

citrus

case study

Horticulture
Innovation
Australia

Citrus
Australia



Grower

Kevin Cock

Location

Buronga, NSW

Project number

CT15006

Project

Managing gall wasp

Key points

Sunburn' spray reduces gall wasp infestation

New trials aim to reduce application cost

Non-harmful to beneficial insects

Protective spray reduces gall wasp

CITRUS gall wasp is proving an insidious pest and is making its presence felt in all citrus regions across Australia.

An industry project funded by Horticulture Innovation Australia is underway to develop national strategies to manage this pest.

During 2015-16, two large-plot field trials of Surround® were conducted in the Sunraysia and the Riverland to investigate its potential in citrus gall wasp control.

One trial was held on the Buronga, NSW, farm of Kevin Cock, who have 32 hectares of citrus, including early-, mid- and late-season Navels, mandarins, Valencias, and seedless Valencias.

"We've had trouble with gall wasp, particularly one patch, over the last three years," Kevin said.

"I haven't wanted to use a strong insecticide, because it messes up my IPM (integrated pest management plan). Cost is another big factor when considering options, as we are a high-cost country, so it's important to have low cost options."

Kevin and son, Nathan, agreed to take part in trials of Surround – a protectant against sunburn and heat stress – under the guidance of Jianhua Mo, a research entomologist with the NSW Department of Primary Industries.

Surround is wettable and refined kaolin. After spray, it forms a barrier film on the plant surface which acts as a protectant against sunburn and heat stress.

Trials on the Cocks' property were conducted in the most heavily infested patch.

Nathan has used the sprayer to apply different rates of Surround under a detailed plan.

These Case Studies have been funded by Horticulture Innovation Australia Limited using the national citrus levy and funds from the Australian Government.

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Citrus Gall Wasp damages citrus by producing galls that can weaken trees, making them spindly and unproductive.

The Sunraysia trial showed that two applications of Surround® just before and during the middle of gall wasp emergence greatly reduced the number and size of galls.

Compared with untreated plots, total weight of galls was reduced by >90% in treated plots. Average gall size was reduced by >35%.

In particular, the number of large galls (>100mm) was reduced by 99%. The Riverland trial showed similar results.

"It appears that the barrier film of Surround® on the plant surface also deterred egg-lay by CGW on citrus shoots, resulting in a reduction of gall size and abundance in the following season," Dr Mo said.



TOP: The Cock family use a sprayer to apply different rates of Surround® to their infested citrus trees.

ABOVE: Surround® forms a barrier film on the plant surface.

Dr Mo said Surround® sprays at the trial rates may be too expensive to many growers, an important factor, according to Kevin.

To lower the cost, trials held in 2017 will investigate the scope of reducing the application rate by using different wetters and water rates.

In addition to the Surround® trials, two field trials of Samurai® and Confidor® Guard have been conducted for the control of CGW larvae.

"Both were effective against CGW when applied in the soil, although the level of reduction in galling was not as high as that by Surround®," Dr Mo said.

"Confidor® Guard is currently registered in citrus for the control red scale. Samurai® is not yet registered in citrus."

More trials to be held this year will investigate the scope of reducing Surround® rate and the impacts of Samurai® on beneficials in citrus. 🍃

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