

# Five steps to make fertilising sown pastures pay

**A** group of northern producers looking to improve property productivity used an MLA Producer Demonstration Site (PDS) to see if it's economical to fertilise sown pastures – the results show it can be, with the right steps.

Fertilising sown pastures isn't a common practice in northern Australia, but as land and animal values increase and the productivity of older pastures decreases, there's growing interest.

"The PDS found fertilising rundown pastures produced, on average, double the yield of that in unfertilised paddocks, regardless of season," the PDS Coordinator Jill Alexander said.

"Fertilised pastures stayed green for up to a month longer than control paddocks and crude protein levels were consistently higher in the fertilised pasture throughout the year.

"The PDS concluded sown pasture fertilising is economically worthwhile on the Western Darling Downs. Using fertiliser prices paid during the project period (2018–21) fertilising was a good investment and a more economically sound option than planting forage sorghum."

## How to make it pay

Jill said before producers start fertilising pastures, they need to rule out that grazing management isn't an issue and ensure there's a level of rest for each paddock during the growing season.

With this foundation, follow these tips to optimise management.

### 1 Get a soil test

Engage an agronomist to do full profile soil testing to assess if nutrient or subsoil constraints limit pasture productivity across different areas.

"You can't manage what you don't measure," Jill said.

"For example, the most economical fertiliser might be the more expensive one per tonne but has a higher proportion of the nutrient you are lacking, and therefore you need to apply less of it to correct your nutrient deficiency or imbalance."

### 2 Prioritise paddocks

"You will achieve the best 'bang for your buck' by focusing on deep, high water holding capacity soils such as clay loams and clays because those soils will store and hang on to nutrients better than shallow or sandy soils," Jill said.

Prioritise paddocks which have the highest density of desirable species but show signs of chronic rundown, to reinvigorate what's there as opposed to trying to establish more species.

Signs pasture needs fertilising are:

- lower than expected yield for rain received
- discoloration such as yellowing of the pasture and 'burning off' along the tips and centre of older leaves
- poor flowering and low viable seed production
- poorer than expected animal performance (lower live weight gain for the yield).

Remember – there's no point fertilising if you can't use the extra feed produced.

### 3 Get your equipment in order

It's important to secure access to the equipment you need to apply the fertiliser because more volatile fertilisers, like urea, are best spread onto pasture as close to a rain event as possible.



PDS Coordinator Jill Alexander.

### 4 Select which fertiliser application strategy

Producers should work with their agronomist to decide when to apply fertiliser and whether to do split applications or bigger applications up-front.

For example, if there's a dry start to the growing season, it's worthwhile splitting the recommended application into two – half to go on in spring after some rain, the other half in mid-growing season (but if there isn't enough rain you might hold off).

### 5 Crunch the numbers

With fertiliser input costs at an all-time high, the PDS found producers can still get a return on their investment.

"In these wetter years, even if the prices are higher, the PDS found producers would break even, but it takes a longer payback period," Jill said.

"When there's plenty of subsoil moisture, it's the availability of nutrients that typically limits pasture growth."

As land prices increase, fertilising existing pasture provides a relatively quick way to increase scale of operation.

"Producers can either increase their carry capacity by buying more land, improving the condition of the land they currently have by increasing the density of palatable species (which takes time and good wet seasons), or by fertilising to increase the yield of the existing palatable pasture," Jill said. ■

✔ Cattle grazing a paddock as part of the PDS – this Bisset creeping bluegrass is pictured two years after it was fertilised with 100kg/ha single superphosphate and 100kg/ha urea in the first year, and 250kg/ha SuPerfect® Pot 1 and 100kg/ha urea in the second year.



« Producer Sam Haig participated in the PDS because he wanted to boost production without buying more land.

# Fertilising pastures boosts production

## SNAPSHOT



**Q** ueensland beef producer Sam Haig has reaped the benefits of fertilising his pastures – including doubling carrying capacity – as a result of participating in an MLA Producer Demonstration Site (PDS).

The PDS (see story opposite) also gave him the confidence to make changes to his ongoing pasture management strategies.

Sam and his wife Kate both work off-farm, so they became involved in the PDS as they were looking for ways to boost production in their cattle trading enterprise without buying more land.

“We just weren’t growing enough feed for ground cover, and we were also getting a lot of soil erosion,” Sam said.

“During 2018 and 2019 it was pretty dry with only erratic rainfall and the country became really rundown and we were spending a lot of money on buying in feed.

“Feeding your stock all the time takes an emotional toll too.”

Previously, Sam would plant a forage crop to give the pasture a spell, but because of the dry season it was hit and miss as to whether he would get it planted at the right time.

“We’d spend a lot of money on fertiliser and maintaining the forage crop, but we weren’t seeing the return on investment,” he said.

### Increased ground cover

While the production gains from the PDS fertiliser trial – including average weight gains of 130kg per adult equivalent/year – were pleasing, Sam was also impressed to see ground cover and water retention improve.

“We used to have to get three or four falls of rain to get a good growth response, but now every fall above 10mm we see the pasture respond.

“The pasture seems a lot more resilient and during cold periods it’s still green.

“This pasture improvement has allowed us to almost double our carrying capacity.”

The paddock where Sam hosted the PDS was light red loam soil which had been historically

cropped. Despite man-made contours, water would run straight through – something Sam no longer sees.

“I’ve been here 20 years and I haven’t seen it in this good of a condition – we’re not losing anything with run-off.”

### Soil testing essential

One of Sam’s key takeaways from the PDS was the importance of soil testing.

“The key was to get soil testing done to know what nutrients we need to add,” Sam said.

“There’s no point fertilising a paddock by just throwing everything at it, you need to know what specific nutrient is missing and address that.”

Sam now plans on soil testing every few years to identify imbalances which are visually apparent.

He’s also going to focus more on pasture quality – another outcome of the PDS.

“I now let the pasture recover for a longer period so it’s more resilient. I move my cattle more often to utilise the best quality feed.”

### Building confidence

Sam found participating in the PDS very rewarding as he watched paddocks which once only had ankle-high ground cover now grow ground cover “so high you can barely walk through it”.

“Every time you get a result like that it builds your confidence,” he said.

“Before we did the PDS there was limited information on fertilising pasture for northern producers, so after seeing the results it has really boosted my confidence.” ■

**“This pasture improvement has allowed us to almost double our carrying capacity.”**

**SAM AND KATE HAIG,**  
‘Oakland’, Jandowae,  
Queensland



**AREA**  
605ha

**ENTERPRISE**  
Beef cattle

**LIVESTOCK**  
110 breeding females, 65 agistment  
cows/calves

**PASTURES**  
Improved pastures including Rhodes  
grass, creeping bluegrass, bambatsi,  
green panic, some native grasses

**SOIL**  
Light brigalow/bottle tree scrub to  
spotted gum/ironbark forest

**RAINFALL**  
600mm

## LESSONS LEARNT

- ✔ Soil testing is key to ensuring a return on your investment.
- ✔ Spell pastures after first rainfall in spring to allow adequate growth and recovery from winter.
- ✔ If you’re new to fertilising pastures, collaborate with like-minded producers to build your confidence and share successes and challenges.

## SEASONAL ACTION PLAN

- 📄 Scan this QR code to read more results from this PDS.
- 📄 Visit MLA’s Healthy soils hub to get your soil into shape at [mla.com.au/healthy-soils](http://mla.com.au/healthy-soils)



- 📄 MLA’s PDS program gives producers an opportunity to see research in action, testing different strategies to increase profitability and productivity on commercial properties. Learn more at [mla.com.au/pds](http://mla.com.au/pds)
- 📧 Jill Alexander [jillalexander@bigpond.com](mailto:jillalexander@bigpond.com)
- 📧 Sam Haig [oakland410@gmail.com](mailto:oakland410@gmail.com)
- 📧 Alana McEwan [amcewan@mla.com.au](mailto:amcewan@mla.com.au)