



 **Levo**



**Sophora flavescens plant extract
Biological Insecticide**

Sineria



Introduction

Levo SL™ is a new broad spectrum Biological insecticide for use on a wide range of crops against a wide spectrum of pests. **Levo SL™** shows excellent efficacy against many species of plant-eating spidermites, yet it is able to discriminate and has a low mortality rate against beneficial insects and mites.

Levo SL™ is a natural derivative from the plant *Sophora flavescens*, a well-known medicinal plant, widely used in various pharmaceutical formulations and traditional medicinal remedies.

Levo SL™ has a low residue index – This important character qualifies **Levo SL™** to be used in IPM programs as well as in Organic Agriculture and in other cases where low residue products are required.

Mode of Action

Levo SL™ exerts its function mainly by direct contact and as stomach insecticide and has additional anti-feeding and repelling effects. The natural active ingredient of **Levo SL™** is extracted and derived directly from the seeds of *Sophora flavescens*. Insects treated with **Levo SL™** display breath inhibition and motion imbalance symptoms related to the Central Nervous System.

Levo SL™ has a multiple mode of action:

1. **Levo SL™** accelerates the Acetyl Cholinesterase enzyme activity. Due to over activity of the enzyme the insect paralyses and its respiratory fails.
2. **Levo SL™** results in the elevation of the phenol oxidase (PO) enzyme activity. Consequently, when this enzyme

activity increases without control, the insect paralises and dies.

3. **Levo SL™** causes a significant decrease in the activity of carbohydrate hydrolyzing enzymes activity; without it, the insect digestive system fails and the insect paralizes.
4. **Levo SL™** contains a complex of secondary metabolites, which act as a defender against microbial pathogens and invertebrate pests, arming the plants against its parasites. Hence, protecting the plants for a longer period of time and making them less susceptible to secondary infections and pest reoccurrence.

Through various field studies it was proven that **Levo SL™** has a repellent and/or deterrent activity that results in a lower food intake by the insects.

Key Target Pests

- Aphids
- Thrips
- Lepidoptera species such as Diamond-back moths
- Spidermites

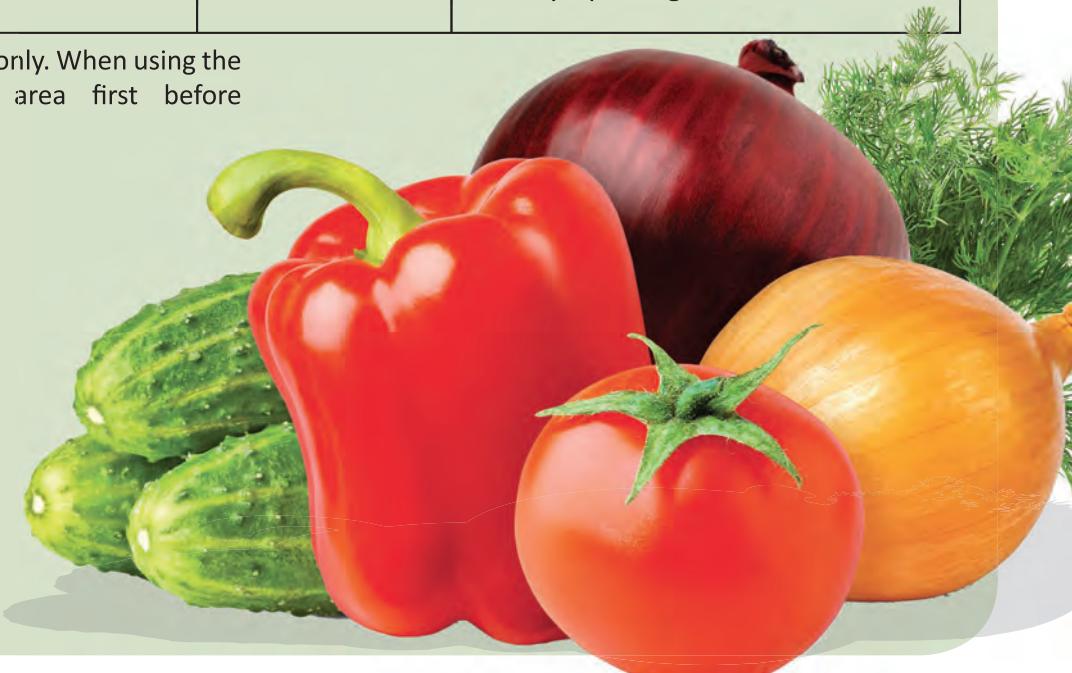
Advantages

- High efficiency against a wide range of pests
- Pest Resistance Management programs compliant
- Ideal for IPM program due to **Levo SL™** safety to Beneficials, such as *Phytoseiulus sp.* and bumblebees
- Low MRL Index
- Stimulates crop growth and general well-being, making plants less vulnerable
- Suitable for application as foliar pesticide as well as drenching with irrigation water
- Can be used in Biological and Organic agriculture

Directions for Use:

Plants	Target Pests	Rate of Application per Ha	Usage stage
Vegetables  	Diamond-back moths, Cutworms, Armyworms	0.8 - 1.0 Lt	Foliar spray from egg stage to 2nd nymph. Spray equally and thoroughly.
	Aphids	0.6 - 0.8 Lt	
	Cabbage worms (<i>Pieris brassicae</i>)	0.8 - 1.0 Lt	
	Spidermites	0.6 - 0.8 Lt	Spray 3-5 days before prosperous stage. Ensure complete coverage of the plants.
	Leafminers	0.8 - 1.2 Lt	Complete coverage of both leaf surfaces (upper and lower) is important.
Cotton	Aphids (<i>Aphis gossypii</i>), Russian Aphids (<i>Diuraphis noxia</i>) and Whiteflies	0.6 - 0.8 Lt	Apply as a full cover foliar spray. Complete coverage of both leaf surfaces.  
	Jassids and Leaf hoppers (<i>Empoasca devastans</i>), Thrips	0.8 - 1.2 Lt	
	Lepidoptera, Bollworms (<i>Heliothis sp.</i>) and Armyworms	0.8 - 1.0 Lt	
Pome and Stone Fruits	Pear psylla, Spidermites and Peach fruit borers	0.8 - 1.0 Lt	Spray at the immature stages of the insect. Foliar spray from egg stage to 2nd nymph. Spray equally and thoroughly.
Tobacco	Aphids, Leafminers, Budworms	400 - 800 ml / 1000 Lt water	Full cover spray to both surfaces of the leaf at first signs of pest infestation. Ensure even coverage of the foliage.
Ornamentals	Two-spotted spidermites, Aphids, Thrips and Lepidoptera	0.8 - 1.0 Lt	Spray at the prosperous stage of nymph and early stages of infestation.
Coffee, Tea & Cocoa	Aphids and Mirids	0.6 - 0.8 Lt	Spray from the egg stage to the 2 nd nymph stage.

* The rates given are reference rates only. When using the product, always test a small area first before commencing commercial use.





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 **Levo**

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