Expand your horizons | Benevia®

INSECTICIDE

Benevia® Provides Outstanding & Extended Crop Protection in Strawberries

When applied early in the pest infestation cycle, Benevia® helps to keep pest populations below damaging levels

Benevia® provides:

- Unique cross-spectrum activity on a range of key chewing, sucking and rasping pests
- Rapid feeding cessation and provides immediate crop protection from feeding damage
- Impact on multiple life stages including pest reproduction
- Translaminar activity and local translocation aiding coverage and control of pests in hidden feeding sites
- A new MOA for sucking and rasping pests – and is effective against pests resistant to other insecticides
- Selectivity to some key beneficial insects

Practical tips in Strawberries

Back to back applications for robust cross spectrum insect control

Target early developing populations when controlling Thrips. Ensure good spray coverage. Use in rotation with other effective thripicides and incorpoate with IPM practices

Benevia® has a new unique MOA for the control of sucking and rasping pests in Australian vegetable and fruit crops

Benevia® - Labelled Pests in Strawberries:

Chewing Pests

- Cluster caterpillar *(Spodoptera litura)*
- Cotton bollworm *(Helicoverpa armigera)*
- Light brown apple moth *(Epiphyas postvittana)*
- Native budworm *(Helicoverpa punctigera)*

Sucking Pests

- Green peach aphid *(Myzus persicae)*
- Melon aphid *(Aphis gossypii)*
- Strawberry aphid *(Chaetosiphon fragaefolii)*

Rasping Pests

- Onion thrips *(Thrips tabaci)* – suppression
- Plague thrips *(Thrips imaginis)* – suppression
- Western flower thrips *(Frankliniella occidentalis)* – suppression

Benevia® has an effect on multiple life stages and reduces pest population growth for more effective control

When applied at the beginning of the pest infestation, Benevia® impacts multiple life stages helping to maintain pest populations below economic threshold

Insect Pest Group	Life Stage Impacted		
	Eggs (ovicide or ovilarvicide)	Immature (larvae, nymphs)	Adult
Silverleaf whitefly	+++	+++	++
Lepidoptera	+++	+++	+
Aphid	+	+++	++
Thrips	+	++	++

Direct mortality or protection from plant feeding and disease transmission	Efficacy Level (%)
+++	High
++	Medium
+	Low

Sources: DuPont field trials, summary of multiple field trials across geographies – 2005-2010.

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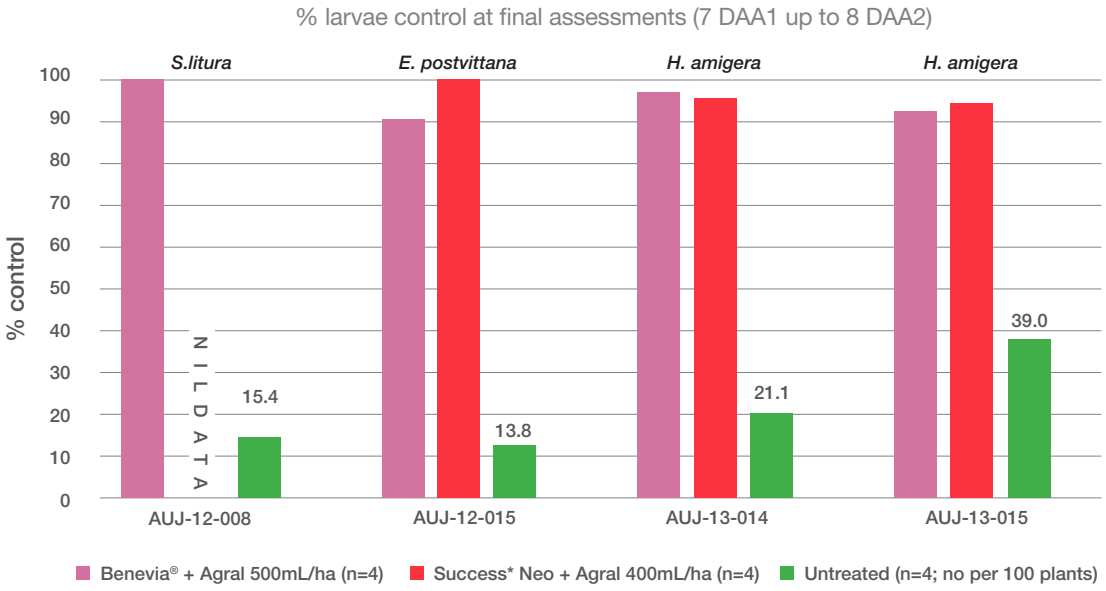
Benevia® - Reduces Pest Population Growth for more Effective Control

Larvae (caterpillar) control in Strawberries



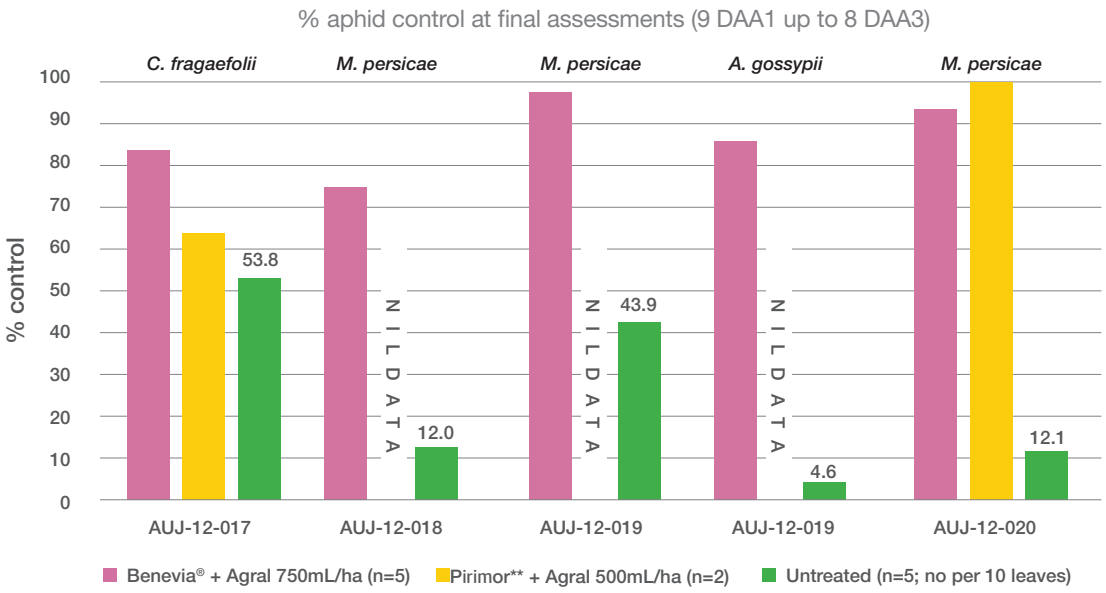
Sources:

AUJ-12-009, DuPont(Aust)P/L, Palmview, Q (2012)

AUJ-12-015; AUJ-13-015, R&D Solutions, Coldstream, Vic (2012-2014)

AUJ-13-014, Orchard Services, Stanthorpe, Q (2013-14)

Aphid (complex) control in Strawberries



Sources:

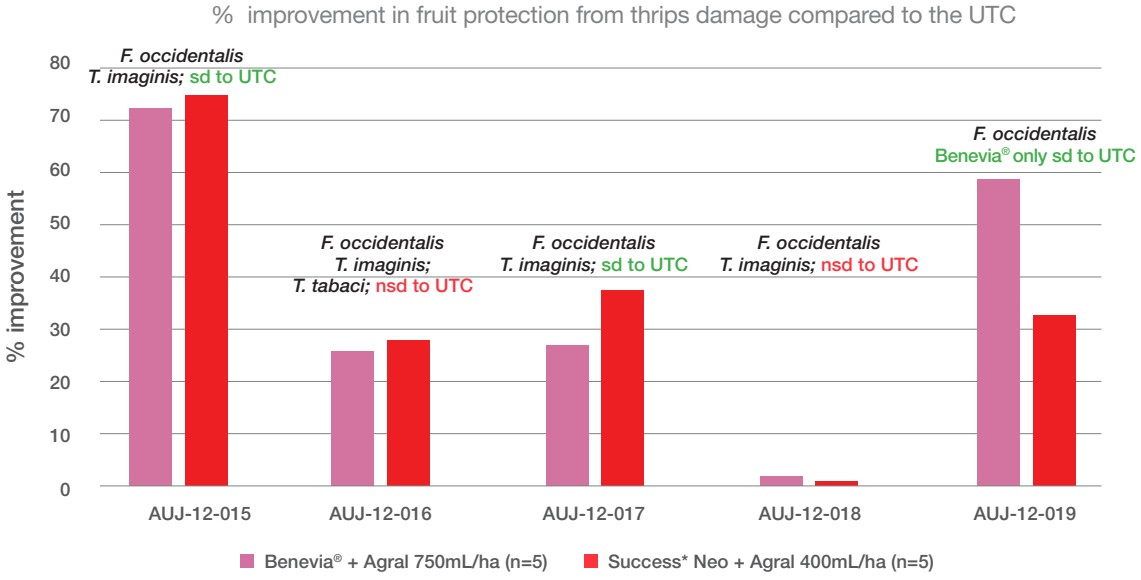
AUJ-12-017, Orchard Services, Stanthorpe, Q (2012-13)

AUJ-12-018, Peracto, Carey Gully, SA (2012-13)

AUJ-12-019, Peracto, Bundaberg, Q (2012)

AUJ-12-020, Coldstream, Vic (2012-13)

Thrips (complex) control and resultant fruit protection in Strawberries



Sources:

AUJ-12-015, R&D Solutions, Coldstream, Vic (2012-13)

AUJ-12-016, Peracto, Bullsbrook, WA (2012-13)

AUJ-12-017, Orchard Services, Stanthorpe, Q (2012-13)

AUJ-12-018, Peracto, Carey Gully, SA (2012-13)

AUJ-12-019, Peracto, Bundaberg, Q (2012)

Benevia® - Selectivity to Beneficial Insects

Benevia® helps to maximise benefits of natural enemies.

Benevia® has favourable selectivity to a range of beneficial arthropods, exhibiting moderate to no impact on some key pollinators, parasitoids and predatory mites. This makes Benevia® an ideal choice at the start of a season long Intergrated Pest Management (IPM) program in Strawberry crops after monitoring indicates the need to make an application. Benevia® when applied as per label directions works with nature to help growers keep pests under control.

IPM is a cornerstone for successful and sustainable Strawberry production so Benevia® will be a welcome addition to IPM programs and provide an effective pest control choice for growers.

Benevia® - Honey bee Selectivity Statement - Best Management Practice (BMP)

Honey bees are susceptible to Benevia® while foraging. However, once the spray has dried on the crop there is minimal impact.

Best practice is to apply when Honey bees are not actively foraging. For best results apply at dusk when the plant is dry.
NOTE: Morning applications to dewy canopies can take a considerable time to dry.

- **Best practice is to avoid direct application of any pesticide to actively foraging bees.**
- **The best time to apply Benevia® is when bees are not actively foraging.**

Benevia® - Controls Pests Resistant to other Mode of Action Insecticides (MOA)

With a new mode of action for sucking and rasping insects, Benevia® is equally effective against susceptible and resistant strains.

Overseas data has demonstrated that Benevia® is not affected by commonly occurring resistance mechanisms which are known to give resistance to other insecticides.

Benevia® provides a new and unique mode of action (MOA) to control sucking and rasping pests in Australian Strawberries.

Benevia®- Recommended positioning in Strawberries

STRAWBERRIES (6-7 MONTHS)	TRANSPLANT TO VEGETATIVE	FIRST FLOWER	FIRST FLOWER TO FRUIT SET	FRUIT SET TO HARVEST
				
Pests				
Cluster caterpillar	Mainly QLD			
Larvae (grub) complex				
Aphid complex				
Thrips complex				
Insect Control				
BENEVIA® (maximum 2 back to back sprays 7-10 days apart) -target multiple pests -some beneficial selectivity required		**1 insect generation Group 28 free spray period**	↓ ↓ **1 insect generation Group 28 free spray period**	Use a maximum of four (4) Group 28's per crop per season
Non Group 28 MOA application		↓ ↓	↓ ↓	

Benevia® insecticide label

CROP	PEST	RATE/HA	WHP (days)
Strawberries	**Chewing pests:** Cotton bollworm *(Helicoverpa armigera)* Native budworm *(Helicoverpa punctigera)* Cluster caterpillar *(Spodoptera litura)* Light brown apple moth *(Epiphyas postvittana)*	500 mL + non-ionic surfactant	1 day
	Sucking pests: Green peach aphid *(Myzus persicae)* Melon aphid *(Aphis gossypii)* Strawberry aphid *(Chaetosiphon fragaefolii)* **Rasping pests:** Onion thrips *(Thrips tabaci)* [Suppression only] Plague thrips *(Thrips imaginis)* [Suppression only] Western flower thrips *(Frankliniella occidentalis)* [Suppression only]	750 mL + non-ionic surfactant	

Maximum of **two** applications per crop per season

Insect Resistance Management (IRM) Principles for Benevia®

Benevia® is a GROUP 28 INSECTICIDE

To help prevent the development of resistance to Benevia® insecticide, observe the following instructions:

- → **Use Benevia® in accordance with the current IRM stratey for your region**
- → **Apply Benevia® using a "window" approach to avoid exposure of consecutive insect pest generations to the same mode of action**
- → **Successive applications of Benevia® are acceptable if they are used to treat a single insect generation. Apply a maximum of two (2) applications per crop**
- → **Following a "window" of Benevia® rotate to a "window" of applications of effective insecticides with a different mode of action**
- → **The total exposure period of Group 28 active windows applied throughout the crop cycle (from seedling to harvest) should not exceed 50% of the crop cycle**
- → **Incorporate IPM techniques into the overall pest management program**
- → **Monitor insect populations for loss of field efficacy**

Benevia® - WH&S & PPE Requirements

Signal warning

- **CAUTION -** May irritate the eyes and skin. Repeated exposure may cause allergic disorders.

Avoid

- Avoid contact with eyes and skin.

When mixing or applying wear

- Chemical resistant gloves.

Wash hands after use.

After each day's use wash gloves and contaminated clothing.

Need help? Contact your local representative if you need help with determining the best application parameters for your Benevia® spray.

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