NEW PEST & DISEASE SURVEILLANCE TECH TO LAUNCH

THE NATIONAL MULTI-AGRICULTURAL INDUSTRY SURVEILLANCE INITIATIVE IMAPPESTS IS LAUNCHING A TRIAL OF ITS AIRBORNE SURVEILLANCE AND DIAGNOSTICS TECHNOLOGIES IN NORTH QUEENSLAND IN FEBRUARY 2020.

The iMapPESTS: Sentinel Surveillance for Agriculture program aims to rapidly monitor and report the presence of airborne pests and diseases for multiple agricultural sectors, including sugar.

SRA is involved in the program as the representative of the sugar industry and is also contributing important research to improve diagnostics for a range of diseases and exotic pests that threaten sugarcane.

A key feature of the five-year program is the sentinel (pictured), a mobile surveillance unit, that captures a snapshot of airborne pests and diseases in a particular location at a given time. The sentinel features several airborne samplers, onboard power supply, a weather sensor, telemetry and control panel (with remote access) to monitor the unit, as well as automated robotics to change pots on the samplers according to the day or capture criteria.

A prototype of the sentinel has been trialled in South Australia in the grain and wine industries and a second sentinel will be trialled in sugar growing regions in February 2020. The trial for sugar will focus on the optimisation of the sentinel in a tropical environment characterised by more adverse environmental conditions, before moving down through the industry. By mid-2020 it is expected that several more sentinels will be launched across the country, reporting dynamic pest and disease information to all plant industries.

Key sugar pests and diseases, such as sugarcane planthopper and sugarcane smut, will be targeted during the Meringa trial phase via the on-board pest and spore traps.

After the sentinel captures airborne spores and insects, the samples will be dispatched to the South Australian Research and Development Institute (SARDI) laboratories for identification of target pests and diseases.

The team at SRA, led by Dr Nicole Thompson, is developing extraction methods for plant pests for metagenomics and improving molecular diagnostic tools for the industry. This research will explore and design a toolkit for new pest and disease threats and modernise molecular and morphological diagnostics for priority pests.

iMapPESTS will work with growers to understand the best way to present and share the dynamic information about the pests or diseases the sentinel is detecting in an area at a particular time. ■

For more information, contact Dr Nicole Thompson on nthompson@sugarresearch.com.au or visit the website *imappests.com.au*

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