

Stephanus Malherbe works on the front line of innovative crop protection. He is an IPM Product Specialist at Biological Services, the company that has been driving adoption of integrated crop protection since way back in 1971. He and the rest of the company's team help growers to design and implement pest management programs with as much emphasis on beneficial organisms and as little use of pesticides as possible.

As he points out, the release of beneficials now plays an integral role in the crop production of many horticultural enterprises. "This isn't science fiction anymore. We're applying these strategies to thousands of hectares every year. As one example of a big success story for Australia, 90% of the strawberry industry is using some form of integrated pest management. Whether it's just releasing one organism, or a more complex program for protected crops, IPM is now an industry standard."

Given that background, Stephanus recognises the value of compatible chemical solutions. They must have a great fit and allow the beneficial species to flourish, making a powerful impact on target pests at the same time. That's exactly what Danisaraba® from BASF does.

"It's an ideal partner for any integrated program that focuses on spider mites," Stephanus says. "The right chemical at the right time makes a huge difference and Danisaraba will have minimal impact on predatory mites that clean up the spider mites or any other beneficials in the wider program. Wherever we have spider mite problems and the crop's on the label, we can use Danisaraba."

By 'spider mites', Stephanus means the well-known two-spotted mite and other web-spinning species like it. He points out that the miticides which were available 20 years ago are now affected by resistance in the main spider mite populations. When you combine that issue with the mites' very rapid population growth, he sees releasing predatory mites early – before pest populations build – as the most crucial element in the management of spider-mite infestations. However, Danisaraba has a very important role to play. It has minimal impact on predators and being relatively new has not yet developed any issues with resistance.

"We were really excited to hear that something new was coming to the market," Stephanus remembers. "We're always on the lookout for IPM-compatible chemistry to help ease the burden on the grower with a safe intervention early in the season, and we had good feedback about Danisaraba from the start. Bifenazate has been overused for many years and it's good to have an alternative. The older miticides don't work on spider mites anymore and many of them are toxic to predatory mites. Danisaraba gives us good results, so we've been able to give bifenazate a rest."

Biological Services work with a wide range of fruit and vegetable growers, with a particular emphasis on greenhouse and other protected crops. Danisaraba is already registered for use in apples, pears, citrus, grapes, almonds, strawberries, fruiting vegetables and ornamentals, but Stephanus says the company has acted on its own initiative to fill another gap in the market: "It just shows how much we need it that we've applied for a permit to use it in cucumbers."

It's important to keep good chemistry working for as long as possible, so Stephanus says Biological Services may reintroduce bifenazate to their programs again in the future to make sure there's less resistance pressure on both actives. For the time being, they make a maximum of two applications of Danisaraba in each growing season when it's really needed. Used in combination with the predatory mites, they are happy that it will remain an effective and strategic solution.

"If the mites have got a head start or heatwave conditions are affecting the beneficial populations, then you need a targeted chemical application. In strawberries, for instance, we generally use two early releases of predatory mites. It takes 6 to 8 weeks for the beneficials to build their populations. The key message we want to emphasise is that Danisaraba shouldn't be used as a standalone solution."

Once resistant populations develop, the pests won't stay confined to the properties where a specific crop protection product has been overused, so Stephanus's reminder applies across the industry: "We want the good chemicals to last longer, so good resistance management is vital."

As part of getting full value from every application, Stephanus also warns that Danisaraba, like every other agrichemical, needs to be applied with care. "It's stuff we don't talk enough about," he says. "You need to use the proper spray techniques, with accurate calibration, good water quality and volume, the right nozzles and lower sprayer speeds to attain good coverage." It's all part of making sure that every component of truly integrated pest management keeps doing the best possible job for as long as it can.

For more information about Danisraba®, speak to your local BASF representative or visit **crop-solutions.basf.com.au**



