

Irrigation investment delivering on-farm benefits



The use of underground drip and solid set irrigation is delivering positive outcomes for Paul Villis in the Burdekin, including water use efficiency and a range of benefits as a result of green cane harvesting.

By Brad Pfeffer

It is something you would more likely expect to see on a small crops farm in the Lockyer Valley.

But Jurgens Cane Farming are experimenting with solid state sprinklers on a four hectare block in the Burdekin, and already have about 160ha at Proserpine, with some good results under their belt.

At Kalamia, the 400 hectares is managed by Paul Villis and he said that the solid state system had several similarities to their 17 hectares of trickle, which they were already familiar with over its use over the last decade.

While he said the drip was an excellent system, he added that in their situation they had faced some challenges with shallow soils and deep drainage.

With the sprinklers they are able to apply smaller amounts more often, which is working well with their shallow soils.

As is the case with the drip, they are also more easily able to automate the system compared to furrow, and can also irrigate at night to take advantage of electricity tariffs and maximise water use efficiency.

Every 10th row is removed to accommodate the sprinklers and they are set at a height to ensure the whole area is watered when the cane is fully grown.

Paul said that the recent cane grown from the block grew 130 tonnes of cane per hectare, which they considered a good result and was comparable to crops grown with underground drip, but somewhat less than furrow irrigated crops.

He estimated that costs of set-up for solid state to be less than high-quality tape.

A big advantage with both systems is that they have been able to harvest green, something that remains impractical on the surface irrigated fields.

"I've tried to trash blanket with furrow irrigation, but we use a lot of groundwater here with iron it, which chokes the trash and you end up using twice as much water as you should just trying to get it to the end," he said.

The trash blanket is creating other positive outcomes at the farm. In ratoon crops, it helps reduce evaporation when they are irrigating.



And the thick blanket from the big crops means that weed control is not a burden and they may only need one vine spray.

SRA Adoption Officer for Irrigation, Andres Jaramillo, said there were a range of factors to carefully consider when assessing different irrigation systems.

He said SRA encouraged innovation in irrigation, and added that important factors to consider were that sprinklers would have significantly higher evaporation compared to drip in burnt cane and plant cane, until the canopy closes.

"The loss of area under production can be significant, as both drip and furrow have about 11 percent more land under cane," Andres said.

"Wind losses are also a consideration, as well as the usual range of important factors such as water and energy

use, specific farm considerations, and management issues."

Long term, Jurgens Cane Farming is hoping to see some benefits to soil health. In that vein, they have built their own sub-surface dunder applicator, they use GPS guidance, they have trialed the use of compost and also changed to banded application of mill mud.

"We were told that banded mill mud wouldn't work and it would just sit there, but we are amazed by the response we are getting from it," he said.

Block specific nutrient plans are used with the rates determined through SIX EASY STEPS, their agronomist, and yield data.

They grow legumes such as mung beans at the end of each crop cycle, either ploughing out early to grow two crops of beans, or at the end of the crush to



grow one. "We try and do half our fallow early and half late so that it splits the workload at the end of the year."

Their main varieties are KQ228[®], Q208[®] and Q183[®], as well as an expanding area of Q240[®] and some SRAB.

360ha is owned by Jurgens Cane Farming, with the remaining 40ha owned by Paul.

Above (left): Cane grown on drip irrigation being green cane, trash blanket harvested this season.

Above (right): Paul Villis says Jurgens Cane Farming is getting some interesting results with the use of solid set irrigation in the Burdekin.

Below: The solid state irrigation irrigating this year's mungbeans, on the footsteps of the Kalamia mill.

Opposite: Paul Villis.

