

BURDEKIN BUS TOUR OF SMART IRRIGATION TECHNOLOGIES

Cane growers from Central and Northern Queensland took part in a two-day bus tour of the Burdekin in February viewing some of the latest smart irrigation practices and technologies being trialled in the region.

Thirty growers from the Mackay-Whitsunday region, Atherton Tablelands and Burdekin took away valuable learnings from local growers involved in irrigation trials as part of the Burdekin Irrigation Project (BIP), the Lower Burdekin Smart Irrigation Project (LBSIP) and the Major Grants Project.

The tour group was taken to three farms including two LBSIP demonstration sites, where a range of innovations were shown including low-pressure surface drip irrigation, automated furrow irrigation and automated pivot watering systems.

SRA Burdekin District Manager Terry Granshaw said the two LBSIP demonstration sites had been trialling various automated practice changes that had brought substantial efficiencies to the growers' farming systems and way of life.

"Here in the Burdekin, irrigation is the number one opportunity for growers to improve their productivity, there is no question about that," Mr Granshaw said.

"It's been great to be able to show other districts and other farmers what we are actually doing here as part of the (Burdekin Irrigation) Project and how we are making practice change happen to irrigation management.

"Different districts have different (farming) constraints, but irrigation is on the top of the list for many other growers from other districts as well."

SRA Far North District Delivery Officer Paul Calcino brought growers from the Atherton Tablelands along for the tour to gain a greater insight into automated irrigation technologies from growers who have had first-hand experience.

"The majority of growers on the Tablelands utilise irrigation on their farms, but it's often not as high-tech as some of what we've seen here in the Burdekin," Mr Calcino said.

"We thought it was a good opportunity to learn from the Burdekin, as to how they have been able to improve their irrigation systems, so that growers could potentially adapt their own systems back home."

"I think our growers have taken a lot away from it, especially in regards to automation, which is what people are really interested in."

"The potential to save a lot of time and money by not not having to do some jobs manually. And, the ability to accurately determine a crops' water requirement in real-time using sensors, by factoring that into the automation, is also a game changer."

SRA District Manager Central Dylan Wedel agreed that smart technology offered many opportunities for growers in his district to grow their businesses.

"I think for our region, irrigation is a pretty big opportunity to be able to increase our production locally," Mr Wedel said.

"So, I think to be able to come up here to the Burdekin and see what they are doing in the irrigation space, it gives us some creative juices on what we could do locally, potentially not on the same scale, but definitely try to achieve the same outcomes."

First stop on the bus tour was Joe and Aaron Linton's family farm at Home Hill. The father and son have used a mix of high-pressure, sub-surface automated drip irrigation and furrow irrigation to water their highly permeable soils.

Aaron explained the different challenges they had overcome over the years experimenting and trialling various automated irrigation technology which had led to improved efficiencies and productivity on farm.

"I've done some permanent drip, high-pressure compensated drip. And I automated those systems with stuff you could buy off the shelf, computers and valves that would open and shut with high pressure irrigation," Aaron said.

"We've trialled different irrigation practices, furrow irrigation, but the automation has been the enabler, allowing us to do that."

Another trial being run on the Linton's farm, in conjunction with SRA and the BIP, is a low-pressure drip tape, comparing it to standard furrow irrigation. The low-pressure

system was showing promising results, until Cyclone Kirilly caused significant damage to the tape in the trial site.

"It was working really well and then we had the cyclone come through and blew the cane over and squashed some of the tape," Aaron recounted.

"But until that point, when it was erect, it was working really well. We didn't have much data, but water use was 50% (less), giving a 40-50% saving in actual applied water, so therefore because they were running at the same head, it's probably a saving of about 40-50% in power usage as well."

"So the early signs were good, before the cyclone, but that's why you do trials, to see what works and what doesn't."

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Top row left to right: Growers from Central and Northern Queensland took part in the two day bus tour of the Burdekin.

Growers on Joe and Aaron Linton's Home Hill farm.

SRA District Manager Central Dylan Wedel (right) chats to Aaron Linton on his family-owned farm.

BURDEKIN BUS TOUR



Bottom row left to right: An automatically driven pivot irrigation system used to irrigate cover crops.

An automated furrow irrigation system on Burdekin grower Paul Willis's cane farm. The farm is also a demonstration site for the Lower Burdekin Smart Irrigation Project.

Bryan Granshaw of Rocks Farming Company takes visiting growers through the automated irrigation system technologies at the farm.



SRA's Burdekin District Manager Terry Granshaw and cane grower Paul Villis take growers through Mr Villis's automated furrow irrigation trials.



Growers at the Home Hill property of cane grower Joe Linton (pictured facing the camera with orange and blue shirt). Mr Linton works the family farm with his son Aaron.



The Linton's trial site on their Home Hill farm.

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Paul Villis who has been farming cane in the Burdekin since 2005, demonstrated his trial of different flow rates in an automated furrow irrigation system, developed within the Lower Burdekin Smart Irrigation Project.

The trial is testing different high-flow water volume rates, replicating strips 18 rows apart, to try and achieve a more efficient furrow irrigation.

Mr Villis said having a fully automated scheduled irrigation system offered significant productivity gains and time savings, particularly given the challenges of growing in highly permeable soil.

"The problem here is the deep drainage. The soils just open up, particularly in bean crops, and the water just goes down (into the soil)

instead of advancing (down the furrow)," Mr Villis said.

"And if we are having dramas, we will water at night instead of the day, because the sun does something (to the water). It will advance and then go backwards.

"So the beauty of this technology is we can water at night time. We can schedule it to push it through and get to the end (of the furrow) and automatically change to the next set. And we don't have to be out here doing it ourselves at midnight.

"And, by doing this, we've halved the time it takes for the water to reach to the end of each furrow."

The bus tour also visited Rocks Farming Company where the company has a fully centralised automated irrigation system and is working

towards complete automation of 2700 ha of irrigated farming land within three to five years.

Mr Granshaw said he hoped growers came away from the tour with greater confidence in investing in smart technology and the potential benefits it could deliver.

"It's a great feeling to see growers use the infrastructure that they have now, or change it just a little bit, to incorporate smart technologies and practices and to see the outcomes," Mr Granshaw said.

"As well as productivity gains, efficiency and cost savings, it's about a grower's lifestyle. Irrigating can be a full-time job. So is there a better way we can be doing it?"

"The information we've received from every farmer about their hands-on experience is well worth the trip. What they've implemented into their systems, the efficiencies, which potentially allows us to put into our growing decisions. It's the way of the future,"

-Home Hill cane grower Ryan Brownlie.

The Mackay bus tour to the Burdekin was organised as part of a collaboration between Sugar Research Australia (SRA), Reef Catchments and the Queensland Department of Agriculture and Fisheries (QDAF).



The Burdekin Irrigation Project is funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation with collaboration between Sugar Research Australia, Farmacist, AgriTech Solutions, Burdekin Productivity Services, Burdekin Bowen Integrated Floodplain Management Advisory Committee, James Cook University, the Queensland Department of Agriculture and Fisheries and NQ Dry Tropics.



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- **Glen Park** - District Delivery Officer
- **Terry Granshaw** - District Manager - Burdekin

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