

Improving water quality for the Great Barrier Reef and wetlands by better managing irrigation in the sugarcane farming system

Newsletter | Issue 3 | August | September 5, 2018

ONE-YEAR ANNIVERSARY

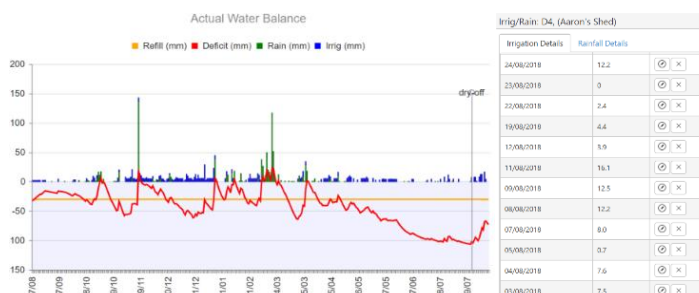
Uplink Program runs successfully for 12 months and saves Aaron Linton 60 hours work

Aaron Linton, a sugarcane farmer in the Burdekin and one of the project consultative committee members, provided access to his Leichhardt farm to test the Uplink program. This farm is around 100 ha in size and its irrigation system is a combination of both pressurised (drip) and furrow irrigation. The 15 paddocks in this farm are divided into three hydraulic groups, with 11 paddocks using furrow irrigation, and 4 paddocks using pressurised irrigation. Aaron has been using WiSA¹ automated irrigation system for more than 6 years. However, due to the time commitment to continuously update the irrigation information to IrrigWeb², he has not utilized IrrigWeb to its full capability.

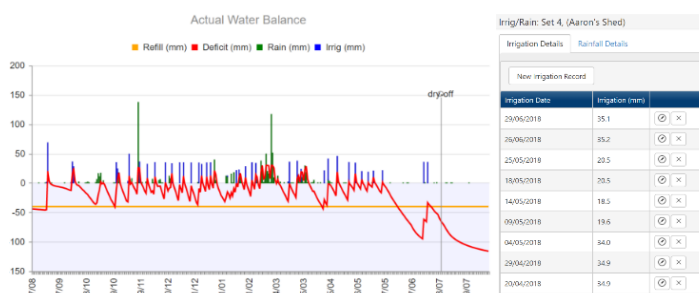


Aaron Linton's Leichhardt Farm

The Uplink program was designed to reduce the amount of time farmers need to invest in manually entering irrigation records and eventually to achieve better irrigation management. The Uplink program has been running smoothly on Aaron's farm for the last 12 months since August 2017. During this period, 1153 irrigation events for the 15 paddocks and 119 rainfall events were recorded by automated irrigation system and automatically uploaded into IrrigWeb. If we assume it takes Aaron an average of 3 minutes to upload each record, a total of $(1153+119) * 3 = 3816$ minutes = 64 hours have been saved with the help of the Uplink program. Another benefit is that Aaron can now see the exact amount being applied to each paddock and make modifications to his irrigation management if they are required.



Irrigation record: Drip irrigation, 27/08/2017 - 27/08/2018



Irrigation record: Furrow irrigation, 27/08/2017 - 27/08/2018

1. WiSA is a software and hardware package used to monitor and control irrigation.
2. IrrigWeb is a web-based irrigation scheduling tool for sugarcane (www.irrigweb.com)

More farms testing the Uplink program

The Uplink program has been further improved, which is now able to work with different irrigation designs for sugarcane farms, e.g., furrow or pressurised irrigation, with flow meters, and multiple pumps. A new tool has been developed to allow easy setup for new farms. In the next few months, the sugarcane farms for five more farmers within our consultative committee group will be set up with the Uplink program.

Date disclaimers

- Mid Nov 2018 – The third consultative group meeting
- April 2019 – ASSCT 2019

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Moving forward to the Downlink program

The framework of the Downlink program has been well designed, which is now able to handle irrigation scheduling for both furrow and pressurised irrigation systems. The Downlink will calculate irrigation schedules for each paddock set up in IrrigWeb, then automatically apply the schedule to the WiSA system. The Downlink program has been thoroughly tested in computer simulation. It will be further refined in the next months and expected to run a real field test towards the end of this year.

