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Why is Mistletoe killing our Macadamia trees?

Mistletoe, the beloved festive kissing plant, has become famous in the Australian macadamia industry but for all the wrong reasons.

A research investigation, led by mistletoe expert Professor Dave Watson from Charles Sturt University, is investigating the significant effect that native mistletoes are having on the production of macadamia nuts in Queensland.

Funded by Hort Innovation through the Macadamia R&D levy and government contributions, the project is visiting a number of affected orchards in Gympie and Bundaberg to understand the factors that influence their distribution and impact, and to identify what management options are the most effective.

Professor Watson said mistletoe was a parasitic plant that lived off the nutrients and water from a host tree.

“It uses the host tree as a root system to support its growth,” he said.

“Mistletoe rely on birds to spread their seeds, in particular the Australian mistletoe bird that stems from the flowerpecker family and eats little else.

“The birds feed off the fruit but cannot digest the seed, and as such deposit them on to the branch of another tree, usually within minutes – causing rapid germination and sending a root into the host.”

Professor Watson said he had already identified three (3) individual species of mistletoe affecting macadamia tree crops.

“However, we actually have more than 90 different native species of mistletoe, 72 of which are endemic to Australia,” he said.

“Mistletoe grows quite freely and unproblematically in the bush. The issue it raises with tree crops is that it diverts nutrients away from the host plant, and macadamia trees in particular, lose their ability to produce crop.

“A severe mistletoe infection can deplete a mature macadamia tree of all its nutrients within just three years, which if left unchecked, can cause the premature death of the tree.”

Professor Watson said this research would help develop options to mitigate the deleterious effect of mistletoe on Macadamia tree crops.

“Macadamias are the only horticultural crop in Australia to experience issues with mistletoe, and initial grower consultations have revealed that some of the newer varieties may be more susceptible to being affected,” he said.

“This research will help to identify the underlying causes of increased mistletoe numbers in macadamia trees, and evaluate potential management options.

“Providing habitat for a native mistletoe feeding caterpillar and for wildlife who are partial to the taste of mistletoe could provide a low cost, and natural solution.”

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