Seed Force in Australia.

Since its inception in 2006 Seed Force has become the leading innovative proprietary forage seed business in Australia. The business model has been based on aligning with world leading plant breeding companies and institutions in Europe, N & S America, New Zealand and Australia and screening new breeders’ lines against industry standards in Australia. Seed Force then commercialises new varieties that offer significant benefits to farmers over existing commercial varieties in Australia.

Not only do we screen breeder’s lines to find new varieties that can offer significant benefits over existing commercial varieties, we also spend considerable research investment in developing best management guidelines to help producers maximise returns from these crops.

Seed Force has trialed and screened a wide range of forage crop options for filling feed gaps under grazing or for conserving as fodder for feeding back.

The selection guide below can help you select the best crop options to suit your needs. You can then refer to the specific information for that crop in this guide and check any management guidelines to help maximise your returns from that crop.

### Southern

<table>
<thead>
<tr>
<th>Region</th>
<th>When required</th>
<th>Characteristics</th>
<th>Species</th>
<th>Variety</th>
<th>Planting time</th>
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<tbody>
<tr>
<td>winter/spring</td>
<td>quick feed, fodder conservation option</td>
<td>oats SF Colossus</td>
<td>autumn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>summer, cool climate</td>
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<td>autumn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>summer/autumn, cool climate</td>
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<td>SF Greenland</td>
<td>spring</td>
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<tr>
<td>all seasons</td>
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<td>SF Punter</td>
<td>autumn or spring</td>
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### Northern

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<tr>
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### Forage crop selection

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<tr>
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</table>

### Seed Force has now developed an integrated crop and pasture business in Australia covering all major pasture species plus broadacre seed varieties covering winter wheat, spring barley, winter and spring canola.

We also have a very strong range of high performing forage crops from grazing cereals and forage sorghums to forage brassicas, herbs and the exciting re-birth of fodder beets into the Australian market.

Not only do we screen breeder’s lines to find new varieties that can offer significant benefits over existing commercial varieties, we also spend considerable research investment in developing best management guidelines to help producers maximise returns from these crops.
Forage brassicas are well established as a valuable tool for livestock producers. They provide sowing options for most seasons to provide high quality feed to fill both quantity and quality feed gaps. They also offer opportunities for crop rotations for disease management and to combat difficult weeds such as barley grass and wimmera ryegrass in grazing and mixed farming situations.

The following pages can help producers to get the best from forage brassicas by providing key information:

- selecting the most appropriate option,
- understanding the time to graze,
- crop agronomy advice,
- grazing management advice, and
- the extra value of sowing better varieties.

Forage brassicas cover the species rape, leafy turnips, turnips, swedes, kale and radish. These forages have outstanding feed quality and water use efficiency across various seasons. When fed as part of a balanced ration they can produce high animal performance especially when traditional pastures have poor quality.

Forage brassicas have been used for winter feed mainly in cold climate regions where extremely cold temperatures, frosts and snow reduce traditional winter feed production. In many parts of Tasmania and the tablelands of NSW winter turnips and kale are sown under cool summer conditions to provide high quality winter feed.

Forage rapes with very late flowering and longer growing seasons can also be sown at this time to produce winter feed with additional re-growth potential. Forage brassicas fit well into livestock production systems and can also provide significant benefits as a high quality summer feed. They can be sown from late winter through spring and provide high quality feed when the existing pasture feed base starts to lose quality.

They can be used to clean up a run-down pasture. This is best achieved by spraying to control all weeds and preparing a seedbed for a forage brassica that can then be followed up by direct drilling a new pasture or winter crop. Forage brassicas are high in quality and can enable liveweight gains to be maintained at similar levels to the spring pasture flush, as well as maintain high milk production when fed as part of the ration to dairy cows. When fed they have a similar feed value to grain, but at a much lower cost.

Single grazing options
Turnips can produce very high yields for a one-off grazing, enabling paddocks to be prepared early for re-sowing. They can be sown at low rates (0.8–2kg/ha) and provide feed from 10–12 weeks after planting.

Multiple grazing options
Where producers are not planning to early autumn sow, or where they are looking for brassicas to fill the critical autumn feed pinch, forage rapes or leafy turnips offer an excellent option.

Forage rape maintains high quality feed over late summer and autumn. Re-growth from rain will be faster than any early pasture sowing as rape’s deep root system ensures good persistence during the hot dry summer and rapid response from autumn rain.

Leafy turnips provide much faster feed as they are more shallow rooted putting reserves into above ground growth. They also have faster regrowth than forage rape.

As such they are best suited to mild growing conditions or where feed is required rapidly.
Forage brassica management

Maximising forage yield
- Forage brassicas will handle a broad pH (CaCl₂) range from 4.6–8.6.
- Ensure up to date soil or plant tissue test information to identify potential nutrient deficiencies.

1. Weed and pest prevention
- Sow into a weed free seedbed.
- Spray any existing weeds with glyphosate and tank mix with insecticide for any pests.
- Consider pre-emergent application of Trifluralin if wireweed is likely to be a problem.

2. Sowing
- Brassicas should be shallow sown (5–10mm) and covered with roller, chain or mesh.
- Sow rape at 3–5kg/ha; turnips at 0.8–2kg/ha, using higher rates for higher rainfall or rougher seedbeds.
- Sow with Triple Super into worked paddocks, use MAP or DAP if direct drilling.
- Sow with around 20kg P/ha, using low sulphur based fertilisers.
- Address any trace element deficiency, especially molybdenum and boron.

3. Monitor and treat for pests
- Forage rape is susceptible at emergence to pests, especially Red-Legged Earth Mite
- We recommend Force Field PLUS, protection for your seed.

4. Apply Nitrogen 3–4 weeks after establishment
- To increase yields apply up to 60kg N/ha (125kg/ha Urea) 3–4 weeks after establishment.
- Do not apply nitrogen within four weeks of feeding off crop.

Grazing the crop

1. Graze at maturity
- Forage brassicas should be allowed to mature to minimise risks of stock health disorders.

2. Transition
- Allow generous transition time for grazing any brassica crop.
- Sudden access can upset the balance of rumen microbes, resulting in poor animal performance, scouring and acidosis.
- When introducing animals to brassica crops, allow stock access to pasture, or feed out hay, straw or silage before grazing the crop.
- Begin grazing the crop for short periods each day, building up to a maximum allowance over a week.

3. Provide fibre
- Forage brassica crops are highly digestible, and don’t contain much ‘effective fibre’, the sort of fibre that makes animals chew.
- Feeding extra effective fibre means more chewing producing saliva which is a rich source of bicarbonate that buffers rumen pH. More effective fibre means less acid in the rumen and fewer digestive upsets.
- Continue feeding out hay, straw or silage even when stock have adjusted to the crop.

4. Break feed
- This ensures that the high quality leaf is balanced with stalks or bulbs.
- This will provide less wastage through trampling and fouling.
- Forage brassicas can also be grazed in conjunction with summer dry pastures or crop stubbles to balance the diet.

5. Animal health
- Be aware of potential high nitrate risks under overcast conditions.
- Grazing high quality brassicas can put animals at risk of pulpy kidney. Ensure that all stock are drenched and vaccinated at least seven days before grazing the crop.
SF Pacer®
leafy turnip

**Features**
- Fast to first grazing
- Higher yielding
- Improved re-growth potential
- Reduced bolting

**Benefits**
- Can provide earlier feed for livestock
- Can deliver more liveweight gain or milk per hectare
- Provides more feed from later grazings
- Provides better quality longer

**Setting the pace**
SF Pacer has been bred as a replacement for Pasja by its plant breeder. It was selected from four breeder’s lines bred and evaluated for increased yield, improved re-growth and reduced bolting between grazings.

In Australian and New Zealand trials it has shown rapid establishment, fast growth to first grazing and outstanding re-growth.

**Forage EBV’s – compared to industry standards**

<table>
<thead>
<tr>
<th>LEAFY TURNIP</th>
<th>SOWING RATES</th>
<th>MATURITY</th>
<th>GRAZINGS</th>
<th>YIELD PASJA = 100</th>
<th>EXTRA MEAT VALUE</th>
<th>EXTRA MILK VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Pacer</td>
<td>3–5kg/ha</td>
<td>28–56 days</td>
<td>Multiple</td>
<td>116</td>
<td>+$227</td>
<td>+$656</td>
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<tr>
<td>Hunter</td>
<td>3–5kg/ha</td>
<td>28–56 days</td>
<td>Multiple</td>
<td>103</td>
<td>+$47</td>
<td>+$123</td>
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<tr>
<td>Pasja</td>
<td>3–5kg/ha</td>
<td>28–56 days</td>
<td>Multiple</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>


SF Greenfield®
forage rape

**Features**
- Fast to first grazing
- Higher yielding
- Improved re-growth potential
- Reduced bolting

**Benefits**
- Can provide earlier feed for livestock
- Can deliver more liveweight gain or milk per hectare
- Provides more feed from later grazings
- Provides better quality longer

**The new benchmark for forage rape**
SF Greenland is a high yielding forage rape that can be used by dairy, beef and sheep producers to produce high quality feed in any season where moisture during growing season will allow.

Due to its late flowering, SF Greenland is well suited to sowing during late summer until spring.

It is consistently producing high yields when sown for either winter or summer feed.

SF Greenland has become the rape of choice for producers looking to improve their profitability from growing forage rape.

**Features**
- Fast to first grazing
- Higher yielding
- Improved re-growth potential
- Reduced bolting

**Benefits**
- Can provide earlier feed for livestock
- Can deliver more liveweight gain or milk per hectare
- Provides more feed from later grazings
- Provides better quality longer

**Forage EBV’s – compared to industry standards**

<table>
<thead>
<tr>
<th>FORAGE RAPE</th>
<th>SOWING RATES</th>
<th>MATURITY</th>
<th>GRAZINGS</th>
<th>YIELD WINFRED = 100</th>
<th>EXTRA MEAT VALUE</th>
<th>EXTRA MILK VALUE</th>
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<tbody>
<tr>
<td>SF Greenland</td>
<td>3–5kg/ha</td>
<td>70–90 days</td>
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<td>123</td>
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<td>Goldath</td>
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<td>Titan</td>
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<td>Ace</td>
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<td>60–90 days</td>
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* Relative Forage Ratings based on relative data from 10 different trials at Denman, Gundagai, Caramut, Warrnambool, Cressy and Whitmore 2001–2009.

* Meat value estimated using 70% utilisation of feed and $2.30/kg liveweight gain, and milk value estimated using 80% utilisation of feed and 40c/litre.
SF G2®
globe turnip

FEATURES
- Later maturing globe turnip
- High keeping quality bulb
- High ratio of palatable leaf

Sowing rate
0.8–2kg/ha

14-16 weeks after sowing

Australian release
> 2009

Stock suitability
Dairy, sheep & beef

The winter turnip
SF G2 is a new diploid, green-skinned, white fleshed turnip. It is a later maturing round traditional globe turnip for winter use.
It is a high quality bulb that will keep well over winter, plus a high ratio of palatable leaf.
It is an ideal replacement for Green Globe.

SPECIALTY FORAGES

Most will be familiar with forage crops such as grazing cereals, forage sorghums and forage brassicas, but there are other specialty forages performing well on farm and worthy of consideration that are detailed in this guide.

Further specific information on these can be obtained by talking to your local Seed Force Territory Manager or technical staff.

Forage herbs
These can be used as a component of a perennial pasture or used as medium-term forage crops. The details below refer to their use as forage crops.

Chicory is a very high-quality forage herb with low NDF%, very high ME and good Crude Protein% that can be used for either fattening lamb or beef cattle or strip grazing by dairy cows. It can be sown alone or with a companion legume to provide nitrogen boost, such as lucerne, white, red or sub-clover depending on soil type and climate.
It will usually last 2-4 years depending on variety, growing conditions and grazing management. It will regenerate from seed, and is best suited to higher fertility situations. It can be sown alone or with a companion legume to provide nitrogen boost, such as lucerne, white, red or sub-clover depending on soil type and climate.

Plantain is more drought hardy and adapted to low fertility situations. It will regenerate from seed, but loses feed quality as it matures. Plantain needs to be sown into clean paddocks free of weeds, as broadleaf weed control options are extremely limited.

Fodder beet
Fodder beet is an exciting new crop with high quality forage yields of 20-40t DM/ha able to be grown in 4-6 month growing seasons depending on time of sowing and location.
The crop can be split into 3 main types:

- **Mangels** - low DM% (<13%), large bulb growing about 70-80% out of the soil with large amount of leafy top. It has the highest levels of utilisation and is the best option for strip grazing.
- **Fodder beets** - mid range DM% (13-20%) with around 50% of the bulb below ground. They can be grazed or mechanically harvested, and have lower utilisation than mangels.
- **Sugar beets** - high DM% (20-30%) with most of the bulb growing beneath the ground. These are suited to mechanical harvesting and longer storage due their high dry matter, harder bulbs.

Production and feeding of fodder beets requires specific advice and we recommend that if you want to try this exciting new crop, that you seek a plan from your local Seed Force territory manager.
SF Punter®
chicory

Forage EBV’s – compared to industry standards*

<table>
<thead>
<tr>
<th>CULTIVAR</th>
<th>AUTUMN</th>
<th>WINTER</th>
<th>SPRING</th>
<th>SUMMER</th>
<th>TOTAL</th>
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<tbody>
<tr>
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<td>164</td>
<td>123</td>
<td>100</td>
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<tr>
<td>Puna</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>


FEATURES
- Excellent quality feed
- Low dense crown high tillering variety
- Persistent medium-term option

BENEFITS
- Suited to mixes for 3–5 years. Can regenerate from seed to thicken up in sward
- Better establishment and year round feed. Ideal companion species to pastures mixes
- Suited to mixes for 3–5 years. Can regenerate from seed to thicken up in sward

Don’t take a punt on any old chicory
SF Punter is a deep rooted perennial herb providing outstanding summer productivity and feed quality. It has high mineral uptake and is extremely persistent. It provides a high energy forage with proven animal health benefits and increased animal production at a time of year when pasture quality is low. Being more winter active than some varieties, SF Punter can be sown at any time when there is adequate moisture for good germination and establishment.

SF Endurance
plantain

Forage EBV’s – compared to industry standards*

<table>
<thead>
<tr>
<th>PLANTAIN</th>
<th>AUTUMN</th>
<th>WINTER</th>
<th>SPRING</th>
<th>SUMMER</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Endurance</td>
<td>97</td>
<td>93</td>
<td>93</td>
<td>107</td>
<td>100</td>
</tr>
<tr>
<td>Tonic</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Boston</td>
<td>82</td>
<td>71</td>
<td>96</td>
<td>108</td>
<td>93</td>
</tr>
</tbody>
</table>

* Data based on yields from Tenterfield trial 2011-2013.

FEATURES
- Mid season maturity
- All season growth
- Frost tolerant

BENEFITS
- Suited to a broader range of environments
- Fills more than one feed gap
- Will still grow feed in extreme winter cold

Feed for all seasons
SF Endurance is a new forage plantain with improved feed production across all seasons. Plantain is a drought hardy deep rooted perennial herb well adapted to low fertility soils. Existing varieties have either been winter active and early flowering or summer active and late flowering. SF Endurance provides similar winter feed to Tonic, but with improved warm season production. It is ideal for pasture mixes where producers are looking for a contribution from plantain across all seasons.
SF Brigadier®
fodder beet

**FEATURES**
- High sugar feed option
- Very high potential yields
- Good weed and pest rotational crop

**BENEFITS**
- Very good palatability for all livestock classes
- Can yield up to 20–40t DM/ha. Profitable crop option
- Sound option to avoid Diamondback moth problems

**SF Brigadier** is a traditional polyploid, mangel type fodder beet with orange bulbs. The bulb sits high up out of the soil and is ideal for grazing in-situ by all livestock classes, and its high sugar level makes it very palatable.

Fodder beet is a well known crop, but with new genetics and better management practices it is gaining rapid interest for its ability to produce very high yields of high quality forage. It is typically sown in spring using specialist seeders and has a 4–6 month growing period.

SF Brigadier offers new genetic potential and is capable of producing 20–40t DM/ha for late autumn and winter grazing. It is not a brassica but a member of the beet family and offers the opportunity to break the traditional weed and pest cycle of brassicas, particularly for Diamondback moth.

You should seek specialist advice from Seed Force if considering growing this exciting crop.

<table>
<thead>
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<th>Forage EBV’s – compared to industry standards’</th>
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<tr>
<td><strong>FOODER BEET</strong></td>
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<td>SF Brigadier®</td>
</tr>
</tbody>
</table>

**SF Suga®
sugar beet

**FEATURES**
- Very high yielding
- Suited to in-situ grazing
- High dry matter bulbs

**BENEFITS**
- Well suited to mechanical harvesting
- Genetic monogerm hybrid
- Good seedling vigour

**SF Suga** is the latest technology in sugar beet. It has high dry matter - 23–26%, making it a high yielding option for mechanical harvest. This high DW% helps prolong is storage ability.

**Sowing rate**
100,000–120,000 seeds/ha

**16–26 weeks after sowing**

SF Lifta®
fodder beet

**FEATURES**
- Very high yielding
- Suited to in-situ grazing
- High dry matter bulbs

**BENEFITS**
- Well suited to mechanical harvesting
- Genetic monogerm hybrid
- Good seedling vigour

**SF Lifta** is a versatile hybrid fodder beet with high dry matter - 17–19%. It offers growers the ability to graze in-situ or mechanical harvest for storage and feeding. It has excellent leaf disease resistance to powdery mildew and rust.

**Sowing rate**
80–100,000 seeds/ha

**16–26 weeks after sowing**

--

**SF Lifta** is a versatile hybrid fodder beet with high dry matter - 17–19%. It offers growers the ability to graze in-situ or mechanical harvest for storage and feeding. It has excellent leaf disease resistance to powdery mildew and rust.
Grazing cereals

Livestock producers have grazed most cereal species for many years, either as dual-purpose grain and options, specifically for grazing only, or for grazing and fodder conservation. Grazing and grain options have traditionally included white wheat varieties that can be grazed and then locked up to produce high protein premium quality grades, plus more limited use of oats, barley and triticale.

More recently the introduction of (mainly red) winter wheats from Europe has enabled crops to be planted earlier, produce forage quicker, produce higher grain yields and have reduced risk of sprouting. But they are currently all produced as feed wheats as there is no segregation for premium milling quality red wheats in Australia.

Seed Force has a range of grain and grain winter wheats including SF Ovalo, SF Adagio, RGT Accroc and RGT Zanzibar. For information about these contact Seed Force for a copy of our winter crop guide or check our website – www.seedforce.com.

We do have some specialist cereals suited to either grazing or grazing and fodder conservation which are included in this guide.

Grazing guidelines

Ideally crops should be grazed when they are well anchored and have commenced tilling – Zadok’s stage 21-29. They can be continually grazed maintaining a residual of 1000-1500kg DM/ha (5-10cm for prostrate varieties and 10-20cm for erect types).

They should be locked up at stem elongation but before seed head development – Zadok’s stage 31 at the latest.

Grazing cereal options

Grazing winter wheat – best sown late summer or early autumn where there is adequate moisture.

They can be sown earlier than spring wheats and other cereals as they require vernalisation to initiate head development. Seed Force has selected a late flowering, awnless winter type especially for grazing and production of higher quality forage.

SF Moskito is a prostrate type and can be grazed hard much earlier than most other options. It also has good aphid resistance.

Grazing oats – should be sown when soil temperatures are below 25°C with adequate soil moisture. They should be grazed when they will withstand pulling and canopy has closed. If they are to be cut for conserved fodder, they should be locked up.

For varietal choice refer crop selection table on page 3. In areas of high humidity and increased risk of rust, we only recommend the use of SF Empire, SF Regency, SF Dynasty oats or SF Taurus blend.

Grazing triticale – has an advantage in light acid soils with high exchangeable Aluminium levels. It is however, more susceptible to frost damage and requires later sowing in frost-prone regions. Seed Force has selected a specialist variety with high forage yield and excellent recovery after grazing for silage.

SF Bolt is not suited to hay production.

In 2020 Seed Force has introduced a number of specialist grazing cereal blends which have been proven to provide significant benefits over single species options.

FEATURES

• Good warm start tolerance
• Prolific tillering after first grazing
• High total yields
• Leafy even when reproductive

BENEFITS

• Can be sown early into warm soil conditions
• More mid-season production than other varieties
• Similar or better than other later maturity varieties
• More quality leaf for late silage or hay cuts.

General Fit

SF Regency is a unique new forage oat with prostrate growth habit and prolific tilling ability. Early growth to first grazing is around 30-40% lower than traditional oats. But after grazing its mid-season growth is 50-150% higher than all other forage oat varieties, giving higher overall total yield. It has significantly more fine tillers and narrow width leaves. Whilst SF Regency is a mid-season maturity variety it produces leafy tillers after it goes to head. It has shown good rust resistance in trials over 2017-2019 and has good warm start tolerance for northern sowings.

With its strong benefits after first grazing, it has been developed to blend with other Seed Force varieties with better early growth. It will only be available in two new Seed Force forage blends:

• SF Taurus rustic resistant grazing blend best suited to producers in northern NSW and QLD, and
• SF Aries highly palatable grazing blend suited to harder grazing by sheep, plus cattle where rust is not likely to be a problem.

Oat Yield by cut mean Laidley & Kingaroy 2018

<table>
<thead>
<tr>
<th>Oats</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taipan</td>
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<tr>
<td>Wizard</td>
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<tr>
<td>SF Regency</td>
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</tbody>
</table>

Sowing rate

<table>
<thead>
<tr>
<th>Blend</th>
<th>Coastal high rainfall or irrigation</th>
<th>Inland medium rainfall</th>
<th>SF Taurus grazing oat blend</th>
<th>SF Aries grazing oat blend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal high rainfall or irrigation</td>
<td>70–100kg/ha</td>
<td>60–80kg/ha</td>
<td>Sheep/ beef grazing blend with SF Regency and SF Tresina</td>
<td>Sheep/ beef grazing blend with SF Empress and SF Tresina</td>
</tr>
<tr>
<td>Inland medium rainfall</td>
<td>70–100kg/ha</td>
<td>60–80kg/ha</td>
<td>Sheep/ beef grazing blend with SF Regency and SF Tresina</td>
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</table>

BENEFITs

• Can be sown early into warm soil conditions
• More mid-season production than other varieties
• Similar or better than other later maturity varieties
• More quality leaf for late silage or hay cuts.

Oat Yield by cut mean Laidley & Kingaroy 2018

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<tr>
<td>SF Regency</td>
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</tr>
</tbody>
</table>

Stock suitability

> All livestock types

Australian release

> 2020

mid-season

NEW IN 2020
SF Tucana
forage oat

**FEATURES**

- Multi-grazing variety
- High yielding
- Late flowering
- Large broad leaf

**BENEFITS**

- Can provide increased grazing returns
- For either increased grazing or hay production
- Suitable for producing high quality
- Improves quality and overall yield

**Leafy oat for grazing, hay & silage**

SF Tucana is a mid-late flowering forage oat suitable for multiple grazings and lock up for high yields of high quality hay. It is about 7 days later flowering than SF Colossus and better suited to mixing with forage legumes such as clovers or vetch to increase hay quality.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Tenterfield 2013</th>
<th>Gloucester 2015</th>
<th>Shepparton 2018</th>
<th>Shepparton 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Tucana</td>
<td></td>
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</tr>
<tr>
<td>SF Colossus</td>
<td>4,918 114</td>
<td>10,431 124</td>
<td>6,057 102</td>
<td>10,290 98</td>
</tr>
<tr>
<td>SF Empire</td>
<td>10,287 122</td>
<td>5,738 96</td>
<td>10,991 105</td>
<td></td>
</tr>
<tr>
<td>SF Regency</td>
<td>6,627 111</td>
<td>11,936 114</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drover</td>
<td>9,997 118</td>
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</tr>
<tr>
<td>Cooee</td>
<td>10,808 103</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Grazed 80</td>
<td>4,398 102</td>
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<td></td>
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<tr>
<td>Tapan</td>
<td>8,602 102</td>
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<tr>
<td>Graze S3</td>
<td>10,744 102</td>
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<td>4,085 95</td>
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</tr>
<tr>
<td>Site mean</td>
<td>4,315 8,446</td>
<td>5,958 10,495</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SF Colossus**

forage oat

**FEATURES**

- Rapid establishment
- Medium seed size
- Mid-late maturity

**BENEFITS**

- Faster to first grazing with more winter feed
- Slightly lower sowing rate
- Maintains quality for conserved fodder

**Bulk winter feed faster**

SF Colossus is a mid-late flowering forage oat with suitability to grazing and high quality hay. It has medium seed size enabling slightly lower seeding rate than larger seeded varieties, and a heavier seeding rate than Saia oats. It has rapid establishment with wide leaves and tillers well. It is best suited to early grazing as this will encourage tillering and prevent lodging if locked up as a hay or grain crop. SF Colossus is mid-late flowering and in local trials has shown to be about 3 weeks later flowering than Wintaroo and 4 weeks later than Swan oats. Its late maturity makes it ideally suited to cutting for hay or mixing with other species for specialist use.

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</tbody>
</table>
**SF Dynasty® forage oats**

**FEATURES**
- Good warm start tolerance
- Late flowering
- High total yields
- Excellent rust resistance

**BENEFITS**
- Can be sown early into warm soil conditions
- More quality leafy feed for later grazing, silage or hay cuts
- Similar or better than other late maturity varieties
- Maintains palatability and growth under humid conditions

**Sowing rate**
- Coastal high rainfall or irrigation: 70-100kg/ha
- Inland medium rainfall: 40-60kg/ha

**late season**

**Australian release** > 2020

---

**SF Empire® forage oat**

**FEATURES**
- Warm start capability
- Strong initial growth
- Improved resistance to leaf rust
- Late maturity
- Fine leaves

**BENEFITS**
- Earlier planting opportunity
- Faster winter feed
- Improved palatability & better quality feed
- Longer growing season & better quality hay
- Handles dry conditions better

**Improved resistance to leaf rust**
SF Empire is a new mid-late flowering forage oat with improved resistance to leaf rust. It is an erect type oat with good tilling ability, and a proportion of thinner tillers which assists in recovery after cutting or grazing. SF Empire has good warm soil tolerance and can be planted early (late summer/early autumn) particularly in areas that receive good summer rain. Being late flowering it can be grazed over an extended period and will make better hay or silage than earlier flowering types.

**Sowing rate**
- northern (dry winters): 50–80kg/ha
- southern (wet winters): 80–100kg/ha

**late flowering**

**Australian release** > 2016

---

**SF Dynasty® forage oats**

**FEATURES**
- Good warm start capability
- Strong initial growth
- Improved resistance to leaf rust
- Late flowering
- High total yields
- Excellent rust resistance

**BENEFITS**
- Can be sown early into warm soil conditions
- More quality leafy feed for later grazing, silage or hay cuts
- Similar or better than other late maturity varieties
- Maintains palatability and growth under humid conditions

**Sowing rate**
- Coastal high rainfall or irrigation: 70-100kg/ha
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**late season**

**Australian release** > 2020

---

**Forage EBV’s – compared to industry standards**

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>LOCKYER 2016</th>
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<tr>
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<tr>
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<td>148</td>
<td>6.16</td>
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<td>Aladdin</td>
<td>7.10</td>
<td>115</td>
<td>4.78</td>
<td>151</td>
<td>5.37</td>
<td>122</td>
</tr>
</tbody>
</table>

**Improved resistance to leaf rust**
SF Empire is a new mid-late flowering forage oat with improved resistance to leaf rust. It is an erect type oat with good tilling ability, and a proportion of thinner tillers which assists in recovery after cutting or grazing. SF Empire has good warm soil tolerance and can be planted early (late summer/early autumn) particularly in areas that receive good summer rain. Being late flowering it can be grazed over an extended period and will make better hay or silage than earlier flowering types.

**Sowing rate**
- northern (dry winters): 50–80kg/ha
- southern (wet winters): 80–100kg/ha

**late flowering**

**Australian release** > 2016

---

**Forage EBV’s – compared to industry standards**

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</table>
SF Aries™ grazing oat blend

Sowing rate
- High rainfall or irrigation: 80–100kg/ha
- Southern (wet winters): 60–80kg/ha

Australian release > 2020

Late flowering

General Fit
SF Aries is a highly palatable grazing blend suited to harder grazing by sheep or cattle where rust is not likely to be a problem. It is a blend of a new unique mid-season forage oat (SF Regency) and the highly palatable soft-leafed SF Tucana.

SF Regency has prostrate growth habit and prolific tillering ability but with first grazing around 30-40% lower than traditional oats. But after grazing its mid-season growth is 50-150% higher than all other forage oat varieties, giving higher overall total yield.

SF Tucana is a mid-late maturing variety with outstanding early growth and excellent palatability. The blend ensures similar yield to first grazing, but with better recovery, especially if the stand is going to be hard-grazed by sheep.

Features
- Blend of two different oat varieties
- Different growth patterns
- Different plant growth habits
- Tested compatible blend

Benefits
- Better spread of seasonal production
- Improved total yield
- Improved grazing tolerance
- Better recovery after grazing

2019 Oat trial performance at Shepparton VIC

SF Taurus™ grazing oat blend

Sowing rate
- High rainfall or irrigation: 70–100kg/ha
- Inland medium rainfall: 60–80kg/ha

Australian release > 2020

Late flowering

General Fit
SF Taurus is a highly palatable grazing blend suited to dairy or beef cattle where high rust resistance is required. It is a blend of a new unique mid-season forage oat (SF Regency) and SF Empire.

SF Regency has prostrate growth habit and prolific tillering ability but with first grazing around 30-40% lower than traditional oats. But after grazing its mid-season growth is 50-150% higher than all other forage oat varieties, giving higher overall total yield.

SF Empire is an erect, late maturing variety with outstanding early growth and excellent rust resistance. The blend ensures similar yield to first grazing, but with better recovery after grazing. As both varieties have good warm soil tolerance, the blend can be sown early in northern regions.

Features
- Blend of two different oat varieties
- Different growth patterns
- Different plant growth habits
- Good rust resistance
- Tested compatible blend

Benefits
- Better spread of seasonal production
- Improved total yield
- Improved grazing tolerance
- Excellent palatability
- Better recovery after grazing

2019 Oat trial performance mean
Murwillumbah & Shepparton 2019

Stock suitability > All livestock types
SF Bolt®
forage triticale

**FEATURES**
- Unique double haploid breeding technology
- Good rust resistance
- Lower NDF % and higher ME grain
- Good lodging tolerance

**BENEFITS**
- Uniform crop maturity for ease of harvest
- Reduced need for expensive fungicides
- Greater intake with more energy for milk
- Easier harvesting with less wastage

**Dual purpose forage cereal**
SF Bolt is a forage triticale that can be autumn or spring sown, ideally suited for green chop or whole crop cereal silage. It is the latest in forage triticale technology using unique double haploid breeding. It is unsurpassed in crop uniformity. This provides the benefit of all plants maturing at a similar time, therefore enhancing ease of harvest and enabling consistent yields across the paddock.

SF Bolt has very good resistance to rust and other diseases potentially reducing the use of expensive fungicides that other older varieties may require. It offers the typical characteristics of a high production forage triticale with very good metabolisable energy and carbohydrate levels.

**SF Moskito®
forage wheat**

**FEATURES**
- Winter type
- Strong recovery after grazing
- Awnless variety
- Late maturity

**BENEFITS**
- Earlier planting opportunity
- More grazing potential
- Improved palatability when conserved as silage
- Ideal for whole crop silage
- Longer growing season and better quality hay

**For grazing and fodder conservation**
SF Moskito is a new winter wheat specifically selected for grazing and fodder conservation.

It is an awnless variety with good tillering ability and more prostrate habit and will be more palatable than awned varieties when made into silage.

SF Moskito has good feed quality and can be planted early (late summer/early autumn) particularly in areas that receive early autumn rain or have irrigation.

Being a winter type, it requires cold vernalisation, so will not flower from early plantings like spring wheats. It is ideally suited to conserving as whole crop silage at milky dough stage of crop.
Forage sorghum selection

The term forage sorghum covers a range of C4 summer forages including sudan grass, sorghum x sudan crosses, sorghum x sweet sorghum and sweet sorghum x sweet sorghum types. These hybrids can also have crosses involving BMR (brown mid rib) genes improving feed quality. Each of these has specific traits making them better suited to different on farm uses.

The selection guide below is included to help you select the most appropriate option for your situation.

You should also be aware that whilst they are included as forage sorghums, sudangrass is more susceptible to Atrazine damage which is excluded from most herbicide labels. If grass weeds are a problem, then you should use a seed safener such as Concep II®, which can be used on all forage sorghum types. This can then enable the use of either Dual Gold® or Primeextra Gold®.

Forage sorghum selection guide

<table>
<thead>
<tr>
<th>DECISION CRITERIA</th>
<th>BEST TYPE</th>
<th>PREFERRED OPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on rotational grazing, highest quality for milking or liveweight gain</td>
<td>BMR Sudan x sudan</td>
<td>SF Beamer</td>
</tr>
<tr>
<td>Quickest feed to first grazing dual purpose grazing or hay cuts</td>
<td>Sorghum x sudan</td>
<td>SF Flourish</td>
</tr>
<tr>
<td>Quickest feed to first grazing improved quality for grazing or hay cuts</td>
<td>BMR Sorghum x sudan</td>
<td>SF Mustang</td>
</tr>
<tr>
<td>Deferred grazing or hay production Late flowering to maintain quality</td>
<td>Sweet sorghum x sweet sorghum</td>
<td>SF Calorific</td>
</tr>
</tbody>
</table>

SF Beamer®
BMR Sudangrass

FEATURES
- Superior forage quality
- Sudangrass x sudangrass
- Earlier grazing opportunity
- Fast recovery

BENEFITS
- Increased intake for greater animal performance
- Reduced prussic acid risk
- Can be grazed at 500-600mm
- Can be re-grazed faster

Focus on high quality
SF Beamer has finer stems, narrow leaf blades, tillers profusely and re-grows rapidly after harvest compared to forage sorghums.

It can be sown when soil temperatures reach 18°C and are rising. The time to first grazing will depend upon soil temperatures. A stubble of about 100mm is recommended after cutting or grazing to promote vigorous re-growth and profuse tillering of the next crop.

We recommend SF Beamer where the focus is on high quality grazing and fast recovery between grazings.

Forage sorghum selection

Focus on rotational grazing, highest quality for milking or liveweight gain

BMR Sudan x sudan
SF Beamer

DECISION CRITERIA
BEST TYPE
PREFERRED OPTION

Quickest feed to first grazing dual purpose grazing or hay cuts
Sorghum x sudan
SF Flourish
SF Lavish

Quickest feed to first grazing improved quality for grazing or hay cuts
BMR Sorghum x sudan
SF Mustang

Deferred grazing or hay production Late flowering to maintain quality
Sweet sorghum x sweet sorghum
SF Calorific

Forage EBV’s – compared to industry standards*

<table>
<thead>
<tr>
<th>VARIETY HEIGHT</th>
<th>NDF</th>
<th>ME</th>
<th>C.P.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.5M</td>
<td>1.0M</td>
<td>1.5M</td>
</tr>
<tr>
<td>Sudan grass</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF Beamer BMR</td>
<td>12,119</td>
<td>41</td>
<td>55</td>
</tr>
<tr>
<td>Sudan x sudan</td>
<td>11,577</td>
<td>44</td>
<td>60</td>
</tr>
<tr>
<td>SF Flourish</td>
<td>11,254</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>SF Lavish</td>
<td>10,094</td>
<td>46</td>
<td>65</td>
</tr>
<tr>
<td>SSS 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF Mustang</td>
<td>4,228</td>
<td>47</td>
<td>66</td>
</tr>
</tbody>
</table>

* based on data from trial at Murwillumbah 2015/16
* Quality data from NSW DPI Feed Analysis Service based on different cutting heights

Forage EBV's – compared to industry standards*

Sowing rate
Dryland 10–15kg/ha
Irrigated 25–30kg/ha

early flowering
Australian release
> 2014

Stock suitability
Dairy, sheep & beef
SF Flourish®
forage sorghum

FEATURES
• Hybrid Sorghum X Sudan
• Fine stemmed and leafy
• Excellent regrowth & drought tolerance
• Works well as a multi-cut hay or hay and silage

BENEFITS
• Low prussic acid risk
• Improved feed quality
• Outstanding animal performance
• Flexible stand management

Fast first feed and multiple harvests
SF Flourish is an excellent value forage sorghum option ideally suited to fast first feed and multiple harvests. It should be grazed from 60–100cm in height to maximise forage quality, but can be conserved as hay, but with lower feed value.

Higher sowing rates will maximise yield and improve quality through production of finer stems. suited to hay or grazing by sheep, beef or dairy cattle.

It will need to be fed with adequate nutrition based on a soil test. We recommend sowing with an N/P based starter fertiliser and regular topdressing after grazings with nitrogen and some potassium.

Being a sorghum by sudan, grass weeds can be controlled with Atrazine without the need for a seed safener.

For difficult grass and broadleaf weed problems, you can use a seed safener such as Concep II® to enable the use of Dual Gold® or Primextra Gold®.

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Being a sorghum by sudan, grass weeds can be controlled with Atrazine without the need for a seed safener.

For difficult grass and broadleaf weed problems, you can use a seed safener such as Concep II® to enable the use of Dual Gold® or Primextra Gold®.

SF Lavish®
forage sorghum

FEATURES
• Hybrid Sorghum X Sudan
• Fine stemmed and leafy
• Excellent regrowth & drought tolerance
• Works well as a multi-cut hay or hay and silage

BENEFITS
• Low prussic acid risk
• Improved feed quality
• Outstanding animal performance
• Flexible stand management

Quick establishment and multiple harvests
SF Lavish is an excellent value forage sorghum option ideally suited to fast first feed and multiple harvests. It should be grazed from 60–100cm in height to maximise forage quality, but can be conserved as hay, but with lower feed value.

Higher sowing rates will maximise yield and improve quality through production of finer stems. suited to hay or grazing by sheep, beef or dairy cattle.

It will need to be fed with adequate nutrition based on a soil test. We recommend sowing with an N/P based starter fertiliser and regular topdressing after grazings with nitrogen and some potassium.

Being a sorghum by sudan, grass weeds can be controlled with Atrazine without the need for a seed safener.

For difficult grass and broadleaf weed problems, you can use a seed safener such as Concep II® to enable the use of Dual Gold® or Primextra Gold®.

Forage EBV’s – compared to industry standards

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>ME YIELD</th>
<th>ME NDF</th>
<th>ME ME</th>
<th>ME CP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Flourish</td>
<td>8,417</td>
<td>48</td>
<td>61</td>
<td>58</td>
</tr>
<tr>
<td>BMR Revolution</td>
<td>10,583</td>
<td>45</td>
<td>57</td>
<td>64</td>
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<tr>
<td>Boost</td>
<td>10,576</td>
<td>47</td>
<td>62</td>
<td>59</td>
</tr>
<tr>
<td>Octane BMR</td>
<td>8,497</td>
<td>49</td>
<td>54</td>
<td>64</td>
</tr>
<tr>
<td>Siberian</td>
<td>4,228</td>
<td>47</td>
<td>66</td>
<td>116</td>
</tr>
</tbody>
</table>

* based on data from trial at Murwillumbah 2015/16
* Quality data from NSW DPI Feed Analysis Service based on different cutting heights

* The Pampas site was sown and managed by Kalyx.
* The Shepparton site was sown and managed by Eurofins. The Murwillumbah site was managed by Seed Force.

Trial Results – Multi-cut sorghum x sudan hybrids

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>TOTAL MEAN</th>
<th>TOTAL % MEAN</th>
<th>TOTAL % MEAN</th>
<th>TOTAL % MEAN</th>
<th>TOTAL % MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Flourish</td>
<td>16,504</td>
<td>114</td>
<td>12,529</td>
<td>133</td>
<td>14,509</td>
</tr>
<tr>
<td>SFR71-027</td>
<td>13,635</td>
<td>121</td>
<td>11,369</td>
<td>121</td>
<td>15,425</td>
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<tr>
<td>SF Mustang</td>
<td>14,880</td>
<td>134</td>
<td>10,101</td>
<td>107</td>
<td>15,024</td>
</tr>
<tr>
<td>SFR71-030</td>
<td>17,920</td>
<td>161</td>
<td>9,443</td>
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<td>11,862</td>
</tr>
<tr>
<td>SF Lavish</td>
<td>12,064</td>
<td>108</td>
<td>10,196</td>
<td>108</td>
<td>16,633</td>
</tr>
<tr>
<td>Lush</td>
<td>14,489</td>
<td>106</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMR Revolution</td>
<td>12,726</td>
<td>114</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bounty</td>
<td>9,988</td>
<td>106</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SuperGraza</td>
<td>9,152</td>
<td>97</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banker</td>
<td>9,008</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMR Octane</td>
<td>10,268</td>
<td>91</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedex</td>
<td>10,490</td>
<td>77</td>
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<tr>
<td>Trial mean</td>
<td>16,490</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*9 poorer performing breeder lines have been removed from this data set. *The Pampas site was sown and managed by Kalyx.
*The Shepparton site was sown and managed by Eurofins. The Murwillumbah site was managed by Seed Force.
SF Mustang®
BMR hybrid forage sorghum x sudan

**FEATURES**
- Mid maturity hybrid sorghum X sudan
- BMR 12 gene
- Fine stemmed and leafy
- Excellent regrowth & drought tolerance
- Works well as a multi-cut hay or silage

**BENEFITS**
- Australian release > 2017
- Mid flowering
- All livestock types
- Stock suitability > Conserving as silage or hay
- For feeding to dairy & beef cattle.

**General fit**
SF Mustang is a new high-quality forage sorghum option ideally suited to fast first feed and multiple harvests. It should be grazed from 60–100cm in height to maximise forage quality, but being a BMR type it will have lower lignin and higher quality than conventional forage sorghums of similar mid maturity. Higher sowing rates will maximise yield and improve quality through production of finer stems. Suited to hay or grazing by sheep, beef or dairy cattle. We recommend cutting regularly before 1.0m to maximise ME/ha and profitability when feeding to livestock.

**Trial Results – 2018**

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>PAMPAS QLD</th>
<th>MURWILLUMBAH NSW</th>
<th>SHEPPARTON VIC</th>
<th>3 SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Flourish</td>
<td>16,504</td>
<td>147</td>
<td>12,529</td>
<td>133</td>
</tr>
<tr>
<td>SF Mustang BMR</td>
<td>14,880</td>
<td>134</td>
<td>10,101</td>
<td>107</td>
</tr>
<tr>
<td>SF Lavish</td>
<td>12,064</td>
<td>108</td>
<td>10,196</td>
<td>108</td>
</tr>
<tr>
<td>Lush</td>
<td>14,849</td>
<td>106</td>
<td>10,633</td>
<td>106</td>
</tr>
<tr>
<td>BMR Revolution</td>
<td>12,726</td>
<td>114</td>
<td>10,101</td>
<td>107</td>
</tr>
<tr>
<td>Bounty</td>
<td>9,988</td>
<td>106</td>
<td>9,015</td>
<td>106</td>
</tr>
<tr>
<td>SuperGraza</td>
<td>114</td>
<td>9,152</td>
<td>9,119</td>
<td>97</td>
</tr>
<tr>
<td>Banker</td>
<td>9,008</td>
<td>96</td>
<td>7,119</td>
<td>96</td>
</tr>
<tr>
<td>Nudan</td>
<td>10,546</td>
<td></td>
<td>9,015</td>
<td>95</td>
</tr>
<tr>
<td>BMR Octane</td>
<td>10,268</td>
<td>92</td>
<td>10,792</td>
<td>115</td>
</tr>
<tr>
<td>Feedex</td>
<td>10,490</td>
<td></td>
<td>8,903</td>
<td>65</td>
</tr>
<tr>
<td>Trial mean</td>
<td>16,490</td>
<td>100</td>
<td>9,399</td>
<td>100</td>
</tr>
</tbody>
</table>

**Sowing rate**
- Dryland 8–12kg/ha
- Irrigated 20–25kg/ha

---

SF Calorific®
sweet sorghum

**FEATURES**
- New Hybrid sweet sorghum x sweet sorghum
- Late maturity
- Large broad leaf
- High sugar stem

**BENEFITS**
- Australian release > 2019
- Late maturity
- Conserving as silage or hay
- For feeding to dairy & beef cattle.

**General fit**
SF Calorific is an outstanding new hybrid sweet sorghum ideally suited to fodder conservation. Like all sweet sorghum types it is slower to establish than sudangrass and sorghum x sudan hybrids if early feed is required. But when it is left to grow beyond 1.2m in height it will produce more than those earlier types. It can grow up to 3m tall and will have good grain content if allowed to mature for a late silage cut. As such it is best suited to where a grower is chasing maximising fodder yield from one or potentially two large harvests. It is a late flowering variety with a large broad leaf to maximise leaf to stem ratio and hence improve feed quality. It also has high sugar content in the stem so will not be penalised when used for high yielding silage cuts. Under good conditions or where irrigation is available, it can be shut up for a second cut or grazed by livestock. It is being released in 2019 with only a small amount available whilst the variety is being bulked up.

**Trial results – Two trials including SF Calorific were sown over the 2018/19 summer with results presented below:**

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>PAMPAS QLD</th>
<th>SHEPPARTON VIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Calorific</td>
<td>7,416</td>
<td>113</td>
</tr>
<tr>
<td>Hunnigreen</td>
<td>5,399</td>
<td>82</td>
</tr>
<tr>
<td>Sweet Jumbo LPA</td>
<td>4,258</td>
<td>64</td>
</tr>
<tr>
<td>Trial mean</td>
<td>6,602</td>
<td>100</td>
</tr>
</tbody>
</table>

**2 SITE MEAN %**
- SF Calorific: 13.1%
- Hunnigreen: 10.8%
- Sweet Jumbo LPA: 9.4%
- Trial mean: 10.0%

*There were 8 other breeder lines in the trial, none out performed SF Calorific over 2 sites. *The Pampas site was sown and managed by Kalyx. *The Shepparton site was sown and managed by Eurofins.
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