Defend Your Crops
USING BIO WITH BITE™

PROTECT GRAPES FROM:

- Powdery Mildew
- Omnivorous Leafroller
- Anthracnose & Botrytis Fruit Rot
- Grape Berry Moth
- Grape Leafroller
- 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®

Grandevo® Bioinsecticide suppresses or controls early insect populations, protecting your vines 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 fruit set

BASIC USE INSTRUCTIONS:

Tank Mix Program: apply 1-2 lbs/acre when tank-mixing with other insecticides

Rotational Program: apply 2-3 lbs/acre when alternating with other insecticides

KEY TARGET PESTS:
- Grape Berry Moth
- Two-spotted Spider Mite
- Leafhoppers
- Grape Leafroller
- Omnivorous Leafroller
- Mealybugs

OVER 70% LEAFHOPPER REDUCTION WITH GRANDEVO

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Adults on 10-Plant Sweep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grandevo, 2lbs/acre</td>
<td>0</td>
</tr>
<tr>
<td>Untreated</td>
<td>11</td>
</tr>
</tbody>
</table>

I've been really happy with Grandevo 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 Grandevo when we've needed it for different predators we need it.

—LAUREN EISOLD-SMITH,
ATLAS VINEYARD MANAGEMENT

* 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. It is a great resistance management tool in your IPM program.

**BENEFITS:**
- Prevents disease by boosting plant self-defense
- Better yield and harvest quality for conventional and organic grapes
- Late residue management from MRL exemption
- Unique FRAC P5 Classification

**BASIC USE INSTRUCTIONS:**
Apply Regalia preventatively before disease gains a foothold. Use Regalia early and through the season for vine 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

- Powdery Mildew
- Anthracnose & Botrytis Fruit Rot
- Downy Mildew
- SourRot

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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 and quality 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 fruit set. Apply at rates of 0.6% to 0.9% v/v in 50-100 gal solution per acre, 2-4 times at 7-14 day interval

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### 75% LESS POWDERY MILDEW WITH REGALIA

<table>
<thead>
<tr>
<th>Program with Regalia</th>
<th>Untreated</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Bacillus subtilis</em></td>
<td></td>
</tr>
<tr>
<td><strong>0</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

**Powdery Mildew Incidence (%)**

<table>
<thead>
<tr>
<th>UNTREATED</th>
<th>PROGRAM WITH REGALIA</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="untreated leaf" /></td>
<td><img src="image2" alt="program leaf" /></td>
</tr>
</tbody>
</table>

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### HAVEN ELIMINATES SEVERE SUNBURN, 57% LESS OVERALL DAMAGE

<table>
<thead>
<tr>
<th>UnTREATED</th>
<th>PHARMA® 1.0%</th>
<th>PHARMA® 2.0%</th>
<th>HAVEN 1.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>low damage</td>
<td>severe damage</td>
<td>severe damage</td>
<td>severe damage</td>
</tr>
<tr>
<td>medium damage</td>
<td>medium damage</td>
<td>medium damage</td>
<td>medium damage</td>
</tr>
<tr>
<td>high damage</td>
<td>low damage</td>
<td>low damage</td>
<td>low damage</td>
</tr>
</tbody>
</table>

**Number of Damaged Grape Clusters**

<table>
<thead>
<tr>
<th>SURROUND®</th>
<th>HAVEN</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3" alt="surround leaf" /></td>
<td><img src="image4" alt="haven leaf" /></td>
</tr>
</tbody>
</table>
Venerate® Bioinsecticide is your go-to broad-spectrum in-season insecticide. 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
- Flexibility of application with activity against adults and nymphs
- Non-toxic to fish, birds, and most beneficial insects, including honey bees
- Multiple modes of action
  — Exoskeleton degradation
  — Ingestion
  — Molting interference

**BASIC USE INSTRUCTIONS:**
Apply 1-4 quarts per acre on a 7-day interval.
No limit on number of applications per season.
No spray buffer needed.

**KEY TARGET PESTS:**
- Leafhopper
- Omnivorous Leafroller
- Mites
- Thrips

**VENERATE VIRTUALLY ELIMINATES LEAFROLLER DAMAGE**

<table>
<thead>
<tr>
<th>Program with Venerate</th>
<th>Bacillus thuringiensis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Towards the end of our season on our conventional side, the two-spots had gotten so bad. We’d thrown everything else we had at them, so I used Venerate to try to draw back the populations back and finish out the season. Going forward into another season Venerate will be the insecticide I go to for my organic side and it will be part of my conventional program as well.

—JOEL CONNELL, GRIMES FARMS

**“MARRONE REPS...TAKE OUR INTERESTS IN MIND”**

Marrone reps know what we really want is plant health and a successful crop year so they take our interests in mind. We grow a long season for one harvest day so 0-day PHI is really important as we get closer.
We need to protect against botrytis near harvest that I really need to rely on 0-day PHI.

—LAUREN EISOLD-SMITH, ATLAS VINEYARD MANAGEMENT

**“MY SPRAY REGIMEN ALWAYS HAS BIOLOGICALS IN IT”**

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
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

"A WHOLE NEW FRONTIER FOR TRADITIONAL GROWERS"

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