



Impatiens Downy Mildew

Impatiens Downy Mildew (*Plasmopara obducens*) is a foliar disease that affects common garden impatiens (*Impatiens walleriana*). All cultivars and hybrids of *I. walleriana* are susceptible. However, New Guinea Impatiens are highly resistant. Downy mildews are typically host specific, meaning that Impatiens Downy Mildew is different from Coleus Downy Mildew and Rose Downy Mildew and will not infect those plants, nor will impatiens be infected by those diseases.

The disease was first reported in the United States in 2004 in a greenhouse crop. In 2011, it was found in several locations in the landscape and has spread rapidly. As of September 2012, Impatiens Downy Mildew has been positively identified in more than 30 states. It moves easily in the wind, on tools and clothing, and on infected plant material. Ideal conditions for disease development are 60-75°F and high humidity. Impatiens Downy Mildew can survive overwinter on plant debris and in soil. Once a plant is infected, it cannot be cured, however preventative fungicide treatments have been shown to be very effective (see below). An early infection of IDM is difficult to diagnose because it can resemble other issues like nutrient deficiency, spider mite damage, and root rot. Severe leaf drop and white fuzz on the leaves are typical of Impatiens Downy Mildew, but you will need to submit a sample to your state disease clinic to get a definitive diagnosis. If something looks suspicious, contact your local extension agent who can help submit a sample.

Key Symptoms:

- Less vigorous growth
- Yellowing foliage
- Downward curling leaves
- Wilting
- Severe leaf drop
- White or light gray fuzz on underside of leaves

Cultural Controls:

Control controls are your first line of defense. The best chemicals in the world won't be effective if you create an ideal environment for the disease.

- Start with plants from a trusted vendor. If a grower can't tell you what the disease is and what they're doing to protect their customers, don't take any chances.
- Avoid overhead irrigation. Overhead irrigation is not only less efficient than drip, but it creates an ideal environment for disease development and spread. It increases the length of time that foliage is wet, and splashes spores from one plant to another.
- Allow space between plants for air movement. This will decrease humidity, helping plants dry off faster, creating a less conducive environment for IDM and other diseases.
- Sterilize tools between planting sites. IDM can travel on pruners, shovels, hoses, and other equipment that is moved from site to site.

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- If you do find IDM in your landscape, dispose of the plants in sealed plastic bags. Do not re-plant *Impatiens walleriana*. Use an alternative crop (see below).

Chemical Controls:

We are working closely with our suppliers to make sure that they are taking every precaution possible. They have shared their spray programs with us and we have designed our program to fit with theirs.

- There are no curative options. Chemical controls for Impatiens Downy Mildew must be used preventatively. Fortunately, research has shown that preventative applications are very effective and there are many options from which to choose.
- We are following a rotation, similar to the one recommended by Ball and Syngenta, that has given the best preventative control in trials (see attachment). Drench applications have been shown to give excellent residual control. All of our impatiens will receive a final drench application before shipping so that our customers are protected as long as possible in garden centers and in the landscape.
- Our rotation is as follows:
 - o Micora spray
 - o Subdue Maxx + Adorn drench
 - o Heritage + Mancozeb spray
 - o Subdue Maxx + Phosphite drench
- Other chemical options as well as recommended rates are available in attachments. **Please note that these chemical options are available only to licensed professionals and that label restrictions may vary by state.**

Impatiens walleriana alternatives:

Annuals:

1. **Sunpatiens®**: New Guinea Impatiens are not susceptible to Impatiens Downy Mildew so they are an excellent first alternative. While there are lots of New Guinea series in the industry, we've selected Sunpatiens® as our series of choice. They are more vigorous than traditional New Guineas and bloom in sun or shade. The key to success is ample water. We will offer the **Compact Series** in 4.5" and the **Vigorous Series** in 6".
2. **Wax Begonias**: reliable performers in sun and shade. Available in 6".
3. **Big™ Begonias**: They look like wax begonias but are the size of Dragon Wings. Unlike Dragon Wings, Big™ Begonias have flowers on top of the foliage in addition to the sides making them a terrific plant for the landscape. Available in 6" and 10".
4. **Coleus**: a classic shade loving annual foliage plant. Available in a variety of colors and spectacular variegation. Available in 4.5"
5. **Torenia Summer Wave® Bouquet Series**: we've used the trailing Summer Wave Torenia in our hanging baskets for over 10 years and have been impressed with their performance. Torenia Summer Wave® Bouquets (also called wishbone flower due to the shape of the flower parts) forms a spreading mound and is available in several colors including a rich blue not found in Impatiens. Available in 6".
6. **Ipomoea**: The sweet potatoes you use in full sun are also suitable for part shade. Darker foliage colors are best with more sun so in dense shade, the chartreuse options look best. Available in 4.5" and 6".

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7. **Salvia elegans 'Lighthouse Red'**: When breeders claimed the classic bedding salvia was shade tolerant, we were...skeptical. Then we saw it at the Rakers trial garden blooming like mad under shade fabric. We still wouldn't try it in deep shade, but seeing is believing in partial shade. Available in 6".
8. **Porphyracoma**: This subtle but tropical looking annual has rich green foliage with silver veins. In the hottest parts of summer, pink flower spikes emerge. Available in 4.5".
9. **Caladiums**: these large leaved temperennials are a shade garden classic further south, but also do well in our region if started warm (we'll take care of that for you). Available in 10"
10. **Browallia**: Another overlooked shade blooming annual with bright blue flowers. Available in 4.5"

Perennials options: Annuals aren't the only group that can provide long lasting color in shady places.

1. **Aralia 'Sun King'**: Reserve this bright bombshell for areas where its 3' height (in a single season) is a good thing. Electric Lime foliage almost vibrates with intensity bringing spectacular color to a shady space. Available in 4qt.
2. **Aquilegia 'Leprechaun Gold'**: All the columbines we carry should be great for shade, but only 'Leprechaun Gold' has brightly colored foliage for the entire growing season. Chartreuse foliage is flecked with green and brightens any dark area. This variety seeds freely – if you find that challenging rather than charming, be sure to remove seed heads after blooming. Available in 4qt.
3. **Heuchera** and **Heucherella**: these two genera have seen an explosion of colors introduced in recent years. Yellows, oranges, pinks, peaches, reds, and purples are all available. They look terrific massed and make stunning additions to mixed containers. Available in 4qt.
4. **Lysimachia nummularia 'Aurea'**: If you're after a carpet of gold and struggle with swampy conditions, this may be the plant for you. Available in 4qt.
5. **Oxalis crassipes 'Cottage Pink'**: don't let the green foliage fool you, bubblegum pink flowers adorn this perennial from spring through fall. Available in 4qt.
6. **Polemonium 'Stairway to Heaven'**: Variegated green and white foliage with pink tones to the newest new growth define this shade loving perennial. In spring, masses of sky blue flowers are held well above the foliage. Available in 4qt.
7. **Polygontum odoraum 'Variegatum'**: Gracefully arching stems of green and white foliage are a stately alternative to brightly colored Impatiens. This plant grows so well over so much of the country that the Perennial Plant Association named it the 2013 Perennial Plant of the Year! Available in 4qt.

Other: when traditional annuals and perennials just aren't enough ☺

1. **Colocasia**: if you miss the drama of Busy Lizzies, you might find comfort in the gigantic leaves of elephant ears. If it's really happy, the leaves of Thai Giant can be 6' long by 4' wide. Yes, that's FEET not inches! Available in 4qt and 3gal.

In closing, it is our goal to do everything in our control to provide our customers with healthy plants and to give them the information they need to be successful. However, because Impatiens Downy Mildew is widespread and can easily travel long distances with wind, customers must do their part and continue best practices once they receive plants. Please contact us for more information about Impatiens Downy Mildew, best practices, or shade alternatives.