BUGS FOR BUGS

Bugs for Bugs Update

Autumn 2019

Bugs for Bugs teams up with international biocontrol company **Biobest**

Biobest is a Belgium-based company renowned for pioneering bumblebee production for pollination in greenhouses. It now also produces a broad range of biocontol agents with a presence in 65 countries around the world.

Recently Biobest acquired a stake in Bugs for Bugs. We expect this collaboration to foster the expansion and enhancement of our offering to Australian growers.

This will allow us to expand our range of biocontrol agents and improve our reliability and consistency as we work hard to meet the rapidly growing demand for alternatives to conventional pesticides.

We are excited about this outcome and look forward to the benefits that will flow from this international alliance.

Photo (L to R): Marius Collatz and Dan Papacek (Bugs for Bugs) with Jean-Marc Vandoorne and Herman Van Mellaert (Biobest)

biobest® SUSTAINABLE CROP MANAGEMENT

What does this mean **for our customers?**

- Access to exciting new technologies and a broader range of products over time
- Greater efficiencies and reliability in production of our biocontrol agents
- A wider group on which to draw experience and knowledge of IPM systems from around the world

Night drone releases improve biocontrol in cotton

The cotton industry has worked hard over many years to reduce inputs of synthetic pesticides. Nevertheless a few key pests including mirids, silverleaf whitefly and mealybugs still require management.

Bugs for Bugs and Drone Agriculture have been working closely with cotton consultants and interested growers to develop strategies to improve the levels of biological control.

The aim is to take the pressure off the few remaining effective insecticides so that their useful life can be extended.

For the second season now, we have been using drone technology to release the parasitoid *Eretmocerus hayati* into cotton to control silverleaf whitefly. Field assessment has shown an increase in parasitoid activity which we hope will lead to a reduction in the number of chemical treatments required over the season.

Our cryptolaemus ladybird beetles and lacewings are both potential mealybug predators that, with further research may also contribute to more sustainable pest management in cotton.

Photo: E. hayati drone release.

Distributing at night helps avoid the negative impact of high temperatures during the critical phase of early establishment of our beneficials.

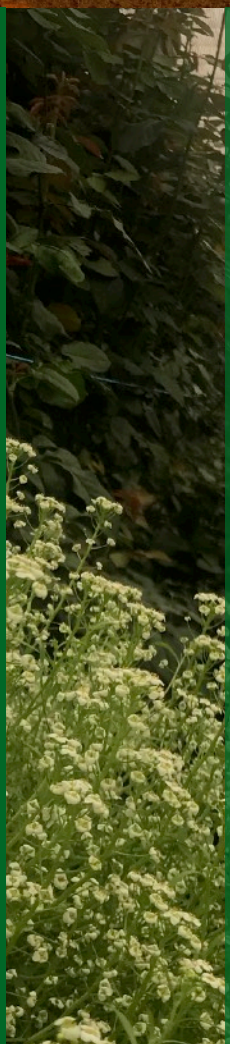
Getting the environment right in your crop

One of the most important messages we try to get across to commercial growers and backyard gardeners alike is the need to get the environment right in your crop.

It is pointless to release biological control agents or to expect naturally occurring ones to help you in your battle against pests if you don't offer them conditions in which they can survive and flourish.

Some of the most useful things you can do in this regard include:

- avoid toxic pesticide residues (spray less and use safer chemicals if you really need to spray)
- minimise dust and extremes of temperature
- offer pollen and nectar sources through plant biodiversity
- use banker plants to provide alternate hosts if available



Sweet Alice

An example of how biodiversity can work in your favour was demonstrated recently when excellent populations of montdorensis mites were found harbouring in a stand of Alyssum (Sweet Alice) at a flower farm in south east Queensland.

The numbers present were little short of astonishing and lead us to believe that this might be a strategy that we could adopt more widely.

Consultant profile: **Chris Monsour**

Chris started his career at the University of Queensland working on biocontrol of heliothis and other caterpillar pests. From there he moved to Bowen where he spent 8 years with Dale Abbott (Bowen Crop Monitoring Service). Chris and his wife Gaye now own Prospect Agriculture P/L, an independent consulting and research business that covers much of North Queensland.

Prospect Ag offers a wide range of IPM and agronomic services. The company also undertakes contract R&D projects from their own field station in Bowen. They employ four staff to meet the demand for their services.

Chris has become a strong believer in biological control and strives to offer his growers a full IPM package. His early involvement with insect pathogens fostered his interest in this area. The arrival of silverleaf whitefly and challenges with insecticide resistance led Chris to explore the augmentative release of *Eretmocerus hayati* and other beneficial insects and mites as part of his offering to growers.

Chris is excited by the opportunity to apply innovative technology and techniques for monitoring and managing crops pests. He sees this as critical to the ongoing evolution of sustainable crop protection strategies.

In his own words: "Bugs for Bugs provides a reliable service and great support for consultants. We have had regular visits from Paul, Marius and Dan. They don't just want to supply, they want to get feedback and help improve outcomes for growers."

Biocontrol for **codling moth and light brown apple moth**

We are busy ramping up a fresh strain of *Trichogramma carverae* for the coming season. This tiny wasp parasite was recently re-collected from egg rafts of light brown apple moth (LBAM) where it displayed 100% parasitism of the available eggs.

T. carverae is a highly efficient biological control agent for LBAM and codling moth. It can help your efforts to minimise the use of pesticides thus conserving them for the future. While we now have relatively 'soft' chemicals for these pests we know that the threat of resistance to these products is high.

Every time you use a biocontrol solution instead of a chemical one you are doing your bit to ensure sustainable production into the future.

Photos: female T. carverae wasp ovipositing into a LBAM egg raft (right); parasitised LBAM egg raft (inset)

Dan Papacek honoured with **Service to Industry Award**

Bugs for Bugs director Dan Papacek has been honoured with the 'Service to Industry Award' at the Citrus Technical Forum 2019 in Adelaide. Dan started his career as a citrus entomologist in 1978 when he moved to the rural township of Mundubbera to develop IPM on a large citrus orchard.

Dan and his wife Anne established Bugs for Bugs in 1981 with a focus on rearing parasites and predators for scale insects and mealybugs. Since those early days Bugs for Bugs has grown to be a significant enterprise with international links producing biocontrol agents that are shipped all round Australia.

Staff profile: **Estelle Prendergast**

Estelle joined Bugs for Bugs in November 1991 making her one of our longest serving staff members.

During her long career with us, Estelle has been totally reliable and dependable, being able to assist as required with most of our cultures. She has focussed mainly on the production of oleander scale and Aphytis wasps, and more recently on our two spotted mite backup system.

Estelle is known for being clean and tidy and keeps a weather eye on all our staff to ensure that the place remains in an orderly state. She and her husband Denis have lived in Mundubbera for 34 years and enjoy the friendly atmosphere of life in a small country town.

A new psyllid predator shows up in Australia

The ash grey ladybird was discovered several months ago feeding on psyllids in the fodder crop Leucaena in the Bowen district.

IPM consultant Chris Monsour sent samples to Dan Papacek (Bugs for Bugs) who forwarded them to CSIRO ladybird specialist Adam Slipinski. Adam quickly identified these as *Olla v nigra*, a species of ladybird known from other parts of the world as a voracious psyllid predator.

At this stage it is still unclear just how this insect arrived in Australia.

We would love to hear from you

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