

The rich red soil of Doug Rankine's farm made flood irrigation unworkable but he's achieved good results with sugarcane under the pivots he installed in 1994.



Early pivot convert farms rich red soil

By Neroli Roocke

SHORT & SWEET OF IT

- Doug Rankine has 300 hectares of cane in red soil country south of Mareeba in far north Queensland.
- He is expecting a yield of 30,000 tonnes this season and is expanding his area of sugarcane.
- Eight pivots installed in the 1990s are used for irrigation and fertigation, a practice of running diluted plant nutrients through irrigation systems.

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Doug Rankine mapped out his pivot irrigation scheme in the early 1990s using glasses and cups from the china cabinet. Once he'd covered as much of his agricultural land as possible with circles and arcs, he called in a surveyor.

Doug was one of the first farmers to make the switch from flood irrigation. He'd realised years earlier it just did not work on his rich red soil country south of Mareeba and a series of dry seasons had shown him that trying to earn a living with dryland peanuts and legumes was risky.

"You can't grow anything here without irrigation. Our average rainfall is about 600mm per year. It's a dry little section here off the East Barron main channel," he explains.

"The flood irrigation on our red soil just soaks away too quickly so you over-irrigate one bit and the water doesn't make it to the other end. And then you use an excessive amount of water. It was impractical on this country.

"We could see big advantages in overhead irrigation long before there was any Reef Rescue or other funding

for improved irrigation. We took it on ourselves because we could see that with the rainfall that we'd had at that time we were going nowhere."

In 1994 he started buying the pivots and the associated pump and pipeline infrastructure. He moved just two fences and bought four pivots one year and four the next although only two do complete circles. He also bought more water from the Tinaroo Dam.

In 1995 he planted his first cane, sending it to the Mulgrave mill before the Tableland Mill started operations in 1998. The arrival of canegrubs and orange rust saw him contract from 240 ha of cane to 140 and focus again on peanuts and corn.

Now, Doug has close to 300 hectares of cane and is still expanding. 90 hectares were planted from May 2013 of which around 57 was increased area.

"We've always used peanuts, maize or soya beans in rotation and we have an advantage in being able to do that because we have red soil on most of the property. It means we can have a fairly flexible program. ►

"But the self-sown peanuts mean pig problems because they love eating peanuts you can never spray them out of a cane crop."

"We run a trapping program and I've caught up to 58 pigs a year in my traps and they're an ongoing problem. There's cattle country and national park to the southeast and creeks and the Barron River so plenty of water places for them to hide in and breed up."

"If I think I'm going to have too much pig pressure in a fallow area because of how many I'm seeing and trapping, I put soya beans in because they haven't got that regrowth problem."

For the past nine years, fertigation has been part of his program.

"I'm not total fertigation, I use it as a top up. I always apply a granular fertiliser at the start but only a primary amount and then finish through fertigation."

"If I'd had a soya bean crop or peanut crop prior to planting I'd put very little on to start with but then I might have to top it up during the season."

Asked what goes into his fertigation mix Doug says, "Most things!"

"There are some that are not so easy to dissolve but definitely potassium and nitrogen. Phosphorous is a bit more difficult but I've normally got enough on during planting to last. And I put all the trace elements through that I know I need from soil sampling."

"People ask me if it rusts the irrigators out but they're already rusting and they're 20 years old and I've only been fertigating for eight years. They were well on the way to rusting before I started."



Doug's rejuvenated pump house which is below ground level.

"I'm only putting 50 litres an hour into something that's probably taking 60 litres a second. You're diluting it that much that you wouldn't even be changing the pH of the water that comes out."

"But you notice the difference to the plants alright. It's a bit like getting a storm and you get nitrogen in the rain, it responds. Same thing."

Doug is expecting his yield this year to be 30,000 tonne, including some quite old ratoons some of which are producing quite well in the red soil, provided it

gets enough water. He had a 7th ratoon block which produced 115 t/ha in 2013.

Water is gravity feed to parts of his farm to save on electricity costs and a key pump house and associated pipe work to three pivots was recently upgraded using stainless steel at a cost of \$40,000. He says his biggest problem now is the rusting of his aging irrigation equipment and infrastructure requiring lots of repairs and maintenance.

"It's their age and the water quality. It's good enough for irrigation but it's very hard on the galvanised pipe. They rust from inside out and are close to the end of their road."

"When you've eight of them at that stage it's very hard to see past the dollar signs."

"The ones we put in 20 years ago with the power and pipeline and everything cost us \$100,000. Now it's going to cost \$200,000 a machine without the extras. I've never had any help for that kind of thing and I'm not sure how I'm going to do it."

"They're going to be very inefficient soon with all their holes!" ■



Doug Rankine on his Mareeba farm