Defend Your Crops USING BIO WITH BITE.

Protecting cucurbits safely and sustainably.
Marrone biopesticides offer great return on investment, safely and sustainably. Backed by data from over 1500 trials, our products suppress disease, protect against insects and mites, and help prevent pest resistance. Our uniquely powerful crop protection is safe for workers, consumers, and the environment.

PROTECT CUCURBITS FROM:
- Powdery Mildew
- Downy Mildew
- Aphids
- Pickleworms
- Nematodes
- And many more...

Use Regalia® Biofungicide early for disease prevention and overall plant health and through the season for continued disease control. Great resistance management tool in IPM programs.

BENEFITS:
- Prevent disease by boosting plant self-defense
- Better yield & harvest quality for conventional & organic cucurbits
- Late residue management for 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 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

KEY TARGET PESTS:
- Powdery Mildew
- Anthracnose
- Gummy Stem Blight
- Phytophthora Blight

REGALIA REDUCES POWDERY MILDEW IN SQUASH BY 97%

<table>
<thead>
<tr>
<th></th>
<th>Percentage Leaf Surface Affected</th>
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<tbody>
<tr>
<td>Regalia</td>
<td>0</td>
</tr>
<tr>
<td>Strepomyces lydicus</td>
<td></td>
</tr>
<tr>
<td>Triflumizole</td>
<td>90</td>
</tr>
<tr>
<td>Untreated</td>
<td>90</td>
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</tbody>
</table>

REGALIA is OMRI Listed and NOP Compliant Exempt

* Except Haven, all other products OMRI Listed and NOP Compliant
The Bio-Conqueror of Downy Mildew.
An advanced biofungicide offering growers a sustainable mode of action to control Downy Mildew and a broad range of other fungal and bacterial diseases in cucurbits.

**BENEFITS:**
- Control Downy Mildew to increased marketable yield for top profit on every acre
- Simple IPM option gives peace of mind of sustainable disease management and resistance prevention on the farm
- Increases potential value of crop with no residue to worry about at harvest by being MRL-exempt
- Brings most flexible labor scheduling with 0-day PHI and 4 hour REI
- Application flexibility

**BASIC USE INSTRUCTIONS:**
Downy Mildew: 2-4 quarts/acre (foliar)
White mold: 2-4 quarts/acre (foliar)
*Fusarium*: 3-4 quarts/acre (soil)

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**40% HIGHER YIELD WITH STARGUS ON CUCUMBERS FOR DOWNY MILDEW**

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<thead>
<tr>
<th></th>
<th>Standard Program*</th>
<th>Untreated</th>
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<tbody>
<tr>
<td><strong>Yield T/ac</strong></td>
<td></td>
<td></td>
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<tr>
<td>Stargus</td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>Untreated</td>
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</table>

Disease Intensity Over Time (RAUDPC)

*Propamocarb hydroxide 2x, fluodicolide 2x, Cvmoxanil & Famoxadone 2x + chlorothalonil*

**KEY TARGET PESTS:**
- Downy Mildew
- White Mold
- *Fusarium*
- *Botrytis*

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**GRANDEVO®**

Grandevo® Bioinsecticide suppresses or controls early insect populations, protecting your cucurbits 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:**
- Aphids
- Mites
- Armyworms
- Thrips
- Pickleworms
- Cabbage Looper

We’ve seen great, great, great results out of Grandevo. We’ve used it for the past three years. It’s my number one product on thrips.

—CHRIS FALTER, MATHIS FARM

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**MORE DATA, CROP BULLETINS, LABELS AND SAFETY DATA SHEETS**

VISIT MARRONEBIO.COM
Majestene® Bionematicide controls or suppresses crop damaging nematodes to improve root health and increase cucurbit yields.

**BENEFITS:**
- Economically sustainable liquid bionematicide
- Can be applied at planting and in-season for whole-season nematode control or suppression
- No plant-back restrictions
- Flexible application: soil drench, in-furrow, or chemigation like drip or sprinkler irrigation

**BASIC USE INSTRUCTIONS:**
Apply 4-8 quarts per acre at a 21-day interval as part of an irrigation event. No limit on number of applications per season. No spray buffer needed.

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 and mites
- Quality control tested to ensure no human microbial pathogens
- Tolerance exempt—never worry about MRLs
- Multiple modes of action
  - Exoskeleton degradation
  - Ingestion
  - Molting interference

**BASIC USE INSTRUCTIONS:**
Apply 1-4 quarts per acre on a 7-day interval. Under heavy populations, Venerate can be rotated with other insecticides/miticides and can be tank mixed with contact or systemic insecticides/miticides. No limit on number of applications per season. No spray buffer needed.

**KEY TARGET PESTS:**
- Aphids
- Cabbage Looper
- Melonworm
- Mites
- Armyworm
- Thrips

Towards the end of our season on our conventional side, mites 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

**MAJESTENE REDUCES 67% OF NEMATODES FOR SUMMER SQUASH**

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<tr>
<th></th>
<th>Untreated</th>
<th>Fluopyram</th>
<th>Majestene*</th>
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Rootknot Klematode numbers in soil 60 DAP

*13 micrograms/ml product @ 2 gal

**83% REDUCTION IN SUMMER SQUASH ROOT GALLING WITH MAJESTENE**

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<th>Untreated</th>
<th>Fluopyram</th>
<th>Majestene*</th>
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<tr>
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<td>10</td>
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Root Galling (Routing?) 60 DAP

*13 micrograms/ml product @ 2 gal

CHECK OUT GROWER VIDEOS
PUMPKIN GROWER USING REGALIA
marronebio.com/videos
Haven® Sun Protectant contributes to a cooler canopy, reducing plant transpiration and blocking harmful solar radiation. It is derived from plant-based compounds that reflect light and heat to maintain lower leaf temperatures while at the same time reducing water loss, resulting in less stress to the crop and higher yields and quality.

**BENEFITS:**
- Leaves no visible residue on the crops
- 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 fruit set. Apply at rates of 0.6% to 0.9% v/v in 50-100 gal solution per acre, 2-4 times at 7-10 day interval.

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**TIMING OF APPLICATION**

<table>
<thead>
<tr>
<th>TRANSPLANT</th>
<th>FOLIAR DEV &amp; EXPANSION</th>
<th>FLOWERING</th>
<th>FRUIT SET</th>
<th>MATURATION</th>
<th>HARVEST</th>
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<tr>
<td>Regalia &amp; Stargus</td>
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<td>Grandevo</td>
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<tr>
<td>Venerate</td>
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<tr>
<td>Haven</td>
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<tr>
<td>Majestene</td>
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**SURROUND® TREATMENT**
- LEAVES VISIBLE RESIDUE

**HAVEN® TREATMENT**
- LEAVES NO VISIBLE RESIDUE

"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

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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