(Below) The project is working closely with local productivity services organisations in each region including, for example, Greg Shannon (pictured), Tully Sugar Limited Cane Productivity and Development Manager. (Over page) The dots on this graphic represent individual farms in one region of the Australian cane industry. The colours represents groups of farmers that are of a similar size (hectares) and yield. The groups such as blue and yellow are target areas for extension strategies.

USING MILL DATA TO IMPROVE PRODUCTIVITY

THE WEATHER PLAYS A BIG ROLE IN GROWING A GOOD CROP, BUT A RESEARCH PROJECT CURRENTLY UNDERWAY IS HELPING PROVIDE THE INDUSTRY WITH VALUABLE INFORMATION TO IMPROVE PRODUCTIVITY AND PROFITABILITY IN ALL DIFFERENT SEASONAL SITUATIONS.

BY BRAD PFEFFER

There's an old farming phrase through the grains industry that says some of the farmers with good crops are lucky because they have square rain clouds over their farm.

For these 'lucky' farmers, on their side of the fence their crop is motoring along, but on the other side of the fence their neighbour's paddock is still waiting for a planting opportunity.

Of course, there are no square clouds and rainfall doesn't stop at the fence-line. In most cases, the soil type and weather conditions between these farms is identical, but farm management practices are making a key difference.

For the cane industry in the Wet Tropics, a better analogy than "square clouds" might be for "square umbrellas", but the point of the saying is the same. That is, that well-informed and effective management decisions can improve production, and help reduce the impact of the weather and 'luck'.

In recent years, an SRA research project has looked at using productivity data that is collected by milling companies to assist the industry, especially by developing innovative tools and methods of summarising the data.

We know there are productivity differences across most mill areas. Although some of this regional variation is explained by extreme weather events or disease incursions, this project is helping growers to identify factors that they can control to increase productivity/profitability for industry.

In essence, the project has looked at the key drivers of productivity in different regions and is working to broaden the adoption of improved farm practices by working with local industry.

For example, the research project has looked at factors such as clean seed uptake, variety selection, ratooning length, Pachymetra sampling and levels of infection, and numerous others, while comparing these to yield and size of production.

This research is led by SRA Biometrician Dr Jo Stringer and follows an earlier demonstration of the project in the Herbert region. The project is now moving to other regions of the Australian sugarcane industry, including most recently at regions such as the Burdekin and Tully.

A key finding was that tonnes of cane per hectare is not related to the size of the farm, or the sub-district where the farm is located.

Specifically, it wasn't the weather or a change of soil type that happened to coincide with the headland.

Dr Stringer said that the research is working closely with productivity services groups in these regions to identify the best strategies for improving production, and to ensure extension strategies were targeted effectively.

"The findings have been different in different regions," Jo Stringer said. "One of the big factors in the Herbert was that we identified the need to increase the uptake of clean seed.

"Through the work of Lawrence Di Bella and Herbert Cane Productivity Services Ltd, clean seed use went from about 800 tonne (per year) to about 2000 tonnes. HCPSL have recently bought another farm and harvester to continue to increase clean seed use.

"We also were able to talk to growers about losses from Pachymetra, with data showing a 15 percent decrease in cane yield when they used a susceptible variety in consecutive crop cycles."

She said in the Burdekin her work with Burdekin Productivity Services identified the value of current research and extension activity into improving soil health. It also provided the local industry with valuable information about productivity losses associated with back-to-back planting of varieties.

For example, the research found that Q183$^{\phi}$ followed by Q183$^{\phi}$ in the Burdekin maintained yield, while planting KQ228$^{\phi}$ after KQ228$^{\phi}$ or planting Q208$^{\phi}$ after Q208$^{\phi}$ was associated with lower yields.

At Tully, Jo Stringer is working closely with Tully Cane Productivity Services Ltd Manager, Peter Sutherland, Tully Sugar Cane Productivity and Development Manager, Greg Shannon, and Tully CANEGROWERS Manager, Peter Lucy.

The project has worked closely with Tully industry to develop a tool to automate farm productivity reports that will provide valuable information to growers and also help inform extension strategies.

Greg said that it was another tool in the toolbox to ensure the region was delivering effective extension programs and that extension officers were providing the right advice.

"We have detailed local variety information through the Tully Variety Management Group, but this project is adding more data around tonnes of sugar, percentage of varieties, percentage of resistant varieties to Pachymetra, ratooning length, and recommendations on which variety to grow on a particular soil type, he said.

"We have developed an automated process that has sped things up in terms of developing variety management plans for example and gives us valuable information to talk to the growers."

Dr Stringer said the project was focussed on collaboration within local regions to work specifically on outcomes that would deliver the optimum local impact.

"Through this project we identify the key drivers of productivity and profitability, and once we identify those drivers that allows us to build targeted extension and adoption strategies." ■

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