



Project details

Key Focus Area: 3

Pest, disease and weed management

Project name

Preparing the Australian sugar industry for threats from exotic pests and diseases

Project number

2009/033

Principal provider

Sugar Research Australia

Project end date

1 May 2015

You'd be bananas not to prepare for exotic pests and diseases

The recent detection of Panama TR4 in a banana plantation in Tully is threatening the state's \$570 million industry. It is a sobering reminder for the need for all agricultural industries to prepare and plan for exotic pests and diseases.

Since 2009, SRA researchers have been delivering a project to ensure the sugarcane industry is adequately prepared to respond to a potential pest or disease incursion.

SRA researcher Rob Magarey said that unlike the banana industry which was relying on a single variety (largely due to the difficulties in breeding banana varieties), the sugarcane industry has taken a proactive approach that will help minimise losses from pests and disease incursions through varietal resistance and better diagnostic tools.

Research has targeted pests and diseases that are found in our nearest sugarcane producing neighbour – Papua New Guinea. Because Papua New Guinea is home to several of our sugarcane species, it is also home to these diseases.

"Our research has particularly focussed on Ramu stunt (a viral disease), downy

mildew (a fungal disease) and moth borers (found around the world and in neighbouring Indonesia and Papua New Guinea)," Rob said.

"Each of these pests and diseases has the potential to cause significant commercial impact. It is important that we are ready."

"Industry's ability to respond quickly relies on our ability to recognise and accurately diagnose the pest or disease."

"In the first phase of our research we developed the essential skills and knowledge we need to be ready for an incursion. We now know how to recognise the symptoms of each pest or disease and have developed diagnostic tests."

In the case of Ramu stunt, researchers have developed and proven a test for the causal virus. These tests have given consistently positive results for Ramu stunt infected plant material.

For growers this means an accurate diagnosis can be achieved quickly.

"The second phase of our research looked at understanding the resistance of our current and future varieties," he said. "We have been working with research partners in Papua New Guinea to test promising clones as well as commercial varieties that are currently grown in Australia."

"This means that if one of these pests or diseases does manage to make its way to Australia, we will already know which varieties are resistant and be able to implement an appropriate management strategy," Rob said.

Above image

SRA staff (from left) Andrew Greet, Kathy Braithwaite and Judi Bull have been working with Ramu Agri-Industries staff in PNG.

The third phase of our research has looked at understanding whether there is significant variation in the pathogens causing these diseases. Just as changes in the influenza virus mean people become susceptible to the flu, variations in the disease pathogen can mean some varieties become susceptible.

"It is important that we know how much variation there is in these pathogens. For example, we know that there are several forms of the downy mildew pathogen," he said.

"Of course this means we need to make sure our contingency plans for pests and diseases are constantly updated," he said. This research program finished in early May 2015. A follow-up two year project has recently been funded.

"Our industry has always been most fortunate in the work that SRA pathologists and entomologists continue to do. Almost each decade in the last few we have been hit by an exotic disease yet with the good work being done it's a saviour to our industry that we have always been prepared.

It's indeed comforting to know that with work such as that which Rob is doing on exotic incursions that we can focus on the task at hand – growing bigger and better cane.

Growers have always been both grateful and confident that risks such as exotic disease is in good hands."

Allan Royal – MAPS

Biosecurity update

Stopping the entry, establishment and spread of unwanted pests and diseases is vital for our industry. If unchecked, it could be potentially devastating. It is for this reason that biosecurity legislation exists and why it is important for all of us to follow this legislation. Currently, Queensland's *Plant Protection Act 1989* and *Plant Protection Regulation 2002* provide legislative powers to control the movement of sugarcane and sugarcane machinery between Queensland's pest quarantine areas. There is a new Act and Regulation being developed. For more details, visit www.planthealthaustralia.com.au.

A new tool to keep you informed

SRA Calendar

Ever wondered what events are being run in your region? You can now find out very easily by logging onto www.canecalendar.com.au. The calendar includes events that are happening across the industry and can be sorted by event category and event region. All organisations within the sugarcane industry are encouraged to include events that they are managing. Contact Andrea Evers at aegers@sugarresearch.com.au for more information.



A new guide for precision agriculture

Precision agriculture is an area where growers can make gains in productivity and profitability on their farms. SRA has released a new guide – Precision Agriculture for the Sugarcane Industry – that sets out steps to adoption, outlines the benefits, and provides case studies on growers who are already putting the technology to good use. This guide is available as an e-book that can be downloaded from our website (sugarresearch.com.au) or you can order a hard copy by emailing us at communications@sugarresearch.com.au.

Amendment

In the Summer 2014 edition of CaneConnection, we incorrectly stated that Shirtan® registration expires on 30 June 2015.

Shirtan® will continue to be registered and available after this date. Product registrants pay an annual registration fee to APVMA at the end of June. SRA apologises for any confusion.