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Powdery Mildew Control on Grapes

Regalia® is a powerful, new tool to control Powdery Mildew, Botrytis Bunch Rot (see Botrytis Bunch Rot tech sheet), and other diseases of grapes. The development of fungicide resistant pathogens is a constant challenge in vineyards. New Regalia has a unique mode of action that assists in managing fungicide-resistant strains. Strobilurin and DMI chemistries have a known resistance risk, but the risk is extremely low with Regalia (see Compatibility Chart). Regalia can be used with all major fungicide chemistries including strobilurins, DMIs, quinoxyfen, oil, and sulfur.



Powerful Powdery Mildew Control

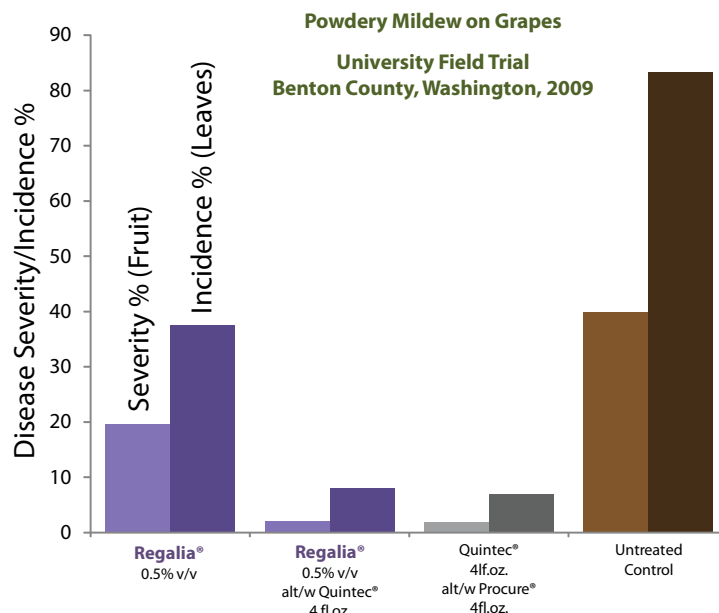
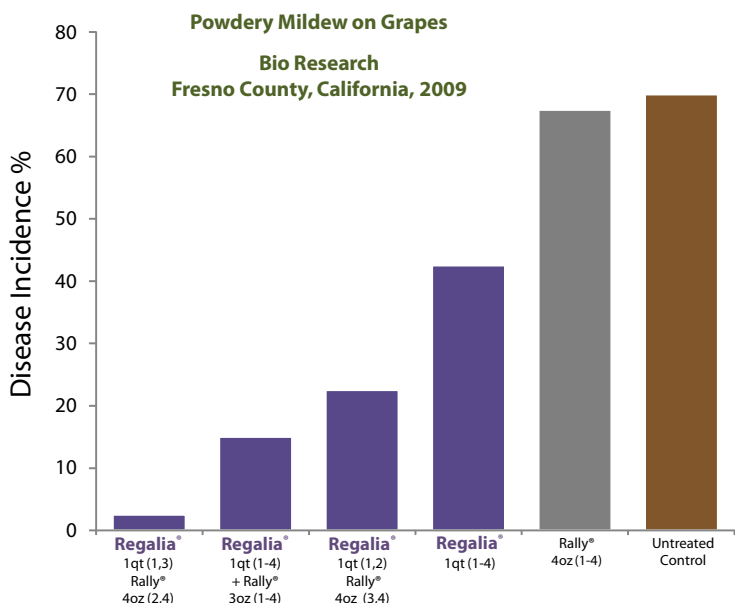
Season-long control depends on preventing early-season infection. Programs with Regalia provide excellent early and mid-season Powdery Mildew control. Recent trials performed in California and Washington prove that Regalia synergizes DMIs and quinoxyfen for superior control of powdery mildew. Field trials prove that Regalia alternated with myclobutanil provides better control than myclobutanil alone.

How Regalia Works

When treated with Regalia, the defense systems of grape vines are 'switched on' to protect against attacking diseases. Research proves that plants treated with Regalia produce and accumulate elevated levels of specialized proteins and other compounds known to inhibit fungal and bacterial diseases. Regalia induces a plant to produce phytoalexins, cell strengtheners, antioxidants, phenolics, and PR proteins, which are all known inhibitors of plant pathogens.

Regalia synergizes DMIs and quinoxyfen for superior control.

Regalia offers excellent early and mid-season control of Powdery Mildew.



- Treatments applied 4 times on 1= May 28 (pre-fruit set), 2= Jun 4, 3= Jun 11, 4= Jun 18 (bunch closure).
- Disease evaluated on Aug 5 (harvest).

- Treatments applied 6 times from Jun 4 (12-in shoots) to Aug 13 (veraison).
- Treatments applied in 62-145 GPA depending on crop maturity.
- Disease evaluated on Aug 20 and Aug 21.

Compatibility- Common Regalia Tank Mix Partners

Regalia is shown to be compatible with strobilurins such as Pristine® and Flint®, Demethylation Inhibitors such as Rally®, natural products such as JMS Stylet Oil®, and many other types of pesticide

chemistry including sulfur and copper. If compatibility with another product is unknown, a jar test should be conducted.

| Brand Name | Active Ingredient | Family Group | FRAC | Resistance |
|-----------------|--|-----------------------------|---------|----------------|
| Regalia® | Extract of <i>Reynoutria Sachalinensis</i> | Plant Host Inducers | P | Low |
| Rally®40 WSP | Myclobutanil | Demethylation Inhibitor | 3 | Medium |
| Vanguard WG® | Cyprodinil | Anilinopyrimidine | 9 | Medium |
| Pristine® | Boscalid + Pyraclostrobin | SDMI + Strobilurin (QoI) | 7 11 | Medium High |
| Flint® | Trifloxystrobin | Strobilurin (QoI) | 11 | High |
| Sovran® | Kresoxim-methyl | Strobilurin (QoI) | 11 | High |
| Quintec® | Quinoxifen | Quinolines | 13 | Medium |
| Kocide® 3000 | Copper Hydroxide | Inorganics | M1 | Low |
| Sulfur® DF | Sulfur | Inorganics | M2 | Low |
| JMS Stylet Oil® | Paraffinic Oil | Diverse- oil | NC | Unknown |

Regalia Best Use Recommendations

For best results against Powdery Mildew, use Regalia as a preventative treatment. For maximum disease control, begin applications at first shoot growth or before symptoms are visible. Repeat applications at 7 to 14 day intervals.

In low disease pressure situations or prior to conditions favorable for disease development, apply 1-2 quarts of Regalia per acre when tank mixed with another fungicide, or 2-4 quarts of Regalia when applied alone.

- REI = four hours.
- PHI = zero days.
- Rainfast = one hour.

Can Be Used in Conventional and Organic Production

For organic production, combinations of Regalia at 1-2 quarts per 50 gallons of water plus labeled rates of NOP compliant or OMRI listed copper fungicides will provide broad spectrum control of most foliar diseases on grapes.

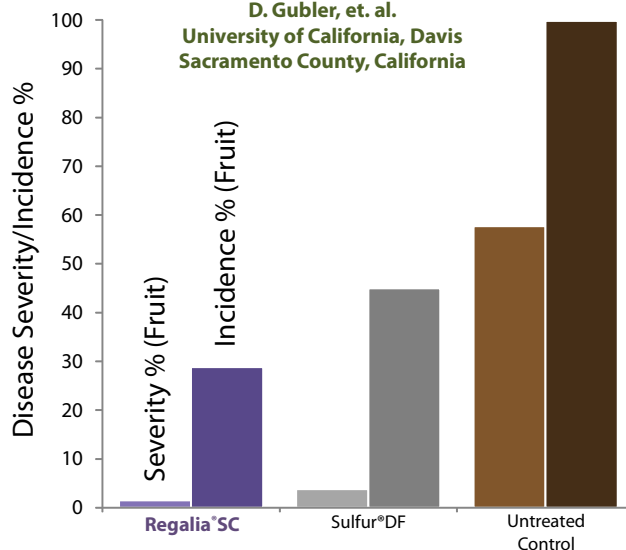


CAN BE USED IN ORGANIC PRODUCTION

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Powdery Mildew on Grapes

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- Treatments applied 7 times from Apr 27 (pre-bloom) to Jul 20 (veraison).
- Disease evaluated on Jul 27.



www.MarroneBio.com/Regalia

To control disease with powerful Regalia, contact your local retailer, or call:

Jesse Rosales, Coastal CA, 530-304-2030

Mark Allen, Northern CA and Pac NW, 530-304-9091

Mike Martinez, Southern CA and AZ, 559-288-3422

David Warman, Director of Sales, 336-202-3433