



Use of biological controls and native plantings to reduce pesticide use in vegetable crops

Rod and Tania Bruin operate Summit Organics, a certified organic vegetable farm, nestled beneath the stunning Wollumbin caldera and World Heritage-listed Border Ranges National Park.

The farm was experiencing periodic outbreaks of two-spotted spider mites, aphids and Rutherglen bugs across a variety of outdoor and protected crops. Rod found himself spending excessive time and money applying organic-certified sprays to knock down the rising populations of insect pests. In particular, spider mites that favour greenhouse environments.



Two-spotted spider mites and the damage they cause. Image courtesy of Jake Byrne, Biological Services.

Biological controls

The project involved strategic releases of predatory insects based on monitoring populations of the pests. Unlike conventional pest controls, biological controls rely on a sufficient population of the host to prey on for the treatment to be effective. The project also involved planting native Callistemon species to provide a nectar source for beneficial insects to feed on when pest populations decline.



Once mature, these native Callistemon species will help sustain populations of beneficial insects.



Rod and Tania Bruin from Summit Organics.

Positive outcomes

Lacewings, lady beetles and Californicus predatory mites proved to be the most beneficial controls, helping to keep two-spotted spider mites, aphids and Rutherglen bugs under control without the need for conventional sprays. With support from Tweed Shire Council, Summit Organics also held a field day to share their findings and raise awareness of the power of biological controls with other farmers.

Rod and Tania were so pleased with the results that releases of predatory insects is now standard practice on the farm requiring minimal spraying. Releases are based on regular monitoring of pest behaviour with a local biological control expert consulted to determine the most appropriate predators to release.

The small grant provided Summit Organics enough funding to trial the sustainable pest control methods with great outcomes while looking after the Tweed's internationally significant environment.

“The Sustainable Agriculture grant gave us the opportunity to trial a new approach that we had been thinking a lot about but just needed the encouragement and support to take a risk,” Rod said.