

AFFIRM[®] insecticide in Pulses



syngenta.

Lepidopteron pests including Native Budworm and Cotton Bollworm (*Helicoverpa armigera* and *Helicoverpa punctigera*), Loopers (*Thysanoplusia* sp.) and Diamondback moth (*Plutella xylostella*) can build up quickly in pulse crops, and if left uncontrolled, they have the potential to reduce crop yield and grain quality.

**ACTIVE CONSTITUENT: 17 g/L EMAMECTIN present as EMAMECTIN BENZOATE
GROUP 6 INSECTICIDE**

AFFIRM:

- **Control of *Helicoverpa*, Loopers and Diamondback moth in summer and winter pulse crops.**
- **A new Mode of Action supporting resistance management.**

AFFIRM is registered for the control of various Lepidopteron pests in summer and winter pulses. AFFIRM belongs to the Group 6 or 'mectin' group of insecticides and delivers a new Mode of Action (MOA) to rotate chemistry and prevent the development of resistance. The MOA is via the activation of the chloride channel within the insect's nervous system; this MOA is different to organophosphate (Group 1A) and pyrethroid (Group 3A) insecticides.

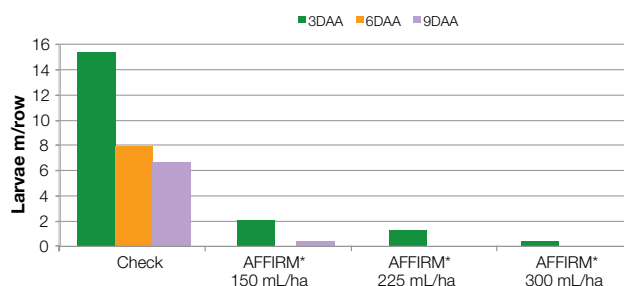
How does AFFIRM work?

Emamectin, the active ingredient of AFFIRM, is from a novel chemistry group naturally derived from a soil bacteria; its MOA results in paralysis of the larvae after intake of the product. AFFIRM is most effective early in the insect's lifecycle; as an ovi-larvicidal insecticide, it controls neonate larvae as they hatch from the egg. Where high egg lays have occurred the addition of an ovicide is recommended.

AFFIRM is a true translaminar insecticide that is rapidly absorbed into green foliage, building a reservoir of active ingredient within the leaf. As a result, AFFIRM is rainfast within two hours of application.

AFFIRM efficacy and application

Application timing of AFFIRM is important for effective control. For the best result, apply AFFIRM at, or just prior to the larvae hatching as indicated by egg levels or scouting. Earlier larval stages are easier to control; DO NOT target larvae larger than 5mm (very small to small). Use the lower rate to control larvae when the crop growth stage or insect activity does not favour rapid population increase. The higher rate is recommended when insect activity favours rapid population development or where longer residual control is required.



Control of small *Helicoverpa* larvae (<5mm) on Chickpeas (NSW, 2010).

DAA = Days After Application

* AFFIRM tank mixed with Pulse @ 0.2% v/v

Pest	Rate
<i>Helicoverpa armigera</i> , <i>Helicoverpa punctigera</i>	150 to 300 mL/ha
Loopers <i>Thysanoplusia</i> sp. Diamondback moth <i>Plutella xylostella</i>	Add a non-ionic surfactant at recommended label rate

NB: Always refer to the product Label for all Directions for Use

AFFIRM efficacy and application cont.

AFFIRM requires thorough spray coverage to be effective. For ground application ensure spray volumes are at least 80 - 100L/ha (depending on the crop canopy size); for aerial applications use a minimum of 20L/ha. DO NOT apply as a ULV application for aerial application. DO NOT allow entry into treated areas for 12 hours after treatment. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrist and chemical resistant gloves.

DO NOT make more than two (2) applications per season, with a minimum interval of seven (7) days between applications. If further applications are necessary, rotate to an approved product from a different MOA group.

AFFIRM and Beneficial Species

AFFIRM's high activity on Lepidopteran larvae and relatively low ecological impact make it the ideal solution for growers who want to maximise the result but minimise any effect on beneficial species.

Beneficial species	Pest species controlled	Very low (<10%) disruption	Low (10-20%) disruption	Moderate (20-40%) disruption	High to v. high (>40%) disruption
<i>Aphidoletes aphidimyza</i>	Aphids	Green			
Spiders	Helicoverpa	Green	Green		
Apple Dimpling Bug	Mites	Orange	Orange	Orange	Orange
Ladybird	General predator	Green			
<i>Cotesia</i> spp.	Diamondback Moth	Green			
<i>Diadegma insularis</i>	Diamondback Moth	Green			
<i>Diglyphus begini</i>	Helicoverpa	Green			
Red and Blue Beetle	Helicoverpa	Green	Green		
Ants	Helicoverpa	Green			
Predatory bugs	General predator	Green	Green		
<i>Microhymenoptera</i> wasps	Helicoverpa	Green			
Lacewings	Aphids	Green	Green		
Rove Beetles	Caterpillars, slugs	Green			
Spined Soldier Bug	Caterpillars	Green	Green		
Cabbage White Parasite	Cabbage White Butterfly	Green			
<i>Trichogramma</i> spp.	Helicoverpa	Green			

Protection of Bees

AFFIRM is highly toxic to bees and will kill bees foraging in the crop to be treated or in hives which are oversprayed or reached by spray drift. Residues may remain toxic to bees for several days after application. DO NOT spray any plants in flower while bees are foraging.

Before spraying, notify beekeepers to move hives to a safe location with an untreated source of nectar, if there is potential for managed bees to be affected by the spray or spray drift.



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