



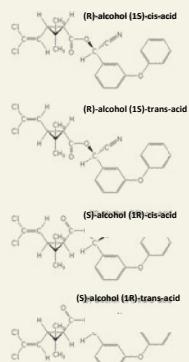
Defiance

Active Ingredients: beta-Cypermethrin 4.5% + Emamectin-benzoate 0.3% ME.



Armyworm

beta-Cypermethrin :



- ⇒ **beta-Cypermethrin** is a contact and stomach, synthetic pyrethroid insecticide, with knock-down effect, used to control a wide range of insects on agricultural crops.
- ⇒ **Molecular Formula:** $C_{22}H_{19}Cl_2NO_3$.
- ⇒ **Mode of Action:** Nerve action as a sodium channel modulator
- ⇒ **IRAC Group:** 3A

Unique ME – Micro Emulsion formulation!

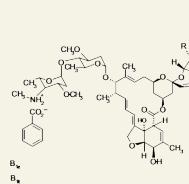
Defiance 4.8% ME™ is a powerful, broad-spectrum, micro-emulsion, contact and stomach insecticide with translaminar action for the control of Lepidoptera pests, soft body pests and the suppression of Spidermites on a wide range of crops.

Defiance 4.8% ME™ is an innovative ME (Micro-Emulsion) insecticide with a broad-spectrum of activity in a wide range of crops.

Defiance 4.8% ME™ effectively combines synergistic active ingredients with different and highly complementary modes of action.

- Beta-Cypermethrin provides **Defiance 4.8% ME™** with quick-knock down effect, while Emamectin benzoate with its translaminar qualities ensures residual crop protection.

Emamectin-benzoate :



- ⇒ **Emamectin-benzoate** is a natural fermentation product deriving from soil bacteria. It has limited systemic activity but will penetrate the plant tissues in a translaminar way to provide residual control.
- ⇒ **Molecular Formula:** $C_{49}H_{75}NO_{13}$.
- ⇒ **Mode of Action:** Emamectin-benzoate has a unique mode of action which is different from any other insecticide. Emamectin-benzoate interferes with the pests nervous system, causing them to loose cell function and stop feeding. The larvae die in 2-4 days.

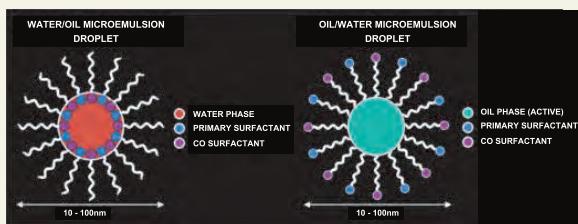
- ⇒ **IRAC Group:** 6

Defiance 4.8% ME™ Advantages

- Broad-spectrum of activity
- Contact and stomach action
- Synergistic effect of the 2 Active Ingredients
- Suitable for use on a wide range of crops
- Easily absorbed in plant tissues and digested by the target pest
- Not phytotoxic when used as directed

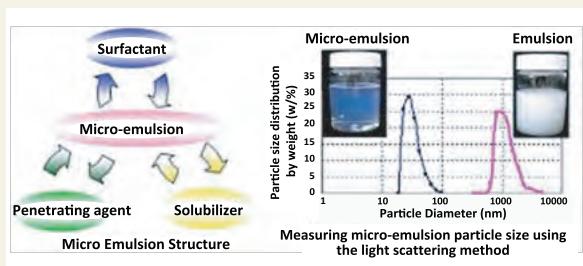
ME: Micro-Emulsion formulation:

The water and the oil coating protect each other against adverse effects. Coating inside a coating system for maximum efficacy.



ME unique formulation guarantees:

- Increased Efficacy
- Increased Rain-fastness
- Increased Stability
- Increased Safety



Directions for Proper Use:

- **Defiance 4.8% ME™** should be mixed with water to be ready for use.
- It may be applied with any type of spraying equipment.
- Ensure thorough and even coverage of the canopy.

Rate of Application:

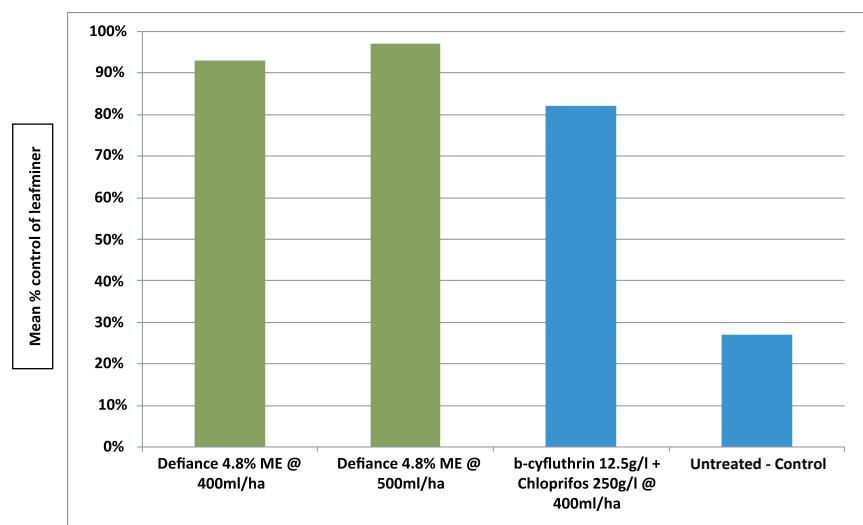
Crop	Target Pest	Application rate
Vegetables	Leafminers, Armyworms, Aphids, Whiteflies, Thrips, Spidermites	0.4 – 0.7 lt/ha
Potatoes	Colorado beetles, Leafminers, Armyworms, Aphids, Whiteflies, Thrips, Spidermites	0.5 – 0.8 lt/ha
Soybeans	Aphids, Whiteflies, Leafminers, Thrips, Armyworms, Spidermites	0.4 – 0.6 lt/ha
Cotton	Armyworms including Pink and Red Boll-worms, Aphids, Whiteflies, Thrips, Spidermites	0.4 – 0.6 lt/ha
Coffee, Cocoa	Leafminers, Armyworms, Aphids, Thrips, Spidermites	0.6 – 0.8 lt/ha
Ornamentals	Leafminers, Armyworms, Aphids, Whiteflies, Thrips, Spidermites	0.5 – 0.8 lt/ha
Tobacco	Armyworms, Leafminers, Armyworms, Aphids, Whiteflies, Thrips, Spidermites	0.4 – 0.8 lt/ha
Maize	Maize stalk borers, Thrips, Aphids, Leafminers, Spidermites	0.4 – 0.6 lt/ha
Cereals (Wheat, Barley)	Armyworms, Cut-worms, Leafminers, Russian Aphids, Spidermites	0.4 – 0.6 lt/ha

Field Trials

Extensive field research has proven the increased efficacy of **Defiance 4.8% ME™**.

In Holland, during 2015, **Defiance 4.8% ME™** was extensively trialled for the control of Leafminers in potato.

The results are depicted in the following graph:



Note: Means in each column followed by the same letter do not differ significantly at the 5% level using the LSD test.

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