



**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 paralyses 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 paralyzes.
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

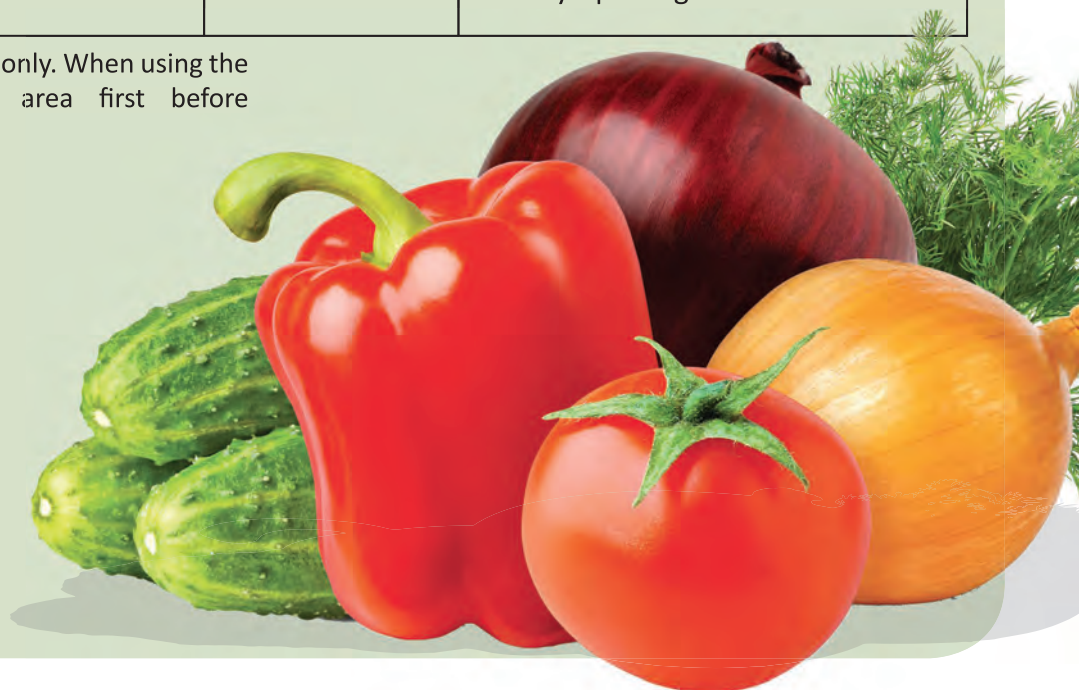
## Advantages

- 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<br> | 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.<br> |
|  | 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.  |
| Tobbaco  | 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 <sup>nd</sup> 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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[www.Levo24SL.com](http://www.Levo24SL.com)

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