medium to high fertility, will tolerate waterlogging and moderately saline conditions. There are twodistinctively different types, summer active and summer dormant. **Summer active** tall fescues have the ability to out produce perennial ryegrass during summer and require periodic summer rainfall or irrigation. **Summer dormant** types have the ability to persist in areas of very low rainfall.

**Rainfall:** 350-600mm+ or Irrigation  
**Seed count:** 410,000 p/kg  
**Sowing rate:** 20-30kg/Ha (sole) or 8-20kg/Ha (in a mixed pasture)

SUMMER DORMANT (MEDITERRANEAN) TYPES

**FLECHA**
A Mediterranean tall fescue with high winter production and true summer dormancy. It is ideal for low summer rainfall areas and shows good persistence.

**Rainfall:** 350mm+  
**Endophyte:** Nil

PHALARIS
*Phalaris aquatica*
Phalaris is a deep-rooted perennial grass native to the Mediterranean region, once established it is drought tolerant and persistent. Quality can be maintained through correct management. Phalaris has very low seedling vigour and care should be taken at establishment. It will persist on a wide range of soil types including heavy waterlogged soils. Phalaris is the most sensitive of the temperate grasses to acid soils, and performs best on neutral soils. Cultivars available include both winter active and winter dormant varieties.

**Rainfall:** 425mm+  
**Seed count:** 650,000 p/kg  
**Sowing rate:** 3-7kg/Ha

SEMI WINTER DORMANT TYPES

AUSTRALIAN
The original phalaris in Australia. Very slow to develop but once established it is very persistent. Needs to be grazed heavily to maintain feed value as it can cause problems with phalaris staggers and sudden death syndrome.

**Rainfall:** 425mm

SUMMER ACTIVE (CONTINENTAL) TYPES

**HUMMER**
The high quality, palatable leaf encourages greater utilisation by stock. It has fine, soft leaf characteristics with evidence of increased palatability. It has shown good persistence and maintains density in the sward making it easier to manage compared to older tall fescue cultivars.

**Rainfall:** 600mm+  
**Endophyte:** MaxP

WINTER ACTIVE TYPES

**ADVANCE AT**
A new Phalaris cultivar bred for increased tolerance to acid soils. Advance AT can tolerate pH > 3.8 (CaCl2) and exchangeable aluminium of 20-50%.

**Rainfall:** 450mm+
**HOLDFAST**
Has good seedling vigour allowing reasonably fast establishment. Holdfast is a winter-active replacement for Sirosa, with good cool season growth and is relatively more tolerant of acid soils. It contains a lower level of alkaloids (toxins).

Rainfall: 450mm+

**HOLDFAST GT**
Phalaris bred for increased grazing tolerance over Holdfast Phalaris. Has excellent winter activity and seedling vigour with exceptional dry matter production. Adapted to a greater range of soil types than Holdfast.

Rainfall: 450mm+

**PRAIRIE GRASS**
*Bromus willdenowii*

Bromes are deep-rooted grasses; they are very heat and drought tolerant and produce high quality nil endophyte pastures. They prefer free-draining soils and are intolerant of pugging and being waterlogged. The bromes have been split into three distinct types;

1. Prairie Grass (high production over a short period)
2. Pasture Brome (medium term pasture)
3. Grazing Brome (more persistent long term pasture)

Seed count: 90,000 /kg
Sowing rate: 30-40kg/ha

**ATOM PRAIRIE GRASS**
A high quality, endophyte free cultivar with good year round growth. Performs best in well drained, fertile soils producing highly palatable feed for grazing beef, sheep and dairy stock. Atom tolerates summer heat and with increased tiller density, persists even after close grazing.

Rainfall: 850mm+

**RELIABLE, CONSISTENT, QUALITY FEED**

**ADVANCED AT PHALARIS**
- Bred by CSIRO for improved productivity in acid soils
- Tolerant down to pH (CaCl₂) of 3.8 (up to ~40% Al³⁺)
- Winter active with superior establishment
- Greater production compared to Australian phalaris.

**MONTI SUB-CLOVER**
- New generation, highly productive sub-clover
- Improved disease resistance and more productive than Trikkala
- Excellent regeneration, even in areas prone to waterlogging
- Suits >450 mm rainfall areas.

For further information contact
FREECALL: 1800 007 333
www.heritageseeds.com.au

**Smyth Seeds Pasture Guide 2019.indd** 15
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Pasture Herbs

ADDING VARIETY AND QUALITY TO A PASTURE

PLANTAIN

*Plantago lanceolata*

Plantain is a fibrous rooted perennial pasture herb capable of growing in a wide range of soil types and under varying fertility levels. It is highly palatable to stock and very high in minerals. Plantain can be sown in mixtures with any legume, grass or other herb.

- **Rainfall:** 550mm+ or Irrigation
- **Seed count:** 500,000/kg
- **Sowing rate:** 2-3kg/Ha Mixes

CHICORY

*Cichorium intybus*

Chicory is a deep rooted short-lived perennial herb. It is summer active, producing highly palatable feed from spring through to autumn where it is an ideal crop for supplementing stock and increasing animal intake and performance. Chicory has the ability to perform well in free draining acid soils making it a suitable alternative to lucerne where soil acidity is an issue. Due to its upright nature and preference to grazing stock, persistence and performance is maximised under rotational grazing and will perform exceptionally well under good fertility.

- **Rainfall:** 550+ or Irrigation
- **Seed count:** 850,000/kg
- **Sowing rate mix:** 1-4 kg/ha
- **Sowing rate alone:** 6-8kg/ha

CHICO

A high yielding, very high quality and leafy chicory showing fast establishment, rapid re-growth, strong insect resistance and good drought tolerance.

CHOICE

Highly persistent longer term chicory, with increased winter activity. Bred for low lactucin levels to reduce the risk of milk taint. Low summer seed head production when compared with short term chicory's.

Choice chicory provides an excellent summer forage crop that is high in quality and production. It can be sown on its own at 6-8 kg/ha or often under-sown at 4 kg/ha with forage brassica or millet crop. Once the brassica has been grazed out the chicory provides excellent feed into the autumn period and should persist well for 18 months or more. The chicory can also be over-sown with an Italian/annual ryegrass to boost winter production and thicken up the sward.
TARGET Performance
Pasture Seed Blends

• Premium blends with trusted performance
• Include market leading varieties
• Contains only the highest quality seed
• Mixed and ready to sow for your convenience

www.smythseeds.com.au
TARGET Performance Pasture Seed Blends

Extensive trial work for variety selection

TARGET PREMIUM 850 PLUS
(IRRIGATION)

<table>
<thead>
<tr>
<th>Blend</th>
<th>Sowing Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONE50</td>
<td>25-30kg/Ha</td>
</tr>
<tr>
<td>MATRIX</td>
<td>25-30kg/Ha</td>
</tr>
<tr>
<td>TRIBUTE</td>
<td>25-30kg/Ha</td>
</tr>
<tr>
<td>NOMAD</td>
<td>25-30kg/Ha</td>
</tr>
<tr>
<td>MAINSTAY</td>
<td>25-30kg/Ha</td>
</tr>
</tbody>
</table>

Premium blend that is a proven performer in high rainfall environments and irrigation districts. Premium 850 plus is a late maturing blend with exceptional late season quality and persistence. It shows excellent autumn recovery following summer and exceptional full season production. Smyth Seeds ‘triple mix’ of white clovers offers outstanding heat tolerance, full season production, and persistence from high stolon density.

TARGET PREMIUM ENDOPHYTE

<table>
<thead>
<tr>
<th>Blend</th>
<th>Sowing Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEALEY NEA2</td>
<td>10.00</td>
</tr>
<tr>
<td>ONE50 AR1</td>
<td>10.00</td>
</tr>
<tr>
<td>TRIBUTE</td>
<td>25-30kg/Ha</td>
</tr>
<tr>
<td>NOMAD</td>
<td>25-30kg/Ha</td>
</tr>
<tr>
<td>MAINSTAY</td>
<td>25-30kg/Ha</td>
</tr>
</tbody>
</table>

Where late season maturity and production is required in a mix that has no ryegrass staggers or heat stress issues, then Premium Endophyte mix is ideal. This mix will suit both irrigation and high rainfall environments and has the Smyth Seeds ‘triple mix’ of white clovers providing persistence, high stolen and leaf density and strong seasonal growth.

TARGET PREMIUM AR37

<table>
<thead>
<tr>
<th>Blend</th>
<th>Sowing Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>HALO AR37</td>
<td>30-35kg/Ha</td>
</tr>
<tr>
<td>ONE50 AR37</td>
<td>30-35kg/Ha</td>
</tr>
<tr>
<td>TRIBUTE</td>
<td>25-30kg/Ha</td>
</tr>
<tr>
<td>NOMAD</td>
<td>25-30kg/Ha</td>
</tr>
<tr>
<td>MAINSTAY</td>
<td>25-30kg/Ha</td>
</tr>
</tbody>
</table>

A late maturing and high yielding blend containing two leading perennial ryegrasses combined with the superior AR37 endophyte. This mix is the premium mix for high rainfall and irrigation environments or farmers looking to take their pastures to the next level. The mix contains Smyth Seeds ‘triple mix’ of white clovers adding, persistence, high stolen and leaf density and strong seasonal growth.

18 Growing Profits with Pastures

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PASTURE BLEND BOOSTERS

Where Coated + Fungicide appears in a blend recipe beside a variety, this means that a special coat of Rhizobia bacteria and fungicide around the seed boosts root development and protects from fungal diseases.

CONTENTS OF MIXES CAN BE ADJUSTED ACCORDING TO AVAILABILITY OF SEED

TARGET SHEEP/BEEF

HOLDFAST GT  Phalaris .......................4.00  
AUSTRALIAN Phalaris ......................1.00  
RIVERINA  Sub Clover  
  (Coated + Fungicide) .. 3.75  
GOULBURN/CAMPEDA  
SUB CLOVER  (Coated + Fungicide) .. 3.75  
Sowing Rate  12.5-15kg/Ha  

Highly persistent blend that when established can result in a productive pasture for many years. Good weed control and reasonable fertility are required prior to sowing. This mix will suit most areas that receive 450mm+. Perennial Ryegrass can be added by direct drilling one season after establishment.

TARGET VALLEYS 650 PLUS

BOLTON  Perennial Ryegrass ........6.00  
KINGSGATE  Perennial Ryegrass ........6.00  
VISION  Cocksfoot ......................3.00  
GOSSE  Sub Clover  
  (Coated + Fungicide) ......4.50  
GOULBURN/CAMPEDA  
SUB CLOVER  (Coated + Fungicide) .. 3.75  
NOMAD  White Clover 
  (Coated + Gaucho®) .........1.00  
Sowing Rate .....................25-30kg/Ha  

Suitable for the fertile valleys and hills in Victoria and southern NSW. The sub clovers ensure persistence and good winter growth. The cocksfoot is summer active and provides growth when other grasses won’t. The ryegrasses and white clover will provide excellent growth in valleys where rainfall is more reliable and soil more fertile.

TARGET OVERSOW

KINGSGATE  Perennial Ryegrass ........5.00  
MATRIX  Enhanced Ryegrass ..........4.00  
CRUSADER  Italian Ryegrass ..........6.00  
Sowing Rate 15-25kg/Ha  

Target Oversow is specifically designed for use on irrigated or high rainfall perennial pastures. It is a blend of high quality perennial and Italian ryegrasses that can be used to rejuvenate pastures that have thinned out due to overgrazing or drought.
# TARGET Performance Pasture Seed Blends

## Fast Feed & Fodder

### TARGET FEED & FODDER

<table>
<thead>
<tr>
<th>Blend</th>
<th>Seed Components</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZOOM</td>
<td>Tetraploid Annual Ryegrass</td>
<td>10.00</td>
</tr>
<tr>
<td>CRUSADE</td>
<td>Italian Ryegrass</td>
<td>10.00</td>
</tr>
<tr>
<td>PERSIAN</td>
<td>Clover (Coated + Fungicide)</td>
<td>3.00</td>
</tr>
<tr>
<td>VIPER</td>
<td>Balansa Clover (Coated + Fungicide)</td>
<td>2.00</td>
</tr>
</tbody>
</table>

**Sowing Rate:** 25-30kg/ha

This combination of late maturing ryegrasses and annual clovers has produced outstanding results since 2007. It can be used in both irrigation and high rainfall environments, with the opportunity for numerous winter grazings and multiple silage or hay cuts. It has excellent regrowth potential, and will produce quality leafy feed into early summer with irrigation or spring rainfall.

### TARGET AUTUMN ALLGRASS

<table>
<thead>
<tr>
<th>Blend</th>
<th>Seed Components</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZOOM</td>
<td>Tetraploid Annual Ryegrass</td>
<td>10.00</td>
</tr>
<tr>
<td>CRUSADE</td>
<td>Italian Ryegrass</td>
<td>15.00</td>
</tr>
</tbody>
</table>

**Sowing Rate:** 25-30kg/ha

An ideal blend in oversowing paddocks that have a healthy population of clover, but little ryegrass. It is best sown early in the autumn to take advantage of its rapid establishment and high level of winter production. The late maturing ryegrasses will make excellent silage or hay, and offer the opportunity for quality regrowth into early summer.

### TARGET HAY/SILAGE

<table>
<thead>
<tr>
<th>Blend</th>
<th>Seed Components</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>BURST</td>
<td>Tetraploid Annual Ryegrass</td>
<td>12.00</td>
</tr>
<tr>
<td>GUARDIAN</td>
<td>Italian Ryegrass</td>
<td>7.00</td>
</tr>
<tr>
<td>PARADANA</td>
<td>Balansa Clover</td>
<td>2.00</td>
</tr>
<tr>
<td>MARAL</td>
<td>Persian Clover</td>
<td>2.00</td>
</tr>
<tr>
<td>ARROWLEAF</td>
<td>Annual Clover</td>
<td>2.00</td>
</tr>
</tbody>
</table>

**Sowing Rate:** 25-30kg/ha

Excellent for grazing, hay, or silage production. This mix can be used in situations where a short-term pasture is required, or as a productive break crop to clean up a run down paddock before returning it to permanent pasture. The blend contains early/mid maturing varieties that have only moderate regrowth after cutting. If full regrowth potential is required use TARGET Feed & Fodder.

### TARGET SUB MIX

<table>
<thead>
<tr>
<th>Blend</th>
<th>Seed Components</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>RIVERINA</td>
<td>Sub Clover</td>
<td>4.50</td>
</tr>
<tr>
<td>TRIKKALA</td>
<td>Sub Clover</td>
<td>4.50</td>
</tr>
<tr>
<td>TETILA</td>
<td>Annual Ryegrass</td>
<td>4.00</td>
</tr>
<tr>
<td>DARGO</td>
<td>Annual Ryegrass</td>
<td>5.00</td>
</tr>
<tr>
<td>PROLIFIC</td>
<td>Persian Clover</td>
<td>2.00</td>
</tr>
</tbody>
</table>

**Sowing Rate:** 20-25kg/ha

This mix has been used on dryland and short irrigation cycles in the Goulburn Valley and Southern NSW for over 10 years and has a good fit outside these areas. It is self-regenerating if let set seed. The mix has been used for hay, silage and grazing with excellent results.

### TARGET MEGA SILAGE

<table>
<thead>
<tr>
<th>Blend</th>
<th>Seed Components</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TARGET</td>
<td>Oats</td>
<td>50.00</td>
</tr>
<tr>
<td>FIELD</td>
<td>Peas</td>
<td>75.00</td>
</tr>
</tbody>
</table>

**Sowing Rate:** 125-150kg/ha

TARGET Mega Silage is an ideal ratio of oats and peas for silage and hay production. The Targa Oats provide a good trellis for the field peas to climb on, minimising the likelihood of lodging. The addition of peas to oats does not necessarily improve yield, but has a positive effect on protein content and palatability of the resulting product.
TARGET Specialty Seed Blends

CUSTOMISED BLENDS FOR SPECIFIC SITUATIONS

<table>
<thead>
<tr>
<th>Seed Mix Name</th>
<th>Pasture Mix Components</th>
<th>Use/Livestock Class</th>
<th>Sowing Rate kg/Ha</th>
<th>Rainfall</th>
<th>Establishment Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target LR (low rainfall) Horse Mix</td>
<td>Wana Cocksfoot, Perennial Veldt Grass, Guardian Ryegrass, Dalkeith Sub Clover</td>
<td>Horse, Beef</td>
<td>12.5kg</td>
<td>500mm+</td>
<td>Medium</td>
</tr>
<tr>
<td>Target MR (medium rainfall) Horse Mix</td>
<td>Vision Cocksfoot, Bluegrass, AusVic Ryegrass, Goulburn Sub Clover &amp; Strawberry Clover</td>
<td>Horse</td>
<td>25-30kg</td>
<td>600mm+</td>
<td>Medium</td>
</tr>
<tr>
<td>Target HR (high rainfall) Horse Mix</td>
<td>Tall Fescue, Wana Cocksfoot, AusVic Ryegrass, Bluegrass, Tonic Plantain, Goulburn Sub Clover, Nomad White Clover</td>
<td>Horse, Alpaca</td>
<td>25-30kg</td>
<td>650mm+</td>
<td>Slow</td>
</tr>
<tr>
<td>Target Dam Bank Mix</td>
<td>Tall Fescue, Cocksfoot, Perennial Ryegrass, Ryecorn, Sub Clover, Strawberry Clover</td>
<td>Soil Stabilisation</td>
<td>50-75kg</td>
<td>500mm+</td>
<td>Ryecorn Fast, Others Slow</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual Forage Crop</th>
<th>Pasture Mix Components</th>
<th>Use/Livestock Class</th>
<th>Sowing Rate kg/Ha</th>
<th>Seasonal Rainfall Req.</th>
<th>Establishment Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Green Manure</td>
<td>Ryecorn, Oats, Field Peas, Vetch, Shaftal Clover, Mustard, Radish, Brassica</td>
<td>Soil Reconditioning</td>
<td>50-100kg</td>
<td>Autumn, Winter</td>
<td>Fast</td>
</tr>
</tbody>
</table>

Disclaimer: The recommended sowing rates in this publication are to be used as a guide only. For specific recommendations suited to your particular requirements, contact your local rural retailer, agronomist or farm advisor.
WHITE CLOVER
Trifolium repens
A perennial clover native to Europe, which owes its perennial nature to its stolon activity. The original plant will send out stolons (or runners) that root down at the nodes to form daughter plants. These daughter plants will eventually break away and become independent plants. White clovers are suited to a wide range of soil types from sandy soils to well-drained heavy clays. One method of differentiating white clovers is by leaf size, another by stolon density. Persistence in pasture is usually attributed to those cultivars whose stolon density is highest although some persistence can also be attributed to seeding.

Rainfall: 750mm+ Irrigation
Seed count: 1,600,000 / kg
Sowing rate: 1-2kg/Ha Dryland 3-5kg/ Ha High Rainfall/ Irrigation

GRASSLANDS DEMAND
Medium leaved variety with good adaptability, persistence and spring production. Suited to sheep grazing or as a component of dairy mix.

GRASSLANDS NOMAD
Small to medium-leaved variety, bred for increased stolon recovery after hot dry summers. A persistent clover under hard grazing and has a high seed yield for natural reseeding.

GRASSLANDS TRIBUTE
A medium to large leaf variety with a high leaf size/stolon density ratio. Australian bred with improved cool season production.

HAIFA
Large leaf size, erect growth habit and low stolon density contribute to Haifa’s high autumn-winter production. Needs to produce seed to persist.

MAINSTAY
A large-leaved, white clover with shown outstanding yield potential and persistence under adverse conditions. Suitable for all cattle pastures and rotational grazed sheep finishing pastures, especially when mixed with Tribute white clover.

MANTRA
A very large leafed mid flowering white clover, semi-erect growth habit, high stolon density and thick stolons with medium to high growing points to enable better competition with grass in swards.

THE WINTER FEED CHAMPION – SONIK ITALIAN RYEGRASS

For a specialist, short rotation pasture or for over-sowing, Sonik Italian ryegrass is the ideal choice.
Sonik has been thoroughly proven on farms and in trials throughout Victoria.
Sonik exhibits very fast establishment, very high autumn, winter and spring yields, with high pasture quality.

For further information on Sonik contact our regional agronomists:
North & East Victoria, NSW, QLD: Adam Sheedy – 0428 132 096
Western Districts, SA, Tasmania: Bruce Hume – 0427 607 375
www.cropmark.com.au

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**VICTORIAN**  
Small leaf size, it is an ecotype from the irrigation area of northern Victoria, persistent and tolerant of grazing pressure.

**WILL**  
Large leaf size, a true Ladino type white clover, persistent in hot climates, it has superior winter-hardiness, and offers high yield potential. Known for excellent stolon development and establishment, and competes well against weeds.

**RED CLOVER**  
*Trifolium pratense*  
A short-lived perennial clover native to Europe and sometimes referred to as cow grass. Its main growth periods are spring and summer with very little production in winter. Soils need to be well drained, fertile, and slightly acid. High in feed value and performs best under low stocking rates. Very suitable for high quality hay production. Diploid and tetraploid cultivars are available.  
Rainfall: 600mm+ or Irrigation  
Seed count: 500,000/kg diploid  
290,000/kg tetraploid  
Sowing: 4-6kg/Ha

**OREGON**  
A multiple-cut US red clover ideally used for summer cropping. A high yielding summer active clover that can add quality and production to summer crops, particularly crops such as millet.

**REAPER**  
High yielding large leafed type with semi-erect growth habit suitable for grazing, hay and silage. Very palatable variety, with fine stems which are less stalky than traditional red clovers it is low in oestrogen levels.

**RELISH**  
Outstanding persistance, ideally suited to pasture mixes where its growth habit should help to maintain red clover content over time. High potential with a semi-prostrate growth habit and low levels of oestrogen.

**SUBTERRANEAN CLOVER**  
*Trifolium subterraneum*  
A self-regenerating annual that gets its name from its ability to bury its seed. Native to the Mediterranean region, sub clovers grow on a wide range of soil types and varying rainfall, from 250mm to in excess of 750mm. Sub clovers are divided into three main sub-species, with large variations.  
1. Sub-species *subterranean*  
These black-seeded varieties can tolerate a wide range of acid soils, mostly well drained.  
   Seed count: 133,000 – 250,000/kg  
   Sowing rate: 4-8kg/Ha

**CAMPEDA**  
A mid-season variety with high hard seed levels (29%). A high seed yielding variety, resulting in excellent regeneration. Generally flowering approx. 2 weeks earlier than Goulburn, Campeda can vary flowering to match season.  
Rainfall: 375mm+

**LEURA**  
A late flowering, very late maturing cultivar. Due to its late maturity it makes better use of late-spring rainfall and is more productive than Denmark or Karridale. It has superior resistance to leaf rust than other late varieties, leaf rust can be a problem in higher-rainfall areas.  
Rainfall: 650mm+

**GOULBURN**  
Woogenellup replacement with good disease resistance, persistence (30% hard seeds), regeneration ability and high production.  
Rainfall: 500mm+

**DALKEITH**  
Early maturing, tolerant to root rot, susceptible to clover scorch disease. Hard-seeded.  
Rainfall: 375mm+

**SEATON PARK**  
Early mid-season. Moderately susceptible to root rot, susceptible to clover scorch disease. Hard-seeded and copes well with false breaks.  
Rainfall: 400mm+

2. Sub-species *yanninicum*  
The varieties of this sub-species are adapted to acid soils subject to winter water logging, but also perform well in well drained soils.  
   Seed count: 90,000 – 120,000/kg  
   Sowing rate: 6-10kg/Ha

**GOSSE**  
Mid-season cultivar. A more productive cultivar offering better seedling vigour and greater spring production than Trikkala. Improved resistance to clover scorch and root rot, combined with a good level of hard seed. Excellent for grazing, hay or silage production.  
Rainfall: 500mm+

**MONTI**  
Flowers two days earlier than Trikkala and eight days earlier than Gosse and has an excellent adaptation to the shorter growing seasons experienced over the last decade. With excellent seed yields it will regenerate reliably. Better tolerance to Phytophthora Root Rot and Clover Scorch disease than Trikkala.  
Rainfall: 450mm+

**RIVERINA**  
Early mid-season alternative for Trikkala. Riverina provides greater autumn and winter production, with a good level of hard seed. It provides high resistance to all three strains of Phytophthora root rot.  
Rainfall: 450mm+

**TRIKKALA**  
Early/mid-season. Produces well in winter. Some resistance to root rot and tolerant of clover scorch disease.  
Rainfall: 450mm+
THE ADAPTABLE RYEGRASS

• Prospect has been bred from a wide range of genetic material
• Diploid ryegrass with a +12 days heading date
• Strong all-year-round performance with high dry matter yields
• A dense fine-leaved cultivar with high production, suited to dairy or sheep and beef systems
• Bred and selected with the AR37 novel endophyte

Due to a small number of tip awns Prospect is certified as Lolium bucheanum.

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THE PRODUCTIVE & PERSISTENT WHITE CLOVER

• Medium to large-leaved white clover
• High dry matter production
• Very high stolon density
• Suited to a wide range of farm types
• Very persistent under hard grazing

WWW.AGRICOM.COM.AU
3. Sub-species brachycalycinum

**Purplish-black seeded variety best suited for neutral to alkaline soils.**

- **Seed count**: 77,000 – 140,000/kg
- **Sowing rate**: 8-12kg/Ha

**ANTAS**

Late season maturity with exceptional seedling vigour and winter production. A superior replacement for Clare, with a higher level of hard seed and better persistence. It is widely adapted and will tolerate slightly acid soils. Very large leaves and is very suitable as a hay type.

- **Rainfall**: 600mm+

### STRAWBERRY CLOVER

**Trifolium fragiferum**

A deep-rooted perennial clover native to the Mediterranean region. Survives periods of drought or flooding. Tolerates very heavy and saline soils, performs best on neutral to alkaline soils.

- **Rainfall**: 550mm+
- **Seed count**: 800,000/kg
- **Sowing rate**: 1-2kg/Ha Mixes

**PALESTINE**

Grows in spring, summer and autumn but not much in winter. Prostrate growth habit, good ground covering ability in wet soils.

### ARROWLEAF CLOVER

**Trifolium vesiculosum**

Originated from the Mediterranean region. Suited to well-drained soils, slightly acid to slightly alkaline. A self-regenerating annual clover with thick hollow stems, being an aerial seeder it owes its self-regeneration to its high level of hard seed.

- **Rainfall**: 450mm+
- **Seed count**: 880,000/kg
- **Sowing rate**: 2-6kg/Ha Mixes 10-15kg/Ha Pure Stands

**ZULU**

Useful on deep acid sands with perched water tables and is able to tap into the moisture providing late spring/early summer growth. Erect growth habit is ideal for cattle, as it is not known to cause bloat.

### BALANSA CLOVER

**Trifolium balansae**

Originally introduced from Turkey, it is a hard seeded self-regenerating annual that is capable of producing an abundance of seed that can quite often find its way into a system via hay. Will tolerate very heavy water logged soils and soils of moderate salinity, with a pH from acid to alkaline.

- **Rainfall**: 400mm - 700mm
- **Seed count**: 1,400,000/kg approx (Varies between cultivars)
- **Sowing rate**: 1-3kg/Ha Mixes 3-5kg/Ha Pure Stands

### PARADANA

Tolerates relatively severe waterlogging. High levels of hard seed. Good growth during late winter and spring. Good hay production.

- **Rainfall**: 450mm+

### VIPEER

**High performance variety with good tolerance of waterlogging and moderate tolerance of salinity. Later maturing than Paradana, with excellent late spring production. Ideal for grazing or hay/silage.**

- **Rainfall**: 550mm+

### PERSIAN CLOVER

**Trifolium resupinatum**

An annual clover native to the Middle East, tolerates a range of soil conditions including wet, slightly salty and slightly acid to alkaline. If sown in early autumn can be quite productive in winter, with a high level of spring growth. Persian clovers are divided into two main sub-species. Sub-species majus will grow well into summer under irrigation, producing high quality forage.

- **Rainfall**: 350mm+ to irrigation (depends on cultivar chosen)
- **Seed count**: 800,000/kg (majas) 1,400,000/kg (resupinatum)
- **Sowing rate**: 2-4kg/Ha Mixes 4-5kg/Ha Dryland 6-8kg/Ha High Rainfall or Irrigation

#### 1. Sub-species majus

Characterised by being nearly 100% soft seeded, therefore needs to be re-sown each year, majus are of very high nutritive value.

### SHAFTAL (MARAL)

One-year forage crop. Soft seeded, erect plant with thick fleshy hollow stems and late season maturity. Tolerates various soil types, waterlogging and mild salinity.

- **Rainfall**: 500mm+

#### 2. Sub-species resupinatum

This sub-species has very high levels of hard seed and, if let go to seed, is a self-regenerating annual.

### PROLIFIC

Very early season, hard seeded cultivar for dryer areas. Prolific is suited to a range of soils, tolerates heavy soils, waterlogging and mild salinity. Can be used in rotation with crops, in low rainfall cropping zones or in perennial pasture mixes.

- **Rainfall**: 350mm+

### BERSEEM CLOVER

**Trifolium alexandrinum**

A soft seeded annual clover native to the Mediterranean region. Suited to high rainfall or irrigation, able to withstand waterlogging and lighter soils. Grows well in pH ranging from slightly acid to alkaline, and well in winter, with a flush of growth in spring that will continue into summer under irrigation. Limited bloat potential.

- **Rainfall**: 525mm+ or Irrigation
- **Seed count**: 330,000/kg
- **Sowing rate**: 4-8kg/Ha Mixes, 15-20kg/ Ha Pure Stands

### CRIMSON CLOVER

**Trifolium incarnatum**

A native to southern Europe, a soft seeded annual clover that is very quick to establish. Very useful autumn and winter growth because of its flush in early spring. A worthwhile addition for silage crops. Suited to a wide range of soil types, from sandy to heavy textured, and soils of very low to neutral pH. It has a very distinctive brilliant red flower.

- **Rainfall**: 450mm+
- **Seed count**: 250,000-280,000/kg
- **Sowing rate**: 1-4kg/Ha mixes 8-10kg/ Ha alone
Cereals & Winter Legumes

OATS
*Avena sativa*

Oats are a cereal crop that can provide good feed from late autumn through to early spring. Oats adapt to acid soils and are a useful tool in pasture renovation because they expand the number of chemical possibilities that can be used for weed control in the year prior to sowing a perennial pasture. Oats can be combined with a legume (most commonly vetch) to increase overall quality if hay is required. There are a large number of cultivars available and this will allow selecting specifically for grazing, hay or grain as well as dual-purpose varieties.

- **Rainfall:** 550mm – 800mm
- **Seed count:** 30,000/kg
- **Sowing rate:** 80-120kg/Ha depending on rainfall

★ **TARGA**
A dual purpose oat suited for grazing and hay production. Features of Targa include high forage yields, good regrowth capabilities, excellent quality hay, strong straw, and heavy bright coloured grain.

SAIA OATS
*Avena strigosa*

Saia has good potential for high winter yields. Saia is more tolerant of acid soils than other oats but is not suited for hay as it tends to go rank if left ungrazed. The different seed types (small and black, compared to plump and golden) makes it harder for birds to find after sowing.

- **Rainfall:** 500mm+
- **Seed count:** 54,000/kg
- **Sowing rate:** 60-80kg/Ha

FIELD PEAS
*Pisum sativum*

Field peas are a hard winter legume and are one of the oldest domesticated crops, cultivated for at least 7,000 years. They are now grown in many countries for both human consumption and stockfeed. There are several cultivars and colours of peas, including blue, dun (brown), maple and white. Peas are a climbing annual legume with weak, viny and relatively succulent stems. Vines are often 1.2 to 1.5 metres long but when alone, field pea’s weak stems prevent it from growing more than 40-60cms tall. Leaves have two leaflets and a tendril.

Flowers are white, pink or purple. The root system is relatively shallow and small, but well nodulated.

- **Rainfall:** 500mm+
- **Seed count:** 5,800/kg
- **Sowing rate:** 80-120kg/Ha

DUN PEAS

Suited to silage with many different cultivars available. Differences in cultivars can be found in their range of disease resistance, yield potential, flowering dates and suitability for grain or plant dry matter production. Dun Peas feature in our TARGET Green Manure Mix as well as TARGET Mega Silage.

COMMON VETCH
*Vicia sativa*

Common vetch is a winter-active annual legume usually added to oats or cereals to increase dry matter production and to improve feed quality for grazing or hay. Sown alone, vetch can provide a high protein hay yield or it may be used as a green manure crop, providing nitrogen for following crops and breaking disease cycles.

- **Rainfall:** 350mm+
- **Seed count:** 25,000-50,000/kg
- **Sowing rate:** 15-30kg/Ha alone, 20-30kg/Ha in mixes

WINTAROO

Wintaroo is a mid-season tall oat which is suited to grain and hay production. It has exceptional hay and grain yield which is superior to most oat varieties. Can be susceptible to stem and leaf rust.
**BLANCHEFLEUR**
An early maturing common vetch mainly suited to hay/silage, but will recover from early grazing. Also ideal green manure crop.
Rainfall: 350mm+

**PURPLE VETCH**
*Vicia benghalensis*
Purple vetch is an annual legume native to Southern Europe generally grown as a green manure crop or mixed with oats to produce hay. Purple vetch does not respond well after grazing and is 100% soft seeded.

**POPanY**
Popany is suitable for green manure or hay production, it’s very quick to establish but does not tolerate grazing well.

**RYECORN**
*Secale cereale*
Ryecorn is a deep rooted early winter feed option. Rapid establishment provides first grazing at 4-8 weeks with good recovery allowing 3-4 grazings per season. Sown with brassica, legumes or vigourous grasses, ryecorn can provide a fast feed component to be overcome by the more nutritious pasture varieties as the ryecorn is grazed out.
Rainfall: 350mm+
Sowing rate: 80-100kg/ha alone, 20-40kg/ha mixes

**COMMON RYECORN**
Common Ryecorn is grown without PBR and quality may vary. It can provide early winter feed, stabilise ground with its deep tap root and provide a valuable component of a green manure crop.

**VAMPIRE RYECORN**
Vampire is a leafy late maturing forage ryecorn providing improved quality, palatability and persistence for grazing enterprises.

**THE MULTIPLE GRAZING BRASSICA**

- High quality fodder crop, ideal for stock finishing systems
- Tolerant of hot, dry conditions once established
- Multiple grazing option with excellent regrowth potential
- Early maturing, 10-12 weeks
**Summer Forage Crops**

**MEETING YOUR SUMMER FEED REQUIREMENTS**

**Summer forage crops** (such as brassicas, sorghum, millet and Lucerne) provide the opportunity to control weeds as part of a pasture renovation phase, improve your soil structure and fertility and most importantly, grow valuable feed over the summer months.

Our Summer Forage HEADSTART Blends are an easy option to help you achieve all these objectives. The blends include TARGET Summergraze as well as the HEADSTART range.

TARGET Summergraze is a well-balanced blend of millet and Winfred Forage Brassica providing quick grazing potential with the Winfred improving the overall quality of the standing feed.

Spring sown HEADSTART Blends are an innovative way of improving the establishment of perennial pasture herbs and clovers in spring whilst also increasing your total crop production and regrowth potential.

The blends include a primary summer forage component; Winfred Hunter, or millet, sown as a cover for herbs and white clover.

In the first autumn after sowing a HEADSTART blend, many farmers are impressed with the outstanding growth rates of the established chicory, plantain and white clover.

Over-sowing these established herbs and white clover in autumn with a short to medium term ryegrass will result in a high quality production pasture that will persist for 2-4 years.

The **HEADSTART Concept**

<table>
<thead>
<tr>
<th><strong>SPRING</strong></th>
<th><strong>SUMMER</strong></th>
<th><strong>AUTUMN</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sow HEADSTART Blend</td>
<td>Utilise HEADSTART Blend</td>
<td>Oversow HEADSTART Blend with Ryegrass</td>
</tr>
</tbody>
</table>

**Where to find the Summer Feed:**

- Summer Forage Blends
- Millet and Sorghum page
- Barassicas

**The HEADSTART Concept**

- Quality Summer Feed
- Blends of Pasture Herbs, Clovers, Millet or Brassicas
- Ideal for Pasture Renovation
- Bulk and Substance for Hay and Silage
- Providing Minerals for Improved Animal Performance
Summer Forage Blends

MEETING YOUR SUMMER FEED REQUIREMENTS

**HEADSTART with WINFRED**

<table>
<thead>
<tr>
<th>Blend</th>
<th>Composition</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>WINFRED</td>
<td>Forage Brassica (Gauchò Treated)</td>
<td>25%</td>
</tr>
<tr>
<td>TONIC</td>
<td>Plantain (Gauchò Treated)</td>
<td>20%</td>
</tr>
<tr>
<td>CHOICE</td>
<td>Chicory (Gauchò Treated)</td>
<td>35%</td>
</tr>
<tr>
<td>NOMAD</td>
<td>White Clover (Gauchò Treated)</td>
<td>10%</td>
</tr>
<tr>
<td>TRIBUTE</td>
<td>White Clover (Gauchò Treated)</td>
<td>10%</td>
</tr>
<tr>
<td>Sowing Rate</td>
<td></td>
<td>10-15kg/ha</td>
</tr>
</tbody>
</table>

HEADSTART with Winfred performs extremely well in regions with milder summers or under spray irrigation. This blend produces high quality feed during summer when normal pasture quality and production is declining. HEADSTART with Winfred has potential for multiple grazings and is a persistent, hardy blend that responds well to summer rainfall. Established clover and herbs make it ideal for over-sowing in autumn. HEADSTART with Winfred is best suited to well-drained, loamy soils with good water-holding capacity.

**HEADSTART with HUNTER**

<table>
<thead>
<tr>
<th>Blend</th>
<th>Composition</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUNTER</td>
<td>Forage Brassica (Gauchò Treated)</td>
<td>30%</td>
</tr>
<tr>
<td>TONIC</td>
<td>Plantain (Gauchò Treated)</td>
<td>15%</td>
</tr>
<tr>
<td>CHOICE</td>
<td>Chicory (Gauchò Treated)</td>
<td>15%</td>
</tr>
<tr>
<td>NOMAD</td>
<td>White Clover (Gauchò Treated)</td>
<td>10%</td>
</tr>
<tr>
<td>TRIBUTE</td>
<td>White Clover (Gauchò Treated)</td>
<td>10%</td>
</tr>
<tr>
<td>Sowing Rate</td>
<td></td>
<td>10-15kg/ha</td>
</tr>
</tbody>
</table>

Smyth Seeds’ HEADSTART with Hunter and Hunter + Herbs are best suited to highly fertile soils in regions that experience cooler summers with reliable summer rainfall. Hunter is one of the fastest maturing leafy, non-bulb producing brassicas on the market. It offers excellent feed quality and regrowth following grazing. The additional herbs and clovers provide extra production and quality and can be over-sown the following autumn.

**HEADSTART with MILLET**

<table>
<thead>
<tr>
<th>Blend</th>
<th>Composition</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHIROHIE</td>
<td>Millet</td>
<td>55%</td>
</tr>
<tr>
<td>TONIC</td>
<td>Plantain (Gauchò Treated)</td>
<td>15%</td>
</tr>
<tr>
<td>CHOICE</td>
<td>Chicory (Gauchò Treated)</td>
<td>10%</td>
</tr>
<tr>
<td>NOMAD</td>
<td>White Clover (Gauchò Treated)</td>
<td>10%</td>
</tr>
<tr>
<td>TRIBUTE</td>
<td>White Clover (Gauchò Treated)</td>
<td>10%</td>
</tr>
<tr>
<td>Sowing Rate</td>
<td></td>
<td>18-25kg/ha</td>
</tr>
</tbody>
</table>

‘HEADSTART with Millet’ is suited to all regions of Victoria, and can be grazed by sheep, beef and dairy cattle. It performs best in moderate to high rainfall environments, or under spray irrigation on well drained soils. In hotter irrigated environments such as the Goulburn Valley, best results are achieved by sowing at a soil temperature of 14-15 °C. This allows the herbs and clovers time to establish prior to the onset of high summer temperatures, and controls the initial growth rate of the millet.

**TARGET SUMMERGRAZE**

<table>
<thead>
<tr>
<th>Blend</th>
<th>Composition</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHIROHIE</td>
<td>Millet</td>
<td>80%</td>
</tr>
<tr>
<td>WINFRED</td>
<td>Forage Brassica (Gauchò Treated)</td>
<td>20%</td>
</tr>
<tr>
<td>Sowing Rate</td>
<td></td>
<td>12.5kg/ha</td>
</tr>
</tbody>
</table>

TARGET Summergraze is a well-balanced blend of Millet and Winfred Forage Brassica providing quick grazing potential with the Winfred improving the overall quality of the standing feed. The Winfred has been Gauchò Treated for added insect protection.
Summer Grasses and Legumes

GOOD FEED VALUE DURING SUMMER

Summer grasses and legumes can provide good forage during the warmer months of the year. The feed value of the grasses varies considerably with the millet and sorghums tending to be lower in energy and digestibility compared to teff.

Cowpeas and lablab are fast growing, annual, summer forage legumes. They are excellent quality crops for fattening livestock, and are also regarded as good feed for milking cows. Traditionally, these crops have been grown in the northern half of NSW, where summer rainfall is more predominant. Their suitability to the more southern areas like Victoria is limited.

SHIROHIE MILLET
Echinochloa utilis

Shirohie Millet has less dry matter production than forage sorghum but higher quality feed. It also has a better fattening and hay/silage potential than sorghum. It can be more difficult to establish than the larger seeded sorghums. Shirohie can be grazed 5 to 7 weeks after sowing but does not stand harsh grazing. There is no prussic acid poisoning risk associated with Shirohie. It can run rapidly to head in hotter weather so grazing management is important, it is also frost sensitive.

**Sowing rate:** Dryland or in mixes 10-15kg/ha
**Irrigation:** 20kg/ha

FORAGE SORGHUM
Various types: Hybrid Forage Sorghum, Sudan Grass Hybrids, Sweet Sorghums

Forage sorghum is the most productive and fast growing forages. It can produce large volumes of feed relatively quickly. As a general guide, it can be sown when the threat of frost has gone and soil temperatures have reached at least 16°C. Graze carefully, once the crop is well established, 80 cm high and unstressed. If the crop is stressed, there is a risk of Prussic acid and/or nitrate poisoning. Check more specific information on each available variety.

**Cowpeas**
Vigna unguiculata

A summer growing legume, cowpeas are more suitable to sandy soils than Lablab, they flower earlier but do not recover as well after grazing.

**Sowing rate:** 20kg/ha

LABLAB
Lablab purpureus

Lablab’s performance on heavy soils is greatly superior to that of cowpeas; both require well-drained soils, although lablab has better resistance to phytophthora root rot. Lablab is more tolerant than cowpeas to trampling and recovers quicker after grazing.

**Sowing rate:** 30kg/ha

TEFF
Eragrostis tef

Teff is a self-pollinated, annual grass and can be harvested or grazed multiple times during the growing season. As a fast-growing crop, Teff combines excellent forage quality with high yield during a relatively short growing season. It is best sown when soil temperatures have reached 18°C. Due to its extremely small seed size, seed placement at sowing is critical. The best seed bed for Teff is obtained by working the soil, rolling then dropping the seed on top and rolling again. Sowing depths of 10mm or greater can result in complete failure.

**Sowing rate:** 5-7kg/ha

Summer Grasses & Legumes

Summer grasses and legumes can provide good forage during the warmer months of the year. The feed value of the grasses varies considerably with the millet and sorghums tending to be lower in energy and digestibility compared to teff.
For a high yielding, multi-graze forage rape, it is hard to go past Pillar forage rape.

Pillar is a new, fast establishing, giant type rape, with very good winter hardiness and excellent re-growth ability, enabling multiple grazings potential. Pillar is palatable and can be used for all livestock types and farming systems.

For further information on Pillar contact our regional agronomists:
North & East Victoria, NSW, QLD: Adam Sheedy – 0428 132 096
Western Districts, SA, Tasmania: Bruce Hume – 0427 607 375

www.cropmark.com.au

DON’T RISK YOUR FUTURE PERFORMANCE

SARDI LUCERNE

It’s not by chance SARDI lucernes outsurvive and outyield other varieties under Australian conditions. SARDI varieties have been developed from decades of local breeding and field testing to produce cultivars that are broadly adapted to Australian farming practices.

• A range of winter activity
• Superior yield and after-cutting growth
• Resistance to lucerne pests and diseases
• Adaptability to varying climates and soil types
• High forage quality
• Persistence under extreme grazing management.

For further information contact FREECALL: 1800 007 333
www.heritageseeds.com.au

GROW WITH CONFIDENCE
INSIST ON THE YELLOW BAG

Heritageseeds
Brassicas

VALUABLE FEED FOR HIGH ANIMAL PERFORMANCE

TURNIPS

Turnips can be utilised for both their leaf and bulb production. They are classified by the shape of the bulb. Tankard (summer turnip) have only 40% of their bulb below the ground making them more accessible to stock, while globe shaped turnips have about 90% of the bulb growing below ground, hindering stock access. Remaining bulbs should not be left in the paddock and will need to be cultivated after the tops have been grazed.

RAPE

Rape is the most versatile of the brassica species. It is suited to a wide range of soil types, fertility levels, and environmental conditions. Rape is valued as a finishing crop for sheep, beef and dairy cattle and has flexibility in its sowing times.

HYBRID BRASSICAS

Hybrid brassicas are created by crossing a turnip with an Asiatic leaf vegetable, kale or rape. The resulting plant is quick-growing and leafy with minimal bulb development.

Hybrid brassicas are able to produce large amounts of high-quality feed in multiple summer-grazings, and are also suitable for autumn sowing.

Hybrid brassicas produce feed that is highly palatable and digestible, and have outstanding regrowth potential.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
<th>Maturity</th>
<th>Grazings</th>
<th>Sowing Rate</th>
</tr>
</thead>
</table>
| Australian Purple Top Turnip | • Selected for improved Diamondback Moth tolerance  
• 12-14 weeks to mature, summer turnip  
• Certified alternative to Mammoth Purple Top Turnip | 12-14 weeks | 1        | 1-2kg/ha    |
| Marco Tetraploid Turnip | • Earliest maturing turnip available  
• Sowing date flexibility - can be used for late sowing or where crop failure occurs | 7-10 weeks | 1        | 3kg/ha      |
| Hunter             | • Early maturity, 6-8 weeks, minimal ripening requirements  
• Fast recovery from grazing with excellent subsequent yields, given moisture  
• Low proportion of bolting plants from mid-late spring sowing | 6-8 weeks | 2-4      | 4kg/ha      |
| Mainstar           | • Short type brassica with increased forage yield  
• Improved regrowth potential after grazing and ability to respond to moisture after long periods of summer dry  
• Superior aphid tolerance | 10-12 weeks | 2-4      | 3-4kg/ha    |
| Winfred            | • High leaf-to-stem ratio for excellent utilisation rates  
• Tolerant of dry conditions once established  
• Ideal for summer, autumn and winter feed | 10-12 weeks | 2-4      | 3-4kg/ha    |
| Rival Summer Turnip | • Early-maturing tankard-shaped bulb turnip bred for high leaf production  
• Provides high volumes of high energy, high protein and low fibre forage at a time of year when fibre content of pastures are increasing, and energy and protein are decreasing. | 12-14 weeks | 1        | 1.5-3kg/ha  |
| Forage Radish      | • Excellent early growth gives will help reduce soil compaction  
• Palatable to all classes of livestock | 10 weeks | 1        | 6-8kg/ha    |
Lucerne is the most widely grown perennial legume in Southern Australia. It is a highly adaptable plant, grown for both dryland and irrigated farming systems for grazing and fodder conservation.

**Lucerne**

*Medicago sativa*

Lucerne is a deep tap-rooted plant with excellent feed quality and drought tolerance. Its main period of growth is from spring through to autumn and it may persist for over ten years.

All Lucerne varieties are summer-active, however they are divided into one of four groups depending on their level of winter dormancy:

- highly winter-active (8-10 rating)
- winter-active (6-7 rating)
- semi winter dormant (4-5 rating)
- winter dormant (1-3 rating).

The choice of cultivar should depend on its intended use and the environment into which it will be sown. For example:

1. Highly winter active varieties should not be sown into areas prone to heavy frosts.
2. Varieties intended for dual purpose use should come from the winter active range.
3. If sowing for hay production only, in a region that experiences heavy frosts, a winter/semi winter dormant variety would be best suited.

Pest and disease tolerance is also an important consideration.

Lucernes can be affected by fungal diseases such as phytophthora (root rot) and anthracnose (crown rot), as well as by bacterial wilt and fusarium wilt. Aphid resistance is also a desirable trait in a Lucerne variety.

Check the table below to find a Lucerne variety that suits you.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Winter Activity</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Aurora</td>
<td>6</td>
<td>• A general purpose variety suited to both grazing and hay production in irrigated or dryland areas</td>
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<tr>
<td></td>
<td></td>
<td>• A persistent variety that has resistance to some insect attack and fungal disease</td>
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<td></td>
<td></td>
<td>• Good yields for extended periods</td>
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<tr>
<td>SARDI Grazer</td>
<td>6</td>
<td>• Excellent grazing tolerance and persistence</td>
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<td></td>
<td></td>
<td>• Persists under periods of set stocking up to 2 months once established</td>
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<tr>
<td></td>
<td></td>
<td>• Requires minimal rotational grazing management</td>
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<tr>
<td>Stamina GT5</td>
<td>5</td>
<td>• Selected from long-term Australian lucerne grazing trials</td>
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<td></td>
<td></td>
<td>• Maintains stand density over many years</td>
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<tr>
<td></td>
<td></td>
<td>• Good resistance to most lucerne diseases and pests</td>
</tr>
<tr>
<td>Genesis Series 2</td>
<td>7</td>
<td>• 3-5% improved herbage yield compared to Genesis</td>
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<tr>
<td></td>
<td></td>
<td>• Well suited to hay and grazing production systems</td>
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<tr>
<td></td>
<td></td>
<td>• Excellent persistence with improvements over Genesis</td>
</tr>
<tr>
<td>SARDI 7</td>
<td>7</td>
<td>• Developed specifically for longer term mixed farming situations</td>
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<tr>
<td></td>
<td></td>
<td>• Tall, fine growth for easier hay cutting and less residual stem after grazing</td>
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<td></td>
<td></td>
<td>• Combines high feed quality, winter growth and long term persistence in tough grazing systems</td>
</tr>
<tr>
<td>SARDI 7 Series 2</td>
<td>7</td>
<td>• Good grazing tolerance with strong pest and disease resistance</td>
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<td></td>
<td></td>
<td>• Improved performance in cold, wet environments</td>
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<td></td>
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<td>• Well suited to grazing and hay production with a broad crown and high leaf-to-stem ratio</td>
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<tr>
<td>SARDI 10 Series 2</td>
<td>10</td>
<td>• Suited to cropping rotations, pasture mixes and year-round hay production systems</td>
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<tr>
<td></td>
<td></td>
<td>• Improved forage production and persistence over SARDI 10</td>
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<td></td>
<td></td>
<td>• Highly productive 3-4 year + option</td>
</tr>
</tbody>
</table>

Rainfall: 400 mm+ or Irrigation

Seed count: 440,000 to 500,000/kg

Sowing rate: 3-10 kg/ha dryland or 10-20 kg/ha irrigation
Establishing a new lawn

The best time to sow a new lawn depends on the climate of the area. In some areas lawns can be sown all year round but the best time is usually spring through to early summer and late summer to mid-autumn.

The type of soil you have will be a major determining factor in how well your lawn establishes and persists.

- Heavy clay soils should be treated with gypsum at 1kg/square metre before sowing.
- If the soil is prone to waterlogging, most grasses will not persist, so be prepared to address the drainage before planting.
- “Hungry” soils need constant fertilising to support the grass.

6 STEPS TO A NEW LAWN

1. **Choose the mix to suit your needs**
   - **Quickstart** – for fast establishment and good even colour, mows cleanly and is hard wearing.
   - **Long Run Fescue Blend** – for a strong lawn that uses less water and is very hard wearing. Ideal for hotter North Victorian areas and Southern NSW.

2. **Spraying & Rotary Hoeing**
   - Spray out all existing weeds. Rotary hoe (now is a good time to incorporate gypsum or lime if needed) or dig the area. Disturbing soil can activate dormant weed seeds. Be prepared to spray weed killer 2 weeks after digging if you think it might be necessary.

3. **Levelling & Raking**
   - Level and rake the area and use a light roller if the soil is too loose or clods need to be pressed down.

4. **Seeding & Fertilising**
   - Spread the seed as evenly as possible and use lawn starter fertiliser at a rate of 1kg to 30 square metres, then very lightly rake to achieve good seed soil contact.

5. **Watering**
   - Frequent light watering promotes seed germination and rapid establishment. Don’t allow the seed bed to become too dry or too waterlogged. As the grass begins to grow, decrease the frequency of watering but increase the amount of water each time. Normally a 2 month old lawn can be watered the same as an established lawn.

6. **Mowing**
   - Wait until the grass gets to 6-7cm high before the first mowing, and then take 2-3 mowings to get it to the desired height of 4cm (6-8cm for fescue lawns). Keep the mower blades sharp because this will lessen the harm to the young plants.

### SMYTH SEEDS LAWN SEED MIXES

#### Quickstart
- **Ingredients:** Turf Perennial Ryegrass, Bentgrass, Fine Fescue
- A blend that is suited for sowing during most times of the year. It will establish quickly to provide an attractive lawn with a deep colour.

#### Landscaper
- **Ingredients:** Perennial Ryegrass, Bentgrass, Fine Fescue
- A good quality cheaper alternative. Suitable for nature strips and backyards.

#### Long Run Fescue Blend
- **Ingredients:** Turf Type Tall Fescue, Bluegrass
- The high quality tall fescues used in Long Run combine for dark colour, strong growth, and are hard wearing. Fescue lawns use less water than other lawns and are suited for display areas and areas of tough traffic.

<table>
<thead>
<tr>
<th>Turf Type Perennial Ryegrass</th>
<th>Turf Type Tall Fescue</th>
<th>Creeping Red Fescue</th>
<th>Kentucky Bluegrass</th>
<th>Bentgrass</th>
<th>Couchgrass</th>
<th>Kikuyu</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Drought Tolerance</strong></td>
<td>★★</td>
<td>★★★★</td>
<td>★★★</td>
<td>★</td>
<td>★★★★★</td>
<td>★★★★</td>
</tr>
<tr>
<td><strong>Shade Tolerance</strong></td>
<td>★★★★</td>
<td>★★★★★</td>
<td>★★★★</td>
<td>★★</td>
<td>★</td>
<td>★★★</td>
</tr>
<tr>
<td><strong>Traffic Tolerance</strong></td>
<td>★★★★</td>
<td>★★★★</td>
<td>★★★★</td>
<td>★★★</td>
<td>★★★★★</td>
<td>★★★★</td>
</tr>
</tbody>
</table>
WEIGHTS & MEASURES

1 Acre = 0.4047 hectares
1 Hectare = 2.4711 Acres
1 Acre = 4047 sq metres
1 Hectare = 10,000 sq metres
1 Kilogram = 2.2046 pounds
1 Pound = 0.4536 Kilograms
SMYTH SEEDS
Premium Pasture Blends

TARGET Premium 850 Plus (Irrigation)
TARGET Premium AR37
TARGET Premium Endophyte
TARGET Sheep/Beef
TARGET Oversow
TARGET Valleys 650 Plus

TARGET Sub Mix
TARGET Feed & Fodder
TARGET Hay/Silage
TARGET Autumn Allgrass
TARGET Jumpstart
TARGET Winter Winner

Winfred plus Herbs
HEADSTART with Winfred
Hunter plus Herbs
HEADSTART with Hunter
HEADSTART with Millet

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