

Benefits from the Levy System

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Innovative R&D KCT program secures a greater share of export markets for Australian citrus

The China dream has long been on the citrus industry's export agenda. However, overcoming the technical challenges for entry into China has required substantial research and development (R&D) over many years.

Liz Mecham explains that through a number of projects jointly funded by industry and government, as well as businesses taking the initiative to apply these R&D outcomes, the China market is shaping up to be the most promising opportunity the industry has ever seen.

The South Australian Research and Development Institute (SARDI) has been at the forefront with research that has included a better understanding of the behaviour of Fuller's rose weevil (FRW), enhanced monitoring methods through the use of a beat mat, and the development of targeted pesticide applications on the trunks of trees.

The innovative approach to pest management has taken the industry a quantum-leap forward and the China dream is now being realised. Growers exporting to Korea and Thailand also have benefitted from this orchard systems approach, where FRW is a quarantine challenge.



(Above) According to Citrus Australia's South Australia industry development officer Sam Rogers, the use of the beat mat has made detection of FRW in orchards a scientifically robust process.

While there are significant rewards in all these markets, the Korean, China and Thailand (KCT) export program may not be for everyone. The KCT program is a long-term commitment that starts with identifying suitable orchards which provide high enough returns to justify the additional effort.

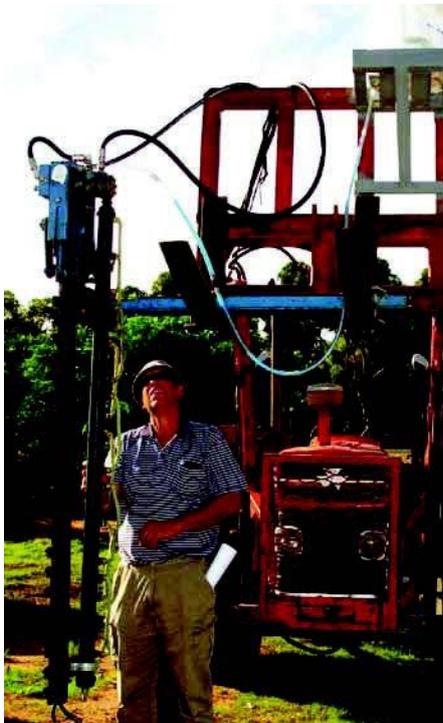
Citrus Australia's South Australia industry development officer, Sam Rogers emphasised, "The first step in that decision is to have a Registered Crop Monitor assess the FRW status of any orchard before entering the KCT export program for the first time. This will provide a good indication on the effort that is required over the next few seasons".

“The use of the beat mat to survey for FRW has certainly revolutionised the industry,” Sam added. “Just a few years ago we were relying on other methods but the research by SARDI has demonstrated a very reliable method of detecting FRW in orchards and providing confidence that it won’t be present in consignments. Growers must also provide evidence of specific cultural and Integrated Pest Management (IPM) practices, monitoring records for all quarantine pests, and have orchards surveyed by a Registered Crop Monitor in February.”

Sam explained that China had the most stringent requirements and orchards must be surveyed and found free from FRW and a range of other pests and diseases.

“Thailand permits a small tolerance in orchards but the skirting and trunk-band spray program is mandatory. Korea also is very sensitive to FRW as we know from our United States counterparts,” said Sam.

While Korea is less prescriptive of the in-field requirements for FRW, skirting and trunk-band spraying should be applied to avoid costly failures. Korea has a strong expectation that all quarantine pests will be adequately managed at the grower level.



(Above) Innovative tree skirting and trunk band sprayers are providing an effective method for meeting the spray and pest management requirements of FRW.

“There are just no short cuts,” Sam said. “However, while some minor tolerances are permitted for Korea and Thailand, growers and packers must really weigh-up the consequences of supplying these markets if FRW is present - even at low levels.

Thanks to the SARDI research and some on-farm ingenuity, growers participating in the Korea, China Thailand (KCT) export program have developed various versions of the SARDI trunk-band sprayer; and this has proved very effective in combating FRW.

The trunk-band sprayer is a time and cost-effective method to deliver excellent trunk coverage with insecticides to prevent the emerging FRW entering the canopy.

But, that’s only part of the story. Sam said tree skirting and weed management were also critical components of the FRW program.

While initially sceptical of the higher input costs, growers who created their own trunk-band sprayer are now big advocates of the program. Rick Pierce from Cox’s Orchards in South Australia said the innovative trunk-band sprayer is providing an effective method of meeting the spray and pest management requirements.

“We did have cost concerns - but we sat down with the MFC and went through it all...and while there is additional work with trimming and weedicide, at the end of the day, those costs we were concerned about were not significant and have reduced over time as we have gotten better at the practices,” Rick explained.

Fruit sold through the program, he said, had more than covered extra production costs by delivering “...prices \$100 to \$150 a tonne above what we had been getting for similar fruit.”

But Rick was quick to point out premiums would only continue if growers were clear with the programs requirements. It is a sentiment backed-up by Sam Rogers, who said growers needed to ensure they were up to speed on market requirements, but even more importantly, the protocol requirements.

“The trunk-band spraying program involves regular applications of an insecticide registered specifically for trunk-band spraying such as Karate Zeon, Matador Zeon or Trojan at label rates with Kaolin clay added for safety, indicating spray contact,” she said. “Spray records must also be retained for auditing purposes.”

Sam stressed the importance of protecting these vital markets by presenting pest-free fruit to the packer. The development of the trunk bank sprayer has meant growers now have a simple, tractor mounted unit to undertake this spraying task.

The sprayer was the focus of an on-farm field day at Waikerie in April. Cox’s Orchards have been participating in the program for four years which led to the development of the new four-headed spray head unit to further increase time and management efficiencies.

On the Cox’s sprayer, the nozzles can be altered between stream or fan application, and are set at between 90 and 45 degrees to the tree trunk along a 750mm bar and powered by a 12 volt solenoid.

Attached to an adjustable arm, and carried on a forklift front (to allow for row widths and height adjustment) the spray head passes trees twice - once on each side between 300 and 500mm from the trunk - to ensure full coverage of trees.

Rick also uses a synthetic bonding agent and Kaolin clay in his sprays which not only helps it bond with the sprayed surface, but colour the tree trunk and fruit upon drying. “It identifies any overspray, but also alerts growers, GLOs and packing houses to any contaminated fruit,” Rick explained. “Good skirting to trees is essential to minimise the cost associated with (spray) contaminated fruit.”

Steven Falivene, NSW Department of Primary Industries (NSW DPI) citrus industry development officer, has been working with Sam and the Citrus Industry to help facilitate grower adoption of practices to meet export country quality and protocol requirements.

This has included online videos and factsheets on the NSW DPI and Citrus Australia website on the design and use of the trunk-band spray units and their application.

The videos show how citrus growers Rick Pierce (SA) and Shane Smythe (NSW) demonstrate the design and features of their sprayers.

Steven said growers could also download the DPI fact sheet to learn about growing practices for export.

To view the grower videos and download information sheets visit www.dpi.nsw.gov.au.

To view more grower stories highlighting the success of Horticulture Levy investments to date visit the Voice of Horticulture website > <http://voiceofhorticulture.org.au/>