Weevils no match for apple export industry

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A nettle weevil (Phyllobius pomaceus). Credit: nutmeg66

Good news for Pink Lady apple fans, as researchers have found a solution to eradicating weevils that costs hundreds of thousands of dollars for Western Australian apple exports.

The eucalyptus weevil (Gonipterus platensis) has wreaked havoc on the export of Pink Lady apples to countries such as England, France, Germany, Belgium and Italy since 2008, costing growers of the crisp

apple more than $300,000 annually.

Introduced by accident to WA and living in blue gum trees in the south west, the weevil clings tenaciously to the stem of the fruit, generally over winter and cannot be dislodged during harvest.

Murdoch University's Dr Manjree Agarwal says various methods have been tried in the past but the pest can only be removed by concerted effort.

Physical methods like cold treatment and water jets with rigorous washing were used to either kill the weevil or dislodge from the apple.

"Since these weevils have very sharp claws they adhere tightly to the petiole part of the fruit and hence none of the physical methods worked," she says.

Other fumigants had also been tried in the past including methyl bromide but it caused browning of the apples.

Ethyl formate was then selected, as it is currently registered as a fumigant for dried fruit in Australia with a history of being a safe chemical.

"Ethyl formate occurs naturally in soil, water, vegetation and a range of raw and processed foods including vegetables, fruit, grain, beer, grapes, wine and animal products like milk and cheese," she says.

Weevils have very sharp claws that cling to the stem of the fruit. Credit: Dr Manjree Agarwal

"Unlike other fumigants, ethyl formate kills insects rapidly and its residue breaks down to naturally occurring products, formic acid and ethanol."

Part of the five commercial trials were done at fruit grower Harvey Giblett's Manjimup orchard, one of the largest WA growers of pink lady apples, producing about 1000 tonnes of the apple annually.

Mr Giblett is hopeful ethyl formate will help tackle the problem as he ships around 100 tonnes annually in the niche export market.

"If one weevil is found on the consignment by security officers, the consignment can't go. It is pretty stringent biosecurity control," he says.

The trials found a 100 per cent eradication of the weevil and the researchers are now applying for registration of the fumigant for ongoing commercial use.

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