Defend Your Crops
USING BIO WITH BITE.

PROTECT TREE NUTS FROM:
- Blossom Blight
- Walnut Husk Fly
- Brown Rot
- Peach Twig Borer
- Navel Orange Worm
- And many more...

With data from over 1500 trials, Marrone develops biological pesticides that are safe for workers, consumers, and the environment. We have pioneered techniques to provide uniquely powerful crop protection. From field to greenhouse, our award-winning biopesticides control insects, mites and disease, safely and sustainably, with great return on investment.

Grandevo® Bioinsecticide is an advanced bioinsecticide that suppresses or controls early insect populations, protecting your crops and helping to prolong the lifespan of other pesticides.

**BENEFITS:**
- Broad spectrum protection against sucking and chewing insects
- Easy on pollinators and beneficial insects
- Multiple modes of action
  - Repellency
  - Ingestion
  - Reproduction Disruption
- No effect on pollination and nut development

**BASIC USE INSTRUCTIONS:**
Apply 1-3 lbs per acre on 7-day interval. Begin applications early to reduce reproduction by adult sucking insects and mites and to target newly hatched or emerged larvae and nymphs. Under heavy populations, rotate Grandevo with other insecticides/miticides and tank mix with contact or systemic insecticides/miticides.

**KEY TARGET PESTS:**
- Navel Orange Worm
- Walnut Husk Fly
- Aphids
- Mites
- Walnut Scale
- San Jose Scale

**71% REDUCTION IN NAVAL ORANGEWORMS WITH GRANDEVO**

<table>
<thead>
<tr>
<th>Untreated</th>
<th>Chlorantraniliprole, Spinotram Program + Adjuvant</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>Program with Grandevo</td>
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</tbody>
</table>

**Grandevo is a good resistance management tool. This is where I see bioinsecticides having a real advantage. Grandevo and other bioinsecticides can definitely help with mode of action rotational programs.**

—JEFF LEWIS, RIVERVIEW FLOWER FARM

*Except Haven, all other products OMRI Listed and NOP Compliant*
Use Regalia® Biofungicide early for disease prevention and overall plant health, and through the season for continued disease control. Great resistant management tool in IPM programs.

**BENEFITS:**
- Better yield and harvest quality for conventional and organic tree nuts
- Apply early for late residue management
- Stimulates plant immunity and prevents disease
- Unique FRAC P5 Classification

**BASIC USE INSTRUCTIONS:**
Apply Regalia preventatively before disease gains a foothold. Use Regalia early and through the season for plant health, and even late in the season to avoid potential residue issues.

**Tank Mix Program:** 1 qt per acre of Regalia mixed with another fungicide, 10-14 day intervals

**Rotational Program:** 2 qt per acre of Regalia alternating with another fungicide, 7-10 day intervals

To avoid petal staining or burn do not exceed 1 quart in 50 – 100 gallons of water per acre during bloom.

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**85% LESS ALMOND ANTHRACNOSE WITH REGALIA**

<table>
<thead>
<tr>
<th>Incidence of Anthracnose (out of 5) per 25 leaves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated</td>
</tr>
<tr>
<td>Metconazole</td>
</tr>
<tr>
<td>Program with Regalia</td>
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</tbody>
</table>

**REGALIA REDUCES WALNUT BLIGHT BY 93%**

<table>
<thead>
<tr>
<th>Walnut Blight (% Affected)</th>
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</thead>
<tbody>
<tr>
<td>Untreated</td>
</tr>
<tr>
<td>Copper Hydroxide</td>
</tr>
<tr>
<td>EBDC</td>
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<tr>
<td>Program with Regalia</td>
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</tbody>
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**HAVEN® TREATMENT**
LEAVES NO VISIBLE RESIDUE

**SURROUND® TREATMENT**
LEAVES VISIBLE RESIDUE

**20% MORE ALMONDS WITH HAVEN THAN SURROUND**

<table>
<thead>
<tr>
<th>Almond Yield (Tons per Acre)</th>
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</thead>
<tbody>
<tr>
<td>Surround 50lbs/acre 4x</td>
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<tr>
<td>Haven 0.6% v/v 3x</td>
</tr>
</tbody>
</table>

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**Haven® Sun Protectant** contributes to a cooler canopy, reducing plant transpiration and blocking harmful solar radiations.

**BENEFITS:**
- Leaves no visible residue on the fruit making harvest and processing easier
- Increases yield by improving drought and heat stress tolerance
- Lowers internal leaf canopy temperatures
- Blocks harmful radiation like UV-B that harms plant tissue and growth

**BASIC USE INSTRUCTIONS:**
Applications should begin at early nut set. Apply at rates of 0.6% to 0.9% v/v in 100-200 gal solution per acre, 2-4 times at 7-14 day interval.
Venerate® Bioinsecticide is your go-to broad-spectrum in-season bioinsecticide. Venerate is an excellent addition to existing IPM and resistance management programs.

**BENEFITS:**
- Broad spectrum protection against sucking and chewing insects, mites and certain weevils
- Multiple modes of action
  - Exoskeleton degradation
  - Ingestion
  - Molting interference
- Non-toxic to fish, birds, and most beneficial insects, including honey bees

**BASIC USE INSTRUCTIONS:**
Apply 2-4 quarts per acre on a 7-day interval. No limit on number of applications per season. No spray buffer needed.

**KEY TARGET PESTS:**
- Navel Orange Worm
- Peach Twig Borer
- Aphids
- Mealybugs
- Peach Tree Borer
- Hickory Shuckworm

**37% INCREASE IN ALMOND HULL WEIGHT WITH VENERATE**

<table>
<thead>
<tr>
<th></th>
<th>Hull Weight (gm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated</td>
<td>0</td>
</tr>
<tr>
<td>Water Sprayed</td>
<td>10</td>
</tr>
<tr>
<td>Netted</td>
<td>30</td>
</tr>
<tr>
<td>Program with Venerate</td>
<td>30</td>
</tr>
</tbody>
</table>

“Venerate XC applied at 2 quarts per acre Hull Nut Weight (gm), 5 branches per plot

The biggest advantage for us is the reentry time and the pre-harvest times. The flexibility is huge for us. We grow a lot of acres so we’ve got to cover a lot of ground every single day, so it enables us to do that.

–KANE HANNAFORD, G&D FARMS

It’s important to have relationships with companies like Marrone who look for alternative methods, chemistries and processes for safer products. Their people are experienced and know how best to use biologicals and on which target insects. Marrone helps us move forward to better meet consumer demand.

–JEFF LEWIS, RIVERVIEW FLOWER FARM

My spray regimen always has biologicals in it. Every time I spray, I’ve got biologicals in my spray. Every time the tank goes out, it’s got it in there, and I’m keeping it on there. I’ve cut back my spray this year. I’ve done it three years in a row and I totally stand by it.

–MATT PARKE, PARKESDALE FARMS
**“A WHOLE NEW FRONTIER FOR TRADITIONAL GROWERS”**

Biological solutions present a whole new frontier for traditional growers. They prevent the same problems traditional growers would be looking to prevent but in a way that is softer on the planet, the environment, the farmworkers, and the watershed.

- DAVID KNAUS, APICAL CROP SCIENCE

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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

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