

Heritageseeds 



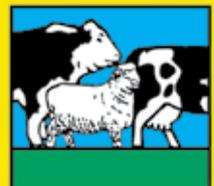
# TROPICAL PASTURE GUIDE

EDITION 1

**GROW WITH CONFIDENCE**

**INSIST ON THE YELLOW BAG**

Heritageseeds 



# HERITAGE SEEDS LEADER IN RESEARCH AND DEVELOPMENT

At Heritage Seeds we specialise in the highest quality pastures, forages and field crops. We offer an extensive range of seed species and varieties to help our customers grow highly productive pastures to maximise output.

Each year more than \$2 million is invested in research activities across Australia. The northern research team is based in Toowoomba and has four primary sites at Gatton, Kingaroy, Warwick and Blanchview. In addition we have secondary trial sites across northern Australia which are used to test the 'area adaptability' of each variety.

During the past decade our research team has focussed on improving our range of grasses including brachiaria, buffel, panic, digit, Rhodes and stylo grass plus two new burgundy bean varieties.

Heritage Seeds also works closely with external breeding operators including the Queensland DPI's Oat Breeding Program and lucerne breeding programs Australia-wide.

**At Heritage Seeds we are dedicated to the continuous improvement of our product range so you can grow with confidence.**

## COMMITTED TO THE NORTH

Our recent and ongoing investment in northern Australia and local producers includes:

- ✓ **Increasing productivity**
  - We're constructing a new Toowoomba warehouse
  - Delivering increased product output and storage capacity
  - Creating three seed mixing lines and two seed coating lines
- ✓ **Better product availability**
  - We've tripled tropical seed production
- ✓ **More on ground support**
  - We've added two new Territory Managers and research Agronomists to the Northern Australian team
- ✓ **Continual R&D work**
  - We've established a tropical plant breeding program
  - Two tropical seed breeders employed
  - Important northern product focus
- ✓ **Expanding our offer through acquisitions**
  - We've recently acquired the following businesses in northern Australia
  - Australian Premium Seeds
  - Blue Ribbon Seeds
  - Premium Seed Coaters
- ✓ **Revolutionary seed purchasing and payment program**
  - Sow the Revolution summer cropping program

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# PASTURE IMPROVEMENT

## INCREASING YIELD AND 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



## IMPROVING NATIVE PASTURES

The nutritive value of a grass depends greatly on the soil in which it grows. On most northern soils in extensive farming systems, young palatable native grass has a limited window of quality feed (usually 4–6 weeks) after the start of the wet season, until the plant runs out of nitrogen and phosphorus due to soils generally being of lower fertility. The concentration of nitrogen in the plant becomes diluted from about the middle of February to mid-March. Grass leaves can remain green. However, it is unlikely that any new growth will occur. Quality begins to drop even further once flowering is initiated. By increasing quality, extra weight gain and an increase in stocking rates can be easily achieved. Areas of improved pasture give the manager greater flexibility, weaning can occur faster and different markets can become accessible. Quality of grazing can be improved and extended into autumn if legumes can be sown into the existing pasture. You need well-adapted species that will naturalise and spread over your paddocks. Pasture specialists recommend different legumes for different soil types, so seek advice.

### How do I go about improving my native pasture?

In extensive farming systems, paddocks are large in area. Scattering a few seeds of tropical legumes such as stylo over thousands of hectares is unlikely to give much of a visual effect on pasture or stock for many years and you may feel there is little economic benefit from your investment. Start by looking to improve your best country available first. Your best country for oversowing tropical legumes has soil with a loose surface and at least 4 ppm of available soil phosphorus. Sowing pilot or mother plots on part of the paddock can be a good option. Put all your money, seed and effort into a smaller area so that you can see the improvement and expand this area over time. Implementing an annual renovation plan for a small amount of area each year can help spread your investment costs to carry out pasture improvement. You may find that livestock will also help spread seed out of this focus plot into surrounding areas on the farm.

Fence off a corner of a paddock to enclose a few hundred hectares. Clean up any woody weeds and cultivate (with discs or chisel plough) if possible to check the existing native grasses and to provide a better seedbed for both legumes and any grasses to be sown at the same time. On harder-setting soils, a level of cultivation would be required, especially when sowing an improved grass species. Consider applying phosphate based fertiliser if soils are deficient in phosphorus. Sow your chosen legume seed at a solid planting rate. If possible, consider looking to add a component of a faster growing improved grass species, such as Sabi grass that can provide quick feed and green cover, just before rain or the wet season kicks in. Ensure livestock are kept out until seedlings are well established and allow them to set seed. Put in stock when the legume seed is set but leave the gate open so that animals can wander back into the main paddock to spread seed in their dung. Stock are always going to prefer to graze the improved area especially if some phosphorus has been applied. Try not to dramatically destock freshly sown paddocks as some grazing can help reduce competition from existing native grasses, which is different from managing a new pasture of improved grasses and legumes into a cultivated seedbed where the native grasses have been ploughed out.

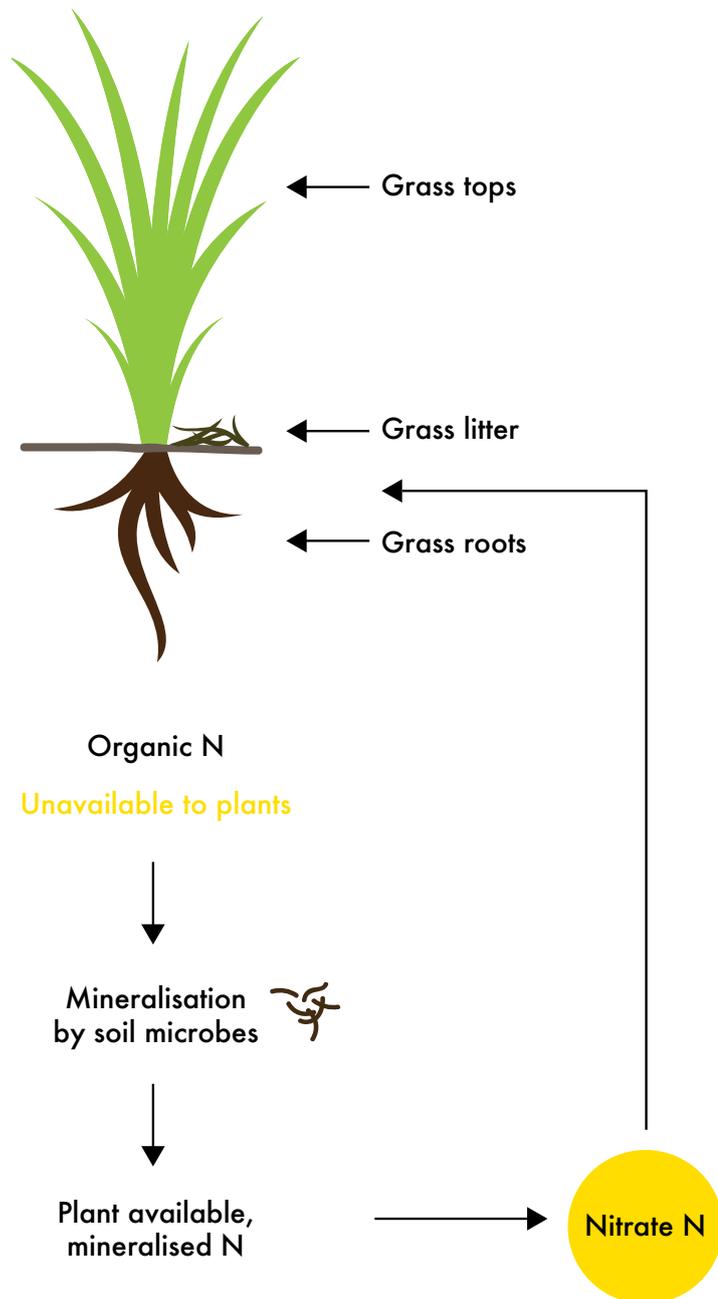


## TACKLING PASTURE RUNDOWN

Pasture rundown is a decline in pasture production over time. Rundown can result in reduced grass growth by up to 50% and the flow-on effect can see similar losses in carrying capacity and livestock weight gain. Pasture grasses at the start are very productive when planted after clearing or placed into previously cropped soils of high fertility, however their productivity generally declines over time. Pasture rundown is caused by a lack of plant-available nutrients, mainly soil nitrogen (N). In a rundown pasture, the nitrogen is still present but cannot be used by plants until it is mineralised.



Pasture improvement activities can help tackle rundown. Adding fertiliser or, even better, the addition of tropical legumes into the pasture can provide plant available N into the system. Tropical legumes freely fix plant available N in the soil and this can become a solution longer term. Management activities such as cultivation or blade ploughing can increase N cycling that promotes the release of unavailable N in organic matter. Short term fallows or crop and pasture rotations can also aid in inorganic N release.



**Plants cannot use this organic N until it has been mineralised into mineral N (nitrate) by microbial activity**

# BENEFITS OF TROPICAL LEGUMES IN PASTURE

Pasture improvement activities are well known to be a significant investment for any farming operation. The addition of tropical legumes into a pasture costs money and so there has to be a good reason to do so. Increased stocking rates, faster timing to market, achieving premiums for higher quality stock and increased property income can help cover the extra investment in improving pasture with the addition of tropical legumes. Legumes with their high protein content are an excellent source of nutrition for stock and maintain their levels of protein longer than grasses.

Many legumes have deep taproots and are able to access moisture and nutrients deep in the soil profile. Under good summer conditions, legumes in corporation with companion grass species can provide an extra 0.1–0.2Kg per head per day of weight gain. Case studies have shown that introducing legumes can increase stocking rates by up to 20%. Legumes are high protein plants and improve the quality of livestock diet, especially in the later months of the growing season. This allows stock to make better use of ageing grass. Livestock continue to grow into autumn and maintain their weight over winter. Compared to grasses, legumes retain their digestibility for a longer period of time. Introducing legumes can benefit both native pastures and run-down improved pastures.

Native grasses provide most of the grazing for beef cattle herds in northern Australia. The downside to native grass pastures is they provide good feed for only a short period of the year. Most native pastures in the tropics provide reasonable quality feed in the early part of the wet season, then quality declines after 1–2 months. Even grass that is still green may be too low in protein for cattle to do well on. Native grass quality drops off further as flowering approaches, continuing to decline as the stem matures, becoming stalky and indigestible. Frost in the cooler months then normally finishes it off. On very large properties in northern Australia, the relative benefits from legume incorporation is great because production from extensively managed native pasture is so low and improving even a small proportion of the property can have a very large impact on turn-off.

Improved tropical grasses can tolerate heavier grazing, maintain their quality over a longer period of the growing season and respond to good conditions. However, even under higher soil fertility conditions like brigalow soils, the productivity of improved species such as buffel or panic grass declines as soil nitrogen availability declines, such as being locked up in soil organic matter. Long term soil nitrogen depletion results in the soil condition pasture run-down. Add to this, the digestibility and protein level of summer growing tropical grasses declines as plants mature, and remains low during the autumn and winter months.

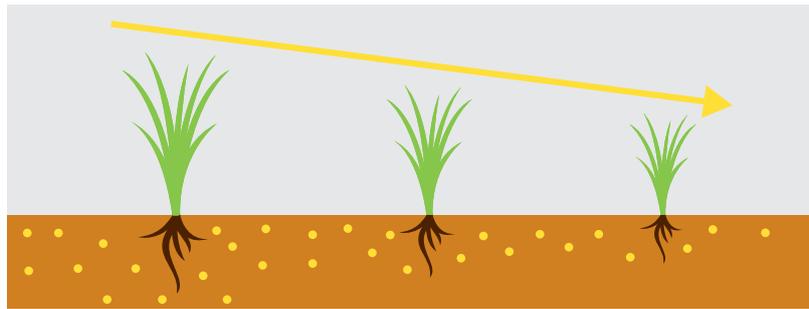
Legumes are often sown with grass species as part of a pasture mix. The benefit that legumes provide is improved feed quality, particularly when tropical grasses have gone reproductive, along with providing a source of nitrogen to the pasture. Legumes form a symbiotic relationship with rhizobia, which in turn fixes atmospheric nitrogen and makes it available to the legume plant. Through the process of grazing (faeces and urine recycling) and mineralisation of old legume roots and shoots, the nitrogen is then released and provided to the grass pasture, promoting growth and increasing protein content. Legumes can readily supply 16–18Kg of fixed N/tonne of dry matter produced, which is the equivalent of 150–200 units of N/Ha/year or approximately 300–400Kg/Ha of urea fertiliser. Including a legume with a grass based pasture therefore reduces the need for N fertiliser and has shown to increase total forage yield, seasonal growth and quality.

# PROFITING THROUGH RENOVATION USING TROPICAL LEGUMES

## Grass only pasture

- Declining soil fertility with long-term grazing
- Declining paddock protein over time with a sharp decline through drought and winter months
- Declining carrying capacity and liveweight gains over time.

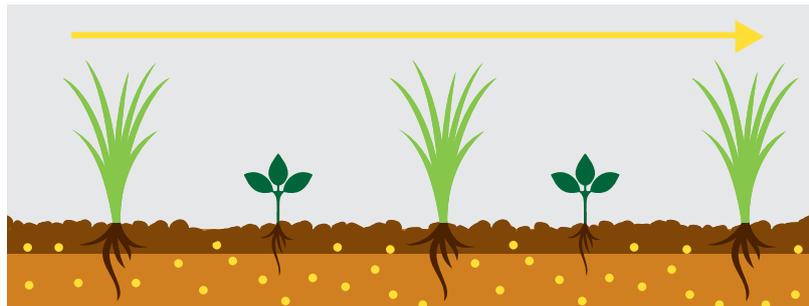
Declining pasture DM and available soil nitrogen



Sustained pasture DM and soil nitrogen

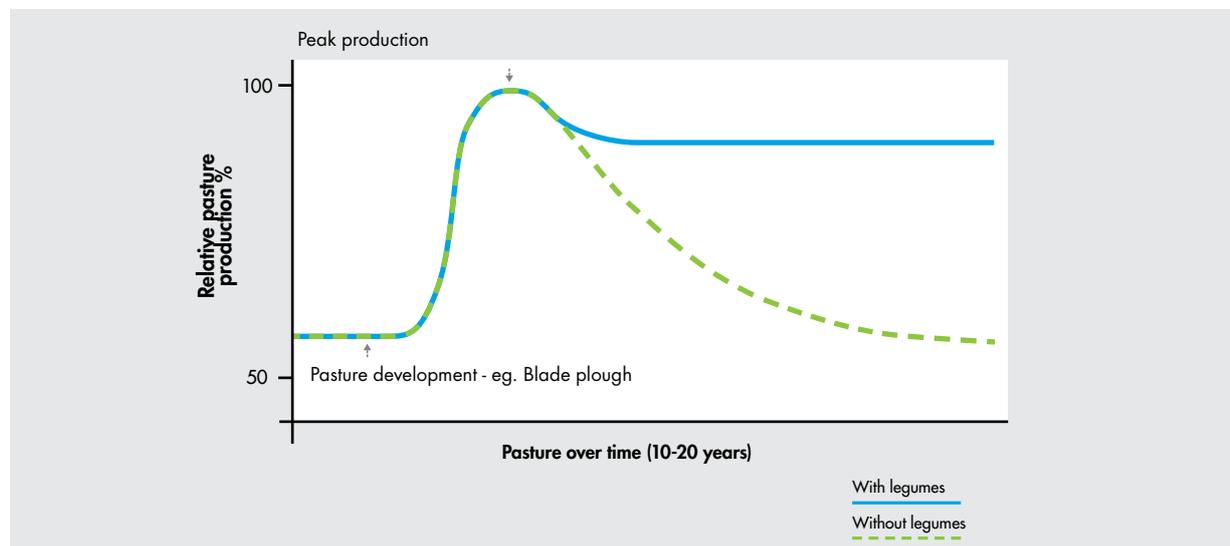
## Grass and legume pasture

- Increased nitrogen from legumes
- Legumes provide increased paddock protein and maintain protein in drier and/or colder months
- Pasture will sustain higher stocking numbers and/or liveweight gains.



● Available soil nitrogen

## SUSTAINING PASTURE PRODUCTION WITH LEGUMES



# BENEFITS OF COATED SEED

Heritage Seeds is a recognised world leader in seed treatment and polymer coating technology. Our commitment to developing further seed coating technology includes ongoing research and maintaining state-of-the-art seed treatment plants in both Toowoomba and Brisbane. Hundreds of thousands of hectares of pasture establishment and thousands of hectares of revegetation and mining reclamation have been successfully sown using the benefits of AgriCote seed. This success is achieved through strict testing procedures that assures the purity and quality of the finished coated product. For more information about AgriCote, refer to page 35.



## Bare Seed vs. AgriCote Coated Seed

Advantages	Advantages
Greater quantity of seed per Kg	Easier to calibrate, mix and spread
Seed cost per Ha can be less	Even application and distribution
	Less expensive per Kg to purchase
	Fungicide for disease protection
	Insecticide for protection from insects
	Immediate nutrition for seedling
	Seed dormancy breaking properties
	Ant and bird protection
	Legumes can be pre-inoculated
	Wider array of sowing options
	Only the highest purity and germination seed lines are used

## Bare Seed vs. AgriCote Coated Seed

Disadvantages	Disadvantages
Light, fluffy and small seeds can be hard to calibrate, handle, mix and spread, giving variable results	Less seed per Kg, higher seeding rate recommended
Lack of pest protection	Seed cost per Ha can be higher
Reduced chance of establishment success	
Seed quality not always guaranteed	
Greater amount of trash and inert matter in the seed	

# PASTURE ESTABLISHMENT

Developing an improved pasture in the often unpredictable climate of the tropics and sub-tropics is no easy task. It can require a substantial investment of time, money and management in achieving a successful result.

Heritage Seeds can make this task a lot easier with a group of dedicated and experienced territory managers providing advice on a range of improved pasture products to suit your needs, backed by services that are second to none and ongoing support to ensure continued improved pasture success.

The best people, range, service and advice, combined with premium quality products and timely dispatch ensures that Heritage Seeds is your only choice for tropical pasture.

## GETTING THE BEST RESULTS

The main reasons pastures fail is due to weather, weed competition during establishment and poor management. The following key guidelines can help in getting the best results from planting a new improved tropical pasture.

### Pre-Planting

It is important to select paddocks well in advance and where possible, reduce weed competition prior to the pasture being established. Aim to not plant until 1–2 good germinations of weeds have been controlled pre-planting if possible. Having a full profile of moisture stored in your paddocks can greatly enhance the success of pasture establishment. For paddocks with high weed pressure, an establishment plan can be developed to capitalise on the benefits of short-term grazing crop rotations that utilise selective, in-crop weed control applications.

#### Suggested establishment plan for weedy paddocks

Phase 1	Phase 2
Ebony Cowpea → Dictator 2 Barley	Spring Weed Control → Pasture Establishment

### Variety Selection

Ensuring you have the right species for the right situation is critical. The area of adaptability of each tropical and sub-tropical species will be essential to ensuring successful establishment and long-term persistence. Some species will be better adapted to lighter soils, while others will perform best on heavier soils. Similarly, the ability of tropical species to handle environmental factors such as waterlogging, frost or even drought will vary greatly. Pasture selection should generally be based on consideration of soil type, frost tolerance and rainfall as a minimum. Aim for a mix of perennial grasses and legumes in an improved pasture where possible. The incorporation of legumes into an improved pasture can significantly improved pasture yield and quality by providing companion grasses with a nitrogen source via legumes having the ability to fix and produce plant-available nitrogen. Use the tropical sowing guide on page 36–37 to determine the ideal species for your area.



## Seed Quality

Always ensure you compare 'like for like' products when choosing your seed and factor seed quality into the decision making process when looking at price comparisons. Avoid poor quality seed where possible. Cheaper seed of lower purity and germination is of little value and a greater risk to a successful outcome. Request a recent copy of a seed test (ideally no older than 12 months) and that it contains both a purity and germination analysis for any seed being considered for planting.

<b>Buffel A @ \$12.00/kg</b>	<b>vs.</b>	<b>Buffel B @ \$11.00/kg</b>
<b>65% Germ &amp; 99% Purity</b>		<b>35% Germ &amp; 90% Purity</b>

Buffel A has 33% more pure live seed, is better value and far less risk than Buffel B.

*Note: Heritage Seeds has an industry leading production and procurement program to ensure bare and coated seeds are of the highest quality and meet set minimum standards. Heritage Seeds carries out strict quality assurance to ensure our inventory management processes are second to none, providing you with the highest quality seed available.*

## Seed Treatment

Heritage Seeds' AgriCote treatment provides coated seed with vast improvements to enable the likelihood of establishing a successful tropical pasture. AgriCote pasture seed has a range of benefits that can prevent problems such as seedling nutrient deficiencies, establishment delays due to seed dormancy, mortality from disease and insect attack including events such as ant theft, the flow and mixing of light and fluffy pasture seed species and for legumes the inconveniences, delays and waste associated with double handling and inoculating seed on farm.

## Seed Bed

Evaluation of which seed bed preparation is best for your soil type and planned pasture is essential. Seed bed requirements will vary with soil type, climate and the pasture species being planted. Small-seeded varieties generally benefit from a finer tillth seed bed. Heavier clay soils that crust benefit from a deeper, rougher working. Where possible, plant into a fresh seed bed that has not been impacted by wind, rain and/or compacted by machinery or livestock. If the ground is disturbed from events such as clearing fence lines, revegetation work or extensive ripping activities, attempt to seed at the time of working to gain the best response. Pre-seeding areas such as standing timber should also be considered. Avoid overworking soils to produce a very fine, powdery seedbed.

### Lighter/Loamier Soils

These soil types are generally much easier to work and establish. Lighter soils suit surface sowing from both ground and aerial application methods, as their loose nature will normally provide adequate cover and seed to soil contact.

### Heavy/Clay Soils

These soils can be hard to establish due to the surface crusting; a deeper working to leave a rougher seed bed may overcome this, as can incorporating pre-rolling for fine, cultivated soils.



## Soil Fertility

Nutrition is particularly important, especially on previously cropped soils. Soil testing where practical is a very helpful decision-making tool, enabling planning of your improved tropical pasture fertiliser requirements. Soil testing will ascertain if soil nutrient imbalance occurs and if amendments are required. Pasture response to ideal soil fertility should not be underestimated – a successful establishment and long-term improved pasture persistence requires adequate soil nutrition.

## Planting Rate

Establishing a new improved tropical pasture is a numbers game. Adopting the correct planting rate is the key to success. Lower planting rates can increase the likelihood of competition from weeds, increase the time it takes for a new pasture to become fully established and, in some cases, increase the risk of establishment failure. Establishment delays due to low plant populations from low planting rates cost money and significantly reduce the carrying capacity and production performance of the pasture. The planting rate selected should consider factors such as seed quality, environmental conditions including rainfall, the species being planted, sole or mixed species planting and targeted plant population. Recommended planting rates for coated seed consider these factors to ensure the targeted plant population is achieved. Higher planting rates are normally selected for higher rainfall areas like coastal regions and those under irrigation. Lower planting rates are usually an option for more marginal dryland scenarios.

## Planting Depth

Most tropical species have a small seed size and prefer to be shallow planted with a light soil covering of approximately 0.50–1.0cm. Larger seed sizes can grow from a greater depth, though ideally not deeper than 2.0cm. Planting deeper will significantly reduce establishment in small-seeded tropical species.

## Application Method

Aerial and ground seeding techniques both give good results. Choose a sowing method suited for your circumstances and convenience, but ideally the sowing method should be the one that best delivers an even flow of seed to the correct sowing depth. Even seed distribution at a consistent sowing depth provides the best results every time. Where possible, plant seed on the surface, followed by a light harrow to cover and/or the use of a rubber type roller to ensure good seed to soil contact (don't roll crusting soils).

Coated seed can be spread using a rolling drum seeder, fertiliser spreader, combine drill with the seed hoses removed, or adopting precision planting equipment. Other options are full cultivation, sod-seeding, band seeding and using a crocodile seeder.

Tropical legumes such as burgundy bean, stylo and Wynn cassia can be mixed into feeding supplements and spread via livestock, establishing successfully in dung.

**Note: AgriCote coated seed is highly suited for aerial sowing by plane or helicopter due to improved ballistic properties for a more even cover and providing better seed to soil contact.**



## Timing

Deciding when to plant is usually one of the most difficult decisions in establishing a new pasture as during the warmer months it is hot and dry after planting. Tropical pastures are normally planted from August until March and early or late plantings are usually the best option. Avoid sowing when the seasonal risk of frost, drought or heat is likely to cause mortality of establishing seedlings. Ordering your seed early and having your seed on hand, combined with timely seed bed preparation, is essential to ensure planting at the ideal sowing window. Target sowing times to maximise potential rainfall opportunities and weather events conducive to establishment success. The seed zone needs to be moist for 3–4 days for germination to occur. Along with surface moisture, pasture establishment relies on deeper, sub-soil moisture. Attempt to time planting when there is the best seasonal chance of warm, moist conditions. Avoid planting tropical seed during winter where possible, especially if there is a risk of frost. In summer, try to plant on a full profile of moisture to avoid seedling death due to severe heat and/or an extended dry period.

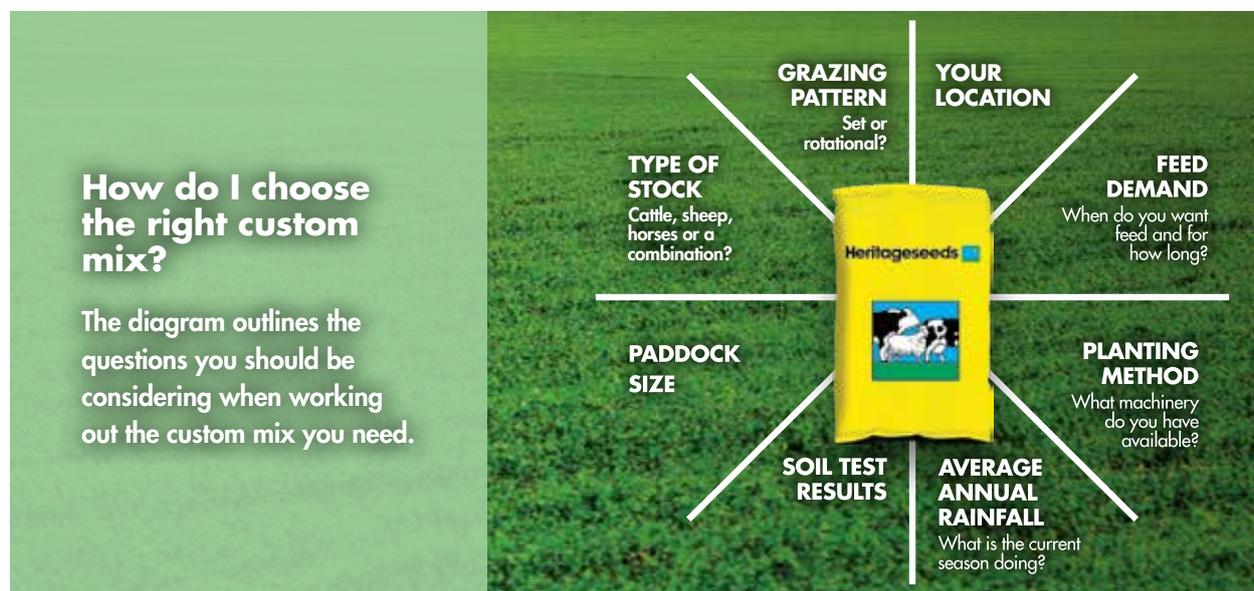
## First Grazing

Ideally, newly sown tropical pasture should be well fenced and lightly grazed in the first season, allowing for some annual seed set to occur to aid in long-term persistence. Tropical pastures will respond best to short-term rotational grazing that allows for annual seed set, without overgrazing. Grazing lightly encourages tillering and root development. However, care must be taken to ensure the newly sown pasture has had ample time to develop a strong root system and approximately reach a minimum height of 30cm. This is usually aided by follow-up rain, post sowing. Fires should be avoided until the new pasture is well established. **Do not overgraze** – overgrazing can severely reduce dry matter response, reduce plant recovery, cause plant population losses and may also allow the opportunity for weed invasion. Always rotate new paddocks where possible; 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'. Spelling the pasture in late summer each year will allow species to set seed and will increase the life of the pasture. Hay cutting is not recommended in the first year.

# CHOOSING THE RIGHT CUSTOM MIX

There are a number of variables to consider when working out the best combination of products for your paddocks. This may result in a custom mix being the best solution to ensure the seed you buy meets your expectations.

At Heritage Seeds we work hard to ensure we have the best range of quality seed varieties available, enhanced and ready to mix to your needs.



# MEATMASTER TROPICAL MIXES WITH AGRICOTE

# AgriCote®

## MEATMASTER PRIME PASTURE

Variety	Species	%
Tolgar Rhodes™	Rhodes grass	30
Megamax™059	Panic grass	20
Bambatsii	Panic grass	20
SARDI-Grazer	Lucerne	10
Medic Mix	Medic	10
Presto/Garnet	Burgundy bean	10



This mix is suited to the heavier black, self-mulching and grey-cracking flood plain soil types. The productivity of Tolgar Rhodes™, Bambatsii and Megamax™059 is 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 standover feed for the winter months.

## MEATMASTER BIG BEEF BLEND

Variety	Species	%
Tolgar™	Rhodes grass	30
Megamax™059	Panic grass	25
Bisset/Hatch	Bluegrass	15
SARDI-Grazer	Lucerne	20
Presto/Garnet	Burgundy bean	10



Developed for medium black to red chocolate soils. The productivity of Tolgar Rhodes™ and Megamax™059 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.

## MEATMASTER PREMIUM COASTAL MIX

Variety	Species	%
Mariner	Rhodes grass	45
Splenda	Brachiaria	20
Signal Grass	Signal grass	20
Garnet	Burgundy bean	10
Greenleaf	Desmodium	5



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.

## MEATMASTER WESTERN LIGHT SOIL MIX

Variety	Species	%
USA	Buffel grass	30
Gayndah	Buffel grass	30
Presto	Burgundy bean	10
Mega Stylo	Stylo	15
Sabi Grass	Urochloa	15



A blend of USA buffel for lighter country and Gayndah buffel for the red/grey loams. The use of Sabi grass 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.

## MEATMASTER WESTERN HEAVY SOIL MIX

Variety	Species	%
Bambatsii	Panic grass	25
Tolgar Rhodes™	Rhodes grass	25
Biloela	Buffel grass	25
Presto	Burgundy bean	15
Ray Desmanthus™	Desmanthus	10



Developed for medium to heavy textured clay soils such as brigalow clays, open downs and heavier alluvial soils. This mix contains species that are tolerant of sodic and alkaline soil conditions commonly found in heavy soil types. The productivity of Tolgar Rhodes™ combined with the production output from Biloela and Bambatsii adaptation abilities to soil type, help further bolster this tropical mix. Addition of two tropical legumes suitable for heavier soils helps to supply companion grasses with nitrogen and improve the feed quality of the improved pasture.

## MEATMASTER LIGHT SOIL MIX

Variety	Species	%
Tolgar Rhodes™	Rhodes grass	20
Premier	Digit grass	45
Megamax™059	Panic grass	25
SARDI 7	Lucerne	10



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 grass with the green leafy growth of Megamax™059 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. The addition of SARDI 7 lucerne as a legume component, which is suitable to these soil types, helps to provide nitrogen to companion grasses and improve feed quality of the pasture.

## MEATMASTER LIGHT SOIL ALLGRASS

Variety	Species	%
Tolgar Rhodes™	Rhodes grass	25
Premier Digit	Digit grass	45
Megamax™059	Panic grass	30



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 grass with green leafy growth of Megamax™059 and the ground cover on harder scald areas of Tolgar Rhodes™ grass. Ideally sown in spring after a cereal grazing crop or direct drilled into a weed-free paddock.



# MEATMASTER TROPICAL MIXES WITH AGRICOTE

# AgriCote®

## MEATMASTER SLOPES & PLAINS MIX

Variety	Species	%
Tolgar Rhodes™	Rhodes grass	15
Premier	Digit grass	30
Megamax™059	Panic grass	20
Bambatsii	Panic grass	25
Presto	Burgundy bean	10



Developed for the medium black to red chocolate soils of New South Wales slopes and plains. Bambatsii and Megamax™059 combine for soft, leafy productivity on the heavier soils, with Premier digit grass and Tolgar Rhodes™ grass performing and persisting on the lighter soil. The addition of Presto as a legume component helps to provide nitrogen to companion grasses and improve feed quality and persistence of the pasture.

## MEATMASTER SLOPES & PLAINS ALLGRASS

Variety	Species	%
Tolgar Rhodes™	Rhodes grass	15
Premier Digit	Digit grass	40
Bambatsii Panic	Panic grass	25
Megamax™059	Panic grass	20



Developed for the medium black to red chocolate soils of the New South Wales slopes and plains. Bambatsii and Megamax™059 combine for soft, leafy productivity on the heavier soils, with Premier digit grass and Tolgar Rhodes™ performing and persisting on the lighter soil.

## MEATMASTER FLOODPLAIN SOIL MIX

Variety	Species	%
Tolgar Rhodes™	Rhodes grass	25
Bambatsii	Panic grass	35
Floren	Bluegrass	30
Presto	Burgundy bean	10



This blend is suited to the heavier, black self-mulching and grey-cracking flood plain country. The productivity of Tolgar Rhodes™ and Bambatsii is enhanced by the black soil adaptation of Floren bluegrass, increasing persistence and ground cover in very wet or dry conditions. The addition of Presto as a legume component helps to provide nitrogen to companion grasses and improve feed quality and persistence of the pasture. A very productive mix for finishing cattle in summer or building a large volume of standover feed.

## MEATMASTER FLOOD PLAIN ALLGRASS

Variety	Species	%
Tolgar Rhodes™	Rhodes grass	30
Bambatsii	Panic grass	40
Floren	Bluegrass	30



This blend is suited to the heavier, black self-mulching and grey-cracking flood plain country. The productivity of Tolgar Rhodes™ and panic grasses is 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.

## MEATMASTER ACID SOILS MIX

Variety	Species	%
Premier	Digit grass	40
Sabi grass	Urochloa	30
Consul	Love grass	15
Presto	Burgundy bean	10
Wynn	Cassia	5



Specifically developed for soils with a lower pH and those that present challenges establishing improved pastures in acid soil conditions. The productivity and adaptability of Premier digit grass to acid soils, combined with the persistence of Consul love grass provides a wider feed window in challenging conditions. The addition of Sabi grass provides vigorous establishment, plus Presto burgundy bean and Wynn cassia complement the mix, enabling protein levels to be maintained.

## MEATMASTER ACID SOILS ALLGRASS

Variety	Species	%
Premier	Digit grass	45
Sabi grass	Urochloa	35
Consul	Love grass	20



Specifically developed for soils with a lower pH and those that present challenges establishing improved pastures in acid soil conditions. The productivity and adaptability of Premier digit grass to acid soils, combined with the persistence of Consul love grass provides a wider feed window in challenging conditions. The addition of Sabi grass provides vigorous establishment and quick feed in the short to medium term.

## EQUIMASTER PREMIUM HORSE BLEND

Variety	Species	%
Mariner/Tolgar™	Rhodes grass	40
Bisset/Hatch	Bluegrass	15
Premier Digit	Digit grass	15
SARDI-Grazer	Lucerne	10
Presto/Garnet	Burgundy bean	10
Shirohie	Millet	10



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. The choice of Mariner (coastal) or Tolgar Rhodes™ (western) ensures the right grass for the right region.

# MEGA STYLO BLEND

## STILL AUSTRALIA'S FAVOURITE STYLO MIX

Stylos are high protein legumes that persist and spread under most northern Australian conditions. Heritage Seeds' Mega Stylo Mix provides a balanced combination of Caribbean and Shrubby stylo species that contain a variety of disease and environmental adaptability advantages. Using a stylo mix such as the Heritage Seeds' Mega Stylo Mix ensures that you have the right type of stylo in your improved tropical pasture to perform and persist for the long term under the environmental situation that you throw at it.

*Heritage Seeds' Mega Stylo Mix comes with our market leading coating technology AgriCote, built in as a seed treatment and protectant to ensure the best chances of establishment success.*

Variety	Species	%
Amiga	Caribbean	20
Siran	Shrubby	40
Seca	Shrubby	40

### AMIGA STYLO

400mm+

pH 5.4 – 8.0

Many soil types

Amiga is a newer cultivar selected to extend the area of adaption of Caribbean stylo into harsher (drier) and cooler (higher altitude) environments. A highly palatable and persistent Verano type stylo, Amiga has greater resistance to anthracnose over Verano, combined with being selected for better tolerance to lower temperatures and higher altitude environments. It demonstrates greater tolerance to drier conditions and persists longer for a short lived perennial. Amiga is easy to establish and produces an abundance of seed.



### SECA STYLO

450mm+

pH 4.5 – 8.0

Many soil types

Seca was released for the lower altitudes, being very late flowering. Some lines of Seca appear to have shifted in type and flowering habits, flowering any time there is moisture or warmth; flowers are often seen on plants in spring in sub-tropical areas. Commercial Seca seed produces a plant that is very late flowering and much leafier than the original stemmy release. Seca has field resistance to the common types of anthracnose from a single source of gene resistance.



### SIRAN STYLO

350mm+

pH 4.5 – 7.0

Many soil types

Siran is a shrubby type stylo that shows greater tolerance to anthracnose than Seca and can adapt to a wider variety of conditions. Siran was bred with four sources of resistance to anthracnose. Siran should be included in any stylo plantings to provide insurance against devastation from anthracnose attack.



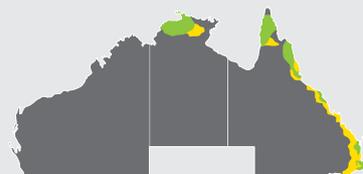
## STYLO REGIONAL ADAPTABILITY



Seca, Siran  
semi-arid tropics and sub-tropics



Verano, Amiga  
semi-arid tropics



Tropical stylo  
coastal tropics and sub-tropics

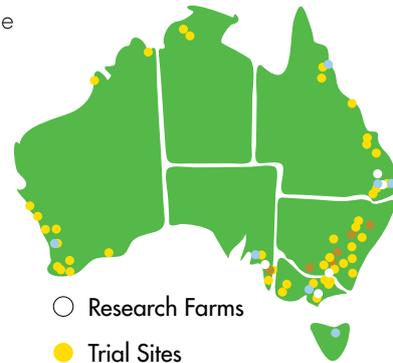
Yellow: Marginal    Green: Suitable

# A TRULY NATIONAL BUSINESS

## INVESTING ACROSS THE NATION TO MEET THE CURRENT AND ONGOING NEEDS OF AUSTRALIAN FARMERS

At Heritage Seeds we specialise in breeding, producing and adding value to the highest quality pasture, forage and field crop varieties.

Our extensive range of seed varieties, broad distribution network and regionally based advice team help Australian producers grow productive pastures to maximise their output.



### Our commitment to Australian agriculture

- Continued investment in Australian agriculture
- Purchase of Australian Premium Seeds, including their Walkamin plant
- New mixing and coating facility under construction in Toowoomba
- Mixing & coating facilities in 6 locations nationally
- 17 sales staff across Australia
- More than \$2 million annually invested in plant variety R&D
- 6 primary research sites in Howlong, Blanchview, Kingaroy, Gatton, Warwick & Keith
- More than 60 research or demonstration sites across Australia
- Joint breeding programs with key government breeder partners. Eg. Queensland DPI, SARDI
- Participation in independent industry plant evaluation programs, PVT, NVT & FVI
- More than 16,000 hectares of contract seed production across Australia.

○ Research Farms

● Trial Sites

● Depots

● Warehouses

"When I'm recommended a Heritage Seeds custom mix it goes straight in the ground!"

**DEAN ARMSTRONG**  
*Grazier, Comet QLD*



## PROPRIETARY PRODUCTS

### TOLGAR RHODES™ RHODES GRASS



Tolgar Rhodes™, a diploid variety, is a new Katambora type. Bred in Australia, this perennial variety was specifically selected for superior growth characteristics including increased production, persistence, greater forage quality, aggressive growth habit and higher salt tolerance over commercial Katambora varieties. Leaf blades are thin, resulting in fine textured vegetative growth. The multiple tillering characteristics of Tolgar Rhodes™ produces a high leaf to stem ratio, which provides more consumable dry matter than other Katambora Rhodes grass varieties. Maturity evenness of this variety provides higher protein feed late in the season. Tolgar Rhodes™ demonstrates exceptional recovery after grazing or cutting. Later flowering than other Katambora Rhodes grass types provides Tolgar Rhodes™ the ability to maintain feed quality longer and out-yield similar varieties in the marketplace.



- Later flowering than Katambora Rhodes grass types
- Higher leaf to stem ratio compared to traditional Rhodes grass varieties
- Finer stem compared to Katambora Rhodes grass
- Suited to grazing, hay cutting, reclamation and soil conservation activities
- Aggressive, spreading, stoloniferous growth habit
- Nematode resistance and high salt tolerance
- Drought, frost, cool season and acid tolerance.

### MARINER RHODES GRASS



Mariner, a tetraploid Rhodes grass, is a new Samford type. Bred in Australia, this perennial variety was specifically selected for superior growth characteristics including increased production, persistence and greater forage quality over commercial Samford and Callide varieties. Leaf blades are large, with multiple tillering characteristics producing a high leaf to stem ratio. Palatability of this variety remains high, even when mature. The multiple tillering characteristics of Mariner produces a high leaf to stem ratio, which provides more consumable dry matter than other tetraploid Rhodes grass varieties. Maturity evenness of this variety provides higher protein feed late in the season. Mariner demonstrates exceptional recovery after grazing or cutting. Later flowering than other Samford or Callide Rhodes grass types provides Mariner the ability to maintain feed quality longer and out-yield similar varieties in the marketplace.



- Later flowering than Samford or Callide
- Higher leaf to stem ratio compared to Samford or Callide
- Highly suited to both grazing and hay making
- Highly palatable
- Unrivalled persistence
- Aggressive, stoloniferous growth habit
- High salt tolerance
- Excellent production potential.

## G2 GUINEA GRASS



G2, a tetraploid Guinea grass, is a new *Megathyrsus maximus* type. Discovered in Australia, this strongly perennial variety exhibits superior growth characteristics including increased production, persistence and greater forage quality over commercial Guinea grass varieties. This new Guinea grass is a medium to short variety with long narrow leaves, distinctly different from the tall, broad leaved Guinea grass varieties currently sold. G2 demonstrates exceptional recovery after grazing or cutting. This variety has been used successfully for making hay and silage. Later flowering than other commercial Guinea grass types provides G2 the ability to maintain feed quality longer and out-yield similar varieties in the marketplace. Complements Leucaena very well.



- New species of Guinea grass confirmed by DNA test
- Later flowering than commercially available Guinea grass varieties
- Well suited to grazing or cutting
- Excellent cold tolerance at all growth stages
- Early season growth – exceptional winter bounce back
- Good drought and shade tolerance.

## MEGAMAX™ 059 PANIC GRASS



Megamax™ 059 is a new 'Gatton' panic grass (*Panicum maximum*) type. Megamax™ 059 was selected in Australia by the Future Farming Industry CRC, DAFWA, NSW DPI and Heritage Seeds. It is a new variety of panic grass and one of the first sub-tropical perennial grass varieties selected for both tropical and sub-tropical Australia — with the field evaluation undertaken in both temperate WA, northern NSW and QLD. It was selected for superior growth characteristics including increased production, higher persistence and cool season tolerance in comparison to other commercial sub-tropical grass cultivars. Leaf blades are large with multiple tillering characteristics, producing a high leaf to stem ratio.



- Quality feed – high leaf to stem ratio
- Higher biomass production and greater persistence than Gatton and Green panic grass
- Rapid response to rainfall
- Adaptable to variable rainfall environments
- Highly palatable and readily eaten by all stock types
- Well suited to grazing or cutting
- Cool season and shade tolerance
- Early season growth – exceptional winter bounce back.

## MEGAMAX™ 049 PANIC GRASS



Megamax™ 049 is a new 'Green' panic grass (*Panicum maximum*) type. This variety is the first sub-tropical, warm season, C4 perennial grass variety specifically selected for southern regions of Australia, with field evaluation work undertaken in WA, QLD and northern NSW. It was selected because of its superior growth characteristics including increased production, high persistence and cool season tolerance in comparison to other commercial sub-tropical grass cultivars. It is a short to medium height panic grass, with fine soft foliage, fine stems and a high tiller density. It has an erect growth habit, good synchronisation of flowering and high seed production. Megamax™ 049 originates where the average annual rainfall is 450 mm and where there is a pronounced dry season.



- Very leafy with high tiller density
- Exceptional palatability—fine, soft pliable leaves
- Significantly higher biomass production than Gatton panic grass in trials
- Excellent persistence under extended dry conditions and over winter—responds rapidly to rainfall
- High quality feed and greater production potential
- Well suited to grazing or cutting
- Early season growth – exceptional winter bounce back
- Shade tolerant.

## LAKOTA BUFFEL GRASS



Lakota, a tetraploid apomictic hybrid, is a new buffel grass (*Cenchrus ciliaris*) variety generated from a buffel grass breeding program in Texas USA. This strongly perennial variety was specifically selected for buffel leaf blight resistance, cold tolerance and improved agronomic performance such as forage yield and winter active regrowth. Leaf blades are thin, resulting in much finer textured vegetative growth compared to other commercial varieties. Maturity evenness of this variety provides higher protein feed late in the season. Lakota demonstrates exceptional recovery after grazing or cutting. Later flowering than other buffel grass types provides Lakota the ability to maintain feed quality longer and out yield similar varieties in the market place.



- Plant hybrid performance
- Higher forage yield than Gayndah and USA buffel
- Higher leaf to stem ratio and greater persistence compared to commercially available buffel varieties
- Handles a wide range of soil types
- Quick to respond after small amounts of rainfall
- Early season growth – exceptional winter bounce back
- Longer production growing season
- Survives well in frost-prone western areas
- Suited to both grazing and hay cutting.

# MULATO II

## HYBRID BRACHIARIA



Hybrid Brachiaria varieties are the result of three generations of crosses that result in a three-way hybrid, (*Brachiaria decumbens* x *ruziziensis* x *brizantha*). Being apomictic, the hybrid remains true to type, is genetically stable and does not segregate or divide from one generation to the next. Mulato II is one such three-way hybrid, being the result of three generations of crosses and screening carried out by CIAT's tropical forages project. This variety is the second Brachiaria hybrid developed by CIAT. Hybrid Brachiaria are well suited to tropical, sub-tropical and warm temperate coastal regions. These varieties are commonly grown in the wet and seasonally dry tropics, but will extend into the sub-tropics. They are well suited to a wide range of soil types, performing best on well-drained soils of medium to high fertility but can also grow in less fertile soils, particularly low phosphorus soils and weathered tropical soils characterised by low pH (acid) and high aluminium (Al) saturation. Plants regrow after fire and following frost when warmer conditions return.



- Suitable for environments generally considered outside the normal adaptation range for Brachiaria
- Strong persistence, even under seasonally dry conditions
- Maintains green leaf of relatively high nutritional value into seasonally dry periods
- Forage yields recorded up to 27mt DM/ha/year & 17% crude protein
- Capable of sustaining high stocking rates—high nutritional value for ruminants
- Tropical species that can sustain dairying activities
- Suitable for direct grazing, cut-and-carry methods, bailing and silage.

# PRESTO

## BURGUNDY BEAN



Presto, a tropical legume from the *Macroptilium* family, is a high yielding, highly palatable legume. Suitable as a monoculture or in mixes, this species is well adapted to both grazing and high quality hay production. The non-bloating characteristic of Presto makes it an ideal choice for any animal production system. Presto burgundy bean is deep rooted, allowing the variety to be extremely drought tolerant. Being both an earlier maturing variety and having improved seed yielding ability allows the variety to regenerate well from both new seedlings and existing plants, greatly improving persistence. Presto burgundy bean is closely related to Siratro but is more cold tolerant than this species and is commonly referred to as the sub-tropical equivalent of the more tropical adapted Butterfly Pea. Greater autumn growth and cool season stay-green than previous varieties.



- A hardy, non-bloating tropical legume
- Earlier maturing variety selected for shorter growing season environments
- Highly palatable – live weight gain of up to 1.0Kg/head/day
- Recruits readily from seed for extended stand life under ideal management
- Suited to a wide range of soils including heavy clays
- Very drought tolerant
- Larger seed size aids in rapid establishment and improved persistence
- Nitrogen fixation—addresses soil fertility decline
- Mosaic virus resistant.

# GARNET

## BURGUNDY BEAN



Garnet, a tropical legume from the *Macroptilium* family, is a high yielding, highly palatable legume. Suitable as a monoculture or in mixes, this species is well adapted to both grazing and high quality hay production. The non-bloating characteristic of Garnet makes it an ideal choice for any animal production system. Garnet burgundy bean is deep-rooted, allowing the variety to be drought tolerant. Being a later maturing variety, Garnet is well suited to longer growing seasons, higher rainfall, coastal regions and hay making. The improved seed yielding ability of this variety allows Garnet to regenerate well from both new seedlings and existing plants, greatly improving persistence. Garnet burgundy bean is closely related to Siratro but is more cold tolerant than this species and is commonly referred to as the sub-tropical equivalent of the more tropical adapted Butterfly Pea.



- A hardy, non-bloating tropical legume
- Later maturing variety selected for longer growing season environments
- Highly palatable – live weight gain of up to 1.0Kg/head/day
- Greater autumn growth and cool season stay-green than previous varieties
- Suits a wide range of soils including heavy clays
- Larger seed size aids in rapid establishment and improved persistence
- Nitrogen fixation—addresses soil fertility decline
- Mosaic virus resistant.

# RAY DESMANTHUS™

## DESMANTHUS



Ray Desmanthus™ is a completely new variety of desmanthus. This highly productive, drought tolerant perennial legume is very palatable to livestock, has a high digestibility and protein content and does not cause bloat. Ray produces high amounts of forage yield from its strongly erect and upright growth habit. Unlike other desmanthus varieties, Ray remains very fine in the stem and has stay-green traits that help maintain feed quality and reduce the amount of unpalatable woodiness expressed in the plant as it matures. Being later flowering (42 days later than cv. Marc) allows Ray to produce higher quality feed later into the growing season, with the finer softer appearance of the plant resulting in Ray often being labelled as a 'tropical lucerne' or 'mini leucaena'. Well suited to medium to heavier clay soils in the drier tropical and sub-tropical regions, Ray is also naturally adapted to drier, harsher, lower soil fertility conditions. Defoliated by heavy frosts, Ray will regrow from the crown after good rain in early spring. A prolific seeding ability allows Ray to recruit readily not only from regrowth from established plants but also from a highly loaded seed bank in the soil.



- Highly palatable, non-toxic tropical legume (no mimosine)
- Ideally suited to and highly productive in heavy clay soils
- Excellent persistence – robust, woody base and protected main growing crown
- Drought tolerant—deep tap-rooted perennial able to access moisture
- Tolerant to frost and heavy grazing
- Exceptional persistence – recruits readily from seed and regenerates from the crown
- No requirement for height management.

# BEEFMAKER™ STYLO

 850mm+ 
  pH 4.0 – 8.3 
  Lighter well drained soils

Beefmaker™ stylo is a high production tropical stylo new to the Australian market. It has been specifically bred for premium quality tropical hay production but is flexible enough to be grazed straight from the paddock. It is later flowering, providing a later maturity to maximise feed quality. Beefmaker™ is extremely leaf disease tolerant, containing a multi-gene resistance to anthracnose. This variety retains leaf right to the crown, even very late in its maturity and is extremely soft to touch in the paddock or in the bale. Beefmaker™ shows excellent early seedling vigour and is quick to first grazing or cutting. It has an erect to semi-erect growth habit with excellent leaf retention and produces a bulk of extremely high quality forage under tropical conditions. Beefmaker™ will grow to a height of 1.5–2m and is extremely dense, giving excellent forage yields. Suited to a wide range of well drained lighter soils in the warmer tropical regions.



- *Stylosanthes guianensis* variety
- Bred for tropical hay production and grazing
- Suited to tropics, dry tropics and coastal zones
- Later flowering, maximises protein content longer
- Higher yielding, taller variety – dense growth up to 2m
- High forage quality, while still maintaining leaf retention
- Anthracnose resistant.



Photo: Alison Flute

# TROPICAL GRASSES WITH AGRICOTE SEED COATING

## BUFFEL (USA, GAYNDAH, BILOELA)

350mm+ pH 5.0 – 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, but will grow on a range of soil types. Generally not tolerant to waterlogging or flooding conditions. Buffel grass is high in oxalate.



## BILOELA

350mm+ pH 5.0 – 8.0 Light to heavy

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

350mm+ pH 5.0 – 8.0 Light to medium

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 BUFFEL

350mm+ pH 5.0 – 8.0 Light to medium

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)

600mm+ pH 5.0 – 8.0 Wide range types

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



## FLOREN BLUEGRASS

550mm+ pH 5.0 – 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)

1000mm+ pH 5.0 – 8.0 Varying

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

350mm+ pH 5.0 – 8.0 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

500mm+ pH 5.0 – 8.0 Clay loams

A high-yielding and palatable perennial grass, easily distinguished by its distinctly bluish leaves with prominent white mid-rib. Bambatsii 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**

650mm+ pH 5.5 – 8.0 Fertile and lighter

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

**GREEN PANIC**

650mm+ pH 5.5 – 8.0 Fertile and lighter

Green panic grass 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**

750mm+ pH 4.5 – 8.0 Fertile soil 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**

750mm+ pH 4.5 – 8.0 Fertile soil 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, a strong sward of wettsteinii establishes. 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**

500mm+ pH 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, 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. It has good drought, fire and cold tolerance and its foliage is low in oxalate, making it suitable for horses.

**CALLIDE RHODES GRASS**

650mm+ pH 5.5 – 8.0 Wide range types

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 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**

450mm+ pH 5.5 – 8.0 Wide range types

A highly stoloniferous and 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.



# TROPICAL GRASSES WITH AGRICOTE SEED COATING

## SPLENDA SETARIA

800mm+ pH 5.0 – 7.0 Varying

Splenda setaria was bred by the CSIRO as a hardy, palatable, high-yielding and later-maturing variety 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

800mm+ pH 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.



## SABI GRASS (UROCHLOA)

500mm+ pH 5.0 – 8.0 Varying

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



## INDIAN BLUEGRASS

600mm-900mm pH 5.5 – 8.5 Sandy to loamy clays

Indian bluegrass is suitable as a permanent pasture on poorer soils. It can tolerate heavy grazing, be cut for hay and is also widely used for erosion control, reseeding eroded land, waterways, revegetating mine waste and for lawns, sown by seed or from sprigs. This species provides good groundcover, grows well on infertile and hard setting soils, competes well with weeds and produces good quality forage. The variety Keppel was selected for increased stoloniferous activity, rust resistance, wider area of adaptability, improved forage quality and later flowering.



## WHITTET KIKUYU

1000mm-1500mm pH 4.5 – 7.5 Well drained sands to clay-loams

Whittet Kikuyu was developed and released by NSW Department of Agriculture at Grafton NSW and is widely suited to higher fertility coastal soils. This improved Kikuyu has rapid summer growth rates with high yield potential and has good seed-set, providing an alternative to vegetative propagation. Like the commonly grown Kikuyu, Whittet has high protein and ability to spread more vigorously, suppressing weeds well. It is most suitable for high intensive grazing, amenity turf, and erosion control. Being a very persistent, high quality perennial grass, Kikuyu requires and thrives under constant heavy grazing to maintain high quality feed and palatability of the pasture. Persists through moderate drought conditions and will tolerate short periods of water-logging.



## CURLY MITCHELL GRASS



Curly Mitchell grass is used as a permanent pasture option in native pastures and usually restricted to alkaline clay soils with summer dominant rainfall. Curly Mitchell grass was selected for its cool season growth, increased total dry matter production as well as a greater warm season leaf production. It is a very hardy and persistent species under tough drought conditions or heavy grazing. Tolerates heavy grazing very well. Recovers well after fire with rainfall, although generally not burned as it is a valuable source of feed in very tough conditions. Drought dormancy allows survival during extended dry periods and able to extract soil moisture from relatively dry soil. Utilised to regenerate previous grasslands after cropping. Will act as a 'standing hay' over winter with no rainfall and low humidity.



## PURPLE PIGEON GRASS



Purple Pigeon grass is a larger seeded member of the Setaria family that is well suited to heavier clay soils. The large seed size allows easier establishment of this species into heavy, black cracking clay soils. Very tolerant of both drought and waterlogging, Purple Pigeon seedlings display vigorous seedlings and high growth rates early in the season. It requires higher soil fertility and strict management to prevent feed from going 'rank'.



## GUINEA GRASS



Guinea grass is mostly grown in the wet and seasonally dry tropics of Australia, preferably with a rainfall over 1,500 mm, but will extend into about 900 mm rainfall areas in the subtropics. Grows best on deep, fertile, moist soils, but will grow in most soil types providing they are well-drained, at least moderately fertile and with reasonable moisture availability. Generally intolerant of prolonged waterlogging, salinity, and very acid soils. Guinea grass has a high production potential, producing leafy, high quality feed that is readily eaten by livestock or easily cut for hay. Shade tolerance makes it an ideal fit for around tree lines or as a companion species for Leucanea.



"We have been planting Heritage Seeds' AgriCote sub-tropical pastures for around 10 years now. The AgriCote flows through our airseeder allowing accurate seed placement, and the bigger healthier seedlings provide reliable establishment in some of the tougher years. We know we have the technical support of Heritage Seeds' staff in the paddock. We will continue to use AgriCote for our pastures for the confidence it gives us."

**NEAL DAVISON**  
Bundella, Southern Liverpool Plains, NSW

# TROPICAL LEGUMES WITH AGRICOTE SEED COATING

## BUTTERFLY PEA

500mm-1500mm pH 4.5 - 8.7 Many soil types

A high protein legume, it grows well on medium to heavy clay soils with reasonable fertility and rainfall. Being strongly perennial, this pea shows exceptional persistence and can tolerate short-term waterlogging. Broadly adapted to many soil types – sands through to heavy clays – with best production coming from heavy clay alkaline soils. It is susceptible to heavy grazing and therefore performs best in a spell grazing system that allows seed set or used in tropical mixes. Being highly palatable, with high digestibility, Butterfly Pea is excellent for tropical hay production. Although frost susceptible, it can recover and regenerate rapidly.



## CENTRO

700mm-1500mm pH 5.0 - 8.5 Wide ranging

Centro is an annual, twining legume that can root from the nodes under moist conditions. It is suited for higher rainfall and monsoonal areas of North QLD and NT with an extended wet season. Centro regenerates aggressively and competes well with grasses. Centro is well suited for high quality, tropical hay production and will tolerate heavy grazing. Bunday and Cavalcade are fast growing cultivars that are heavy seed producers, very palatable and good nitrogen fixers. Cavalcade is suited to better soil types with a short wet season, tolerating some waterlogging and coastal flooding. Cavalcade was bred in Australia for nematode resistance. Bunday is better suited to seasonal flooding conditions in the NT and a longer growing season. Bunday is a later flowering variety, having smaller seeds, hairier stems and petioles. Cardillo has better cold tolerance and will survive mild frosts in the sub-tropics. It is suited for mixed hay production and will also tolerate heavy grazing.



## DESMANTHUS

500mm-1500mm pH 6.5 - 9.0 Medium to heavy

Desmanthus is productive, persistent, drought tolerant, non-bloating summer growing legume that is tolerant of sodic and alkaline soils, being well suited to medium to heavy textured clay soils such as brigalow clays, open downs and heavier alluvial soils. Desmanthus is very persistent in low rainfall environments and has a wide area of adaptability from sub-tropical regions as far south as central NSW to dry tropic zones across northern Australia. It is highly palatable and well eaten throughout the growing season. Defoliated by heavy frosts but regrows quickly when moisture is adequate in spring. Regenerates from both the crown and from seedling recruitment. Ideal as an option for inclusion for heavy soil tropical mixes.



## GLYCINE



Glycine, a trailing and climbing legume, is a deep-rooting perennial plant, producing long, slender, branched stems that root down at the nodes. It is suited to well drained, heavier, more fertile soils in cooler regions of the sub-tropics. It is more drought tolerant than Centro or Desmodium but cannot tolerate very acidic soils or waterlogging. Glycine also has a higher demand for nutrients than other tropical legumes. It combines well with tall grasses such as panic grass, Guinea grass or Setaria.

### Cooper

As it holds its leaf better in cool conditions, the variety Cooper can be grown further inland, performing well on more fertile soils in higher rainfall, sub-coastal areas of southern QLD. It has larger, coarser leaves and longer internodes, with a dull green colour. Tolerates drought and waterlogging better than Tinaroo.



### Tinaroo

Tinaroo is a semi-erect variety that is slower to establish than Cooper and flowers around 4–6 weeks later. This variety grows well on scrub soils of south eastern QLD. Tinaroo gives the best autumn-early winter growth as it flowers very late (mid-June). It is therefore used in more humid areas with a longer growing season. It has soft, thin leaves, which are bright green, distinctly different in appearance to Cooper.



## GREENLEAF DESMODIUM



This perennial legume has a strong taproot and long trailing stems that can root at the nodes if in contact with moist soil. Its climbing habit and vigorous warm season growth helps it suppress weeds. Greenleaf is commonly used for long-term pastures in coastal and higher rainfall regions. It will tolerate lower temperatures than other tropical legumes and will grow on a wide range of soils, from light sands, loams and medium clays, but prefers moderate fertility. Once established, the strong taproot provides good persistence in drought conditions. It will not tolerate salinity, high levels of Al and Mn or continuous heavy grazing. Combines well with tall or dominant grasses and other twining tropical legumes to build up a big bulk of high quality feed, which can be used by livestock in warmer months. Can also be used as stand-over feed to help fill a late autumn/winter feed gap.



## LEUCAENA



Leucaena is a deep-rooted, drought tolerant, strongly perennial species that has the highest digestibility of all tropical legumes. It is best suited to well drained fertile soils of neutral to high pH. Leucaena is commonly planted in rows with nitrogen loving grasses such as panic grass, Guinea grass or Rhodes grass planted in the inter-rows. The main use in northern Australia is hedgerows for cattle production. Once established it is extremely tolerant of regular grazing or cutting, persisting for years. Its leaf is killed by frost, but its height protects it from ground frosts and it shoots again with warm weather.



# TROPICAL LEGUMES WITH AGRICOTE SEED COATING

## SIRATRO



Siratro is a hardy, drought tolerant, deep rooted perennial legume that is suited to a wide range of well drained, reasonable soils. Easier to establish than both Desmodium or Glycine, it combines well with tall grasses but not tolerant of constant heavy grazing, waterlogging or flooding. Siratro is easily frosted and susceptible to leaf disease (rust). Highly palatable, this species grows well in moist sub-tropical and tropical regions and is a highly productive species able to fix large amounts of nitrogen and pass this to companion grasses. It grows best and is most productive in summer to early autumn. The Aztec Atro variety is an improved variety with rust resistance. It is also not tolerant of flooded conditions but can persist under grazing and produce higher forage yields (30% more leaf production than Siratro) with crude protein levels of 15–20%. Aztec Atro can be used by cattle in the warmer months or left as standover to help fill autumn/winter feed gaps.



## SHRUBBY STYLO



Seca stylo, commonly known as shrubby stylo, is an exceptionally hardy perennial plant, ideally suited for extensive grazing systems. Characterised by its woody and erect shrub-like growth habit, Seca stylo is slow to establish but can remain persistent once developed. It can grow to 2m in height and has a deep taproot to help aid persistence in drought. Seca stylo has the ability to keep green leaf into autumn and can tolerate a wide range of soils, although will not thrive in heavy clays. It is well suited to infertile, acidic, friable or hard setting, sandy-surfaced soils and soils low in phosphorus. Palatability can be low in the early part of the growing season, resulting in grass being grazed preferentially. Seca does not tolerate waterlogging and is susceptible to anthracnose. Siran is a variety released by CSIRO with improved anthracnose resistance compared to Seca. It has similar features of *Stylosanthes scabra* as seen in Seca stylo.



## SIRAN



An erect shrubby perennial that can grow up to 2m tall. Siran shows greater anthracnose tolerance than Seca and adapts 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.



## CARIBBEAN STYLO



Herbaceous annual that can be grown as a short-lived perennial. Flowers in 70 days from planting and is similar to Townsville stylo (*Stylosanthes humilis*) in many other characteristics. Faster to establish than shrubby stylo (*Stylosanthes scabra*) and, once established, this species is very persistent. Caribbean stylo is able to set large amounts of seed and spreads via its hooked shaped seed being attached to livestock. Verano stylo is a cultivar of the Caribbean stylo family. It is similar to Townsville stylo but has smooth stems and a prostrate growth habit due to the flattened crown. It prefers hot and humid environments – accounting for its adaptation in the Caribbean areas and can be grown on a wide range of infertile, sandy-surfaced and well drained soils. Verano grows well in the hot tropics and warmer sub-tropics but is susceptible to frost and not shade tolerant. Verano generally behaves as a weak biennial, regenerating well from seed reserves in the soil. It produces vast amounts of seed at almost any time of the year, even under heavy grazing pressure. Verano can grow to up 75cm but develops a flat crown under heavy grazing. It has a moderate field resistance to anthracnose. Amiga is a newer variety released with better tolerance to low temperature, higher altitude environments and anthracnose. It demonstrates greater tolerance to drier conditions and persists longer for a short-lived perennial.



## AMIGA



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. Amiga has improved anthracnose resistance over Verano, along with greater tolerance to cooler season and higher altitude environments.



## FINE STEM STYLO



Fine stem stylo is well suited to sub-tropical regions, having greater cold tolerance and growing well on light, well drained soils. It has been successfully grown well on free-draining, infertile granitic soils of the Burnett region in south east QLD. Fine stem stylo has small pointed leaves on fine stems, with its crown buried, protecting it from fire, frost and damage from heavy grazing pressure. It has an extended flowering period, while still remaining very palatable and is efficient at extracting calcium and phosphorus from the soil. Fine stem stylo thrives even when heavily grazed, with plants continuing to flower and seed spread through livestock. This stylo species is intolerant of poor drainage and produces lower dry matter yields. To date, there has been no record of Fine Stem stylo having been affected by anthracnose.



## SHAW CREEPING VIGNA



Shaw Creeping Vigna is a highly digestible, highly productive perennial that needs well distributed rainfall above 1100mm. Being shade tolerant, it is very compatible with vigorous grasses and capable of ascending tall tropical grasses. Shaw will grow on a range of soils from sands to heavier, but well drained red clays, especially on hill slopes and can tolerate low fertility. It is well adapted to acid soils and suited for sub-tropical regions in south east QLD and northern NSW or on tropical tablelands. Shaw can tolerate only short periods of drought but will regenerate from seed in older pastures with a reserve of seed in the soil. Its leaves and stems are killed by frost, but the plant will regrow from the crown. Very persistent under heavy grazing, it will spread out and form a dense creeping, rooting mat, with growing points relatively protected from being grazed out. Will not tolerate extended periods of flooding.



## JOINT VETCH



Joint vetch is a hardy, palatable, small legume that persists well under heavy grazing. It is herbaceous, with a strong taproot and is compatible with creeping tropical grasses. The leaf and young stems of joint vetch have a high digestibility and nutritive value. Joint vetch will persist on poorer, lower fertility soils and has a high nitrogen fixation capability under poor conditions. Under heavy grazing, the plant adopts a low rosette growth habit, but still produces sufficient seed to allow spread and persistence. Joint vetch is primarily used as a semi-permanent or regenerating legume component of a mixed pasture, or as a nitrogen-fixing source in areas to which legumes are less well adapted. It is more tolerant of waterlogging and flooding than most other warm season legumes, with growth even being favoured by periods of waterlogging. Joint Vetch It can be cut for hay early while it is green and leafy, although some leaf can be lost during curing. The variety Lee can be used for standover feed, however Glenn has limited value in this regard since leaves drop at maturity.



## WYNN CASSIA



Wynn cassia is a hardy, non-bloating, herbaceous, legume that can tolerate heavy grazing and exhibits excellent drought tolerance. Grows as a perennial in higher rainfall regions (900–1500mm+) and as an annual in lower rainfall areas (450–900mm). It has rapid establishment, is a heavy seeder, easily spread by livestock and has good nitrogen fixation abilities. Wynn cassia is widely adapted to most regions but better suited to lighter, free draining soils as it cannot tolerate heavy clay soils or extended waterlogging. Best suited to soils of lower fertility and well adapted to acid soils. It is early flowering and can flower at any warm time during the year, subsequently dropping large amounts of seed. Cassia leaf is damaged by frost, but the plant re-sprouts from surviving buds when warm conditions return. Wynn cassia is not always recommended for fertile soils in higher rainfall districts as it tends to dominate grasses when not grazed. Commonly sown into permanent grass pastures to improve feed quality as a legume component or used in tropical mixes for extensive grazing systems.

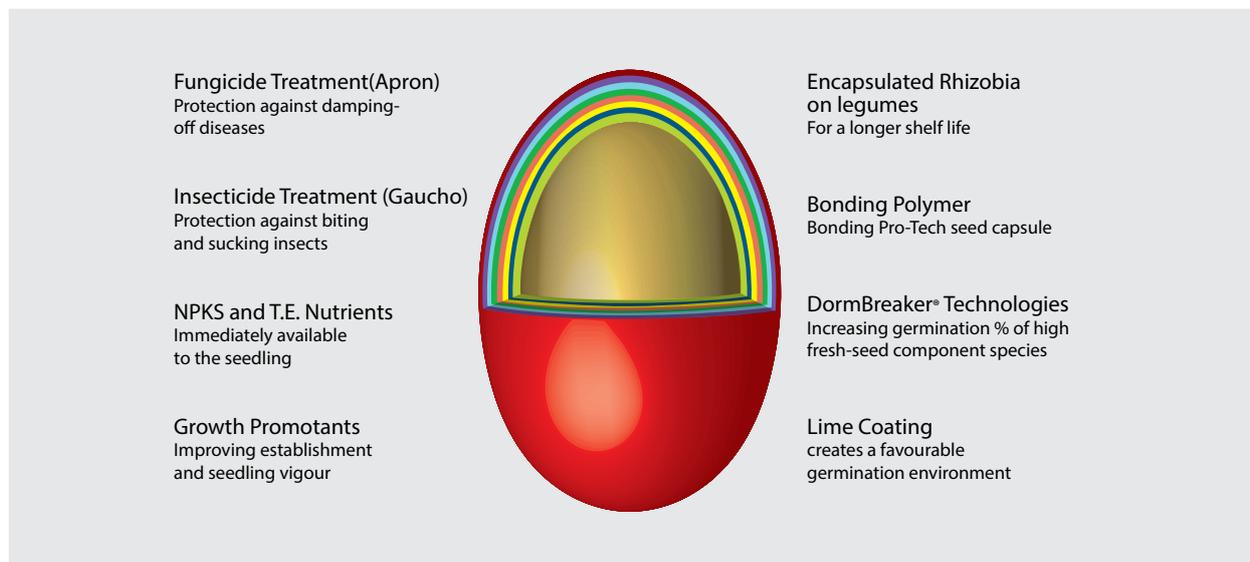


# ADVANCED SEED COATING TECHNOLOGY

# AgriCote®

AgriCote is a tailored seed coating treatment that conveniently combines all the AgriCote technologies into the one high performing coat.

Starting with the highest quality seed available, Heritage Seeds then adds advanced binding and protective polymers with lime as the basis for this cutting-edge seed coating technology. The polymer formulation enables the seed to be coated evenly, which makes it easier to work with on farm and promotes a more even seed distribution in the paddock. In addition, the lime helps to optimise the pH level immediately around the germinating seed, which promotes faster moisture uptake by the seed and better establishment.



AgriCote treatments include nutrients designed to be immediately available to the seedling, protection against fungal diseases through a fungicide treatment and insecticidal treatments to provide protection from biting and sucking insects.

AgriCote is designed to enhance seedling establishment by delivering improved early seedling vigour and root development, through the inclusion of growth-promoting and dormancy-breaking technologies.

In addition to all of these state-of-the-art elements, AgriCote also features encapsulated rhizobia, which prolongs shelf life of treated legumes and helps to ensure good legume nodulation in the paddock, maximising your investment.

Not only easy to use on farm, AgriCote offers farmers and graziers improved germination, enhancing the overall health and wellbeing of your seedlings. This revolutionary seed coating technology also provides better seedling tolerance of post emergent stresses, which helps successfully grow productive pastures in challenging conditions.

## The potential benefits include:

- Dormancy breaking technology which is not available in any other seed coat.
- Greater plant establishment.
- Growth promoting chemicals included for improved early vigour.
- Greater earlier root growth and development.
- NPK macronutrients and trace elements that are immediately available to the seedling.
- A more robust seedling for slow establishment grasses.
- Encapsulated rhizobia for longer shelf life and successful in-the-field nodulation convenience.
- Protection against biting and sucking insects.
- Protection against fungal diseases.
- Improved tolerance to stress.
- Better ballistic properties for flying seed onto hill country or extensive grazing systems.

## TROPICAL SOWING GUIDE

Variety	Rainfall (mm)	Preferred Soil Type	Water-logging	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 water-logging and saline areas.
Buffel Grass - USA, Gaynadah, Bilaela, Lakota	350	Light to medium soil types, however, Bilaela tolerates heavier soil types	Poor	Poor to Fair	V.Good	4-6	8-12	12-15	Most widely planted subtropical 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 - Bisset - 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. Bisset is finer leaved and roots down more strongly than Hatch. Good for erosion control.
Floren Bluegrass	550	Basaltic clays and heavy alluvial soil	Good	Fair	Fair	2-3	6-8	10-12	Used to re-grass flood plains colonised by Lippia.
Guinea Grass - G2	900	Wide ranging fertile soils	Fair	Fair	Good	2-6	8-10	12-15	Short to medium variety with finer stems and higher quality. Highly productive with excellent cool season tolerance.
Humidicola - Tully Grass	1000	Varying, tolerates lower fertility	Good	Poor	Fair	4-6	8-12	12-15	Adapted better to wetter, lower lying areas than signal grass. Will invade and outcompete giant rats tail grass.
Indian Bluegrass - Keppel	500	Varying	Poor	Fair	V.Good	4-6	8-12	12-15	A hardy, free seeding plant spread widely throughout Northern Qld and Central Qld.
Kikuyu Grass - Whitet	1000	Red loams and basaltic soils	Good	Good	Fair	2-3	8-12	12-15	Has high fertility requirements and does best in moist and elevated, fertile basaltic tablelands.
Mitchell Grass - Curly	250	Alkaline, cracking, poor clays	Poor	Poor	V.Good	3-6	8-10	12-15	Most palatable Mitchell grass variety. Summer rainfall dominant species tolerant of heavy grazing. Excellent option to provide bulk during the dry (nongrowing) winter season.
Panic Grass - Megamax™ 059, 049	450	Deep fertile, loams	Poor	Fair	Fair	3-6	10-12	12-15	Improved persistence over other panic grasses with increased forage quality and cool season growth.
Panic Grass - Green - Gatton	650	Fertile and lighter	Poor	Fair	Fair	3-6	10-12	12-15	Grows best on high fertility soils. Gatton panic grass tolerates textured soil types and shade, but can be preferentially grazed. Green panic grass is more tolerant of shade.
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.
Premier Digitaria	500	Lighter soil types	Poor	Fair	V.Good	4-6	8-12	12-15	Perennial tufted grass suited to acidic, sandy soils of low fertility.
Purple Pigeon Grass	600	Self-mulching clays	Good	Good	V.Good	4-6	8-12	12-15	Medium term perennial suited to self-mulching clays.
Rhodes Grass - Katambora, Callide - Tolgar Rhodes™, Mariner	650	A wider range of light to medium soil types	Fair	Fair	Fair	5-7	8-12	15-20	Katambora is a productive diploid, highly stoloniferous grass, suitable for erosion control. Callide is a productive tetraploid, palatable grass suited to fertile soils and higher rainfall environments. NB: All Rhodes grasses are quick to establish and have moderate salt tolerance.
Setaria Grass - Splenda Narok, Solander, Kazungula	800	Varying	V.Good	Good	Fair	2-6	8-12	12-15	Hardy and palatable coastal grass well suited to subtropical 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	Fair	Poor	Good	2-6	8-10	12-15	Low growing, tufted, stoloniferous, perennial grass with a creeping growth habit. Used in tropical cattle grazing systems, roadside stabilisation, erosion control and mine rehabilitation.

\* Available as bare seed only

Legume Over-planting	Minimum Rainfall (mm)	Drought Tolerance	Frost Tolerance	Water-logging	Preferred Soil Type	Planting Rate (kg/Ha) <b>AgriCote OVERSOW</b>	Planting Time
Burgundy Bean (Presto/Garnet)	400	Good	Fair	Fair	Light-Heavy	3-4	Spring/Summer
Centro (Cavalcade)	800	Good	Poor	V.Good	Fertile soil types	3-8	Spring/Summer
Desmanthus - Ray Desmanthus™, Marc	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
Joint Vetch (Glenn/Lee)	1200	Poor	Poor	V.Good	Light-Heavy	2-4	Spring/Summer
Leucaena (Cunningham)	600	V.Good	Fair	Poor	Well drained, fertile	4-6	Spring/Summer
Milgarra Butterfly Pea	550	Good	Poor	Fair	Medium-Heavy	4	Spring/Summer
Shaw Creeping Vigna	1200	Poor	Poor	Good	Medium-Heavy	1-2	Spring/Summer
Siratiro (Aztec Ato)	700	Good	Poor	Fair	Medium-Heavy	3-8	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
Stylo Guianensis - Beefmaker™	850	Fair	Poor	Fair	Light well drained	2-5	Spring/Summer
Stylo Shrubby (Seca/Siran) – Scabra type	350	V.Good	Poor	Fair	Light	1-5	Spring/Summer
Wynn Cassia	400	V.Good	Fair	Poor	Light-Medium	2-5	Spring/Summer

Marginal Dryland: 6-8 kg/Ha • Good Dryland: 10-12 kg/Ha • Irrigated: 22-25 kg/Ha







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