

Forage crop guide

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.

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 crop selection

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.

Region	When required	Characteristics	Species	Variety	Planting time
SOUTHERN	winter/ spring	quick feed, fodder conservation option	oats	SF Colossus	autumn
		quick feed, fodder conservation option	oats	SF Tucana	autumn
		quick feed, fodder conservation option	oat blend	SF Aries	autumn
		quick feed, fodder conservation option	triticale	SF Bolt	autumn
	summer, cool climate	summer feed, enable early re-sow	leafy turnip	SF Pacer	spring
		high quality, summer feed, single graze	turnip	SF G2	spring
	summer/ autumn, cool climate	high quality, summer feed, 2-3 grazings	forage rape	SF Greenland	spring
	summer, warm climate	summer feed, focus on quality grazing	BMR sudan grass	SF Beamer BMR	spring
		fast summer feed, grazing and/or cutting	forage sorghum	SF Flourish/ SF Lavish	spring
		summer feed, high quality grazing and/or cutting	BMR forage sorghum	SF Mustang BMR	spring
		summer feed, delayed harvest but maintain quality	sweet sorghum	SF Calorific	spring
	autumn/ winter	high quality, high yield for strip grazing	mangel beet	SF Brigadier	spring
		high quality, high yield for strip grazing or lifting	fodder beet	SF Lifta	spring
		high quality, high yield for lifting and feed out	sugar beet	SF Suga	spring
	all seasons	excellent quality, good rainfall, 2-4 years	chicory	SF Punter	autumn or spring
		good quality, harsher summers, 2-4 years	plantain	SF Endurance	autumn or spring
NORTHERN	winter	fast feed, highest quality, highest winter yield	leafy turnip	SF Pacer	autumn
		single graze winter feed	turnip	SF G2	autumn
	winter/ spring	highest quality, highest winter/spring yield	forage rape	SF Greenland	autumn
		quick feed, rust resistant fodder option	oats	SF Empire	autumn
		quick feed, fodder conservation option	oats	SF Dynasty	autumn
		quick feed, rust resistant fodder option	oat blend	SF Taurus	autumn
		early plant, high quality grazing	winter wheat	SF Moskito	late summer/ autumn
	late spring/ summer	high quality, high yield for strip grazing	mangel beet	SF Brigadier	autumn
		high quality, high yield for strip grazing or lifting	fodder beet	SF Lifta	autumn
		high quality, high yield for lifting and feed out	sugar beet	SF Suga	autumn
	summer	summer feed, focus on quality grazing	BMR sudan grass	SF Beamer BMR	spring/early summer
		fast summer feed, grazing and/or cutting	forage sorghum	SF Flourish/ SF Lavish	spring/early summer
		summer feed, high quality grazing and/or cutting	BMR forage sorghum	SF Mustang BMR	spring/early summer
		summer feed, delayed harvest but maintain quality	sweet sorghum	SF Calorific	spring
	all seasons	excellent quality, good rainfall, 2-4 years	chicory	SF Punter	autumn or spring
		good quality, harsher summers, 2-4 years	plantain	SF Endurance	autumn or spring

Getting the best from Forage Brassicas

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.

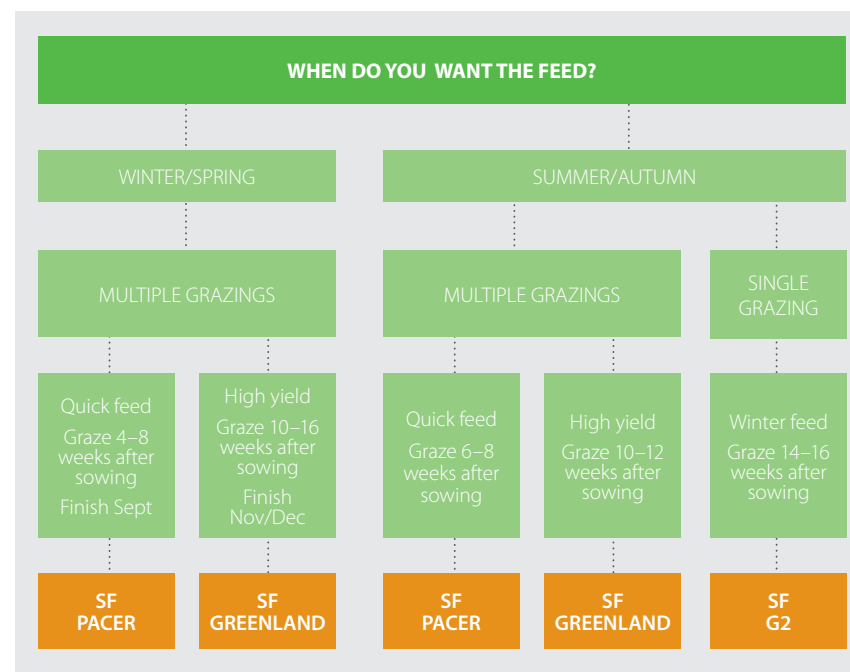
Multiple grazing options

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 (CaCl_2) 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.

Sowing rate
3–5kg/ha

6-8 weeks after sowing



Australian release
2007



Stock suitability
> Dairy, sheep & beef

Forage EBV's – compared to industry standards*

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

* Relative yields based on four replicated Australian trials; Gundagai, Macarthur, Warrnambool and Caramut 2006–2009.

* Meat value estimated using 70% utilisation of feed and \$2.50/kg liveweight gain, and milk value estimated using 80% utilisation of feed and 40c/litre milk.

SF Greenland®

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.

Sowing rate
3–5kg/ha

10-12 weeks after sowing



Australian release
2006



Stock suitability
> Dairy, sheep & beef

Forage EBV's – compared to industry standards*

FORAGE RAPE	SOWING RATES	MATURITY	GRAZINGS	YIELD WINFRED = 100	EXTRA MEAT VALUE	EXTRA MILK VALUE
SF Greenland	3–5kg/ha	70–90 days	Multiple	123	+\$402	+\$1,179
Goliath	3–5kg/ha	84–100 days	Multiple	116	+\$281	+\$832
Titan	3–5kg/ha	70–92 days	Multiple	103	+\$52	+\$149
Ace	3–5kg/ha	70–93 days	Multiple	102	+\$47	+\$110
Winfred	3–5kg/ha	60–90 days	Multiple	100	\$0	\$0

*Relative Forage Ratings based on relative data from 10 different trials at Denman, Gundagai, Caramut, Warrnambool, Cressy and Whitmore 2003–2009.

*Meat value estimated using 70% utilisation of feed and \$2.50/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

BENEFITS

- Can be grown to use as deferred winter feed. Also suitable for late summer and autumn feed
- Keeps good quality well over winter under wet and frosty conditions
- Higher energy in leaf can enable greater conversion to meat or milk

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.

Sowing rate
0.8–2kg/ha

14–16 weeks after sowing



Australian release
> 2009



Stock suitability
> Dairy, sheep & beef

Forage EBV's – compared to industry standards*

GLOBE TURNIP	SOWING RATES	MATURITY	GRAZINGS	LEAF YIELD	BULB YIELD	TOTAL YIELD
SF G2	0.8–2kg/ha	100–130 days	Single	125	120	123
Green Globe	0.8–1.5kg/ha	100–130 days	Single	100	100	100

* Based on yields from Cressy 2006–2007 and Warrnambool 2007–2008.

* Based on 16 trials in New Zealand 2006–2008.

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. Whilst it is desirable to sow into clean seedbeds, weeds can be controlled in chicory with many pasture herbicides.

Plantain is also a high-quality forage herb with low NDF%, high ME and good Crude Protein% that can be also used for either fattening lamb or beef cattle or strip grazing by dairy cows. It can also 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 to 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



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.

Sowing rate

Sole species	4–5kg/ha
pasture mixes	1–2kg/ha

highly winter active



Australian release
> 2006



Stock suitability
> All livestock types

Forage EBV's – compared to industry standards*

CULTIVAR	AUTUMN	WINTER	SPRING	SUMMER	TOTAL
SF Punter	118	164	123	100	122
Puna	100	100	100	100	100

* Data based on mean of yields from Gundagai 2007–2009 and Tenterfield trial 2011–2013.

SF Endurance

plantain



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.

Sowing rate

Sole species	4–5kg/ha
pasture mixes	1–2kg/ha

mid - late maturity



Australian release
> 2011



Stock suitability
> All livestock types

Forage EBV's – compared to industry standards*

PLANTAIN	AUTUMN	WINTER	SPRING	SUMMER	TOTAL
SF Endurance	97	93	93	107	100
Tonic	100	100	100	100	100
Boston	82	71	86	108	93

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

SF Brigadier[®]

fodder beet

AGENCY

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

High yields were never this sweet

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.

Sowing rate

80–100,000 seeds/ha

16–26 weeks after sowing



Australian release
> 2008



Stock suitability
> All livestock
types



SF Lifta[®]

fodder beet

AGENCY

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 grower's 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



Australian release
> 2015



Stock suitability
> All livestock
types



SF Suga[®]

sugar beet

AGENCY

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 DM% helps prolong its storage ability.

Sowing rate

100,000–120,000 seeds/ha

16–26 weeks after sowing



Australian release
> 2014



Stock suitability
> All livestock
types



Forage EBV's – compared to industry standards*

FODDER BEET	SOWING RATES ALONE	MATURITY	GRAZINGS	ME MJ/KG DM	CRUDE PROTEIN	YIELD
SF Brigadier	80–100,000	16–26 weeks	Single	12.5–13.5	6–8%	Up to 40t

SF Regency®

grazing oat

Grazing cereals

Livestock producers have grazed most cereal species for many years, either as dual-purpose graze and grain options, specifically for grazing only, or for grazing and fodder conservation.

Graze 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 rated as feed wheats as there is no segregation for premium milling quality red wheats in Australia.

Seed Force has a range of graze 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 –

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 tillering – 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 Mosquito 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 tillering 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** rust 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.

Sowing rate

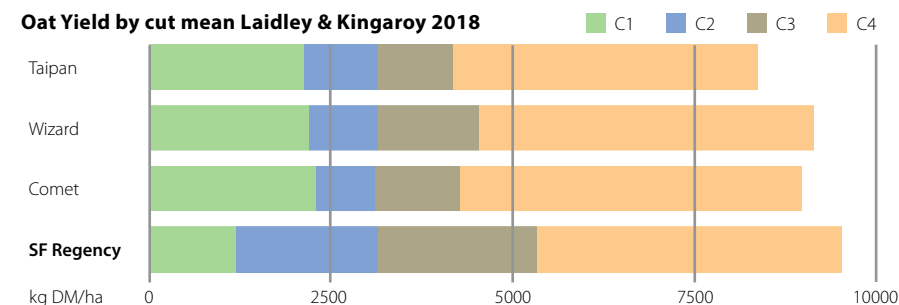
SF Taurus grazing oat blend	Rust resistant Northern blend with SF Regency and SF Empire
Coastal high rainfall or irrigation	70–100kg/ha
Inland medium rainfall	60–80kg/ha
SF Aries grazing oat blend	Sheep/ beef grazing Southern blend with SF Regency and SF Tucana
High rainfall or irrigation	80–100kg/ha
Medium rainfall	60–80kg/ha

mid-season

 **Australian release > 2020**

 **Stock suitability > All livestock types**

Oat Yield by cut mean Laidley & Kingaroy 2018



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.

Sowing rate
80–100kg/ha

mid - late maturity



Australian release
> 2014



Stock suitability
> All livestock types

Forage EBV's - compared to industry data

VARIETY Yield (kgDM/ ha)	TENTERFIELD 2013		GLOUCESTER 2015		SHEPPARTON 2018		SHEPPARTON 2019	
	TOTAL	% MEAN	TOTAL	% MEAN	TOTAL	% MEAN	TOTAL	% MEAN
SF Tucana			9,845	117	6,201	104	10,360	99
SF Colossus	4,918	114	10,431	124	6,057	102	10,290	98
SF Empire			10,287	122	5,738	96	10,991	105
SF Regency					6,627	111	11,936	114
Drover			9,997	118				
Cooee							10,808	103
Graza 80	4,398	102						
Taipan			8,602	102				
Graza 53							10,744	102
Warlock							10,599	101
Aladdin	3,859	89	8,328	99				
Wizard							9,951	95
Outback	4,085	95	7,288	86			10,203	97
Eurabbie			5,723	68	5,797	97		
Site mean	4,315		8,446		5,958		10,495	

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.

Sowing rate

Autumn	75–80kg/ha
Winter	80–100kg/ha

mid - late maturity



Australian release
> 2011



Stock suitability
> All livestock types

Forage EBV's - compared to industry data

VARIETY	TENTERFIELD 2013		GLOUCESTER 2015		SHEPPARTON 2018		SHEPPARTON 2019	
	TOTAL	% MEAN	TOTAL	% MEAN	TOTAL	% MEAN	TOTAL	% MEAN
SF Colossus	4,918	114	10,431	124	6,057	102	10,290	98
SF Empire			10,287	122	5,738	96	10,991	105
SF Regency					6,627	111	11,936	114
Drover			9,997	118				
SF Tucana			9,845	117	6,201	104	10,360	99
Cooee							10,808	103
Graza 80	4,398	102						
Taipan			8,602	102				
Graza 53							10,744	102
Warlock							10,599	101
Aladdin	3,859	89	8,328	99				
Wizard							9,951	95
Outback	4,085	95	7,288	86			10,203	97
Eurabbie			5,723	68	5,797	97		
Site mean	4,315		8,446		5,958		10,495	

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 tillering 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**



**Stock suitability
> All livestock types**

Forage EBV's – compared to industry standards*

VARIETY	DALBY 2015		GATTON 2015		ROMA 2015		GLOUCESTER 2015		MURWILUMBAH 2016		MEAN	
	T/HA	% TAIPAN	T/HA	% TAIPAN	T/HA	% TAIPAN	T/HA	% TAIPAN	T/HA	% TAIPAN	T/HA	% TAIPAN
SF Empire	6.4	91	9.06	104	3.95	109	10.29	120	3.35	124	7.43	110
Taipan	7.1	100	8.68	100	3.64	100	8.6	100	2.7	100	7.01	100
Aladdin	7.5	106	11.83	136	4.32	119	8.32	97	3.43	127	7.99	117

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 later maturity varieties
- Maintains palatability and growth under humid conditions

General Fit

SF Dynasty is a new forage oat with intermediate growth habit and prolific tillering ability once grazed. It is a late season variety a few days later than SF Empire.

It has strong tillering with narrow thickness stems and medium width leaves. Being a late maturing variety it produces high quality leafy feed later into the season than most other varieties. It has shown excellent rust resistance to all crown rust races in testing at Cobbitty and has good warm start tolerance for northern sowings.

SF Dynasty has the ability to produce high yields throughout the growing season and especially in the mid to later period.

Sowing rate

Coastal high rainfall or irrigation	70–100kg/ha
Inland medium rainfall	40–60kg/ha

late season



**Australian release
> 2020**



**Stock suitability
> All livestock types**

Forage EBV's – compared to industry standards*

VARIETY	LOCKYER 2016		ROMA 2016		LOCKYER 2017		KINGAROY 2017		LOCKYER 2018		KINGAROY 2018	
	T/HA	% TAIPAN	T/HA	% TAIPAN	T/HA	% TAIPAN	T/HA	% TAIPAN	T/HA	% TAIPAN	T/HA	% TAIPAN
Dynasty	9.20	148	6.16	195	5.77	109	8.28	109	8.72	100	7.8	97
Comet					5.92	112	8.13	107	10.34	119	7.68	95
Wizard					5.86	111	7.86	104	9.66	111	8.63	107
Taipan	6.20	100	3.16	100	5.28	100	7.59	100	8.7	100	8.06	100
Aladdin	7.10	115	4.78	151								

NEW IN 2020

SF Aries™

grazing oat blend

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

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-leaved 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.

Sowing rate

High rainfall or irrigation	80–100kg/ha
southern (wet winters)	60–80kg/ha

late flowering

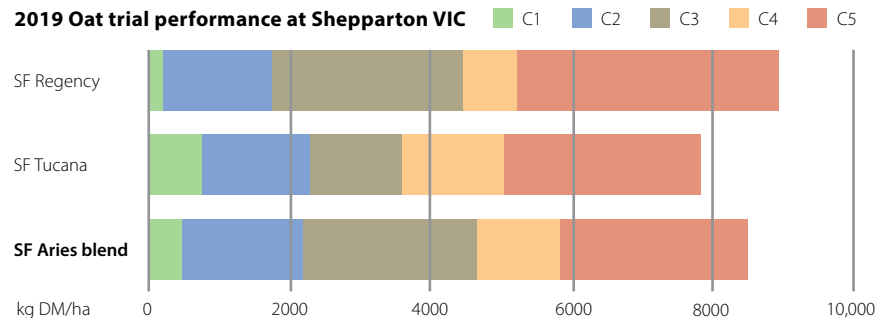


Australian release
> 2020



Stock suitability
> All livestock types

2019 Oat trial performance at Shepparton VIC



SF Taurus™

grazing oat blend

NEW IN 2020

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

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.

Sowing rate

High rainfall or irrigation	70–100kg/ha
Inland medium rainfall	60–80kg/ha

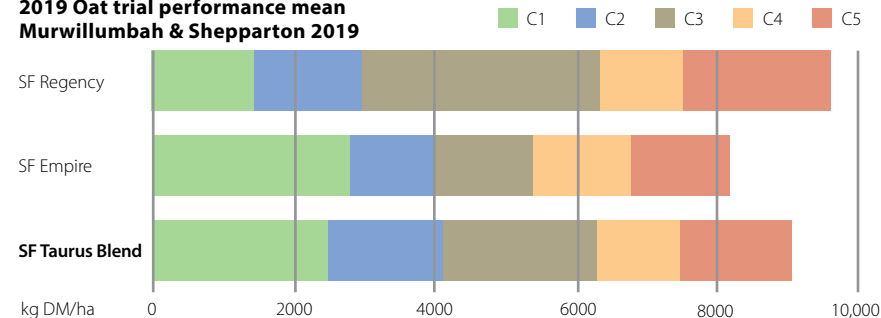


Australian release
> 2020



Stock suitability
> All livestock types

2019 Oat trial performance mean
 Murwillumbah & Shepparton 2019



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.

Sowing rate
120–150kg/ha

mid-season maturity



Australian release
> 2013



Stock suitability
> All livestock types

SF Mosquito®

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 Mosquito 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 Mosquito 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.

Sowing rate
80–100kg/ha

late flowering



Australian release
> 2017



Stock suitability
> All livestock types

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 Primextra Gold®.



Forage sorghum selection guide

DECISION CRITERIA	BEST TYPE	PREFERRED OPTION
Focus on rotational grazing, highest quality for milking or liveweight gain	BMR Sudan x sudan	SF Beamer
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

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.

Sowing rate

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

early flowering



Australian release
> 2014



Stock suitability
> Dairy, sheep & beef

Forage EBV's – compared to industry standards*

VARIETY HEIGHT	YIELD KG DM/ HA	NDF			ME			C P		
		0.5M	1.0M	1.5M	0.5M	1.0M	1.5M	0.5M	1.0M	1.5M
sudan grass										
SF Beamer BMR	12,119	41	55	60	12.4	10.4	9.7	25.3	20.4	19.0
Superdan 2	11,577	44	60	63	11.9	9.8	9.2	24.2	19.1	16.2
SSS	11,254	45	60	60	12.0	9.8	9.8	24.8	18.1	18.0
Nudan	10,094	46	65	68	11.9	9.0	8.5	24.2	15.9	15.5
millet										
Siberian	4,228	47	66		11.6	8.8		24.9	15.3	

* based on data from trial at Murwillumbah 2015/16

* Quality data from NSW DPI Feed Analysis Service based on different cutting heights

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®.

Sowing rate

Dryland	8–12kg/ha
Irrigated	20–25kg/ha

early flowering



Australian release
> 2015



Stock suitability
> All livestock types
> Silage & hay

Forage EBV's – compared to industry standards*

VARIETY HEIGHT	YIELD KG DM/ HA	NDF			ME			C P		
		0.5M	1.0M	1.5M	0.5M	1.0M	1.5M	0.5M	1.0M	1.5M
sudan grass										
SF Flourish	10,417	48	61	58	11.4	9.7	9.9	23.2	18.2	16.6
BMR Revolution	10,583	45	57	64	11.2	9.7	9.3	21.8	20.6	15.3
Boost	10,576	47	62	59	11.2	9.6	9.8	20.7	16.5	20.0
Octane BMR	8,497	49	54	64	10.8	10.3	9.1	21.2	18.7	17.5
millet										
Siberian	4 228	47	66		11.6	8.8		24.9	15.3	

* based on data from trial at Murwillumbah 2015/16

* Quality data from NSW DPI Feed Analysis Service based on different cutting heights

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®.

Sowing rate

Dryland	8–12kg/ha
Irrigated	20–25kg/ha

early flowering



Australian release
> 2015



Stock suitability
> All livestock types
> Silage & hay

Trial Results – Multi-cut sorghum x sudan hybrids

VARIETY	PAMPAS QLD		MURWILLUMBAH NSW		SHEPPARTON VIC		3 SITE
	TOTAL	% MEAN	TOTAL	% MEAN	TOTAL	% MEAN	MEAN
SF Flourish	16,504	148	12,529	133	14,509	106	129
SFR71-027	13,635	122	11,369	121	15,425	113	119
SF Mustang	14,880	134	10,101	107	15,024	110	117
SFR71-030	17,920	161	9,443	100	11,862	87	116
SF Lavish	12,064	108	10,196	108	16,633	122	113
Lush					14,489	106	106
BMR Revolution	12,726	114					114
Bounty			9,988	106			106
SuperGraza			9,152	97			97
Banker			9,008	96			96
BMR Octane	10,268	92	10,792	115	8,903	65	91
Feedex					10,490	77	77
Trial mean	16,490	100	9,399	100	13,667	100	100

*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

- Low prussic acid risk
- Reduced lignin, for higher feed quality
- Improved feed quality
- Outstanding animal performance
- Flexible stand management faster

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.

Sowing rate

Dryland	8–12kg/ha
Irrigated	20–25kg/ha

mid flowering



Australian release
> 2017



Stock suitability
> All livestock types
> Silage & hay

Trial Results – 2018

VARIETY	PAMPAS QLD		MURWILLUMBAH NSW		SHEPPARTON VIC		3 SITE MEAN
	TOTAL	% MEAN	TOTAL	% MEAN	TOTAL	% MEAN	
SF Flourish	16,504	148	12,529	133	14,509	106	129
SF Mustang BMR	14,880	134	10,101	107	15,024	110	117
SF Lavish	12,064	108	10,196	108	16,633	122	113
Lush					14,489	106	106
BMR Revolution	12,726	114					114
Bounty			9,988	106			106
SuperGraza		114	9,152	97			97
Banker			9,008	96			96
Nudan	10,546	95					95
BMR Octane	10,268	92	10,792	115	8,903	65	91
Feedex					10,490	77	77
Trial mean	16,490	100	9,399	100	13,667	100	100

*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 Calorific®

sweet sorghum

FEATURES

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

BENEFITS

- Suited to high yielding one or 2 cuts for fodder
- Retains quality under longer growing season
- Provides higher quality feed for conservation
- Maintains good quality

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 maximum 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.

Sowing rate

Dryland	6–10kg/ha
Irrigated	10–15kg/ha

late maturity



Australian release
> 2019



Stock suitability
> Conserving as silage or hay
> For feeding to dairy & beef cattle.

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

VARIETY	PAMPAS QLD		SHEPPARTON VIC				2 SITE MEAN %
	C1 14.1.19	% MEAN	C1 11.12.18	C2 20.3.1	TOTAL	% MEAN	
SF Calorific	7,416	112	11,150	6,159	17,308	133	123
Hunnigreen	5,399	82	9,015	5,116	14,130	108	95
Sweet Jumbo LPA	4,258	64	7,119	5,081	12,200	94	79
Trial mean	6,602	100	8,160	4,879	13,039	100	100

*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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