Perennial
pasture guide
Seed Force in Australia.

Seed Force has screened its forages across multiple sites around Australia to ensure that we are delivering industry leading varieties for Australian farmers.

In addition to our internal trials, we have also submitted our varieties into the independent PTN Pasture Trial Network set up by ASF and MLA which measures forage yield. This data is available via the MLA website, and we recommend that you take this into account in varietal selection.

Visit Pasture Trials Network at: tools.mla.com.au/ptn

Perennial grass selection

Perennial grasses form the backbone of much of the feed base for the high rainfall temperate zones of Australia. There are a number of options with specific attributes, and in most cases one species should be sown alone with companion legumes. In some situations two different species can be used together to broaden feed supply or to combine a higher quality and less persistent species with another that can increase the longevity of one grass species.
**SF Tenacity**

diploid perennial ryegrass

**FEATURES**

- Persistent
- Early flowering
- High winter yielding

**BENEFITS**

- Well suited to marginal dryland situations. Can be included in mixes to improve persistence
- Enables re-seeding in short season areas. Can thicken up pasture swards for extended life of pasture
- Used in mixes for carry over seed regeneration. Improves cool season production when feed is most needed

The perennial rye that survives

SF Tenacity is a persistent and high winter yielding perennial ryegrass. It has very early flowering to enable re-seeding in pasture mixes and is well suited to marginal dryland areas and where perennial ryegrass is used as a minor component in the blend.

SF Tenacity is Australian grown and contains standard endophyte to aid persistence.

Forage EBV’s – compared to industry standards

<table>
<thead>
<tr>
<th>CULTIVAR</th>
<th>ENDOPHYTE</th>
<th>AUTUMN YIELD</th>
<th>WINTER YIELD</th>
<th>SPRING YIELD</th>
<th>TOTAL YIELD</th>
<th>FLOWERING NUI=0</th>
<th>FINAL PLANT DENsITY AMAR- DALE</th>
<th>TENDER- FIELD</th>
<th>MEAN</th>
<th>NO. OF TRIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Tenacity</td>
<td>Standard</td>
<td>155</td>
<td>135</td>
<td>102</td>
<td>93</td>
<td>104</td>
<td>-20 days</td>
<td>73%</td>
<td>23%</td>
<td>50%</td>
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<tr>
<td>Fitzroy</td>
<td>Standard</td>
<td>158</td>
<td>131</td>
<td>104</td>
<td>100</td>
<td>103</td>
<td>-17 days</td>
<td>74%</td>
<td>53%</td>
<td>63%</td>
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<tr>
<td>Nui</td>
<td>Standard</td>
<td>64</td>
<td>67</td>
<td>88</td>
<td>91</td>
<td>93</td>
<td>0</td>
<td>65%</td>
<td>3%</td>
<td>34%</td>
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<tr>
<td>SF Audacity</td>
<td>NIL</td>
<td>8,772</td>
<td>8,772</td>
<td>8,772</td>
<td>8,772</td>
<td>8,772</td>
<td>8,772</td>
<td>8,772</td>
<td>8,772</td>
<td>8,772</td>
</tr>
<tr>
<td>SF Joule</td>
<td>AR1</td>
<td>111</td>
<td>111</td>
<td>104</td>
<td>103</td>
<td>105</td>
<td>+5 days</td>
<td>68%</td>
<td>10%</td>
<td>39%</td>
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<tr>
<td>Banquet II</td>
<td>Endo S</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>+21 days</td>
<td>63%</td>
<td>5%</td>
<td>34%</td>
</tr>
<tr>
<td>Bealey</td>
<td>NEA2</td>
<td>155</td>
<td>106</td>
<td>101</td>
<td>99</td>
<td>99</td>
<td>+25 days</td>
<td>56%</td>
<td>33%</td>
<td>45%</td>
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<tr>
<td>Matrix</td>
<td>Standard</td>
<td>174</td>
<td>114</td>
<td>101</td>
<td>101</td>
<td>103</td>
<td>+23 days</td>
<td>60%</td>
<td>33%</td>
<td>47%</td>
</tr>
</tbody>
</table>

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

**SF Hustle**

diploid perennial ryegrass

**FEATURES**

- Diploid perennial ryegrass
- High winter activity
- Excellent feed quality
- Good disease resistance

**BENEFITS**

- Dense tillering for improved persistence
- More feed when it is needed
- Outstanding animal performance
- Increased palatability by stock

Unique new genetics

SF Hustle is the culmination of a collaboration between Seed Force, its European shareholder RAGT and R2n the research arm of RAGT. It is a new perennial ryegrass with the strong cool season activity of NZ bred material, the persistence and warm season quality from European material and hardiness for the summer dry conditions experienced in Australia.

Forage EBV’s – compared to industry standards

<table>
<thead>
<tr>
<th>ENTRY</th>
<th>ENDOPHYTE</th>
<th>PLOIDY</th>
<th>MATURITY</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Hustle</td>
<td>AR1</td>
<td>diploid</td>
<td>+10 days</td>
<td>6,766</td>
<td>9,338</td>
<td>10,184</td>
<td>26,287</td>
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<tr>
<td>Base</td>
<td>AR37</td>
<td>tetraploid</td>
<td>+23 days</td>
<td>6,013</td>
<td>9,563</td>
<td>9,426</td>
<td>25,002</td>
</tr>
<tr>
<td>Avalon</td>
<td>AR1</td>
<td>diploid</td>
<td>+3 days</td>
<td>5,576</td>
<td>8,660</td>
<td>10,401</td>
<td>24,637</td>
</tr>
<tr>
<td>Impact II</td>
<td>Nea2</td>
<td>diploid</td>
<td>+21 days</td>
<td>7,003</td>
<td>8,195</td>
<td>8,941</td>
<td>24,138</td>
</tr>
<tr>
<td>One 50</td>
<td>AR1</td>
<td>diploid</td>
<td>+21 days</td>
<td>6,134</td>
<td>8,922</td>
<td>8,841</td>
<td>23,896</td>
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<tr>
<td>Arrow</td>
<td>AR1</td>
<td>diploid</td>
<td>+7 days</td>
<td>5,518</td>
<td>8,217</td>
<td>10,145</td>
<td>23,881</td>
</tr>
<tr>
<td>Banquet II</td>
<td>Endo S</td>
<td>tetraploid</td>
<td>+21 days</td>
<td>6,213</td>
<td>8,743</td>
<td>8,775</td>
<td>23,730</td>
</tr>
<tr>
<td>Matrix</td>
<td>HE</td>
<td>diploid</td>
<td>+23 days</td>
<td>5,922</td>
<td>8,433</td>
<td>9,071</td>
<td>23,426</td>
</tr>
<tr>
<td>Halo</td>
<td>AR37</td>
<td>tetraploid</td>
<td>+25 days</td>
<td>5,836</td>
<td>8,175</td>
<td>8,877</td>
<td>23,221</td>
</tr>
<tr>
<td>Revolution</td>
<td>AR1</td>
<td>diploid</td>
<td>+19 days</td>
<td>5,077</td>
<td>8,304</td>
<td>8,772</td>
<td>22,153</td>
</tr>
<tr>
<td>Extreme</td>
<td>AR37</td>
<td>diploid</td>
<td>0</td>
<td>5,123</td>
<td>8,152</td>
<td>8,813</td>
<td>22,088</td>
</tr>
<tr>
<td>Bealey</td>
<td>Nea2</td>
<td>tetraploid</td>
<td>+25 days</td>
<td>5,328</td>
<td>8,144</td>
<td>8,486</td>
<td>21,958</td>
</tr>
<tr>
<td>Helix</td>
<td>AR1</td>
<td>diploid</td>
<td>+6 days</td>
<td>4,784</td>
<td>7,493</td>
<td>9,420</td>
<td>21,697</td>
</tr>
<tr>
<td>Victorian</td>
<td>HE</td>
<td>diploid</td>
<td>+10 days</td>
<td>5,732</td>
<td>7,197</td>
<td>8,701</td>
<td>21,630</td>
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<tr>
<td>Nui</td>
<td>HE</td>
<td>diploid</td>
<td>0</td>
<td>5,272</td>
<td>7,840</td>
<td>8,308</td>
<td>21,420</td>
</tr>
</tbody>
</table>

* Based on trial Warrnambool Victoria, sown 22 April 2014.
Tall fescue selection

Mediterranean tall fescue is winter active and summer dormant and best suited to warm climate areas with little summer rain and where summer dormancy is important for persistence. This includes the inland slopes of north eastern Victoria, southern and central west NSW and WA.

Intermediate, otherwise known as oceanic, types have good all year round production, often with a more open growth habit.

In 2009 Seed Force released a new continental tall fescue SF Finesse-Q with a broader fit than traditional continental tall fescue.

Traditional summer active tall fescue is best suited to northern NSW with its summer rainfall or as the best perennial grass option for hot climate irrigation areas of northern Victoria and NSW. It is also used in summer moist areas of southern Australia such as river or creek flats and swamps.

**Mediterranean**

**SF Medallion** – good production autumn to spring, but greater winter feed with good summer dormancy.

**Oceanic**

**SF RoyalQ-100** – good production across all seasons with focus on spring to autumn, more open habit and medium leaf softness.

**Continental**

**SF Finesse-Q** – good production across all seasons with focus on warm seasons, fine and dense with soft leaf and excellent quality.

**FEATURES**

- High winter production
- Excellent feed quality
- High summer dormancy
- Nil endophyte status

**BENEFITS**

- Produces feed when it is most needed
- This provides higher liveweight gain and milk per ha
- Provides the plant with outstanding persistence, especially in areas of hot dry summers
- Poses no animal health risks to all livestock classes

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

<table>
<thead>
<tr>
<th>TALL FESCUE</th>
<th>YIELD</th>
<th>ME %</th>
<th>CP %</th>
<th>NDF %</th>
<th>EXTRA BEEF VALUE</th>
<th>EXTRA LAMB VALUE</th>
<th>EXTRA MILK VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Medallion</td>
<td>100</td>
<td>11.1</td>
<td>24.3</td>
<td>45.5</td>
<td>+$128</td>
<td>+$107</td>
<td>+$181</td>
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<td>Resolute</td>
<td>100</td>
<td>10.9</td>
<td>23.3</td>
<td>43.3</td>
<td>+$66</td>
<td>+$50</td>
<td>+$92</td>
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<tr>
<td>Flecha</td>
<td>102</td>
<td>10.8</td>
<td>22.4</td>
<td>46.7</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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</tbody>
</table>

* Data based on yield and quality data from a three year replicated trial at Gundagai.

* Beef and lamb values based on 65% utilisation at $2.50 and $2.20 respectively and milk at 75% utilisation at 40c/litre

* Prices as at 1.12.2016
SF Royal Q-100
Oceanic tall fescue

**SF Royal Q-100**

- **High yields all year round**
- **Better winter production**
- **High forage quality**
- **Excellent heat tolerance**

**FEATURES**

- **High yields all year round**
- **Better winter production**
- **High forage quality**
- **Excellent heat tolerance**

**BENEFITS**

- **Better suits livestock feed requirements**
- **More feed when needed compared to other continental types. Variety suited to dairy production**
- **Higher intake by grazing animals**
- **Higher summer forage yields Increased persistence**

**High summer forage yields**

SF Royal Q-100 is a new tall fescue cultivar from a breeding program involving Mediterranean and Continental genetics, showing higher winter production than the continental cultivars and more even production through the year than the Mediterranean cultivars. It has high forage quality due to low aftermath heading, with digestibility levels in late spring and summer similar to ryegrass, and higher than other tall fescue cultivars. It has excellent rust resistance. It is very high yielding, and in overseas trials has shown up to a 36% increase in consumption compared to other fescues. SF Royal Q-100 is a replacement option for Quantum and Advance with high yields, high quality and good persistence, but better winter activity.

**SF Finesse-Q**

**SF Finesse-Q** is a high yielding, densely tillered, soft-leaf fescue with semi-late heading. It is extremely persistent due to its dense nature and has no fescue endophyte. It has an intermediate growth pattern better suited to much of Australia’s climate, and has performed well in trials sown here in 2006. Its tiller density and high leaf quality make it well suited to dairy, beef and sheep. Its lack of endophyte makes it also suited to grazing by horses, goats and alpacas.

**FEATURES**

- **Excellent fine leafed, densely tillered variety**
- **Continental type**
- **Deep rooted pastures species**

**BENEFITS**

- **High quality, soft-leaf fescue for increased intake. Cultivar recommended for use by dairy cows**
- **Gives all year round high yields and quality. Best suited to areas of summer rainfall or irrigation**
- **Provides improved persistence for longer pasture life**

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

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>AUTUMN</th>
<th>WINTER</th>
<th>SPRING</th>
<th>SUMMER</th>
<th>TOTAL</th>
<th>YIELD kg DM/ha</th>
<th>ME kg DM/ha</th>
<th>CP %</th>
<th>NDF %</th>
<th>EXTRA MEAT VALUE $/HA</th>
<th>EXTRA MILK VALUE $/HA</th>
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<tbody>
<tr>
<td>SF Royal Q-100</td>
<td>110</td>
<td>112</td>
<td>119</td>
<td>109</td>
<td>8018</td>
<td>9.9</td>
<td>14.2</td>
<td>54.4</td>
<td>+$267</td>
<td>+$677</td>
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<tr>
<td>Quantum II MaxP</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>7356</td>
<td>9.5</td>
<td>13.7</td>
<td>56.8</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Hummer MaxP</td>
<td>100</td>
<td>107</td>
<td>96</td>
<td>102</td>
<td>7356</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
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<tr>
<td>Advance MaxP</td>
<td>91</td>
<td>95</td>
<td>94</td>
<td>101</td>
<td>95</td>
<td>6988</td>
<td>10.4</td>
<td>15.6</td>
<td>51.6</td>
<td>+$353</td>
<td>+$1,037</td>
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<tr>
<td>Dovey</td>
<td>83</td>
<td>96</td>
<td>97</td>
<td>75</td>
<td>6707</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>Festival</td>
<td>87</td>
<td>89</td>
<td>91</td>
<td>97</td>
<td>6694</td>
<td>10.0</td>
<td>15.1</td>
<td>54.6</td>
<td>+$533</td>
<td>+$5409</td>
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<tr>
<td>Demeter</td>
<td>87</td>
<td>81</td>
<td>83</td>
<td>91</td>
<td>6326</td>
<td>9.9</td>
<td>14.8</td>
<td>54.4</td>
<td>+$577</td>
<td>+$5321</td>
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<tr>
<td>Martin 2</td>
<td>77</td>
<td>88</td>
<td>86</td>
<td>84</td>
<td>6105</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>Jesup</td>
<td>79</td>
<td>110</td>
<td>79</td>
<td>71</td>
<td>5958</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
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<tr>
<td>* Based on yields from up to 7 trials.</td>
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<tr>
<td>* Feed quality based on mean of 7 grazings over full year at Tenterfield site.</td>
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<tr>
<td>* Feed quality analysis undertaken by NSW DPI Feed Quality Service.</td>
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<tr>
<td>* Extra meat value based on 65% utilisation of feed grown and meat at $2.50/kg liveweight gain.</td>
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<tr>
<td>* Extra milk value based on 75% utilisation of feed grown and milk at 40c/litre.</td>
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<tr>
<td>* Seed prices as at 1.12.2016</td>
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</tbody>
</table>

* Australian release > 2012

**Sowing rate**

- **16–20kg/ha**

**Australian release**

- **> 2012**
Cocksfoot selection

This perennial grass option has typically been used in high aluminium soils and in marginal ryegrass regions, due to its improved persistence over perennial ryegrass. Older cultivars have typically shown lower quality for animal production.

It has good persistence in most soil types, handles low fertility and acid soils, but is sensitive to waterlogging.

**There is a range of cocksfoot types**

> Summer dormant (Mediterranean types), which provide good autumn to spring feed, but will become dormant over summer to aid persistence. These types are better suited to inland areas with relatively low incidence of summer rain.

> Intermediate types which have good feed across all seasons, but have less summer activity and better persistence than summer active types in harsh environments.

> Summer active (European) types which can provide good warm season feed with some winter production. These are well suited to summer rainfall areas or where extra summer feed is wanted in cool regions which receive some summer moisture.

Seed Force has screened many types and has focused its efforts on new soft leaf varieties with both high yields and much improved feed quality.

These can be sown at higher density rates for intensive dairy and beef operations to provide a more persistent pasture option than perennial ryegrass with no adverse animal health effects and resistance to most plant pests such as African black beetle.

**SF Oasis**

**soft cocksfoot**

**FEATURES**

- High forage yields
- Excellent feed quality
- Good disease resistance

**BENEFITS**

- More feed when it is needed
- Outstanding animal performance
- Increased palatability by stock

**General fit**

SF Oasis is a new soft-leaf cocksfoot from the RAGT program that has produced SF Greenly and SF Lazuly. It has similar leaf softness, higher ME and lower NDF% like SF Lazuly, but considerably better than other commercial varieties. This enables it to deliver higher liveweight gain potential.

SF Oasis has higher overall yield and improved rust resistance over Greenly and Lazuly, but similar persistence. It is a few days later flowering.

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

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>MEAN YIELD KGDM/HA/YR</th>
<th>% CONTROL PORTO=100</th>
<th>FINAL DENSITY %</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Oasis</td>
<td>5,259</td>
<td>104%</td>
<td>79</td>
</tr>
<tr>
<td>SFR36-007</td>
<td>5,176</td>
<td>103%</td>
<td>81</td>
</tr>
<tr>
<td>Kara</td>
<td>5,081</td>
<td>101%</td>
<td>77</td>
</tr>
<tr>
<td>SFR36-016</td>
<td>5,042</td>
<td>100%</td>
<td>74</td>
</tr>
<tr>
<td>Porto</td>
<td>5,044</td>
<td>100%</td>
<td>79</td>
</tr>
<tr>
<td>SF Lazuly</td>
<td>5,023</td>
<td>100%</td>
<td>79</td>
</tr>
<tr>
<td>SF Greenly</td>
<td>4,869</td>
<td>97%</td>
<td>79</td>
</tr>
<tr>
<td>Crown Royale</td>
<td>4,050</td>
<td>80%</td>
<td>53</td>
</tr>
</tbody>
</table>

*mean 2 sites x 3 years; Armidale NSW and Warrnambool VIC

*density data taken after 5 years at the Armidale site

**Sowing rate**

10–12kg/ha

**late maturity**

**Australian release**

> 2019

**Stock suitability**

> All livestock types

> Silage & hay
SF Lazuly
soft cocksfoot

**FEATURES**
- New soft-leaf technology
- Excellent production
- Good persistence
- Increased winter activity

**BENEFITS**
- Ensures excellent palatability and quality. More feed eaten for conversion to meat or milk
- Suited to all pasture seasons with good grazing recovery
- Greater performance than standards over the warm seasons
- A better option in marginal areas to perennial ryegrass and tall fescue
- More feed when it is needed most

**Good grazing recovery**
SF Lazuly is a new type of soft leaf oceanic cocksfoot with improved winter activity over SF Greenly. It should be sown at higher sowing rates to produce a fine, dense soft sward. It has no adverse animal health effects from endophyte and good resistance to pasture pests.
SF Lazuly has performed well in Seed Force replicated trials and in commercial sowings in Australia. It has superior quality over other commercial varieties.

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

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>AUTUMN</th>
<th>WINTER</th>
<th>SPRING</th>
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*Based on yields from up to 7 trials.
* Feed quality based on mean of 7 grazings over full year at Tenterfield site.
* Feed quality analysis undertaken by NSW DPI Feed Quality Service.
* Extra meat value based on 65% utilisation of feed grown and meat at $2.50/kg liveweight gain.
* Extra milk value based on 75% utilisation of feed grown and milk at 40c/litre.
* Seed prices as at 1.12.2016

**Farmer feedback**

“I have been very impressed, very impressed with Seed Force cocksfoot. It is the first time I have put cocksfoot in. It is quite different to traditional cocksfoot. It maintains its quality, which is great. I was looking for one-kilo a day weight gain, and that has been easily achieved. I am running yearling heifers on it at the moment, but the quality is good enough to milk off. It is very, very palatable. It has enabled me to free up more area of better country for the milking herd.”
Graham Forbes - Gloucester, NSW

“The Seed Force cocksfoot has been really great. We are really happy with it. We put cross-bred lambs on it in early December and are still doing one kilo a week. There was no persistence in ryegrass varieties, so we thought we would try cocksfoot to see if it would last longer. We can’t fault it so far. I guess I was surprised. I was sceptical considering the old cocksfoot was always the last option. I have recommended it to other farmers and we’ve had quite a few agronomists out here as well.”
Richard Gough - Branxholme, VIC
SF Maté

phalaris

FEATURES
- Good seedling vigour
- Early flowering
- Highly autumn/winter active
- Summer dormancy

BENEFITS
- Improved establishment. Greater first year yields
- Improved persistence for better stand longevity
- More feed when it is needed most
- Improved persistence. Improved survival with summer active forages

High winter production
SF Maté is a highly winter active phalaris bred in Argentina with excellent autumn to spring forage production, good persistence, seedling vigour and high autumn/winter forage yields. SF Maté is about 2 weeks earlier flowering than Holdfast making it better suited to the 450–600mm mixed farming zone. It can also be sown in mixes with Landmaster or Australian for use in 600–700mm higher rainfall zone. It can be sown as the sole perennial grass with sub-clover, or in a mix with summer active cocksfoot varieties for all year round feed. It is also suited to sowing at 0.5–1kg/ha with lucerne.

Sowing rate
- Sole grass with clovers & herbs: 3–4kg/ha
- pasture mixes: 1–2kg/ha

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

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>AUTUMN</th>
<th>WINTER</th>
<th>SPRING</th>
<th>YR 1</th>
<th>YR 2</th>
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</tbody>
</table>

*Based on 2011 sown trial Eurongilly NSW

Now treated with Tilt fungicide for head smut

SF Jeronimo

prairie grass

FEATURES
- Excellent palatability
- Excellent production
- Early maturity
- Increased winter activity

BENEFITS
- Has excellent palatability and quality even when seeding. More feed eaten for conversion to meat or milk
- Suits all pasture systems under rotational grazing. Greater performance than standards over the warm seasons
- Enables excellent re-seeding for strong pasture regeneration
- More feed when it is needed most

A broad fit for pasture systems
SF Jeronimo is a new highly winter active prairie grass with a broad fit for pasture systems where rotational grazing is used. It has similar maturity to Matua and has excellent capacity for re-seeding into pasture swards. It has much improved autumn/winter activity to ensure more feed when it is most needed. SF Jeronimo can be sown as the sole grass at high rates for intensive dairy production to provide a boost to autumn winter production. It is especially well suited to the sub tropics. It can also be used as a component of cockfoot or tall fescue based perennial pastures to provide re-seeding into the pasture sward, especially around stock camps. It can also be used in mixes with lucerne to provide a balanced pasture with more winter production and no need for expensive winter cleaning.

Sowing rate
- Sole grass with clovers & herbs: 25–50kg/ha
- perennial pasture mixes: 4–5kg/ha

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

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>AUTUMN</th>
<th>WINTER</th>
<th>SPRING</th>
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*Based on 2011 sown trial Eurongilly NSW

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Sowing rate
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- perennial pasture mixes: 4–5kg/ha

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

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<th>VARIETY</th>
<th>AUTUMN</th>
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*Based on 2011 sown trial Eurongilly NSW

Now treated with Tilt fungicide for head smut
SF Acacia Plateau

Establishment
Acacia Plateau can be sown in the warmer months with adequate moisture. This will usually be from November to April in northern summer rainfall or irrigation regions. It is best sown from February to April in cooler climate coastal winter rainfall regions. Ideally it should be sown with Starter fertiliser and mixes should include white and/or red clover. SF Punter chicory can also be included in the mix if broadleaf weeds are under control, otherwise it can be broadcast later.

Management
Once plants have established, a top-dressing of nitrogen will speed up establishment and improve winter feed production. In subsequent years Acacia Plateau will respond well to Gibberellic acid in winter. The resultant extra winter production must be balanced with extra fertiliser in spring to cover the nutrient transfer from the meat or milk production removed from the paddock.

Grazing
Rotational grazing is best to maximise leaf area which will maximise feed quality. This is best grazed at the 4.5 leaf stage to ensure more leaf. Grazing earlier will have good quality but lower magnesium and calcium levels. Grazing later will result in more stem development.

Oversowing Acacia Plateau
Once established, winter production of Acacia Plateau can be increased by over-sowing or mulch planting SF Pacer leafy turnip and/or SF Speedyl annual or SF Accelerate Italian ryegrass in autumn. SF Pacer is the fastest winter growing feed option and can be established from February with adequate moisture. Ryegrass should be delayed until soil temperatures drop usually from mid-March and SF Pacer can be included at this time as well.

To improve summer quality of the kikuyu sward, it is recommended to use SF Rampart Ladino type white clover, SF Rossi red clover and SF Punter chicory. These can either be sown with the ryegrass and leafy turnip in autumn, or mulch planted in late winter/early spring when moisture or irrigation permits.

Kikuyu Management

Features
- Rapid lateral spread
- High forage yields
- Excellent feed quality
- Greater cold tolerance
- Broad seed germination period

Benefits
- Can achieve pasture coverage faster
- More feed available for livestock
- Improved animal performance
- Can establish under cooler temperatures and in autumn with temperate grasses. Will produce greater winter feed yields.
- Can handle staggered moisture profile.

The lateral spreading kikuyu for lateral thinking producers
SF Acacia Plateau is a fast-establishing forage kikuyu with improved cold tolerance and rapid lateral spreading ability. It was selected from plants growing at Acacia Plateau at the top of the Clarence River catchment close to the NSW/QLD border some 1000m above sea level. This has led to a new variety with an ability to establish and grow under cooler temperatures, yet cover over rapidly. As an excellent seeder it can produce lower cost seed enabling growers to sow kikuyu at more successful higher sowing rates at a similar cost per ha.

Trials have shown it to establish faster and produce more feed than Whittet, especially in the cool season. It also has higher quality when grazed on a tight rotation length (see table below).

Forage EBV’s – forage yield & quality

<table>
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<td>ME MJ/KG DM</td>
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Companion Species

Most perennial pastures are made up of a perennial grass sown with other companion species. It is important that the companion species are selected for regional suitability and their ability to enhance the pasture sward. This should be for both agronomic and livestock performance benefits.

Legumes

All pasture legumes can fix Nitrogen which will help the health and production of the grasses in the sward. Whilst there will be some differences between species and possibly varieties, pasture legumes can contribute around 20kg Nitrogen per tonne of Dry Matter contribution to the sward.

Whilst this will reduce the total yield of grass compared to applying fertiliser Nitrogen alone, it does also provide the additional benefit of filling in gaps in the sward where grass population declines over time, plus they will usually have higher feed quality than grass – higher Crude Protein, higher ME and lower NDF%.

When combined with grass, legumes can help achieve nutritional balance if the ratio of grass to legume is around 70/30. Obviously if legume content is too high it can increase the risk of bloat.

There is a range of pasture legumes suited to sowing with perennial pastures including both perennial and self-regenerating annual options.

Annual self-generating options

Spring seed set will enable regeneration after following autumn rainfall

> **Sub-clover** – suited to a wide range of winter rainfall and soil types, and the most grazing tolerant legume,

> **Medics** – best suited to winter rainfall and neutral-alkaline soils, less tolerant of waterlogging,

> **Balansa clover** – hard seeded, aerial seeding species,

> **Arrowleaf clover** – hard seeded aerial seeder which can provide good carryover dry feed,

> **Crimson clover** – ideal pioneering clover for newly established country low in fertility,

> **Other annual aerial seeding legumes** include gland, persian, berseem, rose and bladder clovers, plus serradella, biserrula and woolly pod vetch.

Perennial options 2-7 years

> **White clover** – where adequate rainfall will allow persistence

> **Red clover** – on well drained soils with higher incidence of summer rainfall,

> **Lucerne** – where soil pH is greater than 5.0 CaCl₂ and other requirements are met. You should select grazing tolerant lucerne where they are included into a pasture mix primarily for grazing by stock.

Herbs

The use of pasture herbs has become more widespread with a better understanding of their role in a pasture sward. In general herbs have very low NDF%, so can increase pasture intake when mixed with higher NDF% grasses. They usually have adequate Crude Protein for most livestock types and higher ME than grasses except when reproductive. They also have a deep tap root and can access more minerals than shallow rooted pasture species.

Sown at 1-2kg/ha in a pasture mix, they are an ideal addition to improve forage nutritional balance and livestock performance.

> **Chicory** – select perennial types with greater longevity. They also contain condensed tanins to reduce bloat risk in pasture swards and are able to regenerate from seed if allowed.

> **Plantain** – better suited to harsher environments where they are able to persist compared to many other forages. They have good winter activity, but select for later flowering to sustain pasture quality later into the season.
SF Punter®
chicory

Forage EBV’s – compared to industry standards*

<table>
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<tr>
<th>CULTIVAR</th>
<th>AUTUMN</th>
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<th>SPRING</th>
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SF Endurance
plantain

Forage EBV’s – compared to industry standards*

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</table>

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

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.

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

Sowing rate

- Sole species 4–5kg/ha
- Pasture mixes 1–2kg/ha

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.

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

Sowing rate

- Sole species 4–5kg/ha
- Pasture mixes 1–2kg/ha

Any old chicory

SF Punter®
chicory

SF Endurance
plantain
**SF Force 5**
grazing tolerant lucerne

**Performance with persistence**
SF Force 5 lucerne was developed for grazing under set stocking by selecting plants that excelled and persisted under two years of set stocking. It has good pest and disease resistance and is the ideal choice where producers are looking to plant lucerne with an expected stand life of 7+ years.

SF Force 5 has a low dense crown and produces high yields of leafy high quality forage with good leaf to stem ratio ideal for grazing or hay. It is best recommended for all livestock, mixed farming or hay producers looking for a persistent lucerne suited to long rotations between cropping phases, and for grazing by sheep or cattle.

**FEATURES**
- Grazing tolerance
- Low dense crown high tillering variety
- Good pest and disease resistance

**BENEFITS**
- Able to withstand extended periods of set stocking.
- Improves stands persistence for rotations up to 7+ years.
- Excellent production and quality over an extended period.

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

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>WINTER ACTIVITY</th>
<th>RELATIVE YIELD*</th>
<th>APHIDS</th>
<th>LEAF &amp; STEM DISEASES</th>
<th>NEMATODES</th>
<th>EXTRA VALUE* $/HA/YEAR</th>
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* based on dryland trials sown Denman & Gundagai 2007, Eurolynx 2011, Warrnambool 2013, Tamworth 2014
* extra value $/ha/year is based on extra yield over 3 year trials at $500/t

**SF Force 7**
grazing tolerant lucerne

**Performance with persistence**
SF Force 7 lucerne was developed for grazing under set stocking by selecting plants that excelled and persisted under two years of set stocking. It has good pest and disease resistance and is the ideal choice where producers are looking to plant lucerne in a rotation for 5–7 years.

SF Force 7 lucerne has been selected for use in the mixed farming belt of Australia. It will tolerate long periods of grazing and enable producers longer stand life than highly winter active types to extend the pasture phase in key farming practices.

**FEATURES**
- Grazing tolerance
- Good pest and disease resistance
- Handles medium to low rainfall zones along with high irrigation input systems

**BENEFITS**
- Able to withstand extended periods of set stocking.
- Improves stands persistence for rotations up to 5–7 years.
- Excellent production and quality over an extended period.
- Well suited to mixed farming zone to tolerate long grazing periods. Can also be used in high rainfall or irrigated situations.

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

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>WINTER ACTIVITY</th>
<th>RELATIVE YIELD*</th>
<th>APHIDS</th>
<th>LEAF &amp; STEM DISEASES</th>
<th>NEMATODES</th>
<th>EXTRA VALUE* $/HA/YEAR</th>
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<td>-$468</td>
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* based on dryland trials sown Denman & Gundagai 2007, Eurolynx 2011, Warrnambool 2013, Tamworth 2014
* extra value $/ha/year is based on extra yield over 3 year trials at $500/t
Subterranean clover selection

Subterranean clover (sub clover) is a pasture legume native to the Mediterranean basin, the western Atlantic coast of Europe and west Asia. This makes it well adapted to other areas of the world with similar climates, such as southern Australia, South Africa, Chile, Argentina, New Zealand and USA (California, Oregon and Texas).

**Plant features**

- **Annual life cycle:** Sub clover is an annual legume, which germinates in autumn and completes seed production in spring/early summer (timing depends on cultivar).
- **Natural re-seeding:** Sub clover regenerates naturally each year from seed set in previous years, without the need for re-sowing.
- **Persistence over seasons:** Sub clover is a reliable seed producer. Most seeds germinate in the following autumn, but some seeds remain dormant as ‘hard seeds’ (the proportion depends on cultivar), which ‘soften’ over subsequent summers for germination. This results in natural re-seeding even after poor seasons for seed production.
- **High feed quality:** Green sub clover has similar feed quality characteristics to lucerne and white clover.
- **Improved soil fertility:** Sub clover fixes nitrogen, with the aid of Rhizobium bacteria, for its own growth and supplies N to other grasses and herbs in the pasture. It also provides N in the soil for crops and other plants in following years.
- **Easy-care grazing:** Sub clover is very grazing tolerant, due to its prostrate growth habit, flowers close to the ground and burial of its seed-containing burrs.

**Use of subterranean clover in southern Australia**

- Sub clover is well adapted to the Mediterranean-type climate (mild, wet winters and hot, dry summers) of southern Australia, where it has been sown over an estimated 29 million ha. A range of cultivars, differing in flowering times, enables it to be grown in environments with annual average rainfall ranging from 275 mm to 1,200 mm.
- In high rainfall areas sub clover is generally sown in permanent pastures, often with perennial grasses, while in low and medium rainfall areas it is often grown in rotation with crops. It is grazed by both sheep and cattle. Its prostrate growth habit makes it particularly well suited to prolonged heavy grazing by sheep. Excess pasture in spring is often cut for conserved fodder (hay or silage), although more erect species are better suited to this. Dry pasture residues over summer are grazed.

**Subspecies and soil type suitability**

Sub clover consists of three subspecies, adapted to different soils.

- **spp. subterraneum** is adapted to well-drained, moderately acid (pH CaCl₂ 4.5–6.5) soils. Most cultivars belong to this group. This type actively buries its burrs.
- **spp. yanninicum** is also suited to moderately acid (pH CaCl₂ 4.5–6.5) soils, but are well adapted to waterlogged or poorly drained soils and to soils that hold their moisture. They actively bury their burrs.
- **spp. brachycalycinum** is best suited to well-drained, neutral-alkaline (pH CaCl₂ 6.0–8.0) soils. They have long, thin burr stalks and seek out cracks or stones to develop their burrs, rather than actively burying them.

**Selecting the best sub-clover variety for your situation**

The chart below can help you select varieties that have been bred for improvements in yield, pest and disease resistance, hardseededness and seed yield for regeneration.

You should select the correct sub-species (subterraneum, yanninicum, brachycalycinum or mix) for different soil types in paddock.

Then select the most appropriate variety for your rainfall.

It is often advisable to mix 2-3 varieties to cover the fact that seasons and rainfall can vary by year.

For example:
- a mix or SF Narrikup and SF Rosabrook could be used in 600-650 mm rainfall to cover higher or lower rainfall years, or
- a mix of SF Rouse and SF Rosabrook could be used where parts of a paddock can become waterlogged in some years but rainfall is reliable.
**SF Tammin**: sub clover

### Features
- Early flowering
- High hard seed levels
- Delayed hard seed breakdown

### BENEFITS
- High forage yields in lower rainfall environments
- Provides quick feed in autumn and winter
- Will re-seed in early season finishes
- Protects against seedling losses with false breaks
- Will maintain better persistence and yield over time
- Less seed lost due to out of season rainfall
- Some seed will survive after 3 year cropping phase

### High hard seed levels
SF Tammin is a more persistent and resilient early flowering subterraneum clover (ssp. subterraneum). It was developed for cropping rotations in low-medium rainfall (300-450 mm annual average rainfall) areas with the novel traits of RLEM cotyledon resistance and much higher hardseededness than other cultivars.

SF Tammin also has a much slower breakdown of hard seed in the autumn making it able to handle false breaks. It will still have 15% hard seed after 3 years, improving its ability to recover in short cropping phase rotations.

**SF Forbes**: sub-clover

### Features
- Sub species subterraneum (black seeded)
- Red-legged earthmite resistance
- Early-mid-season flowering
- Good hard seed levels

### BENEFITS
- Tolerant of water-logging
- Well suited to flood irrigated hay production
- Higher seedling regeneration in years 2 and beyond
- Higher autumn/winter yields from more plants
- Produces more feed in medium-high rainfall zone
- Will re-seed in early season finishes
- Protects against seedling losses with false breaks

### Sowing rate
- Sole species 5–10kg/ha
- Pasture mixes 2–5kg/ha

### Australian release
- SF Tammin > 2017
- SF Forbes > 2019

### Stock suitability
- > All livestock types
- > Silage & hay

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

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>AUTUMN YIELD</th>
<th>WINTER YIELD</th>
<th>SPRING YIELD</th>
<th>RLEM DAMAGE</th>
<th>SEED YIELD</th>
<th>HARD SEEDEDNESS</th>
<th>DAYS TO FLOWERING</th>
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</table>

* Forage and seed yields are relative to control variety Dalkeith = 100
* Susceptibility values based on 0 = very resistant, 10 = very susceptible
* Impact is % cotyledon damage to germinating plants.
* All data is based on trials at Cunderdin and Katanning WA and Eurongilly NSW

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

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>AUTUMN YIELD</th>
<th>WINTER YIELD</th>
<th>SPRING YIELD</th>
<th>TOTAL YIELD</th>
<th>RLEM DAMAGE</th>
<th>SEED YIELD</th>
<th>REGENERATION AFTER CROP</th>
<th>HARD SEEDEDNESS</th>
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<td>105</td>
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* Forage and seed yields and regeneration after crop are relative to control variety Dalkeith = 100
* Data based on 3 years at 3 sites – Cunderdin and Katanning WA and Eurongilly NSW
* % damage is % of plants affected
SF Narrikup
sub clover

**FEATURES**
- Seedling red-legged earth mite tolerance
- Mid season flowering
- Increased winter feed
- Increased spring feed
- Improved seedling regeneration

**BENEFITS**
- Improved establishment. Greater first year yields. Reduced need for insecticide & application costs
- Produces more feed in 500–700mm rainfall zone
- 87% more winter feed than Campeda. 29% more winter feed than Junee
- 13% more spring feed than Campeda. Similar spring feed to Junee
- 61% more winter feed than Campeda. 19% more winter feed than Junee

**Tolerance to red-legged earth mite**
SF Narrikup is a very vigorous mid-late season subterraneum clover (ssp. subterraneum). It is best suited to well-drained, moderately acid (pH CaCl₂ 4.5 – 6.5) soils in areas of southern Australia with approximately 500-700 mm mean annual rainfall and where the growing season extends to mid-November.

Emerging seedlings of SF Narrikup suffer less damage from red-legged earth mite than older subterraneum clovers. SF Narrikup has high winter production, driven by strong seedling regeneration.

**FEATURES**
- Seedling red-legged earth mite tolerance
- Mid season flowering
- Increased winter feed
- Increased spring feed
- Improved seedling regeneration

**BENEFITS**
- Improved establishment. Greater first year yields. Reduced need for insecticide & application costs
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Emerging seedlings of SF Narrikup suffer less damage from red-legged earth mite than older subterraneum clovers. SF Narrikup has high winter production, driven by strong seedling regeneration.

**SF Rosabrook**
sub-clover

**FEATURES**
- Red-Legged Earth Mite tolerance
- Late flowering
- High yielding

**BENEFITS**
- Improved establishment. Greater first year yields. Reduced need for insecticide application costs
- Produces more feed in high rainfall zone
- Produces more feed per hectare. Produces lower cost feed

**New breakthrough red legged earth mite tolerant sub-clover for increasing pasture legume content**
SF Rosabrook was developed by the National Annual Pasture Legume Improvement Program (NAPLIP) as a replacement for cv. Denmark with improved cotyledon tolerance to Red-Legged Earth Mite (RLEM). It results from a single backcross, with cv. Denmark as the recurrent parent, and has a flowering time of 143 days from an early May sowing in Perth, the same as Denmark.

SF Rosabrook is suited to well drained, moderately acid (pH CaCl₂ 4.5 – 6.5) soils in areas of southern Australia where the growing season extends to mid-late November, corresponding to a minimum annual rainfall of approximately 600 mm.

It is well suited to permanent pasture systems, but should regenerate strongly following occasional years in crop. It is not suited to 1:1 crop/pasture rotations.

**FEATURES**
- Red-Legged Earth Mite tolerance
- Late flowering
- High yielding

**BENEFITS**
- Improved establishment. Greater first year yields. Reduced need for insecticide application costs
- Produces more feed in high rainfall zone
- Produces more feed per hectare. Produces lower cost feed

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It is well suited to permanent pasture systems, but should regenerate strongly following occasional years in crop. It is not suited to 1:1 crop/pasture rotations.

**SF Rosabrook**

**FEATURES**
- Red-Legged Earth Mite tolerance
- Late flowering
- High yielding

**BENEFITS**
- Improved establishment. Greater first year yields. Reduced need for insecticide application costs
- Produces more feed in high rainfall zone
- Produces more feed per hectare. Produces lower cost feed

**New breakthrough red legged earth mite tolerant sub-clover for increasing pasture legume content**
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It is well suited to permanent pasture systems, but should regenerate strongly following occasional years in crop. It is not suited to 1:1 crop/pasture rotations.
SF Yanco

**sub-clover**

**FEATURES**
- Sub species yanninicum (cream seeded)
- High seed yields
- Mid-season flowering
- Strong clover scorch resistance
- Good hard seed levels

**BENEFITS**
- Tolerant of water-logging. Well suited to flood irrigated hay production
- Higher seedling regeneration in years 2 and beyond.
- Higher autumn/winter yields from more plants
- Produces more feed in medium-high rainfall zone.
- Will re-seed in early season finishes
- Better plant survival and forage yields
- Protects against seedling losses with false breaks

Better seed regeneration and disease resistance for more feed

SF Yanco is a mid-season yanninicum sub-clover providing a new and improved replacement for Riverina, Trikkala and Monti. It is well adapted to moderately acidic (pH CaCl₂ 4.5-6.5) soils prone to waterlogging and to loamy and clay soils with good water retention. It is highly resistant to both Race 1 and 2 of clover scorch (Kabatiella caulivora) and that coupled with its outstanding seedling ability, ensures highest autumn-winter forage yields and high total yields.

It is best suited to areas with approximately 450-700 mm annual average rainfall and where the growing season extends into November.

SF Yanco is suitable for permanent and semi-permanent pastures. It can be used in cropping rotations, but at least two years of pasture are required between crops.

Forage EBV’s – compared to industry standards

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>AUT/WINT YIELD %</th>
<th>TOTAL YIELD %</th>
<th>PHYTOPHTHORA DAMAGE% LEAF RUST%</th>
<th>CLOVER SCORCH IMPACT%</th>
<th>SEED YIELD %</th>
<th>HARD SEEDEDNESS%</th>
<th>DAYS TO FLOWERING</th>
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<td>no data</td>
<td>106</td>
<td>22</td>
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* Forage and seed yields are relative to control variety Riverina = 100
* Susceptibility values based on 0 = very resistant, 10 = very susceptible
# Impact is % cotyledon damage to germinating plants

Yield and seed yield data from trials at Mt Barker and Manjimup, WA and Echuca & Korok, VIC.

SF Rouse

**sub-clover**

**FEATURES**
- Sub species yanninicum (cream seeded)
- High seed yields
- Mid-late flowering
- Moderate hard seed levels

**BENEFITS**
- Tolerant of water-logging
- Well suited to flood irrigated hay production
- Higher seedling regeneration in years 2 and beyond.
- Higher autumn/winter yields from more plants
- Produces more feed in high rainfall zone.
- Will re-seed in early season finishes
- Protects against seedling losses with false breaks

Improved forage yields and regeneration

SF Rouse is a midseason to late flowering ssp. yanninicum cultivar. It is a replacement for Gosse and Naper with a flowering time between them but superior field performance. It has higher forage yield, especially in autumn/winter, higher seed yields and higher seedling regeneration densities than Gosse. It also has higher resistance to both Races 1 and 2 of clover scorch disease and to leaf rust than Gosse.

SF Rouse is well adapted to moderately acidic (pH CaCl₂ 4.5-6.5) soils prone to waterlogging and 550- 900 mm annual rainfall and where the growing season extends to mid-late November.

Forage EBV’s – compared to industry standards

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>AUT/WINT YIELD %</th>
<th>SPRING YIELD %</th>
<th>PHYTOPHTHORA DAMAGE% LEAF RUST%</th>
<th>CLOVER SCORCH IMPACT%</th>
<th>SEED YIELD %</th>
<th>HARD SEEDEDNESS%</th>
<th>DAYS TO FLOWERING</th>
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* Forage and seed yields are relative to control variety Gosse = 100
* Susceptibility values based on 0 = very resistant, 10 = very susceptible
# Impact is % cotyledon damage to germinating plants

Data based on 3 years at 4 sites – Manjimup & Mt Barker, WA and Echuca & Kororit, VIC.
SF Tarlee

**sub clover**

**FEATURES**
- Sub species brachycalyicum (black seeded)
- Higher seed yields
- Good disease tolerance

**BENEFITS**
- Suited to moderately acid-alkaline soils
- Well suited to flood irrigated hay production
- Higher seedling regeneration in years 2 and beyond
- Higher autumn/winter yields from more plants
- Well suited to hay production
- Greater yield and seed set

**Better seed regeneration and disease resistance for more feed**
SF Tarlee is a mid-late season sub-clover providing a new and improved replacement for Clare and Antas. It is well adapted to neutral to alkaline soils but will perform well in moderately acidic soils (pHCl 6.5-8.5). It has improved seed yield and has shown superior performance over those older varieties after the establishment year. This is due to its improved seed yield and disease resistance resulting in higher regeneration levels over other brachycalyicum varieties. It is best suited to areas with approximately 500-775 mm annual average rainfall.

SF Tarlee establishes rapidly like other brachycalyicums. It can be used as for permanent and semi-permanent pastures in neutral to alkaline soils and where soil-cracking is likely over summer. It can be used in cropping rotations or for specialist hay and silage production due to its outstanding first year production.

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

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>AUTUMN</th>
<th>WINTER YIELD</th>
<th>SPRING</th>
<th>TOTAL</th>
<th>REGEN BY MID-JUNE</th>
<th>CLOVER SCORCH SUSCEPT O-10, O-BEST</th>
<th>SEED YIELD %</th>
<th>HARD SEEDINESS %</th>
<th>DAYS TO FLOWERING</th>
<th>PLACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Tarlee</td>
<td>106</td>
<td>124</td>
<td>128</td>
<td>127</td>
<td>52</td>
<td>5</td>
<td>143</td>
<td>5</td>
<td>130</td>
<td>PERTH</td>
</tr>
<tr>
<td>Clare</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>43</td>
<td>7</td>
<td>100</td>
<td>5</td>
<td>130</td>
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</tr>
<tr>
<td>Antas</td>
<td>97</td>
<td>103</td>
<td>119</td>
<td>103</td>
<td>21</td>
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<td>6</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td>Minto</td>
<td>108</td>
<td>111</td>
<td>110</td>
<td>109</td>
<td>52</td>
<td>6</td>
<td>109</td>
<td>14</td>
<td>115</td>
<td></td>
</tr>
</tbody>
</table>

* Forage and seed yields are relative to control variety Clare = 100.
* Susceptibility values based on 0 = very resistant, 10 = very susceptible.

**SF Antillo**

**sub-clover**

**FEATURES**
- Sub species brachycalyicum (black seeded)
- Higher seed yields
- Late season flowering
- Good disease tolerance

**BENEFITS**
- Suited to moderately acid-alkaline soils
- Well suited to flood irrigated hay production
- Higher seedling regeneration in years 2 and beyond
- Higher autumn/winter yields from more plants
- High spring and total forage yields
- Well suited to silage and hay production
- Improved resistance to clover scorch
- Greater yield and seed set

**Better seed regeneration and disease resistance for more feed**
SF Antillo is a late season sub-clover providing a new and improved replacement Antas. It is well adapted to neutral to alkaline soils but will perform well in moderately acidic soils (pHCl 6.5-8.5). It has improved seed yield and has shown superior performance over those older varieties after the establishment year. This is due to its improved seed yield and disease resistance resulting in higher regeneration levels over other brachycalyicum varieties.

SF Antillo establishes rapidly like other brachycalyicums. It can be used as for permanent and semi-permanent pastures in neutral to alkaline soils and where soil-cracking is likely over summer. It can be used in cropping rotations or for specialist hay and silage production due to its outstanding first year production.

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

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<th>HARD SEEDINESS %</th>
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<th>PLACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Antillo</td>
<td>121</td>
<td>124</td>
<td>127</td>
<td>124</td>
<td>58</td>
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<td>5</td>
<td>130</td>
<td>PERTH</td>
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<tr>
<td>Clare</td>
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<td>6</td>
<td>109</td>
<td>14</td>
<td>115</td>
<td></td>
</tr>
</tbody>
</table>

* Forage and seed yields are relative to control variety Clare = 100.
* Forage yield data based on 3 years at 3 sites – Tarlee, SA and Dungowan & Eungelly, NSW.
* Seed yield data based on mean of first year harvest at Shenton Park & Eungelly.
* Susceptibility values based on 0 = very resistant, 10 = very susceptible.
SF Rampart
ladino white clover

**FEATURES**
- Erect, large leaf type
- High forage yields
- High protein and digestibility
- High nitrogen fixation

**BENEFITS**
- Well suited to planting into tropical grasses such as kikuyu
- More feed available for livestock
- Outstanding animal performance
- Reduced requirement for Nitrogen fertiliser

**Improved establishment vigour**

Ladino white clover is a cross between several selections of plants collected in Oregon USA. Ladino types are more erect, large leaved types with improved establishment vigour and ability to stand up above companion grasses. This is particularly important when selecting a legume to plant with or spread into kikuyu-based pastures, but will also be relevant to sowing into more summer growing temperate grasses such as cocksfoot and tall fescue.

Ladino types also produce higher levels of Nitrogen when correctly inoculated. This can help reduce the required Nitrogen fertiliser in stands with good Ladino clover content.

SF Rampart has performed at the highest level in US trials and is performing well in Australia.

<table>
<thead>
<tr>
<th>Sowing rate</th>
<th>Pasture mixes with other clovers, perennial grasses and herbs</th>
<th>2–4kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian release</td>
<td>&gt; 2009</td>
<td>early maturity</td>
</tr>
</tbody>
</table>

Stock suitability
- All livestock types
- Silage & hay

SF Quest
white clover

**FEATURES**
- Good seedling vigour
- Early flowering
- Highly autumn/winter active

**BENEFITS**
- Establishes well in mixed swards. Provides ease of grazing to all livestock
- Provides improved recovery after grazing and persistence
- Suited to inclusion in mixes in both winter and summer dominant rainfall regions and under irrigation

Large leaf
SF Quest is a high yielding large leaf and highly stoloniferous white clover with good persistence under grazing. It is well suited to sowing in pasture mixes for beef and dairy grazing where white clover will persist.

<table>
<thead>
<tr>
<th>Sowing rate</th>
<th>Sole species</th>
<th>6–10kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian release</td>
<td>&gt; 2009</td>
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</tr>
</tbody>
</table>

Stock suitability
- All livestock types
- Silage & hay

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

<table>
<thead>
<tr>
<th>WHITE CLOVER</th>
<th>AUTUMN/WINTER YIELD</th>
<th>SPRING/SUMMER YIELD</th>
<th>TOTAL YIELD</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Quest</td>
<td>99</td>
<td>96</td>
<td>99</td>
</tr>
<tr>
<td>Haifa</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

*Source: white clover trial Gundagai 2007–08.*
SF Rossi®
diploid red clover

**Features**
- Diploid red clover
- High first year yield
- Excellent pest and disease resistance

**Benefits**
- Lower sowing rate needed per hectare to reduce costs
- Provides yield benefit for areas where red clover may only last one year
- Improved plant density into second year. Provides greater second year yields

Rev up your pasture legume content
SF Rossi is a diploid red clover bred by RAGT in Europe. It has good first year production and improved pest and disease resistance to ensure improved second year yield.

**Sowing rate**
- Sole Species
  - 6–10kg/ha
- As sole clover with perennial grass
  - 4–6kg/ha
- With perennial grass and other clovers
  - 2–3kg/ha

**Early maturity**
Australian release > 2009

Forage EBV’s – compared to industry standards*

<table>
<thead>
<tr>
<th>RED CLOVER</th>
<th>AUTUMN/WINTER YIELD</th>
<th>SPRING/SUMMER YIELD</th>
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<tbody>
<tr>
<td>SF Rossi</td>
<td>114</td>
<td>112</td>
<td>113</td>
</tr>
<tr>
<td>NZ Red</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
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* Source: red clover trial Gundagai 2008

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**Seed Force pasture blends**

After 14 years of research, screening and selection of new improved pasture varieties, Seed Force is now well placed to offer its retail and farmer clients a new range of pasture blends based on performance leading varieties tested to ensure the right ratio of the various species in the mix to ensure that they can make a contribution to both pasture and livestock nutritional balance.

**Perennial pasture blends**

> **Dairy ryegrass blend**
  - Sowing rate 25kg/ha
  - 48% SF Hustle diploid perennial ryegrass
  - 40% Bealey tetraploid perennial ryegrass
  - 12% SF Quest white clover

> **Sheep/beef dryland ryegrass blend**
  - Sowing rate 25kg/ha
  - 40% SF Hustle diploid perennial ryegrass
  - 20% SF Lazuly soft leaf cocksfoot
  - 16% SF Jeronimo prairie grass
  - 12% SF Rosabrook late RLEM tolerant sub-clover
  - 12% SF Nannkup mid-late RLEM tolerant sub-clover

> **Tall fescue blend**
  - Sowing rate 25kg/ha
  - 40% SF Finesse-Q tall fescue
  - 40% SF RoyalQ-100 tall fescue
  - 8% SF Hunter chicory
  - 8% USA red clover
  - 4% SF Quest white clover

> **Soft-leaf cocksfoot blend**
  - Sowing rate 25kg/ha
  - 56% SF Lazuly/Devour soft leaf cocksfoot
  - 16% SF Jeronimo prairie grass
  - 12% SF Nannkup mid-late RLEM tolerant sub-clover
  - 12% SF Forbes early-mid RLEM tolerant sub-clover
  - 4% Haifa white clover

> **Hardy phalaris blend**
  - Sowing rate 12.5kg/ha
  - 34% SF Maté phalaris
  - 22% SF Nannkup mid-late RLEM tolerant sub-clover
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  - 22% SF Yanco mid yanninicum sub-clover

> **Tablelands and Slopes blend**
  - Sowing rate 12.5kg/ha
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  - 16% SF Narrikup mid-late RLEM tolerant sub-clover

> **Specialist equine blend**
  - Sowing rate 25kg/ha
  - 24% SF RoyalQ continental tall fescue
  - 24% SF Lazuly soft leaf cocksfoot
  - 16% SF Jeronimo prairie grass
  - 16% Devour cocksfoot
  - 10% Crimson clover
  - 2% Palestine strawberry clover

---

**Perennial pasture blends**

**PASTURE BLENDS**

**Perennial pasture blends**

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**Early maturity**
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For further product information talk with your local Territory Manager for a copy of the following additional Seed Force product guides:
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