



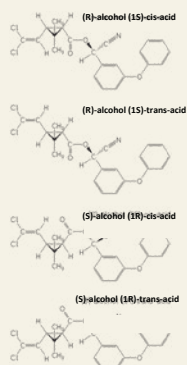
Defiance

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



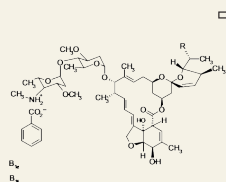
Armyworm

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

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 translaminary 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 lose cell function and stop feeding. The larvae die in 2-4 days.
- ⇒ **IRAC Group:** 6

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.

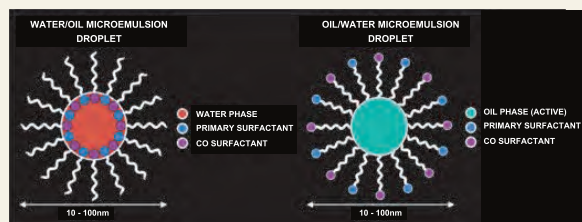
- Beta-Cypermethrin provides **Defiance 4.8% ME™** with quick-knock down effect, while Emamectin benzoate with its translaminar qualities ensures residual crop protection.

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

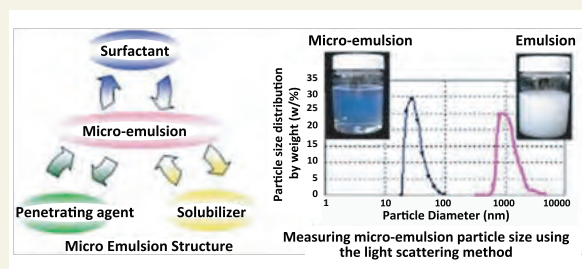
ME: Micro-Emulsion formulation:

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



Disclaimer: This information and all further technical advice is based on our present knowledge and experience and approvals from the registration authorities. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. In the event of any discrepancies between the information stated herein or any other information source and the information stated on the label of the product, the information stated on the label of the product will prevail. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of the customer. Reference to trade names use by other companies is neither a recommendation, nor does it imply that similar products could not be used.

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 Bollworms, 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

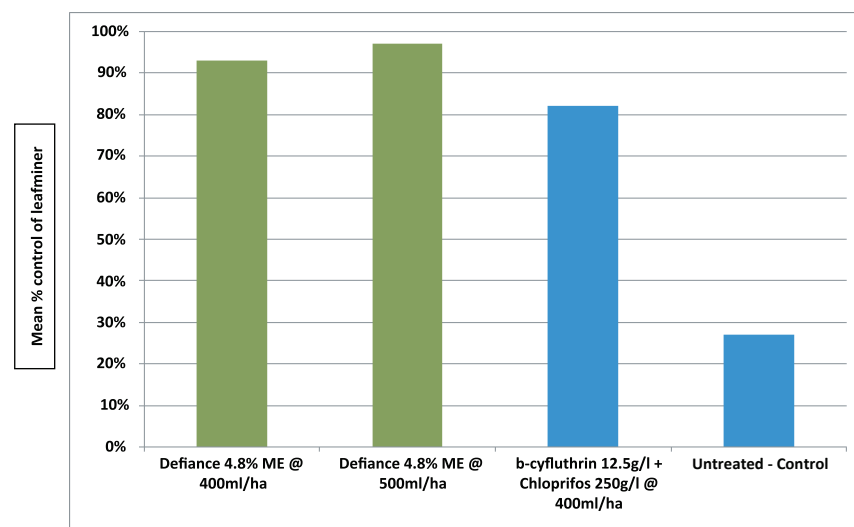
Field Trials

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.