

Impatiens Downy Mildew In The Landscape

Downy mildew, caused by *Plasmopara obducens*, is a new threat to *Impatiens walleriana* landscape plantings. In the fall of 2011, dramatic symptoms were reported in CA, IL, IN, NY, MA, MN, and WI. In 2012 downy mildew has been widespread on landscape impatiens in Florida and in the Mid-Atlantic and Northeast US. *Impatiens walleriana* (standard garden impatiens, including double impatiens and mini-impatiens), any *I. walleriana* interspecific hybrids (such as Fusion® and Butterfly® impatiens), and *I. balsamina* (balsam impatiens) are susceptible. There are also historical reports of *P. obducens* on some native wild impatiens, *I. pallida* and *I. capensis* (jewelweeds), and *I. glandulifera* (Himalayan balsam, which is occasionally produced horticulturally and known to be an invasive plant in some areas). Trials are currently being conducted at the Long Island Horticultural Research & Extension Center to determine if and what native impatiens and horticulturally produced impatiens are susceptible to the disease that is affecting landscape *I. walleriana* plants.



Early symptoms of downy mildew on impatiens.

Early symptoms on *I. walleriana* can be very subtle. Look for a slight stippling or chlorosis (yellowing) of the leaves. These symptoms might appear similar to a nutritional deficiency or spider mite injury. Leaves can flag or curl downward, sometimes giving the appearance that the plants need to be watered. Under humid conditions, you will see a coating of white-colored sporulation on the undersides of some leaves. Sporulation may not always be present or easy to find: look closely at any chlorotic or downward curled leaves. If infected when young, plants will appear stunted; in advanced stages, plants will drop their leaves and flowers and the stems will collapse.



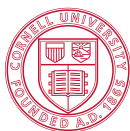
Clockwise from upper left: 1. Early symptoms of leaf chlorosis and curling; 2. Sporulation on undersides of infected leaves; 3. Leaf drop symptoms. (Photos: Margery Daughtrey)

Information about impatiens downy mildew in the landscape and considerations for management:

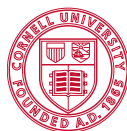
- Scout impatiens plantings for symptoms of yellowing foliage or stunting, look for the diagnostic white sporulation on the undersurface of leaves, and entirely remove (roots included) any infected plants immediately. Remove and dispose of infected plants—do not leave plant material on site and do not compost the infected plant material. Bagging infected plants when they are removed will prevent spreading the spores of the downy mildew.
- Downy mildew can be spread short distances via water splash from infected plants and greater distances via windborne spores from infected plants in nearby landscapes.
- Downy mildew thrives in moist or humid and cool conditions. New infections will occur when there are long periods of leaf wetness (4 hours or longer). Overhead irrigation (especially night-time irrigation), crowded plant spacing, shading, or any conditions that result in long periods of leaf wetness will increase the risk of infection and the rate of disease development and spread. Avoid these conditions if possible.
- Infection and spread of downy mildew is greatly dependent on weather. New infections will not occur under dry conditions. Rainy periods in spring and fall should be the most likely times that new infections will occur in the northeastern United States. Previously it was hoped that hot weather would slow disease progression on infected plants—but we've seen the disease continue to progress and sporulate on infected plants this July, so summer heat has not noticeably checked the downy mildew.
- We now know that downy mildew can survive overwinter in the northern US. Oospores (survival spores) were commonly found in the stems of diseased plants in fall 2011. When these oospores overwinter in the soil they can provide inoculum for impatiens plants the next year. If a landscape planting of impatiens has had downy mildew either the previous year or earlier the same season, it is prudent to replant with appropriate alternatives. New Guinea impatiens can be used successfully in beds where *Impatiens walleriana* previously developed downy mildew; also consider begonias, coleus, or other alternative plants.
- Downy mildew management must focus on prevention; once infected it is not expected that plants will recover. Fungicides with activity for downy mildew might offer short-term protection for healthy plants, but would need consistent reapplication when risk of infection and spread is high. Gardeners are encouraged to use an integrated approach to management: in particular, they should avoid nighttime overhead irrigation for impatiens plantings and remove infected plants promptly.
- For pictures of symptoms and more information on Downy Mildew visit: <http://ccesuffolk.org/floriculture-program> (scroll down to *Fact Sheets and Information*). Also visit the resources posted by the American Floral Endowment at www.endowment.org (scroll down to *Controlling Downy Mildew on Impatiens walleriana*).

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This fact sheet is available online at: <http://ccesuffolk.org/floriculture-program>



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