

# VEGETABLE CROPS HOTLINE

A newsletter for commercial vegetable growers prepared by the Purdue University Cooperative Extension Service

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<<http://www.btny.purdue.edu/pubs/vegcrop>>

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**DOWNY MILDEW OF BASIL** - (Dan Egel and Liz Maynard. Meg McGrath of Cornell University contributed to this article.) - This disease has been observed in northern Indiana. The fungus that causes downy mildew of basil does not overwinter in Indiana, but must blow in from the south. The fungus that causes downy mildew of basil is not the same fungus that causes downy mildew of cucurbits.

The symptoms of downy mildew of basil may not be immediately obvious. Leaves may turn a yellow color that is restricted by veins (See Figure 1). Brown areas may develop in severe infections. Close examination of the underside of the leaf under moist conditions may reveal a gray 'fuzz' which is the spores of the causal fungus. Such leaves may not be marketable.

Since the fungus that causes downy mildew of basil does not overwinter in Indiana, fall tillage and crop rotation, although a good idea, won't help manage this disease. Pruning plants so that leaves dry out sooner may help reduce the amount of infection (many growers may want to prune plants to avoid flowering anyway).

Variety evaluations are being conducted to determine if there are inherent differences among varieties and species of basil. Sweet basil varieties 'Aroma 2', 'Genovese', 'Genoveser Martina', 'Italian Large Leaf', 'Magical Micheal', 'Mariden', 'Nufar', 'Opal Purple Variegated', 'Poppy Joe's', 'Queentette', and 'Superbo' had the most symptoms. Fewer were found on 'Amethyst Imp', 'Mrs. Burn's Lemon', 'Red Leaf', 'Red Rubin', and 'Sweet Aden'. Similar low severity of downy mildew was observed in several varieties of the other basil species examined: 'Lemon', 'Lemon Mrs. Burns', 'Lemon standard', 'Lemona', and 'Lime'. No

symptoms were found on leaves of 'Spice', 'Blue Spice', and 'Blue Spice Fil'. In an evaluation conducted on Long Island in 2009, 'Cinnamon', 'Queenette', and 'Red Rubin' were less severely affected than 'Superbo'.

Applying fungicides frequently and starting before first symptoms are visible are considered necessary to control downy mildew effectively. Few fungicides are currently labeled for this new disease. Actinovate AG<sup>®</sup>, Trilogy<sup>®</sup>, and OxiDate<sup>®</sup> are fungicides listed by the Organic Materials Review Institute (OMRI) and are labeled for use on herbs and for suppressing foliar diseases including downy mildew. OxiDate<sup>®</sup> is labeled for use outdoors and in greenhouses. The Actinovate<sup>®</sup> and Trilogy<sup>®</sup> labels do not have a statement prohibiting use in greenhouses. OxiDate<sup>®</sup> has limited residual activity and thus if used should be combined with or followed by another product. There are three phosphorous acid fungicides that have downy mildew under herbs on the current label: ProPhyt<sup>®</sup>, Fosphite<sup>®</sup> and K-Phite<sup>®</sup>. This chemistry was documented to be effective in fungicide evaluation experiments. Greenhouse use is not prohibited. Quadris<sup>®</sup> is labeled for use on basil but not specifically for downy mildew; it also has been shown to be effective for this downy mildew. Greenhouse use is not permitted with Quadris<sup>®</sup>.



**Figure 1:** Symptoms of downy mildew on basil are indicated in yellow on the upper leaf surface; the fungus that causes downy mildew is indicated by yellow arrows on the underside of the leaf (Photo Liz Maynard).









Funds for Farmers from The Indiana State Department of Agriculture: Farmers' Market Promotion Grant, Specialty Crop Block Grant, Organic Certification Cost Share

The 2013 Sustainable Agriculture Research and Education Farmer Rancher and Youth Educator Grant Programs

Session 3\*

Tues., September 11, 2012, 10 a.m.-Noon EDT  
The 2013 North Central Region SARE (NCR-SARE) Research and Education Grant  
Tips for Grant Writing Success

\*Sessions 1 and 2 are primarily designed for farmers who wish to start, improve or expand a farm or farm enterprise. Session 3 is primarily for those researchers or educators (and possibly others) who wish to learn about the 2013 SARE Research and Education Grant and how it applies to sustainable agriculture.

**Ohio State Pumpkin Field Day**, Western Agricultural Research Station, 7721 South Charleston Pike, South Charleston, OH. Wed., September 5, 2012, 5:30 to 8:00 p.m. EDT. Registration fee of \$5 includes refreshments. Tour includes:

- Powdery mildew trial: compare conventional, experimental and newly labeled fungicide
- Bacterial leaf spot trial: 6 hybrids treated with Actigard®
- Spray technology trial: air-assist sprayer demonstration and comparison of flat-fan nozzles, twinjet nozzles, hollow-cone nozzles, and air-assisted flat-fan nozzles
- Variety evaluation: 15 experimental and newly released pumpkin varieties

For more details, contact Jim Jasinski at [jasinski.4@osu.edu](mailto:jasinski.4@osu.edu), 937-484-1526 or 937-462-8016. <http://www.agriculture.purdue.edu/aganswers/story.asp?storyID=6840>

**Illinois Pumpkin Day**, Vegetable Crops Research Farm, First St. between Windsor Rd. and Curtis Rd., Champaign, IL. Thursday, September 6, 2012, 10:00 a.m. to 2:00 p.m. CDT, lunch included with free registration. Presentations at research plots include: varieties, production systems, herbicides and weed control, mustard cover crop for bio-fumigation, insect pests, diseases, spray equipment, post-harvest issues, and marketing. To register, send names, address, phone, fax, email, and occupation to [babadoos@illinois.edu](mailto:babadoos@illinois.edu), or fax to Sandy Osterbur 217-333-5299, or mail to Sandy Osterbur, N-305 Turner Hall, Department of Crop

Sciences, 1102 S. Goodwin Ave., Urbana, IL 61801. For more information contact M. Babadoost by phone at 217-333-1523 or email at [babadoos@illinois.edu](mailto:babadoos@illinois.edu). <http://news.aces.illinois.edu/news/illinois-pumpkin-field-day-2012>.

**Webinar: USDA's Good Agricultural Practices & Good Handling Practices (GAP&GHP) Program & the Produce GAPs Harmonized Standard.** Thurs, September 20, 2012 2:00 to 3:00 pm. This webinar will introduce you to USDA's GAP&GHP audit program. The session will include a practical discussion of the various elements of an audit, including: verification of water testing, field sanitation practices, and traceability and recall procedures. We also will discuss the Produce GAPs Harmonized Food Safety audit. The webinar will conclude with a live, interactive questions and answer session. Registration is required, and space is limited. Find a link to registration at <http://bit.ly/MZsbbb>. For more information, contact [Christopher.Purdy@ams.usda.gov](mailto:Christopher.Purdy@ams.usda.gov), 202-720-3209.

**Webinar: Top FAQs about Produce Wash Water Management for Small-Scale and Direct Market Farms.** Friday, September 21, 2012 1:00 p.m. to 2:15 p.m. EDT. Sponsored by the Produce Marketing Association. Recent recalls and outbreaks involving fresh produce, and evolving risk management expectations at all farming and marketing scales, are driving attention to water quality management during pre-shipment washing and cooling. This webinar will focus on the most common Frequently Asked Questions from small-scale and direct marketing farm operations seeking to install or improve their wash system. Participants will hear "plain-language" science-based responses to these FAQs, as well as peer-to-peer experiences of growers working through the challenges of designing and managing a wash system that fits their resources and meets their food safety goals. Following brief informational presentations a question and answer session will provide the opportunity to further explore system management and monitoring options and focus on key needs in this important aspect of an overall farm safety plan. Speaker: Trevor V. Suslow, Ph.D., University of California, Davis; Moderator: Robert Whitaker, Produce Marketing Association. Register at <http://bit.ly/OdEkf1>.



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