



DIGGING DEEP FOR THE GREAT BARRIER REEF

An innovative Ingham cane farmer will dig deep for the Great Barrier Reef by creating new farm machinery.

Third-generation cane grower **Paul Mizzi** is designing a prototype ripper to reach soil more than 1m beneath the surface – and he hopes the end result will be a win for farms and the Reef.

The 2017 Herbert Grower of the Year has received an innovation grant from the Australian Government under its Reef Trust III programme to design and manufacture the zonal ripper that will break through compacted layers of soil and reduce water and fertiliser run-off.

"The roots of the cane can only get down so far before hitting a hard pan. If we can loosen that soil at depth, it'll increase the area for healthy root growth and create an artificial sump for water and nutrients."

"Over the years cane haul-out machinery has got significantly bigger and heavier," Paul says.

A move to 30-tonne instead of 12-tonne machines has led to soil compaction.

"The roots of the cane can only get down so far before hitting a hard pan. If we can loosen that soil at depth, it'll increase the area for healthy root growth and create an artificial sump for water and nutrients. It'll also decrease run-off, and ideally improve fertiliser usage."

Paul says deep ripping had been used in other agricultural industries.

"The issue is that our depth has always been limited by the amount of linkage lift of the tractor to get it from the 'down position' to an 'up position' for turning and travelling," he says.

This is the issue the new design will address. Paul has two cane blocks set aside for a trial where soya beans have been planted and where the soil will be monitored through sampling and electro-magnetic mapping.

He says he came up with the idea years ago when drainage trenches were dug on the farm at a depth of 1m and he saw the effects on cane directly above the digging work.

He has since been working to reduce soil compaction by using controlled traffic GPS for planting and harvesting.

Paul says it has noticeably increased cane productivity.

The long-time innovator – who has successfully designed and built new machinery in the past including a two-row harvester, a zonal ripper rotary hoe and a high-rise spray unit – says the financial and technical support of government and industry bodies is helping the industry to improve land management practices.

"These kind of grants give you the opportunity to accelerate things," he says. "There are many unknowns at this stage and a bit of a road ahead of us but if all goes well this (project) will lead to both environmental and productivity outcomes."

The Australian Government's Reef Trust III grants in the Wet Tropics region are being delivered by the Wet Tropics Sugar Industry Partnership. ■

