

SRA Trait Development Manager Prakash Lakshmanan believes the purpose of the research is about discovering how the industry can maximise productivity of sugarcane varieties under variable water conditions.

“If this system can be implemented in the SRA plant breeding program, more information about the likely performance of new varieties in irrigated and rain-fed conditions can be provided to growers. The impact of such variety release decisions may become apparent in about five years’ time,” Dr Lakshmanan said.

“We’ve been working on this issue since 2006 in collaboration with CSIRO, and this work is an excellent example of collaboration between these two bodies to deliver crop improvement for the sugarcane industry.”

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Dr Chris Stokes from CSIRO says research is looking at how different cane varieties respond to water stress and increased carbon dioxide levels in the atmosphere.

Ecuador congress provides biosecurity insights

The International Society for Sugarcane Technologists (ISSCT) Pathology and Entomology workshop was held from September 14–18 in Ecuador recently. By Nicole Thompson



Perkinsiella saccharicida is a pest in its own right in Ecuador – they are free from Fiji leaf gall disease.

This was the first time that pathology and entomology sections have held a joint workshop, and it was a very full program of presentations and a field visit. There were 59 participants from 14 countries.

SRA was represented by Dr Nader Sallam (member of the ISSCT entomology committee), Dr Peter Samson (entomologist from SRA’s Research Funding Unit) and pathologists Dr Shamsul Bhuiyan (recipient of a Sugar Travel and Learning Award (STLA)), Dr Kathy Braithwaite (STLA recipient) and Dr Nicole Thompson (member of the ISSCT pathology committee and STLA recipient).

SRA’s attendance at workshops such as this form an integral part of ensuring that our researchers are fully informed about leading advances in biosecurity and other research from around the world – as well as potential new biosecurity threats to our industry. All this helps to form part of SRA’s ongoing strategic commitment to protecting the Australian sugarcane industry from biosecurity threats.

The workshop’s keynote presentation was delivered by Dr Andy Sheppard (CSIRO), who gave an overview of biosecurity planning. He introduced some of the tools that CSIRO has developed in this area for improving risk analysis, stakeholder decision framework tools, and structured decision making for emergency response.



Dr Edison Silva discussed sugarcane breeding at the photoperiod house at CINCAE, Ecuador.

The joint program meant that participants were able to take part and hear about areas of research outside their areas of expertise, broadening the knowledge of all participants.

I particularly enjoyed the entomology sessions because learning about the potential pest problems that could enter Australia is very interesting and will be important in case of an incursion.

The comprehensive control plans for insects and extensive use of effective biological controls in other countries was very informative.

From a pathology point of view, there were many papers about Sugarcane Yellow Leaf Virus (SCYLV) which is a major problem in many parts of the world. This contrasts with Australia, where it is not considered a major disease.

All presentations by SRA staff were well received, stimulating questions and leading towards new collaborations to advance sugarcane research.

Dr Sallam gave a presentation on resistance screening of moth borers in Papua New Guinea. Dr Samson gave a presentation on detecting canegrub damage by satellite imagery in the Central region. Dr Braithwaite gave two presentations: one on the ground-breaking work on chlorotic streak and the second describing the findings from a recently completed project on Ramu stunt. Dr Bhuiyan gave two presentations: one on nematode resistance screening by SRA and one on sugarcane smut control using flutriafol. I also gave two presentations: one about the variation of downy mildew in Papua New Guinea and a second on developing diagnostics for Sugarcane streak mosaic virus.

The four days of presentations were broken up with a field day in which all participants visited CINCAE, Ecuador's sugarcane research institute established in 1997. For the Australian participants, the photoperiod facility was familiar as it was designed in consultation with Dr Nils Berding, a retired Australian sugarcane breeder.

The Ecuador varieties bred by CINCAE are becoming increasingly popular in Ecuador, with EC varieties making up nearly 40 percent of crop going to mills.

We visited field sites of San Carlos mill and saw the main pest and disease problems of Ecuador: the plant hopper *Perkinsiella saccharicida*, the stem borer *Diatraea saccharalis*, SCYLV and RSD.

The ISSCT Workshops are the only forum of their type for the scientific meeting of sugarcane pathologists and entomologists, and this joint workshop gave us a unique opportunity to interact and meet with new and old colleagues.

The meeting was enjoyed by all participants, and thanks goes to the local organising committee for their excellent organisation.

The destination for the next workshop(s) will be announced at the ISSCT Meeting in Thailand, December 2016.



ISSCT Workshop delegates investigated pest and disease problems in the fields of San Carlos Mill, Ecuador.