New soft leaf cocksfoots grow high performance feed.

Since their launch in Australia in 2009 and 2010 respectively, two new soft leaf cocksfoots SF Greenly and SF Lazuly have delivered live-weight gains in cattle previously not thought possible.

But with wider adoption around Australia, more livestock producers are seeing high animal performance and outstanding persistence from a grass previously used for poorest areas on the farm.

And new research from northern NSW has highlighted their benefits over more favoured grass species tall fescue and perennial ryegrass:

- increased feed production
- improved persistence
- better feed quality than tall fescues

Cocksfoot has always been regarded as the poorest of the temperate perennial grasses when it comes to feed quality and palatability, and has usually been sown on the poorest soils, those with high aluminium levels or where the other perennial grasses (perennial ryegrass, tall fescue or phalaris) would not persist.

But SF Greenly and SF Lazuly have both been bred by R2n, the R&D division of French-based seed company RAGT which is a shareholder in Australasian based Seed Force. RAGT returns 14% of its revenue to R&D and employs some 190 researchers involved in plant breeding across 24 species. It is privately owned by livestock producers based at Rodez in the south of France.

The area is 600m above sea level on poor weathered soils, receives 800mm annual average rainfall and has a climate in the extremes of - 10°C to 40°C.

As well as making thousands of new crosses each year, RAGT also screens using its own in-house NIR Feed testing laboratory. The result is forages that not only deliver high yields, excellent pest and disease resistance and persistence, but significantly higher forage quality necessary to lift livestock performance for both the owners and customers of RAGT.

SF Greenly was launched in Australia in 2009 after three years of testing in Australia by Seed Force. Whilst its yields were as good as the industry best, the thing that became apparent was how palatable it was compared to other cocksfoots sown in the same trial, said Mike Gout, SF Australia Business Director.

And when RAGT’s senior plant breeder and forage business manager visited Australia in 2008, they suggested even better results could be achieved using higher sowing rates of 10-20 kg/ha. These rates produced finer, more densely tillered plants with lower NDF levels and higher digestibility.

Further Australian sowing rate trials confirmed no gains beyond about 15kg/ha and we now recommend sowing at 10-12kg/ha which is still cheaper than sowing new tall fescue or perennial ryegrass pastures.

But the most surprising result was when it was sown in a perennial grass trial under dairy cow grazing at Muswellbrook in the Hunter Valley.

When the cows were let in they walked across all the perennial ryegrass and tall fescue plots and went straight for the Greenly, says Troy Richards, northern NSW agronomist for Seed Force.

This observation resulted in the first paddock being sown on a dairy farm in 2010 which has now been followed by dairy producers in Tasmania, NSW Riverina and WA. NSW beef producers and advisors visiting the site were quick to spot the potential for such a grass and a number of paddocks were sown in 2009. This area has grown rapidly, with SF Greenly being the largest selling proprietary cocksfoot in its second year, and by 2012 becoming the largest, there has been some 20,000 ha sown across NSW, VIC, TAS, SA and WA.

The exciting news is that in 2010 SF Lazuly, a more recent variety from RAGT was released providing similar high quality to SF Greenly, but with greater cool season production. And further new varieties are currently being screened at Seed Force regional trials under sheep grazing at Armidale in northern NSW and dairy heifer grazing at Warrnambool in southern Victoria.
Getting the quality right.

A basic grasp of Animal performance factors highlight the following:

- Meat or milk production per head = Intake x Energy – Maintenance requirements.
- NDF% (fibre) limits intake, the lower the NDF%, the higher the intake.
- Grass with lower NDF and higher ME, will mean more energy is consumed for greater LWG or milk production.

The improved genetics for SF Greenly and SF Lazuly have modelled increases of about 300g/hd/day in steers. But on farm results at the higher sowing rates are consistently providing a further increase of 300g/hd/day more than older varieties in steers.

This is because the higher sowing rates create a finer, denser sward which has resulted in NDF levels 2-5% lower and ME levels 0.5 to 0.8 MJ higher than the lower 5kg/ha rate.

So by combining the better quality of these cocksfoots sown at higher sowing rates can deliver the 1.2kg/hd/day being reported on farms – similar to tall fescue and perennial ryegrass with improved persistence on poorer soils.

In fact the trials at Tenterfield where cocksfoot, tall fescue were monitored for yield and quality, the new cocksfoots produced both higher yields, similar to better quality plus better persistence than tall fescue and perennial ryegrass. The perennial ryegrass trial was abandoned after two years due to lack of persistence.

**Tenterfield pasture trial – mean of 3 years, April 2011 – April 2014**

<table>
<thead>
<tr>
<th>Cocksfoot</th>
<th>Autumn</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Total</th>
<th>NDF %</th>
<th>CP %</th>
<th>MJ ME /kgDM</th>
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<th>NDF%</th>
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<td>415</td>
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<td>3,486</td>
<td>54.4</td>
<td>14.8</td>
<td>9.9</td>
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*Cocksfoots sown at 10kg/ha, tall fescue at 20kg/ha

*Feed quality mean of 7 harvests over 12 months for cocksfoot and 5 harvests over 12 months for tall fescue

Feed analysis undertaken by NSW Feed Quality Service at Wagga Wagga
Adding energy to your pasture.

The quality results for pasture trials are undertaken as single species trials, i.e., there are no companion species included in the trial. This is the only way to monitor genetic potential as if a variety is slower growing or less persistent and other species like clovers fill in the gaps, we will get a false reading for that variety.

In the real world pastures are sown as a mixed sward of grass and legume, and more increasing herbs are being included in the mix for good reason.

There will be times when any pasture will lose quality as it becomes reproductive, or becomes rank if feed gets away from livestock demand.

The addition of the best companion species and rates can significantly lift performance and help minimise these impacts.

1 kg/ha SF Punter chicory + 1 kg/ha SF Endurance plantain is like adding a grain feeder to the paddock.

SF Punter is very fast to establish and will provide quick feed from early sowings.

SF Endurance plantain has similar winter production to Tonic, but flowers four weeks later ensuring quality is preserved later in the spring.

Stock do not like plantain seed heads and its quality declines when it is in seed, so heavy grazing or topping is recommended.

Legumes are important to maintain good nitrogen supply to pastures.

In summer rainfall areas we recommend:
- 6 kg/ha SF Greenly cocksfoot
- 6 kg/ha SF Lazuly cocksfoot
- 4 kg/ha Jeronimo prairie grass
- 1 kg/ha Sustain white clover
- 2 kg/ha SF Rossi red clover
- 1 kg/ha SF Punter chicory
- 1 kg/ha SF Endurance plantain

This mix is best for rotational grazing. Where pastures are mainly set stocked, replace the Jeronimo prairie grass with 2 kg/ha SF Tenacity perennial ryegrass. Both of these components of the mix are early flowering and can drop seed into the sward to colonise any overgrazed areas, in particular stock camps.

In winter rainfall areas we recommend:
- 6 kg/ha SF Greenly cocksfoot
- 6 kg/ha SF Lazuly cocksfoot
- 2 kg/ha SF Tenacity perennial ryegrass (optional)
- 4 kg/ha SF Rosabrook sub-clover
- 4 kg/ha SF Narrikup sub-clover
- 1 kg/ha SF Punter chicory

To maximise feed production you should top-dress annually with NPKS fertilizer, and consider top dressing in autumn with nitrogen to push extra feed into winter.

Cocksfoot forage EBV’s

<table>
<thead>
<tr>
<th>Cocksfoot EBV’s</th>
<th>Aut</th>
<th>Win</th>
<th>Spr</th>
<th>Sum</th>
<th>Total</th>
<th>yield kg DM/ha</th>
<th>ME MJ/kg DM</th>
<th>CP %</th>
<th>NDF %</th>
<th>Extra meat value $/ha</th>
<th>Extra milk value $/ha</th>
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<td>60.14</td>
<td>-$329</td>
<td>-$114</td>
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Impressive results from trial.

Grant Dawson’s family has been farming his Armidale property for 88 years, and there are no signs of that dynasty ending anytime soon. “My great grandfather bought the property in 1927,” Grant said.

“I am fourth generation and I have a son in Year 12 who says he wants to come back on the farm.” Grant’s father, Keith, handed him a property in good order, and Grant looks like doing the same for his middle son.

However, it’s not just his merino, white suffolk and cattle stock that will ensure the fifth generation of Dawsons can successfully hand over to the sixth.

Grant began hosting a Seed Force trial in April 2012 of sown perennial grass.

The trial consisted of lines of perennial ryegrass (13 varieties), cocksfoot (17 varieties) and tall fescue (15 varieties).

Not surprisingly, the ryegrass established the best, but a two-year drought saw only one pasture survive – cocksfoot.

While the trial won’t be finished until autumn, the results are impressive so far.

Cumulative data up to the end of 2014 has shown cocksfoot at 10 to 13 tonnes of dry matter a hectare. The perennial ryegrass, which was the first to grazing, only produced 6 to 8 tDM/ha but didn’t last 20 months.

The fescue struggled under the dry conditions and yielded even less, at 4 to 5 tDM.

Grant liked what he saw in the initial results and decided not to wait to see the final data before making his move.

He decided, in 2013, to sow 25ha of his 920-ha property with Seed Force cocksfoots in a pasture blend.

The paddock also consisted of white clover and prairie grass.

“The cocksfoot established well, but struggled in the tough conditions as the drought came in,” Grant said.

“But, two years on, the cocksfoot is the only thing that survived.”

Grant has run only his cattle on the cocksfoot, and he reckons they couldn’t be happier.

“They certainly do alright on it. It’s very palatable,” he said.

Despite not having any data on weight gain, Grant said the evidence of cocksfoot’s influence on his cattle’s size is clear.

“That’s all they’ve had for 12 months because that is all that is there,” he said.

Seed Force’s two cocksfoot varieties have revolutionised the reputation of what was once a “last option” for farmers.

“The old varieties weren’t that palatable. Nothing really ate it,” Grant said.

“But this is impressive. I was really surprised how long it has held on.

“A few times they have chewed it right down to the crown and I wondered whether it would come back.

“Not only did it come back, but it’s quite good now.”

Knowing how most farmers are masters of understatement, that’s a great endorsement.

“I took the sheep off the trial yesterday and it was probably the most obvious it has been since the trial started as to the unpalatability of the porto compared to all your other varieties. The four porto plots just stood out as they had not been touched and the others were all chewed down.”
SF Lazuly. A sound business decision for Graham.

As Graham Forbes stands under a tree on his property to shade himself from the mild, but welcome, mid 20-degree sun, he is very happy to talk about his newly-productive dryland hill paddock.

The dairy farmer runs about 700 fresians on his 1000 hectare property Grandview, outside Gloucester, NSW.

Grandview has been in the family for five generations, and like a lot of properties around the district, it includes some unproductive escarpment country.

Graham decided to do what he had never done before - put cocksfoot in to try to turn that corner of his property around.

After spraying the paddock out with a helicopter, he sowed it to SF Lazuly at 10kg/ha in the hope of adding value to what had always been poor land.

“I have been very impressed, very impressed,” he said. “It is the first time I have put cocksfoot in. It is quite different to traditional cocksfoot. It maintains its quality, which is great.”

And quality is certainly what Graham is after.

“I was looking for one-kilo a day weight gain, and that has been easily achieved,” he said.

“I am running yearling heifers on it at the moment, but the quality is good enough to milk off. “It is very, very palatable.”

Graham has added some base clovers and SF Punter chicory to the paddock.

Overall, the SF Lazuly is looking like a very sound business decision for Graham, and his wife Kathy.

“It has enabled me to free up more area of better country for the milking herd,” he said.

“I was looking for one-kilo a day weight gain, and that has been easily achieved.”
Creating a persistent pasture on hilly country.

When Seed Force Gazette spoke to Richard Gough, he was marvelling at the changing colour of his Branxholme property.

“We had two and a half inches 10 days ago, and it has really taken off,” he said. The “it” Richard was talking about was his 65 hectares of cocksfoot.

Richard had sown pasture mixes in the past but was having problems with the persistence of perennial ryegrass.

He wanted something that would create a persistent pasture on hilly country.

Richard sowed 65 hectares predominantly with SF Greenly and SF Lazuly cocksfoots, and added in a mix of SF Rosabrook and another sub-clover variety.

He burnt his paddock then direct drilled at a heavier rate than others.

His persistence to create persistent pasture has paid off. He couldn’t be happier with the cocksfoots.

“It has been really great,” he said.

“We are really happy with it.”

Richard initially put breeding ewes on the paddock, but has discovered the pasture was good enough to use in a lamb-finishing system.

“We put cross-bred lambs on it in early December and are still doing one kilo a week,” he said.

“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.”

A January feed test showed greater results for his ewes on the cocksfoot than ryegrass, and Richard is always happy to talk about it to anyone who will listen.

“I guess I was surprised,” he said.

“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.”

Richards comments come as no surprise - these new Seed Force soft leaf cocksfoots are nothing like the old low quality alternatives - see data in the table.

Photo at top is the same pasture under drought conditions in late 2014 and the bottom photo is recovery after summer rains.

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