In university trials, Grandevo Bioinsecticide has shown to be effective in controlling Spotted Wing Drosophila, with the added benefit of delaying insecticide resistance.

**EFFECTIVE AGAINST:**
- Mites
- Whitefly
- Mealybug
- Spotted Wing Drosophila
- Leafhoppers
- Thrips and more...

**THE NEW BACKBONE OF YOUR INSECTICIDE/MITICIDE PROGRAM**

- Cross-spectrum protection against chewing and sucking insects and mites
- No acute toxicity to adult honey bees, easy on pollinators and beneficial insects
- Approved for field and greenhouse applications
- Quality control tested to ensure no human microbial pathogens
- Multiple modes of action: repellency, ingestion, reproduction disruption
- Tolerance exempt

**In Trials**

In university trials, Grandevo Bioinsecticide has shown to be effective in controlling Spotted Wing Drosophila, with the added benefit of delaying insecticide resistance.

**OVIPOSITION AFTER FEEDING**

**BLUEBERRY**

- Untreated
- Imidan, Lannate, Delegate
- Grandevo

No. of SWD/lb. of Fruit

**Marrone Bio Innovations**
THE NEXT GENERATION OF BIOINSECTICIDES

Grandevo offers complex modes of action to manage a cross spectrum of chewing and sucking insects and mites on a wide range of crops. It provides a unique combination of long-lasting performance and operational flexibility, it carries no bee restrictions, is easy on beneficials, and is exempt from residue tolerances. Grandevo provides growers with an effective and reliable insecticide/miticide that is highly compatible with both integrated pest management (IPM) and insect resistance management (IRM) programs.

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Biological solutions present a whole new frontier for traditional growers. They prevent the same problems but in a way that is softer on the planet, the environment, farmworkers, and the watershed. —DAVID KNAUS, APICAL CROP SCIENCE

The compounds are produced in bacterial cells during the manufacturing process. The result is a potent biopesticide that is highly active against labeled insects and mites, and controls pests through novel combinations of oral toxicity, repellency, reduced oviposition and reduced fecundity (i.e., ability of the pest to reproduce). Grandevo has also been shown to maintain populations of most beneficials and introduced biological controls.

Over 70% Leafhopper Reduction with Grandevo

<table>
<thead>
<tr>
<th></th>
<th>Grandevo, 2lbs/acre</th>
<th>Untreated</th>
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<tbody>
<tr>
<td>June 6</td>
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<tr>
<td>June 11</td>
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<tr>
<td>June 28</td>
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Nymphs per Flush

0 12

Adjuvant

Adults on 10-Plant Sweep

THE ROLE OF GRANDEVO IN MODERN PEST MANAGEMENT

Grandevo is paving the way for new, innovative uses of advanced microbial insecticides in modern field and greenhouse pest management programs. Used alone or in combination with other pesticides, Grandevo offers exceptional control of labeled pests along with operational flexibility—making it ideal for use as the foundation or platform component for highly effective IPM and IRM programs.

NATURALLY DERIVED FROM A NEWLY DISCOVERED BACTERIUM

Grandevo is powered by multiple compounds with highly effective insecticidal properties, giving rise to complex modes of action.

ASIAN CITRUS PSYLLIS
P. STANSLY, UNIVERSITY OF FLORIDA, IMMOKALEE, FL

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<thead>
<tr>
<th></th>
<th>Grandevo</th>
<th>June 6</th>
<th>June 11</th>
<th>June 28</th>
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<td></td>
<td>Untreated</td>
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</tbody>
</table>

Nymphs per Flush

0 12

Grandevo, 2lbs/acre

Untreated

Adults on 10-Plant Sweep

71% REDUCTION IN NAVEL ORANGEWORMS WITH GRANDEVO

<table>
<thead>
<tr>
<th></th>
<th>Untreated</th>
<th>Chlorantraniliprole, Spinetram Program + Adjuvant</th>
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<tr>
<td></td>
<td>Program with Grandevo</td>
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Navel Orangeworm Severity on Almonds (200 nuts/plot)

0 50
RELIABLE PERFORMANCE

Grandavo’s performance profile—including unique and complex modes of action and cross-spectrum control, offers growers a fresh opportunity to develop a wide range of highly effective and efficient integrated pest management solutions that optimize yield and quality. Its broad application window and pest spectrum, enable Grandavo to be added into an existing pest control program or to act as the foundation product on which to build a program.

PRODUCTION FLEXIBILITY

Organic and conventional growers have the flexibility to use the same product with the unsurpassed benefits that Grandavo offers as a biological pesticide. Grandavo is recognized as fully compliant for use on organic crops by the National Organic Program (NOP) and is certified by the Organic Materials Review Institute (OMRI).

I’ve been really happy with Grandavo particularly with a thrip outbreak we had. We grow everything to LIVE Sustainability. It’s nice to choose the softer option, and that’s time and time again been Grandavo when we’ve needed it for different predators. —LAUREN EISOLD-SMITH, ATLAS VINEYARD MANAGEMENT

RESISTANCE MANAGEMENT

Grandavo is an ideal addition to resistance management programs as its complex modes of action greatly reduce the ability of insects to develop resistance. Using Grandavo in a program—as a tank mix partner or in rotation—with pesticides that are susceptible to insect resistance will extend their life as useful pest control agents.

OPERATIONAL FLEXIBILITY

Grandavo sets a new standard for pesticides that provide the greatest degree of operational flexibility. Grandavo carries a re-entry interval (REI) of only four hours, so farming operations can resume quickly. With a zero-day preharvest interval (PHI), growers can now protect crops right up to the day of harvest—preserving color, maturity and crop quality. In addition, Grandavo is exempt from maximum residue levels (MRL) on domestic and exported food crops. The product is approved for use in field and greenhouse applications and can be applied by air, ground or chemigation. Spray applications are allowed without a buffer zone.

GRANDEVOREDOUSESAPHIDSBY80%

Grandevo applied at 2 lbs per acre

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<thead>
<tr>
<th></th>
<th>Pre-count</th>
<th>Day 4</th>
<th>Day 6</th>
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<tbody>
<tr>
<td>GRANDEVIO</td>
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<tr>
<td>UNTREATED</td>
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Green Apple Aphids (per 1000 Terminals)

CHECK OUT GROWER VIDEOS
marronebio.com/videos
Sustainable & Effective Integrated Pest Management that increases your return on investment.

At Marrone Bio Innovations (MBI), we create products from microorganisms isolated from samples collected from unique niches and habitats such as flowers, insects, soil and composts. Our proprietary technology enables us to isolate and screen naturally occurring microorganisms and plant extracts in a highly efficient manner and to identify those that may have novel, effective and safe pest management or plant health promoting characteristics.

If you haven’t tried one of our products, we want to talk to you! Give us a call at (530)750-2800 or visit us at marronebio.com