

# TECHNOLOGY AND FARM MANAGEMENT

*Pictured: Tableland Smartcane  
BMP grower Paul Murat.*

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Technology appears to have infiltrated almost every facet of day-to-day life. Some aspects of technology work in our favour, while others seem to conspire against us (like voice activated assistants and autocorrect on text messages). But regardless, technology is becoming more accessible, affordable and easy to use.

Cane farmers have access to a range of technologies that can support both operational and managerial functions of the business. This technology can assist in fulfilling business requirements including compliance for Smartcane BMP accreditation, regulations and supply chain obligations.

Some of the technologies being used in the sugar industry include; moisture probes, Global Positioning Systems (GPS), satellite imagery, Near Infra-Red (NIR), robotics and digital mapping. Technology can increase efficiencies, leading to increased profits as well as improved safety and a reduced impact on the environment.

Utilising technology for the management of precious resources, like water and fertiliser, can assist in attaining optimal irrigation rates while at the same time improving accuracy in the delivery of fertilisers and other nutrients.

Automated irrigation uses moisture probes to determine the amount of irrigation required and when to apply it. These systems have the potential to prevent over or under watering as well as increasing overall efficiencies because a grower can undertake other duties while the technology does the work for them. There is no need to spend time calculating volumes or timings as the system does this automatically. Some other forms of technology that you may or may not have considered include:

## DRONES

Apart from being fun, using a drone to capture real-time imagery over the top of crops can assist with a range of management decisions. Drone imagery can be used to identify areas of pest and disease within a crop as well as nutrient deficiencies. CANEGROWERS Herbert River recently purchased a drone for use in assessing flood damage.

There are restrictions on where and when you can fly a drone, so be sure to investigate the requirements in your area before use.



## HANDHELD GPS

On-board tractor GPS units are not the only option for when it comes to utilising Global Positioning Systems.

If you want to capture data in places the tractor just can't go, then an alternative may be a handheld GPS.

These units have increased in popularity and capability, while at the same time decreasing in price.

Many handheld units have one-step upload and download functions meaning you can transfer the information you

capture on the device to your computer with ease.

There are many models to choose from and each offer different capabilities. I have found models with inbuilt cameras are great for use with monitoring sites.

This allows you return to the same location (e.g. areas of waterlogging, weed burdens or erosion) and record visual changes over time.

Of course, many smartphones will allow you to capture an image and coordinates. However, the accuracy of the geolocation can be 10 to 30 metres or more. Handheld units can deliver accuracies as low as 1-2 metres.

Accessing technology does not always have to involve a monetary outlay. There are several technologies that are available to assist growers, free of charge.

Queensland Globe provides access to multiple layers of mapping including vegetation, biosecurity zones and watercourses, and offers the ability to capture block boundaries, drainage, roads and other infrastructure, all free of charge.

Block perimeter and area are automatically calculated using the "draw" function, making it a great planning tool. If you are interested in using a digital map as part of an overall farm management plan, then QLD Globe is one place to start. Visit: [qldglobe.information.qld.gov.au](http://qldglobe.information.qld.gov.au)

Some useful apps I have seen being used across the cane growing region relate to weed and plant identification, chemical handling and storage, and recording keeping.

Of course, mobile phone-based apps are making access to technology more readily available and easier to use. The choice seems endless and with favourites like weather apps standard issue on most smartphones, there is no excuse not to utilise technology. ■



## Herbert region legume boost

There's been a spike in legume cover crops in the Herbert Region with more than 25% of the fallow area now planted.

Herbert Cane Productivity Services Limited (HCPSSL) manager **Lawrence Di Bella** said the availability of a moulder legume planter for growers to try out on their own farms had contributed to the increase.

"We have gone from about 1-3% of the fallow area planted, to more than 25%," he said.

"The planter has been a huge success and we now have a couple of hundred hectares planted across the district."

The planter, funded by Enhanced Extension Coordination in GBR project, which is administered by the Department of Agriculture and Fisheries (DAF) and supported by HCPSSL, has been available for growers to hire for a minimal fee since October 2019.

The planter allows growers to rip, mound and plant the legume or mixed fallow cover crop in one pass.

Mr Di Bella said rotational crops, especially legumes, performed better when planted on a mound over the wet season, when compared to planting the crop flat.

"The planter allowed legume crops to be grown in areas once considered to be too wet," he said.

DAF Manager (Reef Extension Coordination) **Dr Niall Connolly** said improved legume cropping leads to improved soil health, ground cover and reduced nitrogen application through budgeting of nitrogen contributions.

"This change in practice will allow some growers reduce sediment and nutrient loads entering the Barrier Reef Lagoon and freshwater ecosystems."

To hire the moulder legume planter contact **Richard Hobbs** from HCPSSL on **47761808** or **0400544301**.

Growers pay a small fee of \$10/acre to cover the cost of maintenance of the equipment. ■

