Naracoorte Seeds

The Seed Professionals

SEED PRODUCTION | CUSTOM PASTURE BLENDS | COMMUNITY | FORAGE & GRAIN CEREALS | IMPORT & EXPORT

A Guide to Better Pastures in Southern Agricultural Regions

Version 5

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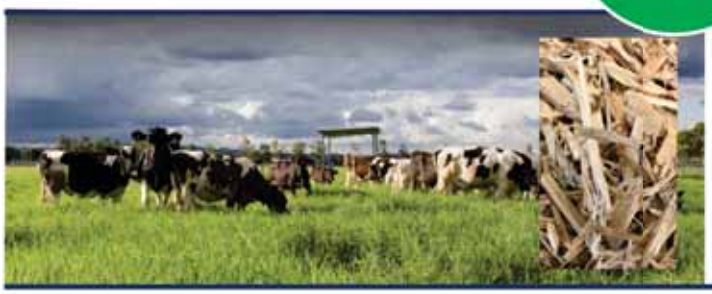

Well maintained laneways mean better herd health

Application of Bio Gro natural mulch reduces teat washing, increases hoof health, general herd health and milk quality. Application of our naturally sourced mulch mediums will increase the productivety and sustainability of your horticultural, viticultural or agricultural system,.

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SOUTH AUSTRALIAN
SEED MARKETERS

1. Introduction

What a fantastic time to be involved in Agriculture!!! Strong livestock prices have driven the demand for pasture seed with a concerted effort being made by switched on producers to push on farm production. Compounding this demand is the recent rise in farm values which means it is no longer acceptable to have expensive land not producing forage which can then finish sheep and cattle or put extra litres of milk in vats! It is great to see farmers are realising the value of investing in better pastures to guarantee livestock are finished properly to attract premium pricing.

There have been ongoing shortages in pasture seed supply around Australia and the world over the past few years, but hopefully the good spring this season supplies won't be as tight?

At Naracoorte Seeds we have continued to invest in our storage and dispatch facilities to ensure we can mix and inoculate as efficiently as possible to guarantee fast turn around times. The addition this season of a fuji robotic palletising machine has taken our production capabilities to the next level.

Improved ryegrass and cereal cultivars offer genuine graze and grain options which are proving to be invaluable to all livestock enterprises. We continue to work with proprietary seed companies as well as export contacts to bring the most suitable forage options to our region to ensure there is a forage plant suitable for all enterprises.

Naracoorte Seeds has stuck with the tried and true "FreshCoat©" system of inoculating legume seed on demand as we believe it is still the best system for producers to get the best establishment and legume content into their pasture. FreshCoat© inoculation applies live rhizobia strains directly onto the seed which ensures the maximum amount of nitrogen nodules on the plant and therefore available to the pasture. We now have 3 inoculation bowls to ensure we keep up with demand expected from producers keen to ensure they have the most productive and persistent pastures available to them.

We are proud to bring our latest pasture book and will always welcome any feedback we receive and as always we endeavor to live up to our reputation as "The Seed Professionals"!

Jamie Tidy
Managing Director

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2. Business Summary

2.1 Naracoorte Seeds Pty Ltd

Naracoorte Seeds was established in 1962 as an outlet for pasture seed & grain and remains one of the few independent, privately owned seed companies operating in Australia. We are the leading stockist and supplier of public and proprietary varieties of seed for use in the South East of South Australia and Western Victoria.

Contract seed production and multiplication of many public and proprietary pasture seed varieties has also been a big part of our business. To guarantee we have seed available year in, year out we use experienced and reliable growers with proven track records.

2.2 South Australian Seed Marketers Pty Ltd

South Australian Seed Marketers is the export arm of Naracoorte Seeds. It was established in 1988 to operate as the pasture seed trading and export arm of the company. Now South Australian Seed Marketers is one of the largest public pasture seed suppliers to the export market and are especially strong in lucerne, haifa white clover, sub clover and annual clovers, with sales to the Middle East, United States of America, China, Europe and South Africa being our main export destinations.

SOUTH AUSTRALIAN SEED MARKETERS

2.3 AG Consult

A share of Ag Consult was purchased in 2015 to compliment the production side of the business. Ag Consult produces vegetable seeds such as chinese mustard seed, chinese cabbage seed, sugar peas and carrot seed for the export market.

Ag Consult PTY LTD

3. Executive Team

Jamie Tidy

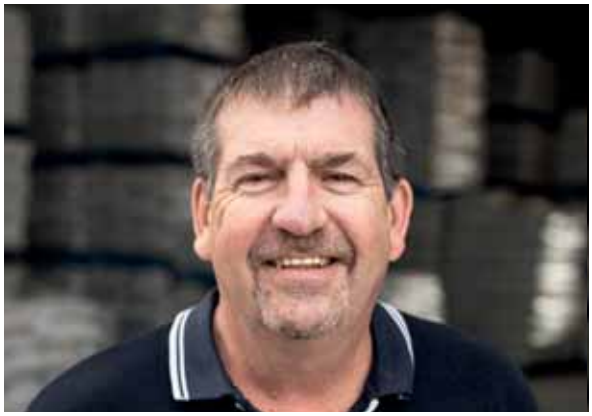
Director

Grew up around seed through his father's involvement in the seed industry for over 40 years and finally entered the family business in 2003. Jamie and his wife Peta took over the reins of Naracoorte Seeds from 2010. Jamie is now the General Manager and handles all the national and international seed trading (excluding lucerne), as well as your local pasture recommendations.

Joshua Rasheed

Director

Started with Naracoorte Seeds in November 2011 and with his wife Emma became part owners in the business. Now Joshua is the national and international Lucerne seed trader and local pasture seed advisor. Joshua is currently the chairman of Lucerne Australia who are the peak body for lucerne seed in Australia.



Mark Williams

Export Manager

Mark is the logistics/export manager and has been with our company for over 38 years. Mark has an excellent all round knowledge of the seed industry and his export documentation skills are exemplary. Outside of work Mark runs a beef cattle, hay production and fat lamb property and enjoys the peace and quiet that farming offers.

Dylan Brodie

Production Manager

Dylan joined Naracoorte Seeds in October 2015 and has become the small seed production manager and pasture seed advisor. Dylan has completed a diploma of agronomy and is President of the Grassland Society of Southern Australia Limestone Coast Branch, demonstrating his commitment to the industry.

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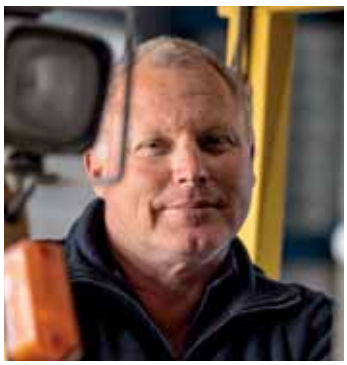
4. Naracoorte Seeds Team



Clint Gibbs has been with us for over 24 years. Clint is the head storeman responsible for overseeing mixing, packaging and dispatch. Clint has a keen eye for detail and will ensure your seed arrives intact, on time, every time!

Heidi Moyle joined the team in 2019 after working in the insurance and accounting industries. Being raised on a farm in the Kybybolite area Heidi has a farming background with strong community ties.

Peta Tidy is not only an owner of the business but has also taken over as the chief financial officer. This was a natural progression for Peta as she continues to enjoy working with her husband in the family business.

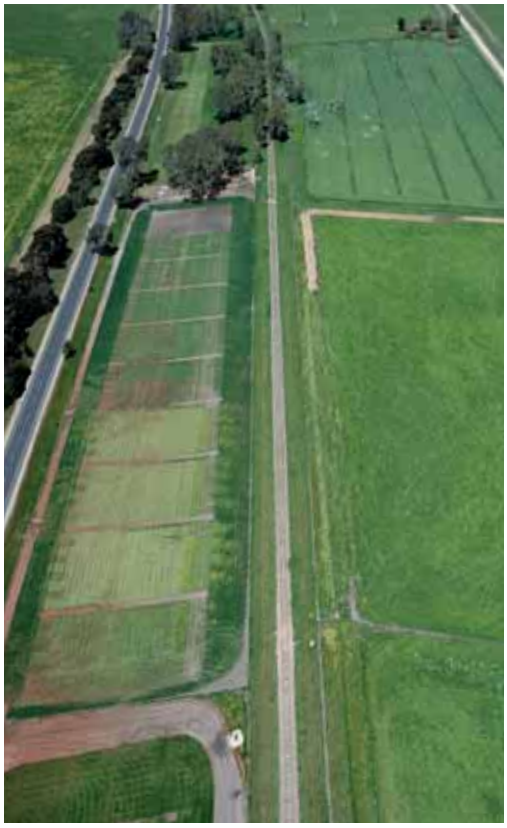
Brodie Arundell came onto the team in 2018 as an assistant storeman. He is a welcome addition to our business and has become a valuable member of our mixing, packaging and dispatch team.

Ashley Owen joined Naracoorte Seeds in 2019, with a diverse background in ICT, marketing, teaching, customer service and logistics; he offers a range of skills to help facilitate good outcomes for clients.

Zara Skeer started in December 2020. She comes from a property in the Millicent region and went on to study a Bachelor of Agriculture and Bachelor of Business. Zara is looking forward to her journey in the seed industry and adapting her acquired knowledge to improve soil and plant health.

5. Development & Facilities

5.1 Naracoorte Seeds Research Farm



The Naracoorte Seeds Research Farm sits on the Riddoch Highway just 5kms from Naracoorte's town centre. The farm represents transparency as all of our success and failures are there to be seen. We regularly test new varieties to confirm or deny they will be fit for our region and are able to be grazed by both sheep and cattle to ensure palatability and recovery from grazing can be verified.
Our field days are always very well supported with close to 100 clients making the journey in the first week of November biannually to see what we have been up to. We are always willing to take ideas for trials so please contact us if you have something that you believe may spark the interest of the local pasture community.

5.2 Facility Upgrades

Naracoorte Seeds have invested heavily in recent years to improve capacity to carry more stock, process it for mixing and dispatch it in an efficient manner.

We understand that when the season break is upon us timeliness is of utmost importance. Our FreshCoat© inoculant process and custom mixing for individual paddocks means that each blend is processed as close to sowing as possible.

The continuous improvements to our facilities has enabled us to keep up with the increased demand of recent years without inflicting delays to our valued customers.

Robotics Plant

In 2020 Naracoorte Seeds had a specially designed robotic packaging plant fitted in the store. This has been the single biggest improvement to the mixing plant in the history of the business and has increased the processing capacity of our mixing team by 300-400%.
This machine is engineered specifically to stack bags of pasture seed onto pallets consistently in a way that is safe for transport.

Storage & Dispatch

The Naracoorte Seeds storage capacity has been drastically improved over the last few years and has been complimented by a larger dispatch shed recently. The open ended dispatch shed will significantly improve the collection process. Whether it be a truck load or a few bags, this area will now have a much improved system that will allow easy and safe access for vehicles to load up and be on your way!

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6. Key Seed Partners

Seed Force, www.seedforce.com.au
From humble beginnings to offering premium cultivars across a wide range of species, we are constantly growing, testing, fine-tuning and expanding our range. Every year we are adding new cultivars to a proven system that gives farmers the power to grow.

Cropmark Seeds, www.cropmarkseeds.com
At Cropmark Seeds, we're in the business of breeding and supplying pasture and forage varieties that offer our customers very real performance advantages, through improving livestock performance, farm systems and bottom line results.

S&W Seed Company, www.swseedco.com
Our vision is to be the world's preferred proprietary seed company which supplies a range of forage, grain and specialty crop products that supports the growing global demand for animal proteins and healthier consumer diets.

Barenbrug, www.barenbrug.com.au
Barenbrug is one of Australia's largest seed companies and is a member of the Royal Barenbrug Group; mutually beneficial relationships with distribution partners operate on a premise of mutual trust, respect and fairness.

PGG Wrightson Seeds, www.pggwrightsonseeds.com.au
PGG Wrightson Seeds has been in the Australian forage seed business since 1938 and introduced the first proprietary cultivar into Australia in 1987. Since this time we have proudly led the development of improved pasture plant genetics in this country.

Stephen Pasture Seeds, www.ausweststephenseeds.com.au
Stephen Pasture Seeds started in 1957, quickly earning a reputation of trust by providing unbiased advice to rural stores and farmers, becoming known as the most experienced team of pasture seed technical advisers in Victoria, Tasmania and South Australia.

Valley Seeds, www.valleyseeds.com
With nearly 50 years' experience in pasture seed, Valley Seeds is one of the oldest and most experienced seed companies in Australia.

7. Pasture Solutions

What is the best way to sow my pasture?

There have been some significant improvements in sowing technology over the years. DBS machines, renovator machines, press wheels and liquid injection systems have all come onto the scene and have the potential to significantly increase your chances of successful pasture seed establishment. There are however some basic principles which still apply regarding pasture renovation.

Soil Fertility | Paddock Preparation | Weed Control | Legume Inoculation
Sowing | Insect Control | Grazing Management

7.1 Soil Fertility & Nutrition

The South East region of South Australia is a totally unique area due to its vastly different soil types and seasonal conditions. The soils can range from acid sandy soils with high aluminium content, through to heavy black alkaline soils that are prone to water logging. Before you choose to take on a renovation project, a soil test should be taken to correct any deficiencies or excesses prior to sowing. Lime or Gypsum and a host of trace elements may be necessary and it is best to know exactly what you are dealing with. A soil test will give you an accurate gauge of the state of your soil and will get you off to the best start.

7.2 Paddock Preparation

Paddock preparation is still the most important aspect of a successful pasture renovation program. You will greatly increase your chances of success by sowing into a well prepared, weed free seed bed. The amount of weed seeds in the soil can vary from 2,000 – 60,000 seeds per square metre so significantly reducing the burden in the ground is definitely in your best interests.

7.3 Weed Control

Successful pasture renovators will be thinking about which paddocks they tackle in the year prior to sowing a permanent pasture. This process will give you the jump on problem weeds and annual grass species which can threaten the success of your new pasture. Ideally, if you can start working on reducing the bank of weed seeds in the soil in the year prior, your chances of a successful pasture establishment will be greatly increased. Some of the following strategies can be used:

Annual Hay/Silage crops – will grow aggressively through the winter and spring months to give annual weeds competition. By cutting hay/silage you will help stop the annual grasses and weeds from setting seed, helping reduce the weed seed bank in the ground. For best results it is advised to heavily graze the paddock after taking hay/silage to help reduce the emergence of late seed heads.

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Spray Topping – is a very successful and cost effective method of applying a sub-lethal rate of herbicide when grasses are coming into head and flowering. Glyphosate and Paraquat are popular for this task, but you should consult your local agronomist for rates and the latest information regarding spray topping techniques. Similar to hay/silage crops, a heavy grazing after spraying helps reduce the emergence of late tillers; refer to product label for withholding periods.

Spring/Summer Fodder Crops – gaining popularity because they produce large volumes of inexpensive feed and with the increased incidence of summer rain, growers are seeing some excellent value for money. For fodder crops, the paddock preparation is done in spring. In autumn after a final grazing, spray and direct drill your permanent pasture.

Spray Grazing - is a very common technique for the control of winter broad leaved weeds in pastures. This involves applying a low rate of hormone herbicide then introducing high stock numbers 7-10 days later. After spraying, the herbicide increases the palatability of broadleaf weeds and reduces their recovery from grazing. The only thing to keep your eye on is to not over graze the paddock, which in turn could damage your existing pasture.

Cash Cropping - sowing a cash crop of wheat/oats/barley/canola or lupins can be an easy and effective way to not only generate cash, but also prepare a paddock for the following year. The type of cash crop is generally dependent on what weeds you are looking to kill. With herbicides available to spray in crop, it can be a very effective way of reducing the weed seed bank the year before sowing a permanent pasture.

A combination of one or more of the above methods can greatly increase your chances of successful establishment as well as giving you the flexibility of not taking a paddock completely out of production for long periods.

7.4 Legume Inoculation

Naracoorte Seeds use a quality peat-based process to inoculate seed "on demand" and we recommend seed should be sown as soon as possible after treatment to ensure maximum rhizobia survival. Different legumes use different strains of rhizobia with these strains possessing different levels of shelf life. The take home message is that inoculating fresh and sowing as soon as possible from application will ensure better establishment, more plants per square metre and ultimately more nitrogen produced by the legumes in the pasture!

Naracoorte Seeds FreshCoat© process is batched daily and encompasses rhizobia, lime and seed conditioner, as well as a polymer compound to ensure the seed does not "bridge" while flowing through modern seeding machines. Our active rhizobia counts (CFU – Colony Formation Units) are known to be in the highest in the seed industry in Australia. FreshCoat© is delivered evenly on every seed through our process. Examination of the plant's root system after six weeks will indicate the success of effective nodulation and long term nitrogen fixation.

7.5 Sowing

There are some excellent seeding machines on the market giving excellent results, but even the best seeder can give you a poor result if the critical point, sowing depth, is not followed correctly. Ideally your new pasture should be sown between 5 - 15mm to ensure you don't sow the seeds too deep or shallow and risk a poor establishment by way of uneven germination. Rolling the paddock or using press wheels at the time of sowing will ensure good seed soil contact, and a more rapid and even germination.

The cost of seed is generally a fairly small proportion of the total cost of re-sowing a pasture, when you take into account costs such as fuel, fertiliser, etc. It is very important not to jeopardise this very important project by skimping on sowing rates. If you start off with a poor pasture, you will always have a poor pasture. If the cost of the project is of major concern to you then you should look at doing a smaller area well, rather than a larger area poorly.

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7.6 Insect Control

Insects such as Red Legged Earth Mite can decimate a new pasture if not monitored and controlled carefully. Earth Mite will always attack from the outer edge making their way into the paddock, so regularly checking fence lines and getting on your hands and knees to look for evidence is the best advice. Timerite is a very successful method of controlling the pest and is well worth further investigation. Check www.timerite.com.au for more information.

7.7 Grazing Management

Grazing your new pasture for the first time is an important exercise: graze too early and you risk pulling the plant out of the ground, graze too late and the grasses may not be able to compete with the clover. A simple pluck test is a good way to ensure your plant is firmly rooted and will not pull out of the ground on first grazing. A light grazing will encourage the plants to tiller and prevent shading out of your clovers.

Once your pasture is established the importance of correct grazing management is paramount. Any form of rotational grazing is preferable to set stocking. Most improved pastures will struggle to persist with the constant pressure of set stocking as stock will continue to graze the fresh regrowth while leaving other areas to go rank. If you can tailor a rotational grazing system on your property you will find the plants will recover faster, produce more feed of better quality and persist for longer.

8. Naracoorte Seeds Specialty Mixes

One of our biggest strengths at Naracoorte Seeds is our ability to blend all types of seed together to make a custom mix to suit each paddock because we know how variable soil types are in our region. So whether it be 5ha or 500ha we have the ability to create a custom blend that will deliver the result you need. Regular soil testing is recommended to help get the most out of your new pasture or hay crop and ensure that you are making every seed count. Ask us to take a soil test for you in the summer prior to sowing.

VARIETY	PERCENTAGE
Sub clover	25%
Phalaris	20%
Summer active fescue	15%
Medic	10%
Persian clover	10%
Chicory	10%
Strawberry clover	5%
Winter active fescue	5%

Sow @ 12 - 15kg/ha

Alkaline Flats Blend

Alkaline flats vary in pH from 7 – 9. These areas tend to get heavy and waterlogged during the winter months. Soils range in colour from black to dark grey loams. Once established, phalaris and fescue can tolerate long periods of inundation and this makes them the ideal choice for soils of this type. If a soil test of a paddock shows a pH higher than 7.8 you would be advised to take the sub clover out of the mix and replace with extra medic and persian clover. 'Phalaris staggers' can be more prevalent on alkaline flats, so management of phalaris based pastures is very important. Advice should be sort, but grazing techniques and cobalt can protect against phalaris staggers.

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Redgum/Sandy Loam Perennial Persistence Blend

A good indication this mix will persist is in areas where Redgum trees are in abundance. This mix should provide strong growth in a dryland environment over a long period of time. The grasses will become the backbone of your pasture while the sub clover will help finish your stock. Perennial ryegrasses in our district over the past few years have struggled to persist due to the dry/hot spring and summers we have been experiencing. Some of the new generation perennial ryegrass varieties are showing some persistence, but need to be well managed through the summer months.

VARIETY	PERCENTAGE
Sub clover - Early/Mid	25%
Sub clover - Mid/Late	25%
Phalaris	20%
Summer active fescue	10%
Cocksfoot	10%
Chicory	10%

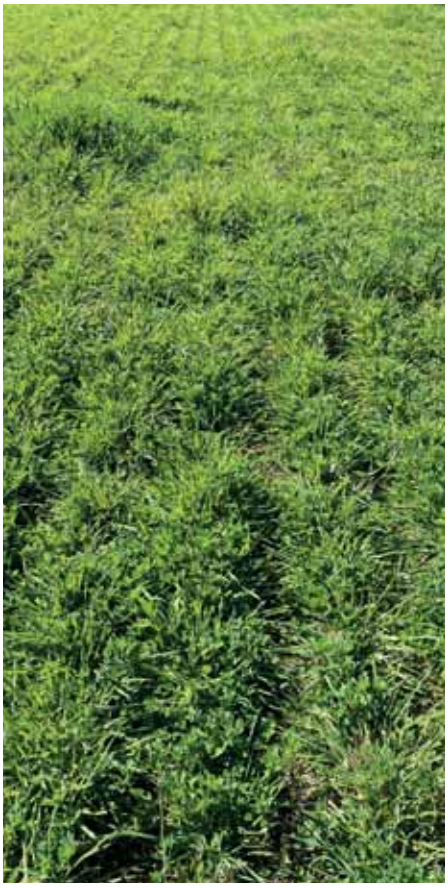
Sow @ 13 - 18kg/ha

Irrigated Finishing Blend Sheep/Beef/Dairy

This mix is for sheep/beef and dairy producers. The ryegrass varieties selected will thrive in all seasons producing dense, palatable and persistent forage. We select ryegrass cultivars that can be grazed safely without the fear of ryegrass staggers. The white clovers, once established, will give winter feed and thrive under summer irrigated conditions. The red clover may not persist longer term, but is very palatable and will give extra quality.

VARIETY	PERCENTAGE
Perennial ryegrass	60%
White clover	20%
Red clover	10%
Chicory	10%

Sow @ 20 - 25kg/ha



Sandy Soils Persistence Blend

Sandy Soils are generally acid by nature with limited moisture and fertility. Lucerne based pasture will give this soil some serious production potential. Clay spreading has made a huge difference to these soil types by giving them the ability to retain moisture. Lower crowned lucerne varieties will enable the lucerne to persist over a long period of time. The grasses, clovers and chicory can be added to give a diverse pasture sword.

VARIETY	PERCENTAGE
Lucerne	45%
Cocksfoot	7%
Phalaris	7%
Veldtgrass	2%
Sub clover	20%
Medic	12%
Chicory	7%

Sow @ 12 - 15kg/ha

Dryland / Irrigation Fast Summer Forage Blend

This mix was always a mix of hybrid forage brassica and millet only, but over the past few years we have added chicory to the mix with great success. The brassica and millet get away for early feed while the chicory really comes into its own from the 2nd grazing. We have found that adding chicory not only gives added weight gains, but also persists much longer than the brassica & millet to allow for some over-sowing options.

VARIETY	PERCENTAGE
Hybrid forage brassica	20%
Chicory	20%
Millet	60%

Sow @ 10kg/ha

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9. Naracoorte Seeds Wintermix Quality Hay/Silage & Grazing

Wintermix

The Naracoorte Seeds Wintermix was developed with an emphasis on reliable hay or silage production and regrowth afterwards for grazing. Over the last decade spring rainfall has become unreliable, so mixing different ryegrass varieties ensures maximum production in the variable seasons.

We have added persian and balansa clovers to increase protein levels in the preserved fodder. For increased hay or silage quality we recommend lightly grazing in late winter to ensure that the ryegrass doesn't become too dominant.

Persian clover is an excellent winter & spring performer with an erect growth habit and hollow stems. It will regrow after taking hay or silage where moisture permits.

Balansa clover has a vigorous spring flush that will add quality and bulk to the mix.

This blend can also be used as an annual grazing mix, is broadly adapted to many areas and will not disappoint.

VARIETY	PERCENTAGE
Annual ryegrass	70%
Persian clover	20%
Balansa clover	10%

Sow @ 20 - 30kg/ha

PRINE TETRAPLOID ANNUAL RYEGRASS

Cropmark Dash Annual Ryegrass

10. Pasture Seed Particulars

Species	Approx Seeds per Kilogram	Seeds per Square Mtr	Average Sowing Rate
GRASSES			
Ryegrass - Diploid	500,000	50	15 - 25
Ryegrass - Tetraploid	350,000	35	20 - 30
Cocksfoot	1,000,000	100	1 - 3
Fescue	400,000	40	2 - 10
Phalaris	500,000	50	1 - 4
LEGUMES			
White Clover	1,400,000	140	3 - 5
Sub Clover	150,000	15	5 - 10
Lucerne	500,000	50	5 - 25
Vetch	15,450	15	20 - 30
HERBS			
Chicory	830,000	83	1 - 5
Plantain	500,000	50	1 - 5

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11. Tetraploid or Diploid

Which to Sow - Tetraploid or Diploid?

By the natural order of nature, ryegrass is referred to as a diploid. By introducing the chemical compound colchicines, plant breeders have found they can double the number of chromosomes that occur naturally from 14 to 28. The result of this process created a new breed of ryegrass called tetraploids. These tetraploid ryegrasses are generally darker in colour and carry much higher water content. These new characteristics are generally associated with increased palatability and in some cases have been linked with greater animal performance.

Tetraploids are generally considered to be suited to conditions of:

- Higher fertility
- Moist or irrigated conditions
- Relaxed grazing management (leaving a residual after grazing 5 - 7cm)
- Grazing rotations between 21 - 30 days approx
- Ideal sowing rate between 20 - 30kg/ha
- Approximately 350,000 seeds per kilogram

Diploids are generally considered to be suited to conditions of:

- Lower fertility
- Drier, unpredictable seasonal conditions
- Shorter grazing intervals of 14 - 25 days
- Closer grazing (Leave a residual of 2 - 5cm)
- Recommended Sowing Rate of 10 - 20kg/ha
- Approximately 500,000 seeds per kilogram

As a rule of thumb, in the South East region, diploid varieties have been the preferred option for top quality hay mixes. They are finer in the stem and usually dry quicker. They are more erect growing, tend not to out compete their clover companions and give higher quality hay as a result. Through local trials at our research farm we have found diploids can be slower to establish when sown late in the season compared to tetraploid varieties.

12. Annual Ryegrass

Annual Ryegrass

Annual Ryegrass is the backbone of many hay/silage and grazing mixes across the South East and Western Victoria. Annual ryegrass offers fast and affordable forage with varieties ranging from early to very late, so there is definitely a variety available to suit your needs.

Variety	Sowing Rate	Regrowth Potential	Maturity	Attributes
DIPLOIDS				
Safeguard	10 - 20	Good	Very Early	Annual ryegrass toxicity (ARGT) resistant, strong winter growth, prolific re-seeding variety.
Wimmera	2 - 5	Poor	Early	Excellent regeneration in light sandy soils, shows some salt tolerance, good low rainfall option.
Fuze	10 - 20	Excellent	Late	Fast establishment, densely tillered with fine leaves. Excellent late season production.
TETRAPLOIDS				
Betta Tetila	15 - 25	Poor	Early	Very aggressive winter growth, excellent option where spring rain is unreliable. Very reliable producer in all conditions.
Adrenalin	15 - 25	Good	Mid	High winter yields, excellent late season quality, capable of several grazings or cuts.
Prine	15 - 25	Excellent	Mid/Late	Prolific winter production with the ability to go late into spring/early summer if moisture permits. Has been benchmark for production in our region since being introduced 4 years ago, also an excellent re-seeding variety.
Jivet	15 - 25	Good	Mid/Late	Slightly later than the old Winterstar, exceptional feed quality, excellent rust and disease resistance.
Ascend	15 - 25	Excellent	Late	Winterstar 2 replacement, bred to have more winter production and maintain late season quality.
Dash	15 - 25	Excellent	Very Late	Very fast establishing annual, bred for high winter production with late finishing quality. Very late heading variety will offer multiple high quality hay/ silage cuts.

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13. Italian Ryegrass

Italian Ryegrass

These short lived varieties generally last from 2-3 years under irrigated conditions. In our harsh dryland summer situation, rarely do we see these varieties persist beyond the first year. Some growers have used these varieties as a long season annual to guarantee some later season production if spring rains are plentiful.

Variety	Heading Dates	Sowing Rates	Attributes
DIPLOIDS			
Boom	+11	10 - 20	Very leafy variety, good winter/spring production, dryland over sow option.
Accelerate	+11	10 - 20	Higher feed quality than most Italians, higher ME & lower NDF tested throughout entire growing season, strong summer production and second year recovery where season permits.
Maverick G2	+17	10 - 20	Suited for high quality silage, very good disease resistance and persistence, best suited to rotational grazing. High summer forage quality with excellent heat tolerance.
Knight	+19	10 - 20	Strong autumn and winter yields, good tolerance to rust, ideal for late high quality silage and hay production.
Apeal	+28	10 - 20	New very persistent and high yielding Italian ryegrass which produces high quality forage. Very palatable and won't cause staggers.
TETRAPLOIDS			
Grunt	+17	15 - 25	Strong year round performer, rapid establishing, genuine 2 year option under irrigation.
Dual	+23	15 - 25	60% perennial 40% Italian. Strong 2-3 year option if moisture permits. Excellent high quality late season production.
Mona	+28	15 – 25	Out of DLF breeding program, Excellent long season production.

14. Perennial Ryegrass

Perennial Ryegrass

Perennial ryegrass has been one of the main grass components in sheep/beef and dairy systems throughout the southern agricultural region. Due to the fact the vast majority of perennial ryegrass germplasm comes from Europe and New Zealand we have struggled to get long term persistence from perennial ryegrass in our climate, unless irrigation is available. The major breakthroughs with perennial ryegrass have come with a commitment from proprietary companies sourcing germplasm from more arid regions, (ie North Africa, Spain, Morocco) which may have a better fit with our cold wet winters and long dry summers. The heat tolerance and persistence capabilities of these new varieties have made a ryegrass dryland pasture in the southern region a real and viable proposition. There are also a few Australian breeding houses who have continued to produce quality Australian ryegrass cultivars which handle our summer conditions.

Variety	Endophyte	Heading Dates	Attributes
Barberia	Nil	-17	Fast establishing, grows like an annual and persists like a perennial. Excellent heat tolerance, warm season germplasm.
Kidman	AR1	-14	Strong autumn/winter and early spring production, very good plant pulling resistance.
Victorian	Standard	-9	Proven performer, reliable production, value for money.
Camel	Nil	-8	Very tough variety, step up from Vic without the staggers issues.
Avalon	AR1	+3	Strong winter production, persistent, dense growth habit.
Helix	Standard	+6	New variety with improved persistence, strong winter/early spring growth, very good rust resistance.
Hustle	AR1	+10	One of the top performers in NVT trials in Australia. Cross between European and NZ genetics gives improved persistence in warmer climates as well as strong winter activity.
Kai	Nil	+20	Superior water use efficiency, very fast re-growth following autumn break, high year round forage yields.
Duke	Low	+21	Very fine and densely tillered, reliable producer for this area, prefers irrigation.
Matrix	Low	+23	Bred from perennial ryegrass and meadow fescue. High leaf rust resistance, low aftermath heading. Superior late winter/ early spring growth rates.
Bealey	NEA2	+25	Lush, dark green colour, excellent all-round production, will respond to summer rain.
Shogun		+26	Very strong establishment vigour, combines high winter growth and good summer production with quality.
Digby	Low	+32	NZ bred, very vigorous variety, suited to high rainfall areas or irrigation only.

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15. Phalaris

Phalaris

Phalaris is arguably the most widely used and most persistent perennial grass on the market. Phalaris is a deep rooted, drought tolerant perennial that is suited to a wide range of soil types. Phalaris is set to continue to be the backbone of the sheep/beef zones throughout Australia, with many growers chosing to plant perennial pastures due to the strong livestock prices. With low sowing rates required, phalaris continues to represent value for money for all livestock producers.

Phalaris Sowing Tip

Phalaris, like fescues and cocksfoot, are slow to establish so care must be taken to ensure it is sown into a well prepared, weed free seed bed. Phalaris has the capability to survive droughts, whilst still producing large volumes of forage. With new seeding technology it has made direct drilling phalaris a real and viable prospect, when traditionally this was thought to be an irresponsible practice.

Variety	Sowing Rate	Attributes
Advanced AT	1 - 5	Superior performance in low ph and high aluminium soils. The most aluminium tolerant phalaris on the market.
Australian	1 - 5	Slow to establish, needs to be grazed hard to maximize palatability once established.
Confederate	1 - 5	Suited to 500mm+ rainfall zones. Low levels of alkaloids. Can tolerate set stocking, but better suited to rotational grazing.
Holdfast	1 - 5	Ideally should be rotationally grazed. Excellent winter production, acidic soil tolerance. Lowest alkoloids of current available varieties.
Holdfast GT	1 - 5	Persistent under set stocking, very good autumn/winter production once established.
Horizon	1 - 5	Replacement for Atlas PG and suited to marginal phalaris areas. Early maturing with excellent autumn and winter production.
Mate	1 - 5	Highly winter active, very fast establishing, has been strong performer in PTN trials over the last 4-5 years, low crowned for persistence under heavy grazing.

16. Cocksfoot

Cocksfoot

Cocksfoot is a perennial grass that is largely suited to free draining soils. Cocksfoot should be kept well grazed to maximize animal production and represents excellent value for money due to the large amount of seeds per kg and low sowing rates. Cocksfoot breeders have worked hard to increase palatability and some excellent productivity gains have been made. Cocksfoot is a truly persistent grass which is very underrated in a perennial system especially when summer rainfall events occur. Recent breeding has lead to new summer dormant varieties that have shown very good persistence in lower rainfall conditions.

Variety	Sowing Rate	Attributes
Summer Active Types		
Treposno	1 - 3	Suit acid soils, excellent summer, autumn and spring production. Hardy perennial grass and very suitable Porto replacement. Offers excellent value for money.
Kainui	1 - 3	Finer & softer leaves, highly palatable and high yielding variety, very strong root development for persistence over dry summers.
Lazuly	1 - 3	Soft leaf oceanic cocksfoot with improved winter activity. Sow at higher rates to produce a fine, dense and soft sward.
Vision	1 - 3	Good all round production, higher rainfall option, suited to well drained soils.
Winter Active/Summer Dormant Types		
Uplands	1 - 3	Hispanica cocksfoot suited to 400mm+. Semi dormant over summer to maximize persistence. Fine leaved and densely tillered. High stock acceptance.
Aurus	1 - 3	Continental cocksfoot with good drought tolerance. Upright growth habit with parentage from Uruguayan and French genetics.
Summadorm	1 - 3	An early maturing variety with strong winter production. Goes very dormant in summer to aid in persisting through extended hot and dry periods

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17. Tall Fescue

Tall Fescue

Tall fescue has the ability to not only survive, but to thrive in our tough conditions. Fescues have a much deeper root system than ryegrass and also possess heat tolerance properties. All fescue varieties need to be managed carefully in order to get the balance right between maximum stock production and plant persistence. Recent breeding of new continental varieties has led to improved stock acceptance.

Mediterranean fescues – can be a valuable winter forage species, but they need to be managed! These types of fescues, if allowed will take over a pasture, especially on heavy soils, making it virtually impossible for any other pasture species to co-exist with them. The trend these days is to keep sowing rates relatively low so there can be a measure of grazing control. Needs to be very heavily stocked in spring to keep the species under control!

Variety	Sowing Rate	Leaf Type	Attributes
CONTINENTAL Summer Active			
Hummer MaxP	2 - 10	Soft	Grows well in all seasons, very persistent and good insect resistance due to MaxP endophyte.
Finesse Q	2 - 10	Soft	High quality, high year round yields, densely tillered, persistent.
Nouga	2 - 10	Very Soft	The number one newly bred soft leaf fescue on the market. Highly suited to grazing and cutting.
MEDITERRANEAN Winter Active/Summer Dormant			
Medallion	2 - 8	Medium/ Fine	Breakthrough in palatability for mediterranean types, lower NDF and higher ME makes it a productive plant that can persist very well.
Prosper	2 - 8	Medium/ Fine	Erect growing variety, suited to most soil types. Is a true summer dormant type which maximizes persistence.
Flecha	2 - 8	Medium/ Fine	Reliable drought tolerance, suited to 450mm+ rainfall area. Very high winter/spring production.

18. Clovers

Subterranean Clover

Subterranean clover is an extremely valuable self-regenerating annual clover. Sub clover offers excellent value for money due to the large volumes of dry matter (forage) that can be produced. If it is managed correctly and allowed to set seed periodically, it may only need to be sown once, due to its enormous ability to set seed and regenerate. Sub clover varieties have a wide range of different maturities and we recommend sowing a mixture of these different maturing varieties to ensure a measure of protection from false breaks and early finishing seasons. Sub clovers are the preferred clover for perennial pastures and are highly suited as a companion with phalaris, fescues and cocksfoot.

Variety	Sub Species	Sowing Rate	Days (Germ to Flowering)	Attributes
Dalkeith	SUB	5 - 10	98	Very reliable production, will persist in areas as low as 400mm annual rainfall. Proven performer.
Forbes	SUB	5 - 10	101	Strong winter production, higher hard seed levels for persistence in unreliable rainfall regions, RLEM resistance.
Bindoon	SUB	5 - 10	108	Good winter production, RLEM resistance, prolific reseeding.
Seaton Park	SUB	5 - 10	110	Can be utilized in early and mid season situations, very persistent and prolific seed setting.
Trikkala	YAN	5 - 10	112	Still benchmark for persistence in neutral to alkaline soils. Tolerates waterlogging, low oestrogen.
Riverina	YAN	5 - 10	119	Moderate hard seed levels, vigorous variety with excellent autumn/winter production, suited to wide range of soil types.
Yanco	YAN	5 - 10	121	Handles waterlogging well, good early vigour, high hard seed levels for persistence, excellent through winter.
Gosse	YAN	5 - 10	126	Erect growth habit, excellent hay/grazing option, can take higher pH than most varieties.
Narrikup	SUB	5 - 10	126	Highly winter active variety has RLEM resistance in breeding, handles waterlogging, one of the top performing varieties for forage production.
Tarlee	BRA	5 - 10	130	Newer brachy with improved burr burial, strong winter/spring production.
Rouse	YAN	5 - 10	131	Very high forage production, very quick to get going in early spring, moderate hard seed levels.
Antas	BRA	5 - 10	134	Very strong producer of forage, can be used as an annual for hay/grazing, short term option.
Antillo	BRA	5 - 10	136	Huge forage production, very fast establishing, bred for its burr burial trait which will lead to better persistence.
Goulburn	SUB	5 - 10	141	High production in a late season variety. Prolific seeder, excellent hay and grazing option.
Rosabrook	SUB	5 - 10	143	Excellent late season variety, RLEM resistance in breeding, very high yielding, excellent regeneration for longer persistence.
Leura	SUB	5 - 10	147	Ideally suited to higher rainfall regions, excellent hay option where spring rainfall is reliable. High production very late season.

*SUB - Subterraneum | YAN - Yanninicum | BRA - Brachycalicynum

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Subterranean Clover (cont)

MANAGEMENT TIP – Sub clover pastures should be allowed to set seed in the year of establishment as this will ensure the long term clover content of your pasture. Crops should be grazed lightly and stock removed as soon as the first flowers appear. If crops are grazed too hard or cut for hay in the year of establishment then you will remove the bank of seeds destined for future regeneration.

Red Clover

Red clover can be used in irrigated pasture mixes to boost summer production. Locally it has been difficult to maintain necessary levels of persistence. Strict rotational grazing practices should be followed if red clover is to be included in your pasture mix. Including a small amount of red clover in specialist irrigated summer crop mixes works well as red clovers thrive in these conditions.

Variety	Sowing Rate	Attributes
Rubitas Red	2 - 5	Stoloniferous variety suited to grazing. Drought and cold tolerant. Once established can handle persistent close grazing by sheep.
Reaper	2 - 5	Dual purpose variety, low oestrogen levels, very high yielding, very good persistence in irrigated grazing systems.
USA Red	2 - 5	A general purpose spring producer mainly suited to hay production.

White Clover

Locally white clover is known to only persist under irrigated and high rainfall (+700mm) conditions. Some smaller leafed varieties have lasted for 2 - 3 years if conditions are favourable but generally irrigated areas are the best fit for white clover. White clover is slow to establish from seed and this trait has been a problem in recent years as the new ryegrass varieties tend to out compete the clover and poor clover content results. It is vital to graze the pasture early to allow light into the crop to ensure your clover can compete and thrive. Seeds per kilogram can range significantly between coated and bare seed and this can be a factor with inadequate white clover population within a pasture.

Variety	Sowing Rate	Leaf Size	Attributes
Vic Irrigation	2 - 5	Small	Persistent under heavy grazing. Is arguably the best option for dryland conditions as it is small leaved, which holds with persistence in summer.
Nomad	2 - 5	Small/Medium	Goes well in combination with a larger leaf variety and can persist in high rainfall/irrigation areas under heavy grazing, high seed yield leads to natural regeneration when allowed to.
Storm	2 - 5	Medium	Very strong year round forage production, short-medium term option.
Demand	2 - 5	Medium	One of the more persistent varieties that is adaptable to many regions, is a proven performer in sheep/beef/dairy systems, very good winter/early spring production.
Haifa	2 - 5	Medium/Large	Well suited to a range of soil types, very good production, can persist under irrigation, excellent winter production, very good value for money.
Weka	2 - 5	Medium/Large	Very good stolon density and spreading habit, excellent tolerance to root weevil, suited to all grazing systems.
Mantra	2 - 5	Very Large	Good stolon density and stolon length, persists even under close grazing by sheep, highly palatable with finer stems than other white clovers.

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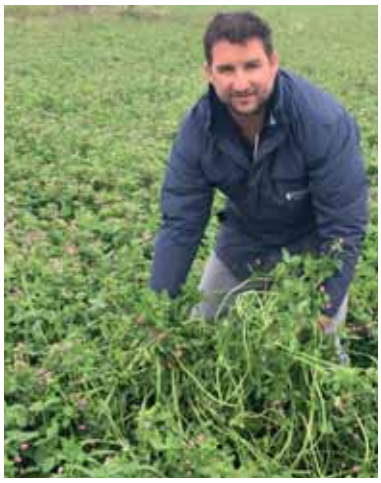

Annual Clover

Annual clovers are almost always used as the legume component in hay/silage and grazing mixes. Annual clovers produce large volumes of feed through the winter/spring and early summer and are suited to many different soil types. Annual clovers offer excellent value for money as they are sown at low rates and establish readily from seed, to produce large volumes of highly palatable forage. With fertiliser prices set to remain at a premium, annual clover crops can fix valuable nitrogen in your soil profile at low costs and provide a break in the cropping rotations.

Variety	Sowing Rates	Seed Type	Attributes
BALANSA			
Cobra	1 - 5	Hard	Regenerates well, can tolerate strong grazing pressure from sheep, reliable seed yields, 2 to 3 weeks earlier than Paradana.
Paradana	1 - 5	Hard	Very aggressive spring growth, tolerates waterlogging and high pH soil types. Broadcast in 2nd year if sown with phalaris, fescue or cocksfoot.
Viper	1 - 5	Hard	2 weeks later then Paradana. Good early vigor with reliable regeneration. Outstanding spring production and ideal for hay.
PERSIAN CLOVER			
Shaftal	5 - 8	Soft	Late flowering variety. Good winter/spring production, will regrow strongly if moisture permits. Suits hay/silage.
SARDI	5 - 8	Hard	Preferred option for waterlogged and high pH soils where mild salinity is an option. Early flowering variety suited to grazing pasture.
Kyambro	5 - 8	Hard	Thrives in high pH and waterlogged conditions. Tolerates saline conditions. Excellent perennial pasture option.
SUNDRY CLOVERS			
Crimson	3 - 5	Soft	Highly nutritious hay/silage option. Very drought tolerant. Strong winter production. Suited to free draining sandy loams.
Berseem	5 - 8	Soft	Referred to as annual lucerne. Suited to heavier soils and will not cause bloat in stock. Erect growing and offers reliable spring production. Excellent hay option on heavy soils.
Arrowleaf	2 - 5	Hard	Deep rooted, late maturing with very high hard seed levels therefore tends to be unreliable in regeneration. Suited to acid to neutral soils that are free draining.
Arrotas Arrowleaf	2 - 5	Hard	Ultra late maturing. Will extend feed window well into summer if moisture permits. Has potential in higher rainfall areas.
Palestine Strawberry	1 - 4	Hard	Great spring, summer and autumn production, prostrate in growth, suitable for all soil types. Can withstand long and harsh grazing once established, persistent. Suits 700ml rainfall areas.

Medics

Medics, are self-regenerating annual clover varieties that grow in autumn, winter and spring. Medics will thrive in lower rainfall regions and are well adapted to coastal regions, high pH and slightly acid soils. Medics will regenerate readily if allowed to set seed and will provide large volumes of palatable forage which can be grazed or cut for hay/silage.

Variety	Sowing Rate	Attributes
SNAIL		
Sava	4 - 8	Tolerates alkaline soils, excellent winter production and very hard seeded.
Silver	4 - 8	Suited to neutral/alkaline soils of sandy loam nature. Mid maturing variety, with upright growth habit. Goldstrike treatment only.
BARREL		
Caliph	4 - 8	Early flowering variety, suited to clay/loam soils of a neutral to alkaline nature. Available as Goldstrike treatment only.
Sultan - SU	4 - 8	Best suited to clay-loam soil types, first barrel medic with tolerance to SU herbicide residues, early maturing.
Lynx	4 - 8	Suits low to medium rainfall, 100 days to flowering. Neutral to Alkaline soils. Strong winter production. Goldstrike treatment only.
Paraggio	4 - 8	Performs well on a range of soil types, good early vigour, provides quality for grazing and hay production.
SPINELESS BURR		
Cavalier	4 - 8	Excellent option where sub clovers won't persist due to high pH. Spineless burr will not catch in sheep's wool. Excellent winter production, reliable regeneration.
Scimitar	4 - 8	Suited to a wide range of soil types. Good persistence with high hard seed content.
BUTTON		
Bindaroo	4 - 8	Low rainfall specialist with high hard seed levels. Best suited to alkaline sandy and loamy soil types. Will handle grazing while setting seed without losing seed production.

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19. Lucerne

Lucerne

Lucerne is commonly known as the king of forages. Lucerne is an extremely valuable feed source with the ability to grow 12 months of the year depending on the winter activity of the variety. Lucerne, with its deep root system, has the ability to stay green throughout the summer months, (acting as a fire break), provides quality green feed when moisture is limited, (when perennial grasses are dormant) and gives graziers the ability to sell their stock when they want to. With dormancies ranging from 3 - 11, there is a lucerne variety to suit.

Lucerne Sowing rates

Sowing rates for lucerne vary significantly because of the increased use of pre-coated seed. Dryland stands of lucerne should be sown at a minimum of 5kg/ha and up to a maximum of 20kg/ha for irrigated fine quality hay production. We suggest increasing the rates for coated seed varieties so you can be assured of getting similar plants per square metre established in your pasture.

Variety	Coating	Winter Activity	Sowing Rate	Attributes
Force II	Force Field	11	8 - 25	New lucerne with exceptional winter activity. Suited to short term dryland arming systems and especially intensive cutting or grazing under irrigation.
Magna 995	Bare	9	5 - 20	American genetics, bred specifically for big hay tonnages, very high quality hay/silage, massive year round production, has shown better waterlogging tolerance than other lucerne varieties, irrigation only
Magna 868	Bare	8	5 - 20	Benchmark hay variety for yield and quality, very fine stems and good leaf to stem ratio, suited to grazing/hay/silage both irrigated and dryland
Force7 Series 2	Force Field	7	8 - 25	Bred for grazing tolerance and persistence, can withstand extended periods of set stocking, good pest and disease resistance.
SARDI 7 Series 2	Agricote	7	8 - 25	Proven variety that has shown persistence in dryland and irrigated situations, suited to grazing and hay production.
GTL60	Goldstrike	6	8 - 25	Persistent variety with low and broad crown. High quality and productivity, dual purpose.
Aurora	Bare	6	5 - 20	Benchmark for persisting and producing on fragile soil types. Improved varieties have been bred, but this variety still has a fit.
Stamina GT5	Superstrike	5	8 - 25	Very persistent, fast establishing variety, dual purpose variety, good leaf to stem ratio.
Q31	Goldstrike	3	8 - 25	Bred for premium quality hay/silage under irrigated systems. Superior leaf retention and the highest nutritive value.
Venus	Bare	5	5 - 20	True grazing tolerant variety, excellent option for dryland grazing situations

20. Perennial Herbs

Perennial Herbs

Perennial herbs fill a niche market in our region. They bring a blend of persistence, palatability, digestibility and the ability to collect nutrients from the soil which leads to increased animal production. When included in pasture mixes, perennial herbs have been linked to a reduction in scouring calves and almost alleviating the symptoms of red gut in lamb production. In the local area perennial herbs have been used with just a splash in pasture mixes, however the more we learn about them the more we see that they are most effective when their rates are increased to around 1-2kg/ha in blends and up to 5kg/ha on their own. Herbs sown as a sole species are becoming more and more popular as they are prime finishing tucker for lambs and beef.

Variety	Sowing Rate	Growth	Attributes
CHICORY			
Puna	1 - 5	Prostrate	Persistent original variety. Suited to light sandy soils as well as heavier soil types. Will re-seed well if allowed to set seed over the summer months.
6-Point	1 - 5	Semi-Erect	US variety, very similar to Puna. Breaks winter dormancy earlier giving it a longer growing season. Excellent regeneration properties which aids in long term persistence.
Chico	1 - 5	Erect	Excellent summer crop companion, very fast establishment and regrowth, improved winter activity.
PLANTAIN			
Tonic	1 - 5	Semi-Erect	Fibrous root system, excellent year round production. Extracts selenium and other trace elements from the soil.
Ecotain	1 - 5	Semi-Erect	Fast establishing and tolerant to a wide range of soils. 600mm rainfall or better. Shown to reduce the amount of N lost from farm systems.
Oracle	1 - 5	Erect	Deep, fibrous root system for better heat tolerance, later maturing than Tonic, high forage quality and mineral content, highly suitable for all livestock classes.

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21. Focus on Chicory

Chicory

In the Southern Region we have a lot of soils which are highly alkaline and prone to waterlogging through winter months. One of the biggest frustrations amongst livestock producers with these soils is choosing a suitable long term perennial grass. Ryegrass, phalaris, cocksfoot and fescue have previously being used, but each one of these varieties comes with its own problems. Due to the fact our regions rainfall is generally only 20-28 inches perennial ryegrass will not reliably persist. Phalaris is arguably the king of perennial grass however on highly alkaline country it has to be carefully managed due to the high risk of staggers to both cattle and sheep. Cocksfoot is a very persistent option, but doesn't handle waterlogging. Fescue came along and looked like it might be the answer as it does not have any animal health risks; however we have since found that a strict grazing management has to be put in place otherwise if the fescue gets away it can become unpalatable and will often need to be slashed. Is there an answer?

Chicory has been around for quite a few years now and is thought to have medicinal purposes and has been very good for livestock. This appears to be the case as chicory doesn't cause problems like bloat, however we have seen far greater benefits as it is highly palatable and digestible, shows excellent growth rates in livestock and can persist long term if allowed to re-seed. 5 Years ago we were adding chicory into a mix at 0.5-1kg/ha. We have since found that it has struggled to persist as chicory is very palatable and is often preferentially grazed by stock. Through working closely with producers and trial information from our research farm we have found chicory needs to be sown at a heavier rate of 2-5kg/ha in order to maximize greater persistence.

The persistence of chicory is strongly influenced by two main factors; grazing management and the ability to allow plants to set seed when required. Grazing management comes back to the frequency of grazing, similar to lucerne – the longer the rest period between grazing, the longer potential persistence. Allowing plants to set seed is a great way to thicken up diminishing stands. This is not required every year, but allowing chicory to set seed every 3-5 years will give you greater persistence as chicory regenerates extremely well from seed.

22. Summer Fodder Crops

Summer fodder crops are an extremely valuable out of season feed source. By January/ February when feed is limited, farmers will wish they had a summer forage crop in the ground as they produce large volumes of feed and are relatively inexpensive to establish. They can be used as maintenance feed, as an alternative to feeding out hay and silage, or a highly nutritive mix can be used to finish livestock. In years gone by, a summer crop may have comprised of a forage rape or turnip mixed with some millet to fatten stock in a finishing system. In recent times, with increasing livestock prices, there has been a focus on pushing animal production which has led to diversifying the mixture by way of including summer active forages like chicory, red clover and daikon radishes.
By sowing a summer fodder crop a paddock will be in much better condition for sowing a permanent pasture in the following autumn. By levelling and working the paddock in spring it cuts down the preparation time enormously and in most situations it is simply a matter of direct drilling your permanent pasture.

Hybrid Forage Brassicas

Forage brassicas have changed quite a lot over the years and there are now many types available to fit different situations. Hybrid forage rape provides flexibility with sowing and can offer multiple grazings. Typically they are sown in spring once soil temperature reaches 12 degrees. They can run for 10-12 months before they vernalise in winter and then run to head early in the spring of the following year. All forms of forage rape are a high protein feed source, but the rich nature of the feed can cause scouring in calves and lambs. They are best sown with chicory and millet to provide a more balanced diet and in turn better animal performance.

Turnips

Turnips have also seen big improvements in breeding over the last decade. Leafy turnips in particular have gained traction as a fast maturing, multi graze option. They are similar to forage rape with a more fibrous root system so are much better suited to irrigation mixes. Bulb turnips are generally a one graze only option. The faster maturing varieties can be ready to graze in as little as 50 days, producing large tonnages which are ideally strip grazed with electric fencing.

Millet

Millet will provide valuable fast growing forage from December through to May and is suitable to all classes of livestock. At no stage will millet cause stock health issues. It can be sown with rape and turnips and will grow on a wide range of soil types. Millet is a very viable cheap option on areas considered marginal or have low fertility.

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Summer Fodder Crops (cont)

Sorghums

Sorghums need to be sown when the soil temperature reaches 16 degrees and rising. Once established, sorghums can be grazed or cut for hay/silage. Sorghums will regrow strongly once grazed if moisture permits. Adequate soil preparation is the key to success with sorghum crops

Tips for Growing Successful Fodder Crops!!

Plan ahead – Get a soil test to identify nutrient deficiency. All fodder crops respond well to nutrients, especially nitrogen. Alternatively, a plant tissue test can be taken post establishment to address deficiencies in crop – talk to us about taking a soil or plant tissue test.

Weed & Insect Control – Poorly managed paddocks are normally badly infested with annual grasses and broadleaf weeds. Sowing a fodder crop can aid in eradicating weed problems you may have prior to going back to a permanent pasture.

Sowing – Ideally seeds should be sown into a well-prepared, fine seedbed. Rolling after seeding will give good seed soil contact that will aid in faster plant establishment. Be prepared to sow when soil temperature and moisture are optimal. Summer fodder crops have varying soil temperature requirements and sowing at the right time can be the difference in establishing and getting maximum production from your crop. Sowing too early can result in poor establishment due to the temperature requirement for plants to germinate without running to head, and sowing too late can come at a cost to moisture levels which are usually at a premium at that time of year.

Crop Management – Continue to monitor for pests and diseases, as damage will cause decreased quality and palatability of your crop. Once crop is mature, introduce stock slowly through short grazings at regular intervals. Once stock have been conditioned, they will prefer fodder crop to a pasture. Always supplementary feed with grain, hay or silage and monitor stock closely.

Stock should always have access to clean fresh water!

Summer Fodder Crops (cont)

Variety	Sowing Rate	Regrowth	Drought Tolerance	Approx Weeks to 1st Grazing	Attributes
FORAGE RAPE					
Winfred	2 - 5	Very Good	Very High	10 - 12	Most reliable producer for dryland situation, recovers quickly from grazing, slightly less palatable than newer varieties.
Mainstar	2 - 5	Very Good	High	10 - 12	Increased palatability and leaf percentage compared to Winfred. High aphid tolerance.
Pillar	2 - 5	Very Good	High	12 - 14	Fast establishing, high yielding, multi-graze giant-type Forage Rape. Very good re-growth.
Titan	2 - 5	Very Good	High	10 - 12	Multi-graze option with excellent regrowth. Dryland or irrigation option.
TURNIP					
Pacer	3 - 5	Excellent	Medium	6 - 8	Very fast establishing leafy turnip, rapid recovery from grazing, multi graze option.
Bouncer	3 - 5	Excellent	Medium	6 - 8	Leafy turnip, multi graze option, fast recovery from grazing.
Appin	1 - 2	Good	Medium	6 - 9	Suited to all livestock. Reliable producer, don't overgraze initially.
MPT	0.5 - 2	Poor	Medium	14	Excellent value for money in broad acre situation. Leafy tops and large bulbs, marginal country. One graze option.
Marco	1 - 2	Poor	Medium	7 - 10	Very early maturing, 50-70 days from sowing to grazing, high bulb-leaf ratio, very high yielding, one graze.
MILLET					
Shirohie	8 - 25	Excellent	Medium	6 - 8	Reliable safe source of forage, excellent source of roughage, also suits irrigation.
SORGHUM				Approx Height for 1st grazing	
SSS	3 - 20	Good	Med/High	80cm	Suitable for dryland or intensive irrigated situations. Very fine stem, sweet and leafy variety, produces very high quality hay, can tolerate several grazings/hay cuts.
BMR Calibre	5 - 30	Excellent	Med/High	80cm	Early-mid maturing sorghum/sudan grass, lower lignin variety for higher digestibility, rapid regrowth from grazing.
BMR rocket	5 - 30	Excellent	Med/High	80cm	Early flowering, low prussic acid potential, utilises BMR-6 gene for better digestibility and standability.
BMR Octane	5 - 30	Excellent	Med/High	1mtr	Early vigour in cooler conditions, high sugar levels, excellent crude protein and energy, high biomass production and regrowth.
Chomper	5 - 30	Very Good	Med/High	80cm	Very strong early vigour. Suits grazing, hay and silage. One of the earlier grazing varieties.

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23. Forage/Hay & Silage Cereals

Forage cereals are a very reliable option for prolific winter/spring forage. Most forage cereals will prefer soils of a well drained nature, but there are varieties that handle periodical waterlogging better than others. Oats/barley/wheat and triticale are the most commonly used forage varieties and can be grazed early prior to being shut up for hay or silage. Grazing the forage crop early will usually mean a reduce hay/silage cut so if you are aiming to maximise your hay/silage yields grazing may not be advisable.
Naracoorte Seeds also have reliable access to a very broad range of broadacre cereal and pulse varieties including access to some of the latest genetics being released.

Seeding Rates 80 - 120 kg/ha

Variety	Maturity	Attributes
OATS		
Brusher	Early/Mid	Tall hay out, very high quality, resistant to leaf rust, similar grain quality and yield to Wintaroo.
Mulgara	Mid	Good early vigour, resistant to stem rust, excellent hay colour and resists brown leaf tipping. Yields slightly less for hay production compared to Wintaroo but is higher quality.
Wintaroo	Mid	Benchmark for hay production. Makes excellent early season growth, but don't overgraze if hay production is main objective. Offers good value for money!
Regency	Mid/Late	A breakthrough in breeding of forage oats. Prolific tillering variety, with extremely strong regrowth. Prefers to be sown and grazed early for maximum benefit. Has shown 200-300% more regrowth after grazing than other forage oats. Continues to produce leaf while going to head resulting in higher quality hay.
Forester	Very Late	Very high quality hay variety, excellent early vigour and foliar disease resistance, moderate-tall variety, better suited to high rainfall and irrigated areas.
BARLEY		
Mundah	Early	Usually earliest to first grazing. Short growing season. Good option if hoping to go from winter forage to a summer fodder crop to maximise production.
Moby	Early	White seeded rapid establishing variety. Exhibits good cold season production. Awnless variety and high yielding.
Cape	Mid	Proven performer, offers excellent value for money for cheap grazing, hay or silage.
WHEAT		
Bennett	Late	Awnless winter wheat with ASW classification. A genuine multi-purpose winter wheat with very good seedling vigour making it suited to grazing mixes, hay/silage or graze + grain. Excellent choice for use as a paddock clean up the year prior to sowing perennial pasture due to weed competition early and herbicide options, handles waterlogging very well.
TRITICALE		
Wonambi	Late	Dual purpose variety, tall and high tillering, reduced awns, good resistance to rust and CCN.
Kokoda	Mid/Late	High yielding forage and grain variety, strong vigour early, excellent grain quality which is being used in beer production
RYECORN		
Southern Green	Early	Fast establishing grazing option. High quality feed with greater forage than other Ryecorns. Can be sown with ryegrass to extend grazing window.

24. Contacts for Contractors

Name	Area	Type	Phone
SEEDING			
Jacob Pitt	Naracoorte & Surrounds	Shearer Trash Seeder, 7 inch spacing	0407 923 271
Bob Crosby	All Areas	Disc Seeder & Conventional Seeder	0427 900 162
Glen Simpson	Tatiara & S.E.	DBS Seeder	0407 392 231
James Schubert	Apsley & Kybybolite	Disc Seeder, 10 inch spacing	0429 843 933
Aaron Smart	Naracoorte & Surrounds	DBS Seeder	0418 849 940
Geoff Hancock	Millicent & Surrounds	Pottinger 6m Air Seeder	0408 849 212
Graham Zilm	Padthaway & Naracoorte	DBS Seeder & Disc seeder	0409 838 564
Tony Mackereth	Padthaway & Surrounds	DBS Seeder	0427 862 593
Brenton Drabsch	Kingston & Robe	Offset Disc & Rock Roller	0438 888 553
Andrew Murdoch	Kingston, Robe & Lucindale	Direct drill, Double disc seeder, zero preparation required, tough machine	0438 686 256
Adrian Gibbs	Kingston & Surrounds	Triple Disc Seeder	0418 813 063
Scott Harlock	Naracoorte & Surrounds	Triple Disc Seeder	0412 422 411
SPRAYING			
Dale Wagner	Lucindale & Surrounds	Broadacre Spraying	0427 957 856
Williams Spray Services	Naracoorte & Surrounds	Broadacre Spraying	0409 806 406
FERTILISER			
Clarke Bros	Kingston & Surrounds	AFSA Accredited, GPS Fitted, Sales & Spreading	08 8767 2229
Crossling	Naracoorte & Surrounds	GPS Fitted, Computer Controlled, Super / Gypsum / Urea / Lime	0407 399 670
HAY/SILAGE			
Robert Pearce	Naracoorte & Surrounds	Mowing/Raking/Baling 3x3/3x4	0428 386 325
Kym Berkin	Penola & Surrounds	Mowing/Raking/Hay & Silage Large Round Bales	0427 090 845
Sam Schinckel	Servicing All Areas	Mowing/Raking/Baling	0429 364 112
Glen Simpson	Tatiara & S.E.	Mowing/Raking/Baling 4x3 with Steamer	0407 392 231
James Schubert	Apsley & Kybybolite	Mowing/Raking/Baling 4x3	0429 843 933
Sam Tarca	Naracoorte & Kyby	Mowing/Raking/ Hay 3x4	0437 308 486
Graham Zilm	Padthaway & Naracoorte	Mowing/Raking/Baling 4 by 3, Round if needed	0409 838 564
S.E. Windrowing & Mowing	Servicing All areas	Mowing/Windrowing	0428 391 991
Jacob Pitt	Naracoorte & Surrounds	Mowing/Raking/Baling Round Bales	0407 923 271
OTHER SERVICES			
Dooerdowns Silo Transporting	Servicing All Areas	Silo Sales and Transport	03 5575 0261 0429 750 261
AG-Reclaim	Servicing all areas	Blue gum/pine reversion, mulching, stump grinding/mulching, Kelly chain ploughing (less intrusive than offset disc)	0400 200 366

Naracoorte Seeds
The Seed Professionals

For more information please contact the team at Naracoorte Seeds:

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