

# SPREADING CHANGE

By Wayne Griffin

CANEGROWERS  
Cairns Region  
invests in future  
of the Great  
Barrier Reef

Tucked away in the heart of Queensland's World Heritage Wet Tropics, Cairns region cane growers are on the frontline of industry efforts to improve the quality of water flowing into the Great Barrier Reef lagoon. It's a responsibility they take seriously, which is why they've teamed up with Terrain NRM and the Australian Government Reef Programme to design, build and trial a unique variable rate applicator that will help growers reduce their inorganic nitrogen inputs.

CANEGROWERS Cairns Region Chairman **Stephen Calcagno** is one of the driving forces behind the project. An accredited Smartcane BMP grower and leading advocate for improving soil health, Stephen believes the prototype spreader has the potential, once perfected, to dramatically reduce inorganic nitrogen use, while boosting soil health and increasing productivity.

"This is all about reducing our inorganic nitrogen input," Stephen said, when *Australian Canegrower* visited his Bellenden Ker farm recently.



*Pictured: Tony Rossi, one of the first growers to trial the new variable rate applicator, loads the bin with a mixture of composted human waste solids, fine graded mulch and mill by-products.*

"Obviously one of our main goals is to improve the quality of water flowing into the Reef by reducing dissolved inorganic nitrogen levels, that's why the government is behind the project, but that is only one part of what we want to achieve.

"This project is also about improving soil health. Soil is a living organism. By building up organic matter and getting all those microbes working you can get healthy soil and increase that organic carbon, then you won't need as much nitrogen to grow the crop.

"That in turn reduces the costs for growers because they're using less expensive, more sustainable inputs.

"We're hopeful trials will show that it's possible to help the Reef, improve the soil and maintain or increase productivity while also reducing inorganic nitrogen inputs," Stephen said.

CANEGROWERS Cairns Region and the Federal Government Reef Programme each put up \$30,000 towards developing the modified spreader, which was designed and built by Innisfail's Daradgee Welding Works.

While from the back the unit looks much like other fertiliser bins, it's at the front that the innovation becomes apparent.

A centre outlet drops fertiliser directly onto the row below, while two variable speed conveyor belts throw fertiliser out onto the rows either side.

"We can cover three rows in one pass, which speeds up the application process," Stephen said.

"The conveyor belt speed can be varied to match the row spacings, making the unit suitable for use on 1.65m up to 1.8m centres.



"It goes directly onto the stool, so it's targeted on the growing zone, it's not just a broad-acre approach."

When it comes to what fertiliser growers can apply using the new spreader, there is only one rule, it must be organic.

"Some people are using ash, compost, mulch - as long as it's not commercial nitrogen fertiliser then that's fine," Stephen said.

"They also have to keep records of what they've applied and where they have reduced their nitrogen use. That's all part of the agreement for the government funding."

One grower who has already signed up to trial the new variable rate applicator is Babinda grower **Lindsay Travers**.

Until now Lindsay, who has been growing cane in the region for over 40 years, has used only mill ash and commercial nitrogen fertiliser on his 140ha cane farm.

"I've applied ash over the years, just by dumping and spreading it, but I want to be more targeted in my application, which is what this applicator will allow me to do," Lindsay said.

"Also, I lease a farm from a company that produces compost and I want to start applying it in my planting. I want to do trials to establish if I should put it on after planting or incorporate it into the soil before planting."

While Lindsay believes nitrogen reduction targets in the government's reef plan might be a little too ambitious, he is confident massive reductions are achievable. *continues page 16...*



*Pictured: (top) Babinda grower Lindsay Travers will use the new variable rate applicator to trial the use of compost before and after planting.*

"They want to reduce nitrogen by 80%, which I think is a little bit high. But even if we can cut it down to 50%, that would be a massive achievement and it's possible through projects like this," he said.

"So that's my goal at the minute, just to reduce my commercial nitrogen inputs. By putting more organic carbon into the soil I can alleviate the input of nitrogen. Compost will naturally boost the carbon levels in the soil and that's what I'm aiming for."

As one of the few growers to actually put the spreader through its paces in the field, **Tony Rossi** agrees it has massive potential.

"We'll definitely use it again or maybe even build our own, we were very happy with it," Tony said.

"It's a prototype, so there are one or two little glitches that we'll iron out, but we're quite sold on the concept to be honest."

Tony and his brothers have been getting into composting recently and it's their own special mix that they are trialling with the spreader.

"We're accessing bio-solids from the Cairns City Council, which is basically the dried effluent from the sewage plant, and then we're mixing that with fine graded mulch and anything else we have around, like mill mud or ash or bagasse, then composting that for three or four months before putting this compost into our plant cane drills," he said.

"It will be a year before we can really get a good idea of how successful these trials have been, but we're very hopeful.

"Farmers are great innovators. If you can show us that there's a problem with the system, then we'll do our best to fix it. That's what projects like this are all about." ■



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