

# EVALUATION OF INSECTICIDE AGAINST SOLENOPSIS MEALYBUG

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## Outline of Research

Solenopsis mealybug (*Phenacoccus solenopsis*) has been a pest of cotton in Australia since initial outbreaks in Emerald and the Burdekin in 2009. They can cause significant loss and damage to bolls via feeding and reduce lint quality due to honeydew production. With no insecticides registered for Solenopsis mealybug in Australia, this research evaluated the impact of insecticides registered for other pests of cotton. Impacts on beneficial insects was also recorded.

## Outline of results and findings

Three field trials were conducted to evaluate insecticides against Solonopsis mealybug. The trials were conducted in Bollgard® II irrigated cotton at Byee (2011-12) and Emerald (2012-13 and 2013-14). Treatment details are given in Table 1. The chemicals were applied with a gas pressured hand boom sprayer (107 L/ha). Mealybug and beneficial insect numbers were assessed visually. (Figures 1. Figure 2. Figure 3.)

None of the insecticides had any significant impact on mealybug. A moderate effect with Clap® was compromised by a low overall population and further trials where greater numbers are present would be required before this chemical could be considered as a management option.

## Benefits of Research

This research indicates that there is still no suitable chemical option for the control of Solenopsis mealybug. The best management options therefore remain preservation of beneficials and good farm hygiene. Removing beneficial predators causes mealybug populations to flair. Thorough cleaning of contaminated machinery and equipment and strict control of weeds and volunteer/ratoon cotton, especially in the off season, removes alternative hosts. These practices remain the most successful methods of controlling mealybug.

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### Further Information

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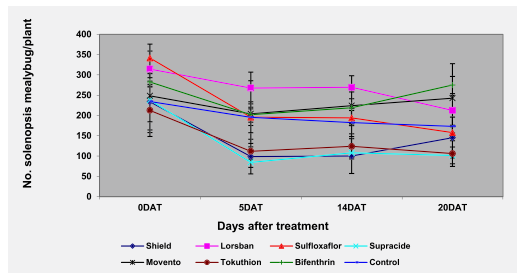


FIGURE 1. Byee 2011-12 trial results.

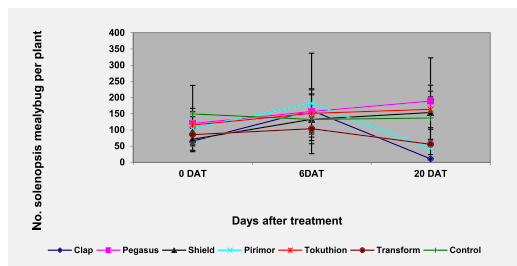


FIGURE 2. Emerald trial results 2012-2013.

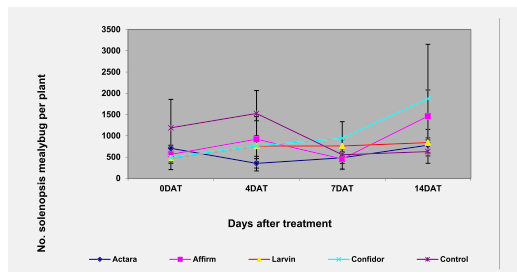


FIGURE 3. Emerald trial results 2013-2014.

Treatment	Formulation (g/L)	Rate (mL/ha)
<b>Byee 2011-12</b>		
Shield® + Maxx	Chlothianidin (200)	250 + 2% v/v
Lorsban®	Chlorpyrifos (500)	500
Transform®	Sulfoxaflo (240)	400
Supracide®	Methidathion (400)	1400
Movento®	Spirotetramat (240)	400
Tokuthion®	Prothiofos (500)	350
Talstar®	Bifenthrin (100)	800
Control	Untreated	-
<b>Emerald 2012-13</b>		
Clap®	Buprofezin (440)	1200
Pegasus®	Diafenthiuron (500)	800
Shield® + Maxx	Chlothianidin (200)	250 + 2% v/v
Pirimor®	Primicarb (500)	750
Tokuthion®	Prothiofos (500)	350
Transform®	Sulfoxaflo (240)	400
Control	Untreated	-
<b>Emerald 2013-14</b>		
Actara®	Thiamethoxam (250)	400
Affirm®	Emamectin (17)	700
Larvin®	Thiodicarb (375)	1000
Confidor®	Imidacloprid (200)	250
Control	Untreated	-

TABLE 1. Treatments and rates used in the trials.