

DIAMONDBACK MOTH MANAGEMENT

LOCKYER VALLEY

A Whole of Industry Response to a Major Production Challenge

In 2017, growers began reporting poor spray efficacy in brassicas targeting Diamondback moth.

Insecticide resistance testing validated growers concerns with Diamondback moth showing increased tolerance to all IPM compatible pesticides registered in brassicas with the exception of *Bts*.

Industry lead a series of complementary initiatives to address the problem including development of an Insecticide Resistance Management Strategy, workshops and monitoring and evaluation of the adoption of the program.

Survey results showed 95% of industry were aware of the Insecticide Resistance Management Strategy. This program is ongoing.



Diamondback Moth Management Committee

The DBM management committee was formed with the guidance of Michael Sippel, Lockyer Valley Growers Inc. with representation from growers, agronomists, resellers, researchers, chemical companies and CropLife Australia and chaired by Chris Rutland, Nutrien Ag Solutions to develop the IRMS. The committee continues to meet throughout the season to coordinate ongoing RD&E efforts.



RD&E Updates

In 2018, the Lockyer Valley Growers Inc. launched the IRMS with more than 50 industry personnel in attendance representing most brassica producers.

An update was again provided in the 2019 season with 35 industry personnel in attendance. One of the presenters, Patrick Press, Sumitomo, shared tips on how to get the most out of *Bt* sprays.



Impact of Pesticides on Beneficial Arthropods

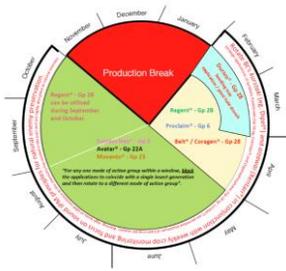
Through the HIA project *VG16067* lead by Jessica Page, IPM Technologies; scientists tested the impact of pesticides on beneficial arthropods of importance in brassicas.

Jessica Page, Paul Horne (IPM Technologies) and Lara Senior (DAF) visited growers to discuss the findings of the research and seek feedback on the usability of the *Pesticide Impact Guides* (available from April 2020).



On-farm Trials

Matt Crust of Crust farms assisted Mike Furlong's team from UQ in running research trials on-farm for a HIA research project *VG16062*, investigating flowering plants as food sources for parasitoids. Parasitoids including *Diadegma* wasp require a nectar source for optimum productivity. Furlong's team investigated the impact of flowering plants on beneficials.



Insecticide Resistance Management Strategy

The strategy is a 2-Window Strategy with a focus on Bt sprays & a production break through the Summer months. Development of the strategy was grower lead. In 2019, the strategy was updated with CroPLife Australia, taking into account new data from resistance testing conducted by Greg Baker, SARDI.



Insecticide Resistance Testing

Greg Baker's team at SARDI performed resistance testing for DBM collections from the Lockyer Valley funded through CroPLife Australia. Results showed elevated resistance levels to most pesticides registered in brassicas.



Workshops

In 2017, Lockyer Valley Growers Inc; Steve Kluck, Limit farms & Matt Moyle, Nufarm, hosted a Spray Demonstration Event at Limit farms using fluorescing dyes to demonstrate the importance of spray technology in optimising the performance of pesticides and adjuvants. More workshops are planned for the 2020 season.



Area Wide Parasitoid Releases

Information about Area Wide release of Diadegma, a parasitoid of DBM was shared in a 2020 workshop hosted by Bayer with advice provided by Jessica Page and Paul Horne, IPM Technologies. Diadegma is naturally occurring in cropping systems where only selective chemistry is used and is available for release through Biological Services. Image: DAF



Communication

Lockyer Valley Growers Inc. provided text message reminders and alerts to industry about changes to the IRMS Windows and development times of DBM. The Lockyer Valley Growers Website included a Resource page with information about Diamondback moth including the Development Calculator developed by Schellhorn and Hamilton.



Monitoring & Evaluation

CroPLife Australia conducted a M&E of the IRMS with assistance from Lockyer Valley Growers Inc. & DAF. 95% of surveyed industry were aware of the IRMS. Most growers were reporting good control of DBM using Bt sprays. Some growers reported that a production break was not feasible for their business.