



A Powerful Fungicide for Disease Control on Leafy Greens

BROAD SPECTRUM DISEASE CONTROL

Regalia® offers growers an effective tool to protect crops against Downy Mildew (*Bremia lactucae*, *Peronospora* spp.) and other diseases including Powdery Mildew (*Erysiphe cichoracearum*), Lettuce Drop (*Sclerotinia minor*, *Sclerotinia sclerotiorum*), and Bacterial Leaf Spot (*Xanthomonas* spp.). Regalia offers growers a broad spectrum of fungal and bacterial control in just one product.

TOLERANCE EXEMPT

The active ingredient in Regalia is exempt from tolerance requirements on all food commodities by the U.S. EPA, and this exemption is published in the Code of Federal Regulations (40CFR180.1259). Many packers and handlers are requesting that growers do not use certain pesticides on leafy greens to reduce the potential of residues. Regalia is a viable alternative for growers looking for an effective replacement of these products.

AERIAL APPLICATION

During parts of the season, wet soil or crop conditions can make it difficult for growers to get spray equipment into fields. Regalia can be applied through aerial application, so growers can protect crops when field conditions do not favor the use of ground sprayers.

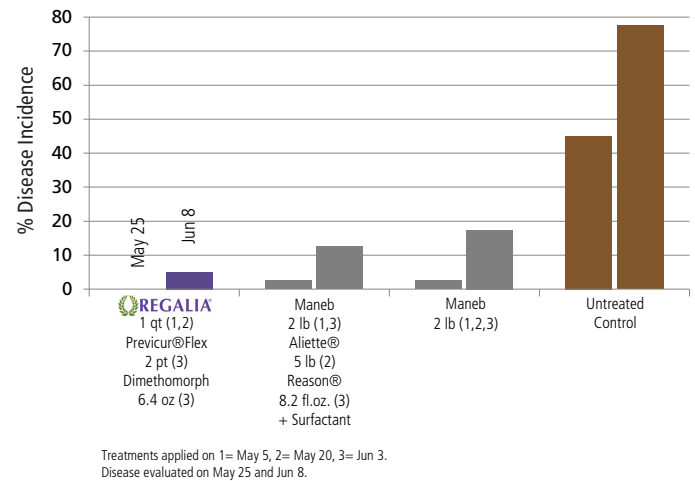
FEATURES

- Broad-spectrum fungal and bacterial disease control
- Complex mode of action
- Rainfast in 1 hour
- 4-hour REI / 0-day PHI
- Tolerance exempt
- Approved for field and greenhouse applications
- NOP compliant and OMRI approved
- For ground and aerial applications
- Approved for foliar and soil applications



Downy Mildew on Head Lettuce (*Bremia lactucae*, *Peronospora* spp.)

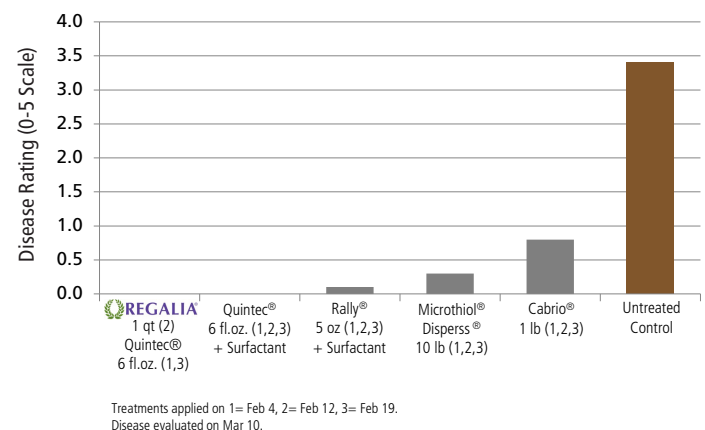
Pacific Ag Research, Santa Barbara County, CA



Regalia is an effective tool against fungal and bacterial diseases.

Powdery Mildew on Lettuce (*Erysiphe cichoracearum*)

M. Matheron, M. Pochas, University of Arizona, Yuma

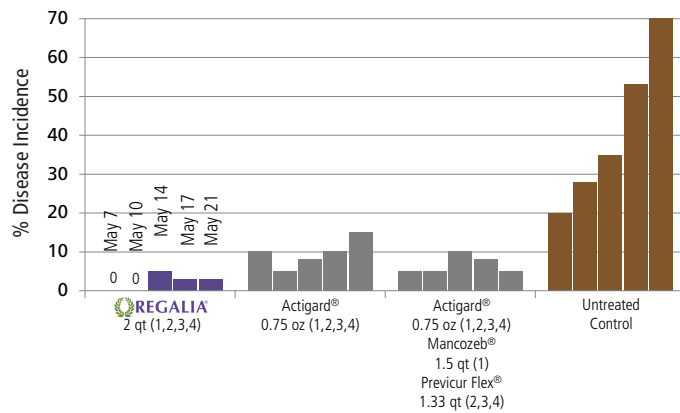


Downy Mildew

Research performed on Downy Mildew in Monterey County, California shows that adding Regalia® substantially improves standard control programs. Independent field trials in Santa Barbara County, California show excellent control of Downy Mildew when Regalia is applied during the first two sprays, followed by propamocarb hydrochloride (i.e. Previcur® Flex) and dimethomorph.

Downy Mildew on Romaine Lettuce (*Bremia lactucae*, *Peronospora* spp.)

Holden Research and Consulting, Ventura, CA



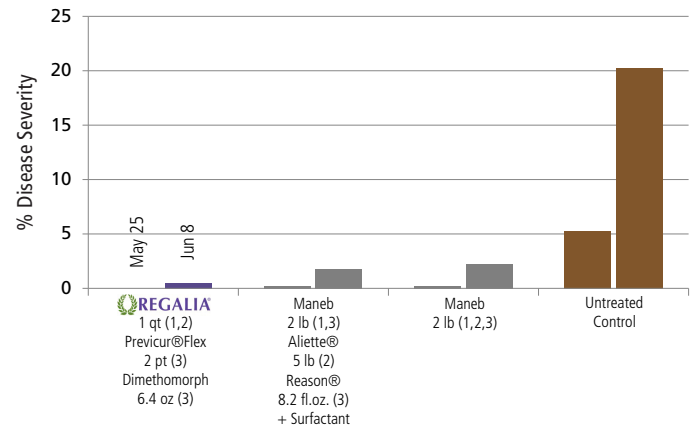
Treatments applied on 1= Apr 23, 2= May 1, 3= May 8, 4= May 15.
Disease evaluated on May 7, May 10, May 14, May 17, May 21.

Bacterial Diseases

In cool, wet conditions in coastal production areas, Bacterial Leaf Spot (*Xanthomonas campestris*) can be a problem on leaf and head lettuce. Copper fungicides are available, but provide limited control when used alone. Regalia can be combined with other fungicides, including copper, for superior control in *Xanthomonas* spray programs.

Downy Mildew on Head Lettuce (*Bremia lactucae*, *Peronospora* spp.)

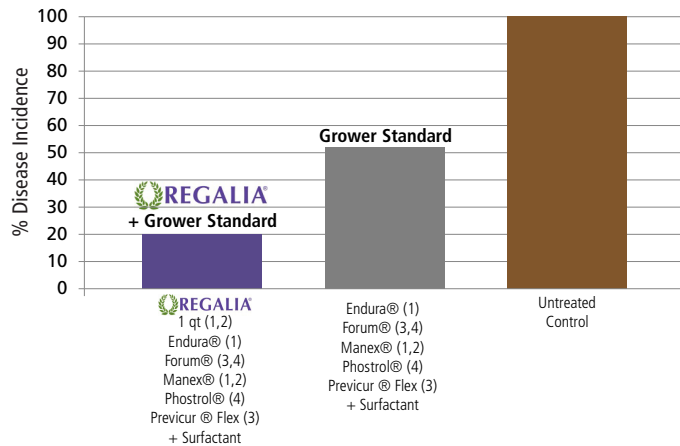
Pacific Ag Research, Santa Barbara County, CA



Treatments applied on 1= May 5, 2= May 20, 3= Jun 3.
Disease evaluated on May 25 and Jun 8.

Downy Mildew on Head Lettuce (*Bremia lactucae*, *Peronospora* spp.)

Monterey County, CA

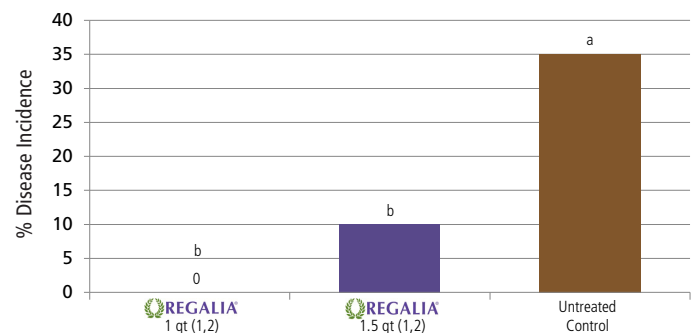


Treatments applied on 1= Aug 12, 2= Aug 31, 3= Sep 11, 4= Sep 15.
Disease evaluated on Sep 22.

Adding Regalia substantially improves standard programs for Downy Mildew.

Downy Mildew on Spinach (*Bremia lactucae*, *Peronospora* spp.)

Holden Research and Consulting, Ventura, CA



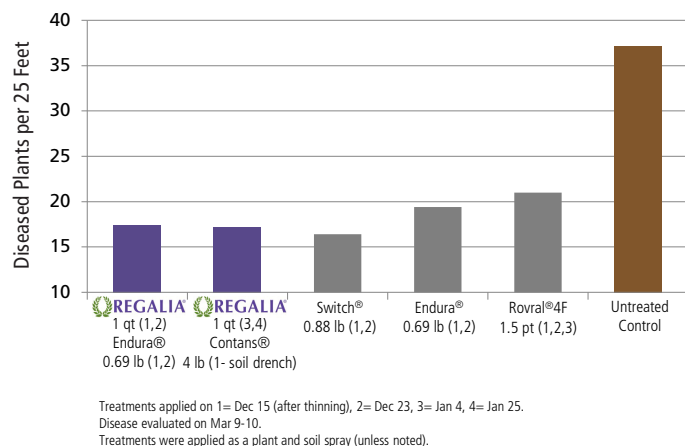
Treatments applied on 1= Apr 23, 2= May 1.
Disease evaluated on May 7.

Lettuce Drop (*Sclerotinia*)

Regalia improves Lettuce Drop control programs for both *Sclerotinia minor* and *Sclerotinia sclerotiorum*. In field trials, Regalia plus boscalid (i.e. Endura®) is more effective than boscalid alone on *S. minor* and *S. sclerotiorum*. The field trials also show that the combination of Regalia plus boscalid is more effective on Lettuce Drop than the combination of cyprodinil and fludioxonil (i.e. Switch®), or iprodione (i.e. Rovral®).

Lettuce Drop (*Sclerotinia sclerotiorum*)

M. Matheron, M. Porchas, Yuma Agricultural Center, Yuma, AZ



Powdery Mildew

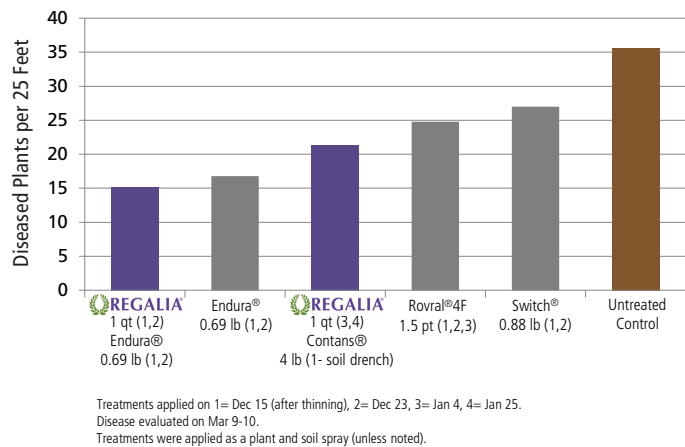
Alternating Regalia with other fungicides results in superior control of Powdery Mildew, and also reduces the development of resistance. University field trials in Yuma, Arizona prove that alternating Regalia with quinoxyfen (i.e. Quintec®) is more effective than triazole fungicides like myclobutanil, or strobilurin fungicides like pyraclostrobin.



Alternate Regalia with other labeled fungicides for superior control of Powdery Mildew and *Sclerotinia* spp.

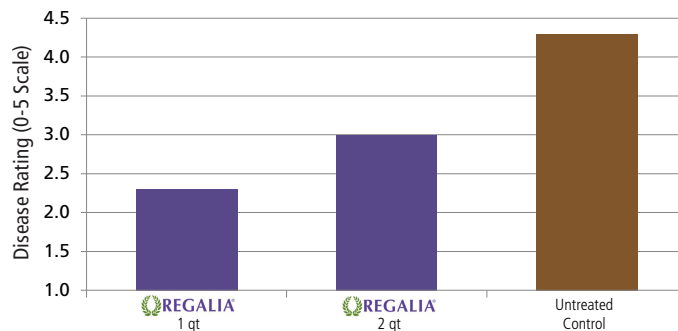
Lettuce Drop (*Sclerotinia minor*)

M. Matheron, M. Porchas, Yuma Agricultural Center, Yuma, AZ



Powdery Mildew on Lettuce (*Erysiphe cichoracearum*)

M. Matheron, M. Porchas, Yuma Agricultural Center, Yuma, AZ



LABELED CROPS

- Head and Leaf Lettuce
- Spinach
- Radicchio
- Arugula
- Fennel
- Cress
- Cilantro
- and other leafy vegetable crops

LABELED DISEASES

- Downy Mildew
- Powdery Mildew
- Bacterial Blight/Rot
- Cercospora Leafspot
- Late Blight
- Sclerotinia Head and Leaf Drop
- Pink Rot
- White Rust

COMPATIBILITY AND RESISTANCE MANAGEMENT


Regalia® is active against Downy Mildew, Powdery Mildew, Lettuce Drop, Bacterial Leaf Spot, and other diseases and is compatible with many commonly used pesticides such as Previcur® Flex, Forum®, Revus®, and Reason®. While the pre-harvest interval (PHI) of other fungicides can be as high 7–14 days, Regalia has a PHI of 0-days, so growers can control disease right up to harvest. Some types of fungicides are known to have a very high resistance risk, but this risk is extremely low with Regalia (see chart below). If compatibility with another product is unknown, a jar test should be conducted.

BEST USE RECOMMENDATIONS

Regalia should be applied to healthy, actively growing plants. Do not apply Regalia to plants that are stressed due to cold weather, drought, excessive moisture, etc. Do not apply when extended cold or cold and cloudy conditions are expected.

For best results, use Regalia as a preventative treatment in rotation or tank mix programs with other fungicides registered for the targeted disease(s). Begin applications prior to or at the first sign of disease pressure and re-apply at 7–14 day intervals to protect new growth. The timing of additional applications should depend upon disease pressure.

Regalia can be applied by air or concentrated ground application. For conventional ground application, Regalia can be applied at 1–2 quarts per 50 gallons of water.

Product	Active Ingredient	Downy Mildew	Powdery Mildew	Sclerotinia	Bacterial Leaf Spot	Resistance Risk	PHI (days)
 REGALIA	Extract of <i>Reynoutria Sachalinensis</i>	◆	◆	◆	◆	Low	0
ACTIGARD®	Acibenzolar-S-methyl	◆				Low	7
ROVRAL®	Iprodione			◆		Med-High	14
ENDURA®	Boscalid		◆	◆		Medium	14
SWITCH®	Cyprodinil + Fludioxonil		◆	◆		Medium	0
REASON®	Fenamidone	◆				High	2
PREVICUR®FLEX	Propamocarb hydrochloride	◆				Low-Med	2
FORUM®	Dimethomorph	◆				Low-Med	0
REVUS®	Mandipropamid	◆				Low-Med	1
COPPER	Copper hydroxide	◆				Low	0

* Table reflects approved applications on leafy greens in California.

CAN BE USED IN CONVENTIONAL AND ORGANIC PRODUCTION

For organic production, Regalia should be used in rotation with or in a tank mix program with other NOP-compliant fungicides registered for the targeted diseases(s) according to the application methods described in the previous paragraph.



CAN BE USED IN ORGANIC PRODUCTION



Always read and follow label directions.

FOR ADDITIONAL INFORMATION, CONTACT YOUR LOCAL RETAILER
OR CONTACT MARRONE BIO INNOVATIONS:

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MarroneBio.com/Regalia