

TROPICAL/TEMPERATE

PASTURE AND FORAGE GUIDE

EDITION 5



RESEARCH & DEVELOPMENT

Assured Performance

At Heritage Seeds we believe in powering productivity by offering the highest quality pastures, forages and field crops. Our extensive range of seed species and varieties allows our customers to grow highly productive pastures to maximise output.

To ensure our products are market leaders, each year Heritage Seeds invests more than \$1 million in research activities in both northern and southern regions. The northern research team is based in Toowoomba and has four primary sites at Gatton, Oakey, Kingaroy and Blanchview. In addition we have secondary trial sites at: Mareeba, Charters Towers, Emerald, Rockhampton, Moree, Coonabarabran, Grafton and the Northern Territory. These are used to test the "area adaptability" of each variety. We also work closely with external breeding operators including the Queensland DPI's oat breeding program and lucerne breeding programs Australia-wide.

During the past decade our research team has worked on improving a range of grasses including: Rhodes, Brachiaria, Buffel, Digit, Panic and Bluegrass. We are also currently working on the development of new continental fescue lines in addition to two legume varieties; Burgundy Bean and Cowpea. In collaboration with FFI/CRC, Heritage Seeds is also working on two new lines of Panic Maximus that are suited for coastal regions and the dry tropics.

At Heritage Seeds we are dedicated to the continuous improvement of our product range so it keeps pace with your needs.

"Intensive work is done to give farmers the confidence that their bag of seed has the attributes they want."

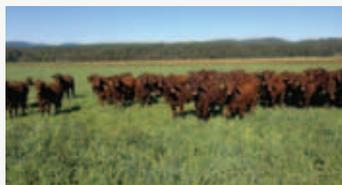


< Cover images

Mt Brisbane Droughtmaster Stud, Esk QLD



Yulgilbar Santa Gertrudis Stud, Baryulgil NSW



PASTURE ESTABLISHMENT

Key Guidelines

1. Plan ahead

The main reason pastures fail is due to weed competition during establishment. Items to consider are:

- Select your paddock early and reduce weed competition before pasture is established.
- Do not plant until 1-2 good germinations of weeds, such as Barnyard Grass, have been controlled pre-planting.

2. Check fertiliser needs prior to planting

Nutrition is particularly important, especially on previously cropped country. Soil testing will ascertain if soil nutrient imbalance occurs and if amendments are required.

3. Choose the correct varieties for your situation

Aim for a mix of perennial grasses and legumes for improved pasture and yield.

- Choose pastures by soil type, frost tolerance and rainfall.
- Use the tropical sowing guide on Page 14-15 to determine the correct mix for your area.
- Remember legumes improve pasture quality, soil nitrogen and yield.

4. Always aim to plant on good subsoil moisture

- Favourable conditions are desirable in the 3-4 weeks following emergence.
- Time plantings to maximise potential rainfall opportunities.

5. Use quality seed/AgriCOTE Pro-Tech® treatment

Heritage Seeds has a seed procurement program to ensure the highest quality seed is purchased for coating. Pro-Tech® is the latest seed coating process that improves the ease and success of establishing a pasture, while eliminating the management hassle incurred by treating and planting fluffy grass seeds.

6. Pay attention to planting depth

Tropical pasture species are sensitive to planting depth:

- Aim to plant seed less than 1 cm deep. Planting deeper than this will significantly reduce establishment.
- Plant seed on the surface, followed by a light harrow to cover and/or use a rubber type roller to ensure good seed to soil contact (don't roll crusting soils).

7. Practise good grazing management

The success of a pasture is dependent on good grazing management in the first year:

- Do not graze until follow-up rainfall allows seedlings to develop a strong root system and are approximately 30 cm tall.
- Graze lightly to encourage tillering and root development.
- Spelling the pasture in late summer will allow grasses to set seed and will increase the life of the pasture. Hay cutting is not recommended in the first year.
- The best grazing system will involve a combination of set stocking when production is high and some form of rotational grazing to ensure the pasture gets enough 'rest'.

Suggested establishment plan for weedy paddocks

Phase 1

Ebony Cowpea → Dictator 2 Barley

Phase 2

Spring Weed Control → Pasture Establishment

Heritageseeds
Powering productivity

heritageseeds.com.au

PASTURE IMPROVEMENT

Increasing Yield/Production

WHAT IS PASTURE IMPROVEMENT?

Pasture improvement is the process of developing country to increase the nutritive value and performance of pasture grasses and legumes. Pasture improvements may take the form of fertiliser applications to promote existing grass and legume species, blade plough/oversowing and direct drilling into established pastures, or by preparing a fully cultivated seedbed. Improved pastures can also contribute to soil nitrogen levels and help improve the overall structure and health of your soil.

- ✓ Warm season grasses are more efficient users of water and nitrogen.
- ✓ Warm season grasses are more drought and heat tolerant.

WHY SHOULD YOU IMPROVE YOUR PASTURES?

- More feed, better quality = reliable production
- Higher carrying capacity
- Increase your weight gains, wool clip or milk cheque
- Improve calving and lambing
- Finish stock in less time
- Improve ground cover, soil fertility and structure
- Less erosion and fewer weeds
- Cheaper than buying land to expand production
- Restore degraded land, salty areas, hardpans
- Improved pasture genetics
- Increase farm profitability

Pasture renovation using Heritage Seeds' Slopes and Plains Allgrass mix



TESTIMONIAL

Barraba grazier Tom Bowman said Heritage Seeds' Slopes and Plains Allgrass mix fits in well with his rotational grazing program:

"We initially planted 40 hectares of the Slopes and Plains Allgrass on our undulating country, which had become degraded over the years, and it has done phenomenally well... It is a good, consistent growing feed and helps us turn off large volumes of cattle... We currently have in 280 hectares with plans to put in another 70 hectares."

Tom Bowman, Barraba, NSW.

CHOOSING THE RIGHT CUSTOM MIX

WHY CHOOSE A CUSTOM MIX?

A custom seed mix will give you the right combination of pasture species to help you maximise the productivity of your property. At Heritage Seeds we select the best, so you plant the best.

We guarantee to deliver the highest quality seed from our range of over 30 species that have passed our rigorous testing and procurement procedures, delivering high germination rates in every situation.

Our team of specialists provides the knowledge and technical support to ensure the right recommendation for each farm, plus information on how to get the best results.

HOW DO I CHOOSE THE RIGHT CUSTOM MIX?

When deciding on what mix to choose there are a number of key considerations to think about:



TESTIMONIAL

"We have doubled our farm's feed production by resowing 300 hectares of the 1050 hectares of pastoral area, with high-yielding summer active tropical grasses, and oversown with Heritage Seeds' Aladdin forage oats. As a result the carrying capacity has increased from 1100 to 1400 ewes plus an additional 50 head of cattle. In addition, former cropping paddocks have been sown down with a custom mix of tropical grasses plus a proprietary Tropical Mix from Heritage Seeds 'heavy soil mix'. Last year we had 150 cows and calves on 97 hectares for six months and the tropical grasses beat them. At times it was five foot high."

Peter & Fiona Howe, 'Dunfield', Border Leicester Stud, Trangie NSW.



Fiona & Peter Howe

MEATMASTER TROPICAL MIXES WITH ^{AgriCOTE}Pro-Tech®

Meatmaster Prime Pasture

This mix is suited to the heavier black, self-mulching and grey-cracking flood plain soil types. The productivity of Katambora Rhodes, Bambatsii and Gatton Panic are enhanced by the adaptation to the soil type. The late season of the grasses is complemented by a legume component to keep protein in the pasture and nitrogen cycling. This is a very productive mix for finishing cattle in summer, whilst building a large volume of good stand over feed for the winter months.

Variety	Species	%
Katambora Rhodes	Rhodes grass	30
Gatton Panic	Panic grass	20
Bambatsii Panic	Panic grass	20
SARDI-Grazer	Lucerne	10
Medic Mix	Medic	10
B1 Burgundy	Burgundy Bean	10

Sowing rate: 6-10 kg/ha



Meatmaster Big Beef Blend

This mix is developed for the medium black to red chocolate soils. The productivity of Katambora Rhodes and Gatton Panic is enhanced by Creeping Bluegrass, with its stoloniferous growth pattern allowing good ground cover and moisture holding capacity. The mix of both winter and summer active legumes enables the feed gap to be filled over winter.

Variety	Species	%
Katambora Rhodes	Rhodes grass	30
Gatton Panic	Panic grass	25
Creeping Bluegrass	Bluegrass	15
SARDI-Grazer	Lucerne	20
B1 Burgundy	Burgundy Bean	10

Sowing rate: 8-12 kg/ha



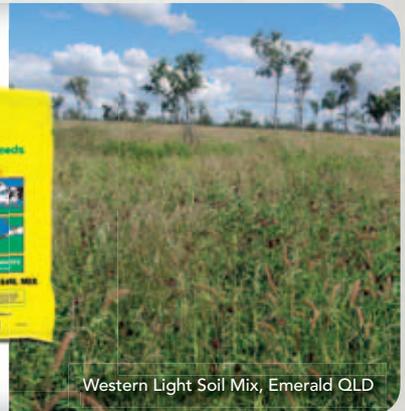
Big Beef Blend, Biddeston QLD

Meatmaster Western Light Soil Mix

This mix consists of a blend of USA Buffel for lighter country and Gayndah Buffel for the red/grey loams. The use of Sabi for vigorous establishment plus Stylos and Burgundy Bean complement the mix, enabling protein levels to be maintained in the dry winter. This mix will cover lighter soils encountered in the western Queensland area in the 350-450 mm rainfall category.

Variety	Species	%
USA Buffel	Buffel grass	30
Gayndah Buffel	Buffel grass	30
B1 Burgundy	Burgundy Bean	10
Mega Stylo	Stylo	15
Sabi	Sabi grass	15

Sowing rate: 6-10 kg/ha



Western Light Soil Mix, Emerald QLD

Meatmaster Light Soil Allgrass

This mix is suited to the red loam and harder cropped out soils of northern New South Wales and Queensland. Combining productivity, persistence and late season stay green of Premier Digit with green leafy growth of Gatton Panic and the ground cover on harder scald areas of Rhodes grass. Ideally sown in spring after a cereal grazing crop or direct drilled into a weed-free paddock.

Variety	Species	%
Katambora Rhodes	Rhodes grass	25
Premier Digit	Digitaria	45
Gatton Panic	Panic grass	30

Sowing rate: 6-10 kg/ha



Light Soil Allgrass Mix, Kingstown NSW

Meatmaster Premium Coastal Mix

This coastal beef blend is well suited to sub-tropical regions and consists of hardy and palatable coastal grasses and a good percentage of tropical legumes to even out production.

Variety	Species	%
Callide Rhodes	Rhodes grass	45
Splenda Setaria	Setaria	20
Signal	Signal grass	20
B1 Burgundy	Burgundy Bean	15

Sowing rate: 12-15 kg/ha

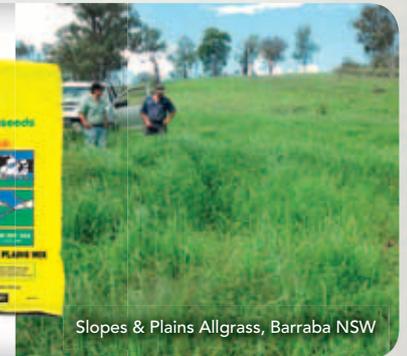


Meatmaster Slopes & Plains Mix

This mix was developed for the medium black to red chocolate soils of the New South Wales slopes and plains. Bambatsii and Gatton Panic combine for soft, leafy productivity on the heavier soils, with Digit and Rhodes grasses performing and persisting on the lighter soil.

Variety	Species	%
Katambora Rhodes	Rhodes grass	15
Premier Digit	Digitaria	40
Bambatsii Panic	Panic grass	25
Gatton Panic	Panic grass	20

Sowing rate: 7-10 kg/ha depending on situation



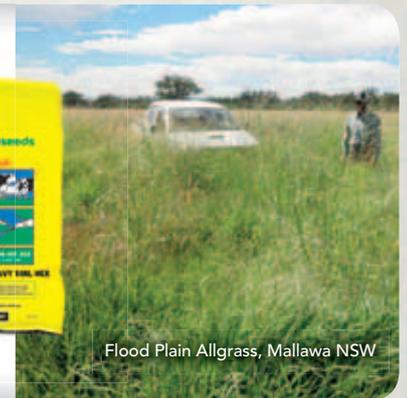
Slopes & Plains Allgrass, Barraba NSW

Meatmaster Flood Plain Allgrass

This blend is suited to the heavier, black self-mulching and grey-cracking flood plain country. The productivity of Rhodes and Panic grasses are enhanced by the black soil adaptation of Floren Bluegrass, increasing persistence and ground cover in very wet or dry conditions. A very productive mix for finishing cattle in summer or building a large volume of good standover feed.

Variety	Species	%
Katambora Rhodes	Rhodes grass	30
Bambatsii Panic	Panic grass	40
Floren Bluegrass	Bluegrass	30

Sowing rate: 7-10 kg/ha depending on situation



Flood Plain Allgrass, Mallowa NSW

Equimaster Premium Horse Blend

This is a blend specifically for the horse enthusiast. This mix ensures safety to the animal as all grasses are low in oxalate and can handle the grazing pressure. The use of both tufted and stoloniferous grass species allow the pastures to fill in quickly, producing a large ground cover. The legume component consists of Lucerne and Burgundy Bean for both summer and winter production. The Millet will help with quick ground cover and protect juvenile plants from heat stress and frost or cold shock.

Variety	Species	%
Rhodes Grass	Rhodes grass	40
Creeping Bluegrass	Bluegrass	15
Premier Digit	Digitaria	15
SARDI-Grazer	Lucerne	10
B1 Burgundy	Burgundy Bean	10
Shirohie	Millet	10

Sowing rate: 12-15 kg/ha



Premium Horse Blend, Westbrook QLD

TROPICAL GRASSES WITH ^{AgriCOTE}Pro-Tech[®] SEED COATING

Buffel (USA, Gayndah, Biloela) 350 mm+ 5.5-8.0 Light to medium

Buffel has naturalised itself throughout large areas of Australia. It is a deep-rooted summer-growing perennial with drought resistance and tolerance to heavy grazing. Buffel responds quickly to rainfall and prefers higher fertility scrub soils however will grow on a range of soil types. Generally not tolerant to waterlogging or flooding conditions, Buffel grass is high in oxalate.

- Biloela 350 mm+ 5.5-8.0 Light to heavy

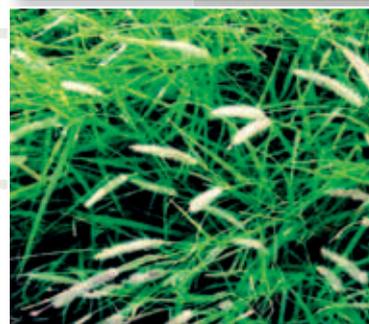
Biloela is a taller more robust Buffel with a deep root system and greater drought tolerance. It establishes readily in heavy soil types and is preferred in heavy-suckering country.

- Gayndah 350 mm+ 5.5-8.0 Light to medium

Gayndah is a finer, medium height Buffel variety that establishes readily. It is adapted to a wide range of soil types and has good stock acceptance.

- USA 350 mm+ 5.5-8.0 Light to medium

USA Buffel is a fine stemmed and medium height, dense variety with early purple flowers. It is suitable for lighter textured, well-drained soils.



Creeping Bluegrass (Bisset/Hatch) 600 mm+ 5.0-7.0 Wide range types

Creeping Bluegrass has good drought and grazing tolerance, with strong creeping stolons (runners). Suited to a range of soil types, Bisset is finer in the stem, later maturing and more stoloniferous than Hatch. Creeping Bluegrass can be slower to establish than other grasses.



Floren Bluegrass 625 mm+ 5.5-8.0 Basaltic clays

Floren Bluegrass thrives on heavy soils and periodic flooding. It forms large tussocks and will compete with weeds like Lippia once established. Floren Bluegrass is highly palatable.



Humidicola (Tully Grass) 1000 mm+ 4.5-7.5 Varying

Humidicola is a highly stoloniferous perennial grass with the ability to withstand prolonged waterlogging. It will establish in low fertility soils, and has a vigorous and dense mat forming growth habit that responds well to fertiliser. It withstands heavy grazing with minimum weed invasion, but this density makes it incompatible with twinning-type legumes. Minimum 1000 mm rainfall regions.



Consol Lovegrass 350 mm+ 4.0-6.0 Light soils

Consol Lovegrass is highly persistent on light, sandy soils. It is tolerant to low pH and high exchangeable aluminium in soils and requires intensive grazing management to maintain feed quality.



Bambatsii Panic 500 mm+ 5.5-8.0 Clay loams

Bambatsii Panic is a high-yielding and palatable perennial grass, easily distinguished by its distinctly bluish leaves with prominent white mid-rib. It will tolerate saline soils, frost, flooding, waterlogging and drought conditions. It has deep fibrous root systems and tolerates heavy black clays and melon hole country.



Gatton Panic 650 mm+ 5.5-8.0 Fertile and lighter TWO NEW GATTON PANIC GRASSES COMING SOON!

Gatton Panic is very palatable and is regarded as being a more vigorous, drought tolerant, tougher species than Green Panic. Suited to sub-tropical areas with fertile, well-drained soils, it has good shade tolerance. It looks similar to Green Panic except it has broader, greener leaves.

TROPICAL GRASSES WITH Pro-Tech^{AgriCOTE} SEED COATING

Green Panic

650 mm + 5.5 - 8.0 Fertile and lighter

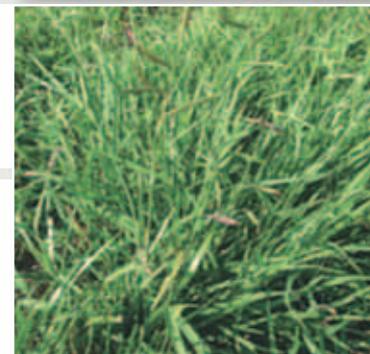
Green Panic is one of the most palatable tropical species. It's better suited to high rainfall regions and fertile, well-drained soils, but needs to be well managed.



Paspalum Dilatatum

750 mm + 4.5 - 8.0 Wide range types

Paspalum Dilatatum is a palatable, tufted perennial grass. It grows in a wide range of soil types, but is best suited to high fertility soils. It responds well to moisture and fertiliser and has good grazing tolerance, with quick return after grazing.



Paspalum Wettsteinii

750 mm + 4.5 - 8.0 Wide range types

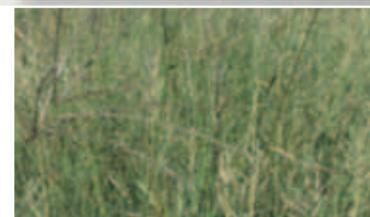
Paspalum Wettsteinii combines well with other grasses and tropical legumes. It grows well under shady conditions, enabling it to tolerate weedy infestations. Once weeds are controlled, it allows a strong sward of Wettsteinii to establish. This tolerance to shade is utilised in both pastures and parklands, where it is often difficult to establish other species of grasses under trees.



Premier Digit Grass

650 mm + 5.5 - 8.0 Lighter soil types

Digit Grass is a highly productive, robust tufted perennial that is palatable and persistent. Well adapted to inland environments with low rainfall and winter frosts, Premier Digit Grass will grow on a wide range of soils from sands, scrub and medium clay, where its open sward makes it easy to co-exist with legumes. Premier has good drought, fire and cold tolerance and its foliage is low in oxalate, making it suitable for horses.



Callide Rhodes Grass

650 mm + 5.5 - 8.0 Wide range types

Callide Rhodes Grass is a highly palatable and productive stoloniferous grass which grows in a wide range of soil types. It is highly suited to companion legumes such as Siratro, Burgundy Bean and Glycine. Its late flowering and good palatability makes it ideal for quality grazing and/or hay making. Grown extensively in the coastal regions of Queensland and northern New South Wales, Callide responds well to both moisture and fertiliser.



Katambora Rhodes Grass

650 mm + 5.5 - 8.0 Wide range types

Katambora Rhodes Grass is a highly stoloniferous, versatile plant that will grow in a wide range of soil types. It displays greater drought tolerance and the ability to grow on lower fertility soils (such as spear grass country). It's an earlier flowering variety that is well suited to hay production. Katambora will cope with a wider variation in soil and moisture conditions than other varieties and will cope with periodic waterlogging, making it a useful variety in heavy Gilgai country where it competes aggressively with weeds.



Splenda Setaria

800 mm + 5.0 - 7.0 Varying

Splenda Setaria was bred by the CSIRO as a hardy, palatable, high-yielding and later-maturing Setaria suited to the sub-tropical regions. Splenda is very palatable to stock and the stems are readily grazed up to, and after, flowering. After grazing, stem nodes may sprout aerial tillers and these may root and establish if the stems are trampled into the soil. Splenda may be heavily grazed without the risk of plant death. Suited to most soil types, it is relatively frost tolerant and is very tolerant of water-logging.



Signal Grass

800 mm + 4.5 - 7.0 Varying

Signal Grass forms a dense, high yielding sward which responds very well to additional nitrogen applications. This perennial has an aggressive stoloniferous root system and long trailing stems, which will readily root down at the nodes. It will tolerate a wide range of soil types and is best suited to humid tropical regions with a rainfall above 1000 mm.



Urochloa (Sabi Grass)

500 mm + 5.0 - 8.0 Varying

Urochloa is a palatable, hardy and quick to establish perennial tropical grass, that is well suited to the dry tropics. Urochloa responds well to rainfall and grows in a range of well-drained soil types.



SUMMER FORAGE OPTIONS

New Buffel Grass & Multi-Purpose Legumes

NEW RELEASE – LAKOTA BUFFEL GRASS



Lakota is a new buffel grass which offers good feed coming out of the winter months. It is highly productive across a range of soil types. It also benefits from a degree of cold tolerance for western regions.



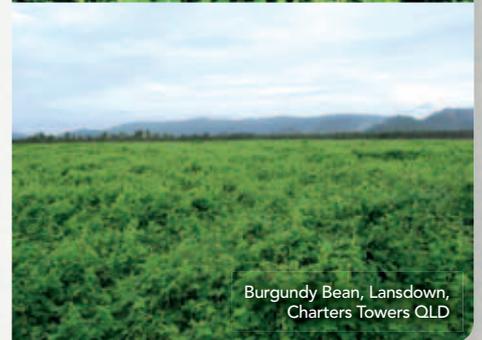
B1 Burgundy is a legume from the Siratro family. Suitable for grazing or hay production, it displays good drought, grazing and cold tolerance. B1 Burgundy establishes easily and also performs very well in combination with selected grasses.

- Suits a wide range of soils (sandy loam to heavy clays)
- High quality/non-bloating summer perennial
- Excellent nitrogen fixation
- Good drought and cold tolerance
- Strong seeding regeneration under good management
- Burgundy bean produces high quality hay
- Suitable as a ley legume in rotation systems
- Highly palatable

COMING SOON.
New Burgundy
Bean varieties
Garnet and Presto!



Burgundy Bean companion plant, Bundarra NSW



Burgundy Bean, Lansdown, Charters Towers QLD

STYLOS, HIGH PROTEIN LEGUMES CUSTOM MIX

Stylos are high protein legumes that persist and spread under most northern Australian conditions. Our varieties include: Siran and Amiga



An erect shrubby perennial that can grow up to two metres tall. Siran shows greater anthracnose tolerance than Seca and can adapt to a wider variety of conditions. With a deep tap root system, Siran shows good tolerance to drought and is suited to a wet-dry climate. It produces a large quantity of highly nutritious feed for the dry season.



A highly palatable and persistent Verano type stylo, suited to cooler, more arid regions of the tropics. It is easy to establish and produces an abundance of seed.

Variety	%
Amiga	20
Siran	40
Seca	40

MEGA STYLO BLEND
Still northern Australia's favourite Stylo mix.

SUMMER FORAGE OPTIONS

Superior Multi-Graze Cowpea



Heritage Seeds' Ebony Cowpea and Ebony combination crops are ideal options for producing high quality, summer forage or finishing feed for sheep and cattle. Providing multiple grazing opportunities throughout its growth cycle, Ebony Cowpea is a fast growing and versatile legume providing good grazing, hay and silage options for producers.



- Bred as a superior, more prostrate, forage type
- Provides multiple grazing opportunities
- Prostrate growth habit withstands harder grazing
- Improved root and stem rot resistance (P.vignae race 1,2,3 and partial resistance race 4)
- Great source of N-Fixation in summer rotation
- High quality legume forage for summer finishing feed
- Nil Prussic acid poisoning issues
- Can be used as a companion legume with millets and forage sorghum
- Soil conditioning benefits as green manure crop

TESTIMONIAL

"In a drought summer we sowed 15 hectares to Ebony cowpeas and set up a travelling irrigator to water the 8 hectare river flat section of the paddock. For 2 and a half months we fattened 740 lambs off an effective area of 8 hectares and their weight gain was excellent."

Lyon Family, "Yarras Station", Wauchope NSW



Ebony cowpea crop, Wauchope NSW

Feed quality. Mid-summer vegetative. Irrigated site.

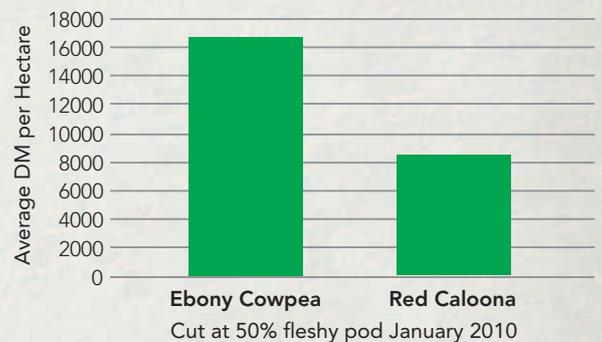
ME	CP%	DDM%	NDF%	ADF%
11	23.9	70.7	34.8	25.6

Source: Heritage Seeds Tropical Research, Gatton QLD 2008

Ebony Cowpea Planting Rates

Marginal Dryland	Good Dryland
15-20 kg/ha	20-30 kg/ha

Cowpea trial, Gatton QLD 2010



COMBINATION CROPS

Planting Ebony Cowpea with Sorghum or Millet as a combination crop can add some real benefits.

These include adding nitrogen to the system for increased yield, the provision of a more balanced ration for grazing stocks, plus adding quantity to hay and silage cuts, through increased protein content.

Planting rates for the components of a combination crop should be 50-60% of the recommended rates for the individual varieties.

Combination planting rates

3-6 kg/ha Sorghum/Millet with 12-18 kg/ha Ebony Cowpea



TRUE FORAGE CEREALS

Tried and Tested Quality Feed Options



400 mm+ 4.5 - 8.0 Wide ranging

- Complete rust resistance
- Produces a very high forage yield under both dryland and irrigated conditions
- Will tolerate heavy grazing
- Suitable for oaten hay production
- Late maturity helps to keep quality through out growing season



400 mm+ 4.5 - 8.0 Wide ranging

- True forage oat with exceptional early vigour
- High winter and good overall yield
- High quality, leafy feed
- Excellent BYDV tolerance
- Suitable for grazing, silage and hay



400 mm+ 4.5 - 8.0 Wide ranging

- Excellent seedling vigour – more early growth
- Very late maturity – stays leafy into late spring
- Up to 15% higher yields – more feed
- Potentially more durable leaf rust resistance



Genie Oats, Grafton NSW



400 mm+ 4.5 - 8.0 Wide ranging

- New and improved replacement for Crackerjack
- Stripe rust resistant, mid/late maturity
- Very high forage yield or whole crop silage option
- Excellent winter vigour and very good resistance to lodging
- Can be sown earlier than the original Crackerjack



400 mm+ 5.0 - 8.0 Wide ranging

- Highly palatable leaf, stems and seed head
- Rapid establishment and early growth
- Fastest winter growth of all true forage cereals
- Fast to first grazing and regrowth
- Longer planting window



Sowing guide for cereals

Forage Cereal	February			March			April			May			June			July			August			September			
	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late	
Oat				▶	●	●	●	●	●	●	●	●	●	●	●	◀	◀	■	■						
Triticale								▶	●	●	●	●	●	●	●	●	●	◀	◀	◀	■				
Barley								▶	▶	●	●	●	●	●	●	●	●	●	◀	◀	■				

▶ Earlier than ideal, but acceptable ● Optimum sowing time ◀ Later than ideal, but acceptable ■ Acceptable with late rain or irrigat,n

WINTER FORAGE LEGUMES

Closing the Feed Gap

Capello Woolly pod vetch

375 mm+ 5.0 - 8.0 Most well drained 15-20 kg/ha

Capello is a soft-seeded woolly pod vetch suitable for cropping rotations. It demonstrates mid-maturity and a semi-erect growth habit.

- Preferred variety for reduction of black rot in cotton rotations
- Better adapted to heavier soils than other vetches
- Offers a disease break in cropping programs
- Suitable for grazing, hay and green manuring
- Highly efficient nitrogen fixation
- New RM4 available in limited quantities



Haymaker Woolly pod vetch

375 mm+ 5.0 - 8.0 Most well drained 15-20 kg/ha

Haymaker is a very hard-seeded woolly pod vetch bred from Namoi for improved DM yield with cooler season growth. It is a mid-maturity variety with a semi-erect growth habit.

- Better adapted to light soils than other vetches
- Offers a disease break in cropping rotations
- Suitable for grazing, hay and green manuring
- Highly efficient nitrogen fixation
- Vigorous early plant growth and good grazing palatability
- Suitable for green manuring and grazing



Morava Common vetch

375 mm+ 5.0 - 8.0 Most well drained 20-40 kg/ha

Morava is the premier common vetch for DM yield. Soft seeded with high disease resistance. Morava is most suited to high potential yield systems.

- Vigorous early plant growth and good grazing palatability
- Soft seeded, non-shattering
- Suitable for green manuring and grazing



Rasina Common vetch

375 mm+ 5.0 - 8.0 Most well drained 20-40 kg/ha

Rasina common vetch is slightly quicker maturing than Morava suited to areas with a tougher finish. Rasina is well suited to high quality hay or grazing.

- Earlier maturity than Morava by 10 -15 days
- Very good companion for hay cereals
- Soft seed variety and non-shattering
- New Volga available in limited quantities



Sowing guide for winter forage legumes

Vetch	February			March			April			May			June			July			August			September		
	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late
Morava					▶	●	●	●	●	●	●	●	●	●	●	●	●	●	●	◀	■			
Rasina					▶	●	●	●	●	●	●	●	●	●	●	●	●	●	●	◀	■			
Capello					▶	●	●	●	●	●	●	●	●	●	●	●	●	●	●	◀	■			
Haymaker					▶	▶	●	●	●	●	●	●	●	●	●	●	●	●	●	◀	■			

- ▶ Earlier than ideal, but acceptable ● Optimum sowing time
◀ Later than ideal, but acceptable ■ Acceptable with late rain or irrigat,n

TROPICAL SOWING GUIDE

Variety	Rainfall (mm)	Preferred Soil Type	Waterlogging	Frost	Drought	Planting Rate (kg/Ha)			Comments
						Marginal Dryland	Good Dryland	Irrigated	
Bambatsii Panic	500	Clay loams	Good	Good	V.Good	3-5	8-12	12-15	Cool season greenness, tolerates heavy grazing, heavy black soils, periodic waterlogging and saline areas.
Buffel - USA, Gayndah, Biloela	350	Light to medium soil types, however, Biloela tolerates heavier soil types	Poor	Poor to Fair	V.Good	4-6	8-12	12-15	Most widely planted sub-tropical grass in northern Australia, hardy and productive with high fertility.
Consol Lovegrass	350	Light soils	Poor	Fair	Good	4-6	8-12	12-15	Highly persistent on light, sandy soils. Not highly palatable.
Creeping Bluegrass - Bissett - Hatch	600	Wide ranging, tolerates lower fertility	Poor	Fair	Fair	6-8	10-12	12-15	A hardy grass that will invade speargrass and establish on clays. Bissett is finer leaved and roots down more strongly than Hatch. Good for erosion control.
Floren Bluegrass	625	Basaltic clays and heavy alluvial soil	Good	Fair	Fair	2-3	6-8	10-12	Used to re-grass flood plains colonised by lippia.
Gatton/Green Panic	650	Fertile and lighter	Poor	Fair	Fair	3-6	10-12	12-15	Grows best on high fertility soils. Gatton Panic tolerates textured soil types and shade, but can be preferentially grazed.
Humidicola* - Tully Grass	1000	Varying, tolerates lower fertility	Good	Poor	Fair	4-6	8-12	12-15	Adapted to wetter, low lying areas than Decumbens with a shorter growing season.
Indian Bluegrass	500	Varying	Poor	Fair	V.Good	4-6	8-12	12-15	A hardy, free seeding plant spread widely throughout NQ and CQ.
Kikuyu - Whitret	1000	Red loams and basaltic soils	Good	Good	Fair	1.5-3	8-12	12-15	Has high fertility requirements and does best in moist and elevated, fertile basaltic tablelands.
Premier Digitaria	650	Lighter soil types	Poor	Fair	V.Good	4-6	8-12	12-15	Perennial tufted grass suited to acidic, sandy soils of low fertility.
Paspalum*	750	Fertile soil types	Good	Good	Fair	2-5	8-12	12-15	Palatable, tufted, grazing tolerant perennial grass best suited to higher fertility, high rainfall areas.
Purple Pigeon Grass	600	Self-mulching clays	Fair	Fair	V.Good	4-6	8-12	12-15	Medium term perennial suited to self-mulching clays.
Rhodes Grass - Katambora - Callide	650	A wider range of light to medium soil types	Fair	Fair	Fair	5-7	8-12	15-20	Katambora: Productive, more stoloniferous grass, suited for erosion control. Callide: Productive palatable grass suited to fertile soils. NB: All Rhodes grasses are quick to establish and have moderate salt tolerance.
Setaria Splenda	800	Varying	V.Good	Good	Fair	2-6	8-12	12-15	Hardy and palatable coastal grass well suited to sub-tropical regions.
Signal Grass*	800	Varying	Fair	Poor	Good	2-6	8-10	12-15	Valuable grass in the wet tropics, when nitrogen fertilised.
Urochloa - Sabi Grass	500	Varying	Poor	Poor	Good	2-6	8-10	12-15	Useful in the tropics. Needs some fertility or companion legume.

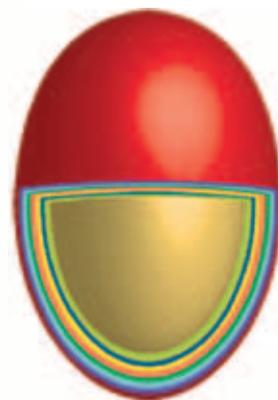
*Available as bare seed only

Legume Overplanting	Minimum Rainfall (mm)	Drought Tolerance	Frost Tolerance	Waterlogging	Preferred Soil Type	Planting Rate (kg/Ha) AgriCOTE Pro-Tech OVERSOW	Planting Time
Vetch (Jester/Lee)	1200	Poor	Poor	V.Good	Light-Heavy	2-4	Spring/Summer
Burgundy Bean (B1 Burgundy)	400	Good	Fair	Fair	Light-Heavy	3-4	Spring/Summer
Desmanthus	500	Good	Fair	Poor	Medium-Heavy	2-4	Spring/Summer
Glycine (Tinaroo/Cooper)	750	Good	Fair	Poor	Medium-Heavy	3-8	Spring/Summer
Greenleaf Desmodium	500	Poor	Fair	Good	Light-Medium	2-4	Spring/Summer
Lucerne (Sardi Five/Sardi Seven S2/Sardi Ten S2)	400	V.Good	V.Good	Poor	Light-Medium	1-3*	Autumn or Spring
Medic Burr (Cavallier)	350	Good	Good	Fair	Medium-Heavy	2-4	Autumn/Spring
Medic Barrel (Paraggio/Caliph/Sultan-SU)	350	Good	V.Good	Fair	Light-Heavy	2-4	Autumn/Spring
Medic Snail (Silver/Sava)	350	Good	Good	Fair	Medium-Heavy	2-4	Autumn/Spring
Milgarra Butterfly Pea	550	Good	Poor	Fair	Medium-Heavy	4	Spring/Summer
Peanut (Pinto/Amarillo)	1000	Fair	Fair	Fair	Medium-Heavy	8-12	Spring/Summer
Shaw Creeping Vigna	1200	Poor	Poor	Good	Medium-Heavy	1-2	Spring/Summer
Siratro (Aztec)	700	Good	Poor	Fair	Medium-Heavy	3-8	Spring/Summer
Stylo Shrubby (Seca/Siran/Fitzroy) – Scabra type	350	V.Good	Poor	Fair	Light	1-5	Spring/Summer
Stylo Caribbean (Verano/Amiga) – Hamata type	400	Good	Fair	Fair	Light	1-5	Spring/Summer
Stylo Fine Stem	700-900	V.Good	Fair	Poor	Light-Medium	2-5	Spring/Summer
White Clover (Haifa/Storm)	800	Good	Fair	Good	Medium-Heavy	2-6	Autumn/Spring
Wynn Cassia	400	V.Good	Fair	Poor	Light-Medium	3	Spring/Summer

Dung establishment via loose-lick – 5 kg of seed per 1000 kg of product

• Lucerne sowing rates for pure stands • Marginal Dryland: 6-8 kg/Ha • Good Dryland: 10-12 kg/Ha • Irrigated: 22-25 kg/Ha

Typical Pro-Tech seed coating layers



- Fungicide Treatment (Apron)** - Protects against damping-off diseases
- Insecticide Treatment (Gaucho)** - Protects against biting and sucking insects
- NPKS and T.E Nutrients** - Immediately available to the seedling
- Growth Promotants** - Improves establishment and seeding vigour
- Encapsulated Rhizobia on legumes** - Provides a longer shelf life
- Bonding Polymer** - Bonds Pro-Tech seed capsule
- DormBreaker® Technology** - Increases germination % of high fresh-seed component species
- Lime Coating** - Creates a favourable germination environment

HIGH PERFORMANCE RYEGRASS

Greater Yield



Vortex
Tetraploid annual ryegrass

600 mm+ 4.8 - 8.0

Most
soil
types

Vortex is a new Australian bred annual ryegrass ideal for producers requiring strong autumn, winter and early spring performance with the added benefits of fast establishment and early grazing. It is well suited to autumn-winter dairying, fat lamb and beef production plus early-to-mid season silage/hay.

- High performance annual ryegrass
- Quality pasture that is quick to first grazing
- Excellent autumn, winter and early spring growth
- Mid-late flowering
- Fast regrowth and recovery after grazing
- Good heat tolerance and above average rust resistance



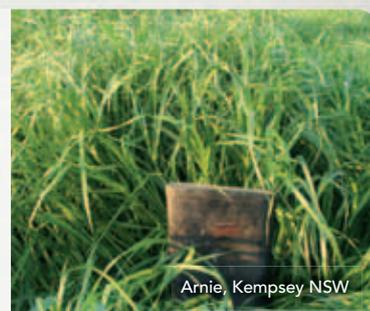
Arnie
Diploid annual ryegrass

600 mm+ 4.8 - 8.0

Most
soil
types

Arnie is a new high-yielding, late-maturing, annual diploid ryegrass bred for its erect, densely tillered growth habit. Arnie is quick to first grazing and has excellent autumn/winter production, along with strong late spring growth.

- Excellent autumn/winter production
- Well adapted across a range of conditions
- Strong late spring growth
- Very useful for hay and/or silage



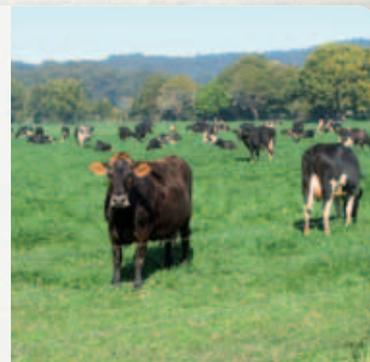
Maximus
Tetraploid annual ryegrass

600 mm+ 4.8 - 8.0

Most
soil
types

Maximus is an elite, late-flowering tetraploid annual ryegrass with greater even seasonal growth and good heat tolerance and rust resistance. Maximus sets a new standard for high performance in a tetraploid annual ryegrass.

- Late-flowering tetraploid annual
- Excellent winter and early spring growth
- Good quality – reduced heading
- Good heat tolerance
- Excellent rust resistance



Shogun
Long rotation ryegrass

650 mm+ 4.8 - 8.0

Most
soil
types

Shogun is a new late-flowering tetraploid long rotation ryegrass bred from a cross between Bealey and an elite Italian ryegrass. It offers excellent establishment, autumn, late spring and summer production and very good winter/early spring growth. Shogun contains the NEA2 endophyte which helps it persist under harsh conditions.

- Late flowering hybrid tetraploid ryegrass (+26 days) with very high yields
- Combination of high winter growth and good summer production and quality
- Grows like an Italian and persists for multiple years
- Suited to farm systems requiring exceptional autumn, winter and summer performance
- PlusNEA2 endophyte: Increased production, insect resistance and no staggers



HIGH PERFORMANCE RYEGRASS

Quality Feed

Barberia

Long rotation ryegrass

600 mm+ 4.8 - 8.0 Most soil types

Barberia long rotation ryegrass has the growth of an annual, with the persistence approaching that of a perennial. It has been bred from North African genetics, providing it with good heat and drought tolerance. Highly palatable ryegrass can result in increased intake and add to overall animal performance. Barberia contains no endophyte and will not contribute to staggers and heat stress.



Bealey

Perennial ryegrass

750 mm+ 4.8 - 8.0 Most soil types

A very late flowering ryegrass (+25 days), giving high quality feed into late spring and summer making pasture management easier. It is a perennial ryegrass with good tiller density, giving good persistence and contains an advanced endophyte (Plus NEA2) that does not contribute to animal health problems, but maintains good insect resistance. Bealey is a tetraploid perennial ryegrass that boosts animal performance by combining the key elements of high feed quality, high yield, and greater even seasonal growth.



Impact 2

Perennial ryegrass

750 mm+ 4.8 - 8.0 Most soil types

An exceptional ryegrass due to its tiller density and the endophyte NEA2. It provides outstanding persistence, palatability, insect resistance and no staggers or animal performance issues. The greater even seasonal growth curve gives good feed production throughout the year. Impact 2 provides a unique combination of features.



Kidman

Diploid perennial ryegrass

550 mm+ 4.8 - 8.0 Most soil types

Kidman is an early flowering diploid perennial ryegrass that exhibits high autumn, winter and early spring dry matter production. Well suited to regions with dominant winter rainfall and dry summers, it has application for summer production as it exhibits excellent growth where moisture is available.

- Strong autumn/winter and early spring production
- Good persistence and plant pulling resistance
- High summer production for an early flowering perennial
- Selected specifically for Australian conditions



PRODUCTIVE TEMPERATE GRASSES

High Performing Ryegrass and Phalaris

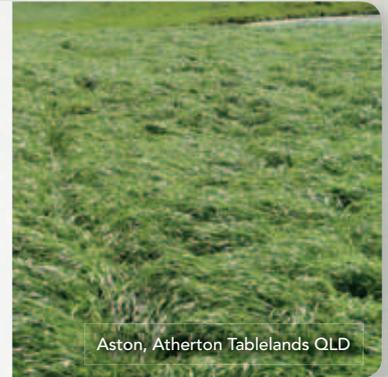
Aston
Italian ryegrass

750 mm+ 4.8 - 8.0

Most soil types

Aston has strong performance across a multitude of environments and years. In 24 Australian trials Aston has scored among the top three commercial varieties for total yield in 22 (92%) of these trials.

- High-yielding tetraploid Italian ryegrass
- Very fast establishment
- Consistently even seasonal growth pattern, offering reliable feed through the growing season
- Intermediate growth habit with a reasonably open sward



Aston, Atherton Tablelands QLD

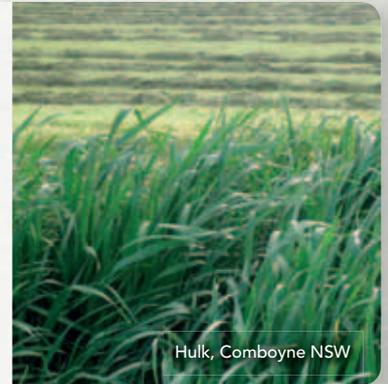
Hulk
Italian diploid ryegrass

750 mm+ 4.8 - 8.0

Most soil types

Hulk is a diploid Italian ryegrass developed in Australia with excellent establishment, big winter and spring yields, good late season quality and summer survival.

- Fast establishment with excellent winter and early spring yield
- Holds its leaves off the ground, even as yield builds up
- Upright variety that continues to produce high quality, leafy feed through spring
- Suitable to oversow



Hulk, Comboyne NSW

Lawson
Winter active phalaris

750 mm+ 4.5 - 8.5

Most soil types

Lawson is a winter active phalaris bred in Argentina and extensively evaluated under Australian conditions. During its breeding Lawson underwent repetitive cycles of selection for persistence under grazing. Lawson is semi-erect, less clumpy than most winter actives, with good grazing tolerance, seedling vigour and winter growth. Lawson has been a standout variety in northern NSW during recent tough seasons.



Lawson, Upper Hunter Valley NSW

TESTIMONIAL

"The pillars of pasture success are preparation, management and appropriate species and cultivar choice. At 'Kurrajong Park' we don't cut corners with our paddock planning, preparation and sowing. Post establishment and grazing management are also important parts of making our pasture systems work for us.

We are very comfortable using Heritage Seeds cultivars as we know and value the R & D invested and experience tells us they work. We have sown significant areas of Heritage Seeds pastures, both sub-tropical and temperate over many years and have found the quality of the products very good.

Our most recent sowings include Lawson phalaris, Storm white clover and SARDI-Grazer lucerne. We look forward to many years of production from these paddocks."

Andrew McFadyen, Agronomist/Cropping Manager 'Kurrajong Park', Paspaley Pearls Properties, Coolah NSW



TEMPERATE PERENNIAL OPTIONS

Fescues Bred for Performance and Persistence



Barnaby
Summer active tall fescue

750 mm+ 4.8 - 8.0 Most soil types

An exciting new release from Heritage Seeds, Barnaby is a summer active (continental type) tall fescue bred in Australia by the Future Farming Industry CRC. Barnaby was selected for improved persistence and more even seasonal yield. Local trialling has proven Barnaby to be significantly more persistent than current leading varieties. It is also high yielding with a more even seasonal growth, offering higher winter, early spring and autumn production than typically expected from summer active fescues. Barnaby is later heading and slightly finer leaved than typical varieties.



Tall Fescue Research Trial 2011-2014 "Gara", Armidale NSW

Plot	Line	Seedling vigour	Fresh weight										Density	Final density
			23/08/11	25/10/11 (Cut 1)	7/12/11 (Cut 2)	26/2/12 (Cut 3)	17/07/12 (Cut 4)	2/12/12 (Cut 5)	2/02/13 (Cut 6)	10/04/13 (Cut 7)	3/10/13 (Cut 8)	12/12/13 (Cut 9)		
			% Mean											
1	Dovey	131	129	102	104	118	103	106	120	84	123	112	106	211
2	Quantum II Max P	111	129	101	111	110	117	121	88	118	118	109	102	33
3	Barnaby	121	133	97	105	108	109	105	119	145	118	110	103	240
4	Demeter	97	91	104	100	102	104	104	71	103	97	95	97	34
5	Jesup Max P	92	87	100	99	69	102	100	78	95	107	93	104	135
	Avg Fresh weight kg/ha	5.2 (Score 1-9)	8359	12209	14765	2807	3399	7735	9137	817	2456	62299	90%	23%
	%CV	12	19	11	6	20	10	13	15	30	14	9	7	34

(13 entries) breeder lines omitted.

Less 95% site mean yield

Between 95% - 105% site mean yield

Above 105% site mean yield



Prosper
Winter active tall fescue

450 mm+ 5.0 - 8.0 Most soil types

Prosper is a true summer dormant fescue with an erect growth habit and fine soft leaves. Prosper has good winter and spring growth, excellent rust resistance and is suited to summer dry environments. Its fine soft leaves have very good stock acceptance and is more flexible in its management compared to some other traditional fescues. Safe for horses.




Dovey
Summer active tall fescue

500 mm+ 5.0 - 8.0 Medium to heavy

Dovey is a fast establishing, early heading and high yielding tall fescue ideal for quality friendly pastures. Dovey has good total yields, persistence and exceptional seedling vigour.



FORAGE HERBS, RAPE & BRASSICAS

Closing the Feed Gap

Commander Chicory

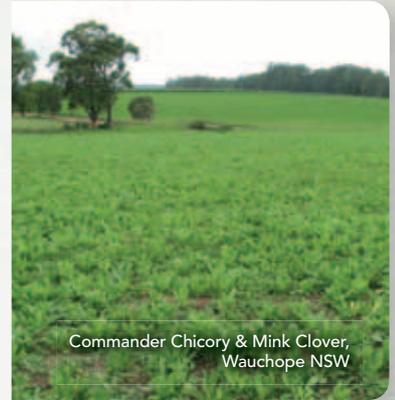
550 mm+

4.5 - 8.5

Most soil types

Commander is a high quality, winter active, forage chicory with a leafy and erect growth habit. It grows a large tap root, giving it excellent summer growth in regions of 550 mm rainfall or greater.

- Performs all year round including winter
- Fast establishment and regrowth after grazing
- Responds to summer rain
- Low crown gives good production over 2-5 years
- Alternative to lucerne in problem soils
- Strong resistance to charcoal rot.



Commander Chicory & Mink Clover, Wauchope NSW

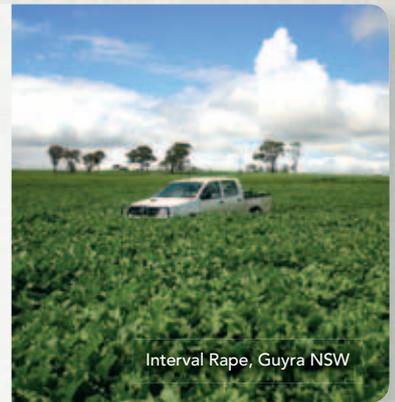
Interval Rape

550 mm+

5.5 - 8.0

Most soil types

Interval rape is a tall, fast establishing rape useful for both summer and winter feed. In both cases it offers valuable feed opportunities for farmers wanting to finish more stock. Interval has shown good stock acceptance and utilisation. Interval can be used as a summer crop where 1-2 grazings are required, or as a late spring early summer sown crop.



Interval Rape, Guyra NSW

Leafmore Forage brassica

550 mm+

5.5 - 8.0

Most soil types

Leafmore is a hybrid type forage brassica that produces high yielding dry matter and has good leaf to stem ratio. It can be autumn, winter or spring sown, providing an ideal forage and rotation option. Leafmore is highly palatable, and depending on conditions, 10-12 tDm/ha of production is possible within one season. It demonstrates a good cold tolerance and excellent regrowth after grazing. When sown in spring it can grow for 18 months.



Dynamo Stubble turnip

550 mm+

5.5 - 8.0

Most soil types

Dynamo is a high-yielding summer crop offering nutritious, quality feed for sheep and cattle. A strong growing root type variety turnip with above average hardiness, Dynamo is ideal for mid-to-late season utilisation. Other key features of the variety include: rapid growth that allows the crop to be utilised within 8 to 10 weeks from establishment; good tolerance to frost and a wide range of foliar diseases; and strong root anchorage reducing the chance of grazing waste.



ARROW LEAF, PERSIAN, WHITE AND RED CLOVERS

Multiple Grazing Options

Laser Persian clover

600 mm+ 6.5 - 8.5

Most soil types

Laser Persian clover has late season maturity making it suited to areas with long growing seasons. It is also well adapted to various soil types, tolerant to waterlogging and mild soil salinity. It has an erect and bushy appearance, is very palatable, highly digestible (16-24% crude protein) and is well suited to multiple hay cuts, grazing or silage production. It can be successfully used in pasture mixes with ryegrass or oats to increase winter production. Laser Persian clover is an effective disease break in cropping rotations and has the ability to fix high levels of soil nitrogen.



Storm White clover

650 mm+ 4.5 - 7.0

Most soil types

Storm White clover is a large leaf stoloniferous type that can aggressively compete and actively grow up through the sward to be harvested by cattle. It is quick to establish, providing better competition with grasses and the potential to spray broadleaf weeds earlier. Storm has exceptional yield potential across all seasons and is persistent under cutting and remains dense. Australian bred, Storm is early flowering with a winter/summer feed profile unmatched by any other white clover.



Cefalu Arrowleaf clover

400 mm+ 4.5 - 7.5

Well drained

Cefalu is a hard seeded annual that is well suited to long term rotations and permanent pastures. It is deep rooted and can extend up to 1.5 m into the soil profile sourcing water from a perched water table and permanent pastures. This enables Cefalu to produce herbage long after traditional pastures have dried off making it very valuable where rainfall is likely to be insufficient. Cefalu sets seed earlier and more reliably than Zulu types in a tough spring.



Tuscan Red clover

650 mm+ 5.4 - 8.0

Medium to heavy

Tuscan red clover is a tap rooted legume that has been bred for high yield with improved persistence under grazing. It has good summer growth and some drought tolerance, but little winter growth. It provides excellent quality feed during summer and autumn. An improvement in yield and persistence over standard NZ types.



CLOVER & MEDICS

Multiple Grazing Options

Jester Barrel medic

350 mm+ 5.3 - 8.5 Wide ranging

Jester is an aphid-resistant Barrel medic. This variety was developed by the South Australian Research and Development Institute (SARDI). Jester will provide increased herbage production and pest resistance for low to medium rainfall areas with alkaline soils. It will provide an effective disease break, while providing high quality feed for either hay or grazing purposes, whilst also fixing nitrogen.

- Hard seeded barrel medic
- Mid season (110 days to flowering)
- Similar maturity to paraggio
- Jemalong hybrid with improved performance
- Regenerates well after cropping phase of 1-3 years



Scimitar Burr medic

350 mm+ 5.3 - 8.5 Wide ranging

Scimitar is a hybrid spineless Burr medic. Scimitar is very productive on highly saline soils which are not subject to prolonged water-logging. It also has a more erect growth habit, higher level of soft seed and increased herbage production.

- Early-mid season, approximately 90 days to flowering
- Erect growth habit with high herbage and seed production
- Adaptable variety which grows on a wide range of soils
- Excellent ley farming option with dense regeneration



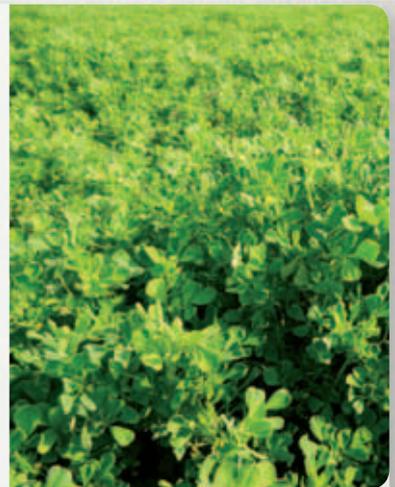
Sultan-SU SU tolerant barrel medic

275 - 450 mm 5.3 - 8.5 Wide ranging

Developed at the South Australian Research and Development Institute (SARDI), Sultan-SU (*Medicago truncatula*) offers advantages of early maturity, aphid resistance, improved regeneration and boron tolerance. It is the only barrel medic on the market with all of these key attributes.

Sultan-SU was derived from a cross made between Angel strand medic (world's first SU tolerant medic) and Caliph barrel medic and subsequently back-crossed to Caliph four times. Sultan was selected on the basis of SU herbicide tolerance and superior regeneration (ie. reduced hard-seed levels compared to Caliph).

- First barrel medic with tolerance to SU herbicide residues
- Early maturing (~ 70-90 days to flowering), similar to Caliph and Angel
- Caliph hybrid with improved regeneration
- Less hard seeded than Caliph (~ 85% cf 95%), similar to Jester
- Good aphid resistance (BGA and SAA)
- Boron tolerant



Grow More Feed and Build More Feedbank

Antas Sub clover

475 mm+ 4.5 - 8.0
Most soil types

Antas has amazing seedling vigour and winter growth with double the DM yield of Clare. It provides excellent production throughout the year and this combined with its large leaves, makes it ideal for both grazing and hay production. Antas also provides the benefits of fixing soil nitrogen as well as providing an effective disease break. It is well suited to either permanent pastures or medium-term cropping rotations.



Mintaro Sub clover

400 mm+ 4.5 - 8.0
Most soil types

Mintaro sets a new standard in mid-maturity sub clover. It is very productive with vigorous establishment and regrowth through autumn and winter. It has improved hard seed levels which provide protection against false breaks and regeneration. These attributes combine to make Mintaro suited to permanent pasture or medium-term cropping rotations. Mintaro offers double the DM yield of Clare and Seaton Park.



Losa Sub clover

350 mm+ 4.5 - 7.0
Medium to heavy

Losa sub-clover combines superior early vigour with improved autumn and spring production making it an ideal feed option for more temperate regions. Its early vigour allows for quick ground coverage which is important in low rainfall situations. Its early maturity and hard seed levels also makes it persistent in lower rainfall areas.



Campeda Sub clover

475 mm+ 4.5 - 7.0
Medium to heavy

Offering some of the highest seed yields in the market, Campeda is a black, hard seeded sub-clover well suited to Mediterranean and temperate climates. It has mid-season maturity which makes it adaptable to medium and high rainfall regions. Known for its leafiness and dense sward, it produces dry matter quickly in autumn and provides excellent winter vigour and late season growth. Suitable for either permanent pasture or short-medium term cropping rotations. Campeda also offers the benefit of fixing more nitrogen to background Rhizobia.



Monti Sub clover

450 mm+ 4.5 - 7.0
Medium to heavy

Monti is one of the earliest maturing yannicum sub clovers with exceptional early season growth and regenerates reliably. It is adapted to temperate areas receiving 450-550 mm annual rainfall and will perform to its best where intermittent winter waterlogging occurs. Monti is well suited for use in permanent or long term phase pastures.



FORAGE SORGHUM

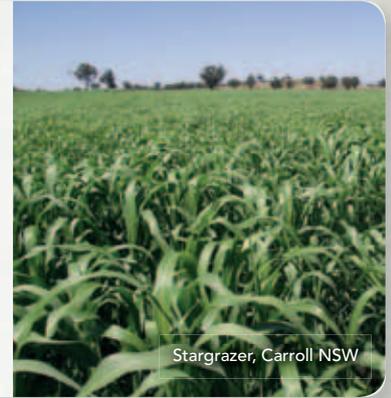
An Excellent Feed Alternative


Stargrazer
Forage sorghum

350 mm+ 4.8 - 8.0

Most soil types

- Fine stems for quality hay or silage with good palatability and digestibility
- Vigorous establishment leading to early grazing or lead time to cutting for hay or silage
- Rapid regrowth for subsequent grazing or cutting
- Prussic acid levels are low, but caution should be taken when during early growth or stressed conditions

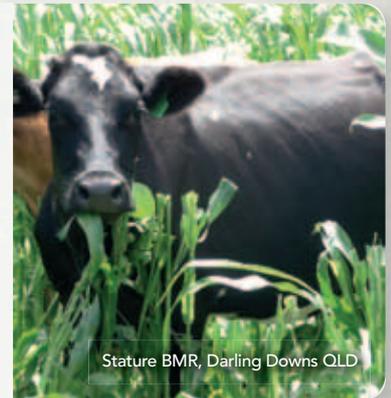



Stature BMR
Forage sorghum

350 mm+ 4.8 - 8.0

Most soil types

- Excellent choice for beef or dairy enterprises with stronger soil types, warm summers and for primary producers who are looking for alternatives to forage brassicas
- Fine stems and reduced prussic acid levels (although care should still be taken)
- High-yielding option for summer/early autumn silage or hay crops
- High palatability and digestibility
- Similar varieties include BMR Revolution



TESTIMONIAL

Dugald McIndoe and family from "Smithston Farms" at Glencoe run a beef breeding and finishing operation in the Northern Tablelands of NSW. In an extremely tough summer Dugald planted 10ha of Stargrazer forage sorghum into dry soil conditions at the end of December 2013.

The Stargrazer germinated on storm rain in late January, a month after sowing, and grew to approximately 30cm height and stalled due to lack of moisture. After follow up rain in March the Stargrazer "took off" and was cut for silage in late April. Dugald was happy with the 180 round bales of fine-stemmed leafy forage he was able to make from the 10ha and has been feeding these back to his cows and calves over the winter.

Dugald McIndoe and family from "Smithston Farms" at Glencoe, NSW

CORN & GRAIN SORGHUM

Summer Crop Portfolio

HGS-102

Grain Sorghum

400 mm+ 6.0 - 9.0
Deep vertisols / duplex red soils

- Midge rating of 7
- High-yielding, medium maturity
- Good seedling vigour
- Very good standability
- Semi open head type with red grain colour
- Excellent grain size and test weight
- Well adapted and suited to all grain sorghum growing environments.



HGS-114

Grain Sorghum

400 mm+ 6.0 - 9.0
Deep vertisols / duplex red soils

- Midge rating of 6
- Red grain colour and semi open head type
- Medium maturity
- Good seedling vigour
- Medium-short in height
- Medium tillering habit with good standability
- Good grain size and test weight
- Moderate staygreen levels

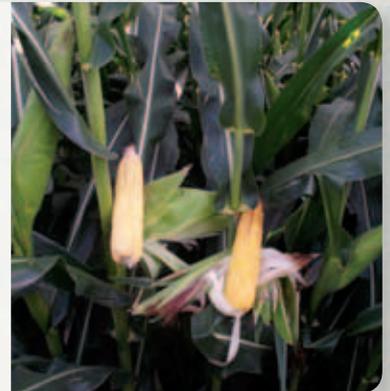


HM-102

Corn

Dryland/ Irrigation 5.5 - 8.0
Wide ranging

- CRM 123
- Very good yield for maturity
- Excellent seedling vigour
- Excellent late season plant health
- Extremely low basal tillering habit
- Very good standability
- Excellent stress tolerance
- Very good grain quality (part tropical parentage)
- Moderate to high staygreen levels



HM-114

Corn

Dryland/ Irrigation 5.5 - 8.0
Wide ranging

- CRM 114
- Excellent yield for maturity
- Excellent seedling vigour
- Tight husk cover
- Extremely low basal tillering habit
- Very good stalk strength.



LUCERNE PASTURE MIXES

High Performance with Convenience

Heritage Seeds' Lucerne Pasture Mixes

Heritage Seeds' lucerne pasture mixes are specifically designed to produce quality pastures for cropping rotations, stock finishing, milk production or extended quality feed in the sub-tropics.



Lucerne Medic Blend

N-Breaka Pro-Tech® is a cost-effective legume pasture blend for short to medium term cropping rotations. Perennial and annual legumes maximise year-round productivity and nitrogen fixation, while allowing management of resistant grass weeds.

60%	Sardi 7 Series 2 or 10 Series 2 Lucerne
20%	Snail Medic
20%	Jester Barrel Medic

350 mm+ 5.5 - 8.0 Most soil types



Lucerne Pasture Blends for "High Performance" Systems

Lucerne and Chicory blends provide a highly palatable and persistent option for primary producers looking to maximise year round feed quality for finishing paddocks in less consistent rainfall zones (450-650 mm).

- Sardi 7 – very hardy, multi purpose lucerne
- Commander – persistent winter active chicory
- Balanced mix can be sown in autumn or spring

75%	Sardi 7 Series 2 or 10 Series 2 Lucerne
25%	Commander Chicory

450 mm+ 5.5 - 8.0 Most soil types



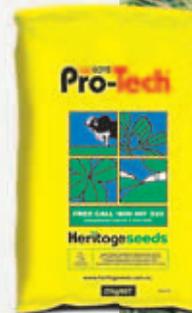
High Performance 50:50 Tropical Blends

In summer-dominant rainfall regions, the combination of lucerne and tropical grasses helps to increase dry matter production and pasture quality. The lucerne accesses deep soil moisture, providing growth through autumn and into early winter. It also provides a cheap source of protein to help utilise the dry standover feed produced by summer grasses and a nitrogen source to fuel growth.

- Sardi grazing tolerant lucernes balanced with tropical grasses
- Vigorous perennial grass
- Increased protein provides heavier finished weaners

50%	Sardi Lucerne
20%	Rhodes Grass
30%	Gatton Panic

500 mm+ 5.5 - 8.0 Most soil types



Pro-Tech AgriCOTE Coated seed provides convenience, with ease of sowing and insect control.



RENOVATOR & MEATMASTER SEED BLENDS

Temperate Ready to Sow

Renovator and Meatmaster pasture seed blends are 'ready to sow', offering the latest pasture technology and best seed varieties. Choose between short-term and permanent pasture for your rainfall zone, existing paddock condition and desired outcome. There will be a pasture blend to suit your needs. If not, see your local Heritage Seeds representative who will help design your own custom seed blend.

Renovator SE

This blend is specifically designed for south east Queensland. The combination of ryegrasses, lucerne, herb and clovers provide high quality feed from autumn through to summer.

600 mm+ 4.8- 8.0 Most soil types

Variety	Species	%
Vortex	Tetraploid annual ryegrass	40
Arnie	Diploid annual ryegrass	20
Sardi 10 Series 2	Lucerne	12
Commander	Chicory	10
Laser	Persian clover	10
Red Clover	Red clover	4
Storm	White clover	4

Sowing rate: for cultivated seedbed 25-35 kg/ha.



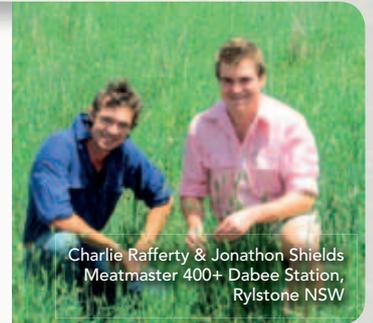
Meatmaster 400+

A hardy, productive, perennial mix developed for a wide range of soil types including those soils trending acid in the 400 to 550 mm rainfall zones. This blend provides autumn-late spring growth and opportune summer feed without compromising persistence.

600 mm+ 4.8- 8.0 Most soil types

Variety	Species	%
Prosper	Tall fescue	30
Holdfast GT	Phalaris	20
Losa	Sub clover	15
Mintaro	Sub clover	30
Bolta	Annual clover	5

Sowing rate: 12-15 kg/ha.
Best suited to autumn/winter sowing.



Charlie Rafferty & Jonathon Shields
Meatmaster 400+ Dabee Station,
Rylstone NSW

Meatmaster 500+

A long-term pasture for use in 650 mm+ rainfall zones with later spring rainfall. Provides the high spring/summer production of Dovey and Lucerne with solid winter growth from Prosper, Phalaris and a productive sub clover mix Sardi-Grazer, bred for long-term, hard grazing situations.

650 mm+ 4.8- 8.0 Most soil types

Variety	Species	%
Dovey	Tall fescue	30
Prosper	Tall fescue	20
Holdfast GT	Phalaris	20
Mintaro	Sub clover	10
Campeda	Sub clover	10
Sardi Grazer	Lucerne	10

Sowing rate: 18-20 kg/ha.
Best suited to autumn/winter sowing.



Meatmaster 500+, Quirindi NSW

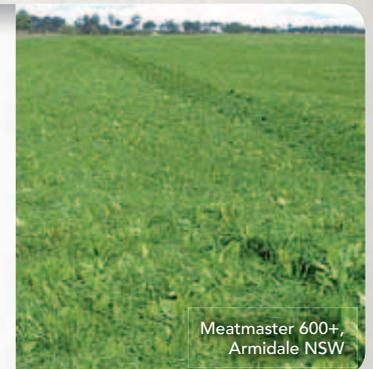
Meatmaster 600+

A productive year-round pasture for the 750 mm+ rainfall tablelands environments. This blend combines the winter to early summer growth of high quality tetraploid perennial and diploid long rotation ryegrasses, with tall fescue and chicory for growth into summer and autumn. With white and sub-clovers, this mix provides persistence in high quality systems.

750 mm+ 4.8- 8.0 Most soil types

Variety	Species	%
Bealey	Tetraploid perennial ryegrass	30
Barberia	Long rotation ryegrass	20
Dovey	Summer active tall fescue	20
Storm	White clover Pro-Tech	10
Antas	Sub-clover Pro-Tech	10
Commander	Forage chicory Pro-Tech	10

Sowing rate: 20-25 kg/ha.
Best suited to autumn or spring sowing.



Meatmaster 600+,
Armidale NSW



The B-Double Mix is an ideal combination of high performance, highly palatable ryegrasses designed to provide year-round, quality feed for maximum production. The mix combines the strong late spring and summer growth of Bealey, with Barberia's explosive late autumn, winter and early spring feed.

WINTER ACTIVE LUCERNE

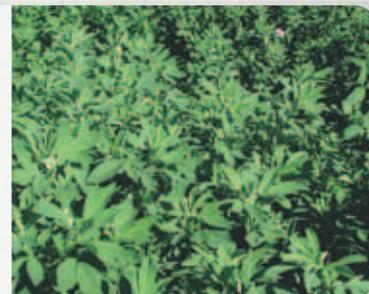
Excellent Production and Persistence

Sardi 5

Semi winter dormant lucerne

350 mm+ 5.5 - 8.0 Deep well drained ACTIVITY 5

Sardi 5 is a semi-winter dormant variety with good Anthracnose and Phytophthora disease resistance. Produces very bushy, dense growth for thick hay cuts. Suited to irrigation and dryland, this variety has shown magnificent persistence.



Sardi-Grazer

Winter active lucerne

350 mm+ 5.5 - 8.0 Deep well drained ACTIVITY 6

Sardi-Grazer is one of the most grazing tolerant lucerne varieties currently available in Australia. Sardi-Grazer was developed primarily for use in cropping rotations, where large paddocks limit the use of rotational grazing. It delivers superior persistence where uneven grazing causes areas of the paddock to be heavily grazed before others can be properly utilised.



Genesis II

Winter active lucerne

350 mm+ 5.5 - 8.0 Deep well drained ACTIVITY 7

Growers who have for many years enjoyed the benefits of Genesis, will transition well into Genesis II. Selected from 68 parents within the NSW DPI lucerne breeding program through the Australian Lucerne Alliance collaboration, Genesis II provides growers with an improved variety that has resistance to all three strains of Anthracnose and Phytophthora Root Rot. Genesis II has stable high yields and feed quality for both grazing and forage production.



Sardi 7

Winter active lucerne

350 mm+ 5.5 - 8.0 Deep well drained ACTIVITY 7

Sardi 7 is a robust variety with exceptional versatility for continuous cutting, hard grazing or blending with other species to produce highly productive pastures. It has a broad low crown producing many upright stems that are fine and carry a high number of large leaves.

- Very persistent and tolerant of grazing
- Produces high quality feed
- Winter active yield – persists like a dormant
- Broad pest and disease resistance profile
- Bridges the summer and autumn feed gaps
- Suited to continual harvesting and hard grazing and treading



WINTER ACTIVE LUCERNE

Excellent Production and Persistence



350 mm+ 5.5 - 8.0 Deep well drained ACTIVITY 7

Sardi 7 series 2 is the next generation winter active lucerne. It has been bred specifically for adaption to the Australian climate and farming systems and will perform well in both dryland and irrigated systems. Sardi 7 series 2 has superior performance where persistent, high-producing lucerne stands are required and in grazing situations where winter produced feed can be utilised. Best pest disease profile available, extra tolerance to cold, wet conditions for irrigation or seasonal waterlogging.



350 mm+ 5.5 - 8.0 Deep well drained ACTIVITY 10

Sardi 10 is a highly winter active lucerne with the maximum winter activity rating. It has an erect crown with fine-to-medium stem thickness and carries a high number of large leaves growing from nodes throughout the length of the stem. Sardi 10 has exceptional seeding vigour and regrowth after cutting and/or grazing. It performs well in both irrigated and dryland environments.



350 mm+ 5.5 - 8.0 Deep well drained ACTIVITY 10

SARDI 10 Series 2 offers excellent winter growth and is a leader in grazing tolerance for a highly winter active lucerne. During its development, the breeder was successful in focusing on improving the very popular SARDI 10. The greatest emphasis was on increasing forage production and quality, pest and disease resistance, persistence and grazing tolerance. A key physical feature is the greatly improved leaflet density down the length of each stem. These advancements allow for even greater adaptability to Australian farming systems.



TESTIMONIAL

"More than a decade after it was first planted a paddock of SARDI 10 lucerne still looks great with 95 percent of the paddock as thick as when it was first established. At the time we were after a highly winter active lucerne and our agronomist recommended SARDI 10. Over the past decade we've had very few issues with pests or weeds in the crop. We graze cattle on it which have achieved good daily weight gains averaging in excess of 1kg/day per beast. Overall, SARDI 10 has stood up well over the years and presented no real challenges and I can't see why it won't go for another five years."

Neal Davison, Ardgour North, Bundella, Southern Liverpool plains NSW



HOW OUR HIGH-PERFORMING PASTURES MAKE THE CUT.

• THE SELECTION PROCESS

We sit down at the table regularly with international breeding and research organisations to source the ingredients for our new and improved pasture varieties.

Our selection process is based on our intimate understanding of the characteristics of top performing pastures in Australian conditions.

We then test our initial selection over many years and at multiple locations to ensure that only the best varieties are brought to market.

Our testing processes look at key characteristics including yield, palatability and persistence to ensure the successful varieties offer a complete package of benefits.

This guarantees that the performance of our new varieties are already proven before they come to market, so you can grow them with confidence.

Our credibility relies on the performance of our products, which is why we only offer the best performing seed.

• RETURN ON INVESTMENT

Pasture is one of the most important investments farmers can make.

To maintain a successful operation it is important that pastures deliver a solid, sustainable return. Our breeding and research activities ensure that you get just that.

Our new and improved pasture varieties will deliver greater productivity on your farm ensuring that you get a positive return on your investment.

• BETTER RISK MANAGEMENT

Managing risk effectively is a key ingredient in successful farming.

Our investment in breeding and research over many years and at various locations is designed to reduce your risk.

You can plant a Heritage Seeds product knowing that we only sell pasture varieties that are proven performers.

Heritageseeds®
Powering productivity

heritageseeds.com.au

TEMPERATE SOWING GUIDE

Species	Variety	Seasonal growth	Rainfall (mm)	Sowing rates kg/ha	Comments
TEMPERATE GRASSES					
Annual Ryegrass	T-Rex, Maximus, Tetila, Arnie, Vortex	A,W,Sp	750+/irrig	See table 1 below	Vortex - winter growth and late season. T-Rex/Maximus - long season tetraploid quality. Arnie - maximum yield diploid.
Italian Ryegrass	Hulk, Aston	A,W,Sp	750+/irrig	See table 1 below	Hulk provides good winter production with higher late spring/early summer yields than annual types.
Perennial & Long Rotation Ryegrass	Arrow, Barberia, Bealey, Impact 2, Kidman	A,W,Sp,S	750+/irrig	See table 1 below	Arrow and Impact 2 - high performance diploids. Barberia - highly palatable, medium-term persistence and very good winter growth. Bealey NEA2 - staggers free, long-term spring summer growth. Kidman AR1 - better winter yields, persistence and staggers free, (alternative to Vic Perennial).
Summer Active Tall Fescue	Dovey	Sp,S	750+/irrig	16-25	Dovey has excellent seedling vigour and longer term persistence, moderate leaf strength and is clover friendly.
Winter Active Tall Fescue	Prosper, Fraydo	A,W,Sp	750	16-25	Prosper has strong winter growth and is later flowering than Fraydo. Densely tillered and very strong summer dormancy makes it very persistent.
Cocksfoot	Howlong, Porto, Kasbah, Currie	W,Sp,S	400-600	1-3	Howlong has better winter growth and is more persistent than Porto. Kasbah leaf is more summer dormant than Currie.
Phalaris	Holdfast GT, Lawson, Australian, Atlas, Advanced AT	A,W,Sp,S	750	25-30	More productive and drought tolerant than Cocksfoot but much less tolerant to acid soils. Holdfast is a more persistent winter type than Siroso. Australian and Uneta are more winter dormant prostrate types.
Pasture Broome & Prairie grasses	Bareno	A,W,Sp,S	600+/irrig	25-30	Best in well drained soils, Bareno gives spring/summer growth. Prairie grass types are more productive in autumn and winter.
CLOVERS					
White Clover	Storm, Haifa, Weka	A,W,Sp,S	650+/irrig	2-5	Weka medium leafed type with much greater persistence and later spring summer growth than Haifa. Storm has fast establishment.
Red Clover	Tuscan	Sp,S,A	650+/irrig	2-5	Medium-term persistence needs good summer rain to perform. Mid-late, high leaf density.
Strawberry Clover	Palestine, O'Connor's	Sp,S,A	500+	2-5	Perennial with similar growth to White Clover but performs much better in waterlogged and saline areas.
Subterranean - Mid (black seeded)	Campeda, Denmark	A,W,Sp	500-600	5-10	Mid-to-late season varieties. Denmark grows later than Campeda and has very good hard seed levels for its maturity.
Subterranean - Early	Dalkeith, Seaton Park, Losa	A,W,Sp	380-500	5-10	Mid-to-early season varieties. Good hard seed, better options in mid-lower rainfall.
Arrowleaf	Cefalu, Zulu II	A,W,Sp	400-600	2-5	Suitable for grazing and fodder conservation with fair winter growth. A useful alternative to sub-clover in perennial pastures or to add bulk and quality to annual and Italian ryegrass hay crops. Suited to medium rainfall areas and tolerates mild salinity.
Balansa	Shaftal, Frontier, Paradana, Bolta	A,W,Sp	400-600	2-5	Wide adaptation, tolerates waterlogging and some salinity, slower winter growth and rapid spring bulk up for hay. Frontier is very early season for moderate rainfall cropping regions.
Persian	Nitro, Laser, Morbulk, Lightning	A,W,Sp	450+/irrig	8-12	Good for hay production under irrigation or in wet areas. Productive component of high density legume pasture for crop rotation. An early season semi prostrate type for moderate rainfall. Laser: Very late season type for high rainfall and irrigation.
FORAGE HERBS					
Chicory	Commander	A,W,Sp,S	500+	2-4	Tap-rooted perennial herb, better option where high aluminium limits lucerne, but generally less grazing tolerant. Provides good quality feed.
Plantain	Tonic	A,W,Sp	500+	2-4	Plantain is a useful forage herb that complements temperate pastures.
Rape	Interval, Leafmore	A,W	500+	4-5	Interval - a tall, fast establishing rape useful for late autumn/winter feed. Leafmore - for hardy conditions.

Table 1. Sowing rates-grasses

Sowing Method	Diploid kg/ha	Tetraploid kg/ha
Light Mulch	42-50	50-62
Heavy Mulch	30-35	40-45
Cultivated Seedbed	20-23	30-35
Spray & Drill	30-35	40-45
Renovation	15-20	20-25

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