

Smart Gardening



Spring 2013

PRESS

Impatiens downy mildew: A curse and opportunity for smart gardeners

Impatiens downy mildew is a challenging new disease of *impatiens walleriana* that opens doors for exploring many other types of shade plants.

Rebecca Finneran, Michigan State University Extension

Dozens of Michigan gardeners reported last summer that the impatiens in their landscape showed signs of a disease known as downy mildew. To avoid disappointment, they are hoping to make some smart choices for plants this season. This underhanded pathogen can attack plants even when they appear to be growing nicely in the landscape. With the right weather conditions (cool temperatures and plenty of moisture), downy mildew can infect a patch of impatiens seemingly overnight.

A flower bed at the Kent County Michigan State University Extension “Grand Ideas Garden” filled with impatiens, tropical plants and other garden favorites was afflicted this past summer with what we now know to be impatiens downy mildew, a pathogen that has the potential to make a serious footprint in our shady garden for years to come. European gardeners have been dealing with this problem for several years since it can overwinter in the soil.

Impatiens downy mildew infects common and double impatiens, but does not harm New Guinea impatiens



Close-up of a leaf with white fruiting bodies on the underside of the leaf.

Mary Hausbeck, MSU

or other plants. The disease is favored by moist conditions that are commonly found in an irrigated landscape bed. My first reaction to the sight was that I had forgotten to water the plants, but as I inspected the undersides of the leaves where the pathogen resides, I found fuzzy white spores – and didn’t even need my glasses.

The sky is falling! Well, really it’s not

Even though the impatiens downy mildew pathogen can persist in the soil and keep us from planting *Impatiens walleriana* cultivars for years, it does cause a gardener or landscape manager to think outside the box and get creative. In truth, the options are endless. Now is the time to be thinking that our cup is half full – no, it’s overflowing with planting possibilities. Gardeners who experienced downy mildew last summer now have a great opportunity to expand both their gardening knowledge and palette as they experiment with new plants.

One of the first things to do is assess the “type” of shade that exists in the garden. A wise professor once said, “Your shade may not be my shade.” In many cases, tree canopies such as that from honey locust (*Gleditsia*) will allow plenty of bright light through, opening the door to plants we usually consider sun-loving such as *Vinca*. New Guinea impatiens have a wide adaptability to sun or part shade, but they will do fantastic in morning sun and afternoon shade.



Rebecca Finerman, MSU Extension

Impatiens at the Grand Ideas Garden before downy mildew struck.

Dense shade along the side of a building may also go hand-in-hand with excess moisture and humidity that will limit plants that would rather have a dry location. In this type of planting environment, be sure to site plants that are known moisture lovers. Trees such as maple can create a competitive root environment that requires one to think of alternative ways to grow the plants such as in containers. Once consideration is given to each planting environment around your garden, research the options for getting the right plant into the right place.

So many plants

One of the “bedding plant” mainstays for the coming year will be begonia. With an ever-increasing world-wide search for new plants, the types of begonias that are available today may surprise you. Garden favorites such as the wax begonia come in a wide variety of flower and foliage colors. The perky, upright foliage perfectly positions abundant pink, white or red blossoms launching a great summer show. Because it will only be about 8 to 12 inches in a bed, this one may be a great alternative for a shady garden. Many other begonias have become popular in the last 10 years, partly due to their no-fuss nature. Once established, begonias are not water or nutrient hogs like many other garden plants and they will certainly do well in brighter situations, too.

Don't miss out on the new lines of big-leaved begonias. Glossy foliage and brilliantly colored blooms are the hallmark of these plants, not to mention they are so easy to grow. Also, the larger and stately “dragon wing” begonias have the added advantage of going into fall with amazing foliage



Daniel Davis

Impatiens at the Grand Ideas Garden infected with downy mildew.

color. As the cooler nights come on, the large, glossy leaves of this plant take on hues of crimson and wine, adding fall interest all the way through October.

Another group of begonias that will be sure to make a splash in the garden due to its brilliantly colored and interesting shaped foliage is Rex begonia. Mottled burgundy to bronze foliage atop chunky stems that seemingly “lift” them up out of a container will make this type of plant shine in your shady landscape.

Cane begonias may be a bit harder to find at the local garden center, but will be well worth it. A Victorian era classic, this tough plant may reach 4 feet in height and literally be “dripping” with blooms by the end of summer.

Focus on foliage color

Plants such as *Iresine*, also known as bloodleaf, and an old garden favorite, the coleus, are sure to brighten up a dark area in your garden. Whether planted in containers or a garden bed, seed-grown coleus offer brilliant foliage colors including chartreuse to white, shades of red and burgundy that will compliment almost any group of plants you choose. Combined with one of the many cultivars of *Ipomoea* (sweet potato vine), you may have just planted a blue-ribbon combination for part shade!

These foliage favorites can also be enhanced by a wide variety of tropical plants such as variegated shell ginger and tender perennials including like *Caladium*.

To get you started, visit the [“Impatiens downy mildew and alternatives for home landscapes”](#) webpage,

complete with a list of commonly available plants has been posted at the [Gardening in Michigan](#) website. Because there are so many options, ask your local

garden retailer to help you navigate through all the possibilities for shade areas in your garden and look forward to your best shade garden yet.



Rex begonias feature rich colors with a unique leaf shape that will compliment other shade plants such as New Guinea impatiens.



A variegated foliage form of New Guinea Impatiens brightens even the shadiest landscape border.



Even colorful tropical plants such as this variegated ginger will make shady sites sizzle all summer.



Foliage plants such as *Iresine* (bloodleaf) will add brilliant color to a shady container.

All photos: Rebecca Finmeren, MSU Extension

Dead patches in lawns may be from grubs

Watch for dead patches in lawns that grow larger over the next three weeks. Learn how to prevent grub and skunk problems in the future.

Dave Smitley, Michigan State University Extension, Department of Entomology

European chafer and Japanese beetle grubs are feeding heavily on turf roots now in southern Michigan. When most of the roots are consumed, you may see patches of thin or dead turf or even bare soil. The dead patches may grow larger each week

from now until mid-May. The problem becomes worse when skunks or raccoons find the grubs and tear up the poorly anchored turf for an easy meal.

If you suspect a grub problem in your lawn, dig-up a

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few squares of turf around the edges of the damaged areas and look for C-shaped white grubs in the soil around the roots. If there are enough grubs to cause visible damage to your lawn, you won't have any trouble finding them.

Infested areas of lawns can be treated with Sevin (carbaryl) or Dylox (trichlorfon) now to slow down the grubs and damage from skunks and raccoons, but other turf insecticides will not work at this time. Another way to discourage skunks is to apply Milorganite, a fertilizer that the skunks find distasteful. For information on selecting the right products to prevent grub damage next year and the correct time to apply them, see the MSU Extension article "[All about home lawn grub control products for 2013.](#)"



Fall grub and skunk damage in DeWitt, Mich.

For most homeowners, grub damage can be prevented by raising the mowing height on your lawn mower to the highest setting (usually about 3.5 inches), fertilizing modestly and watering during dry periods. This promotes a much larger root system under your lawn, making it much more tolerant of feeding injury from hungry grubs. It may take a year or two to grow a dense lawn.

If you need protection from grubs during this time, you can apply an effective grub control product each year in July. See turf.msu.edu for more details.

Smart gardening tip sheet

- [Mow high for weed and grub control](#)



Spring grub damage in East Lansing, Mich.

Stop pruning oak trees now to avoid oak wilt

Stop the saws! Smart gardeners should not prune oak trees past April 1 to ensure their trees don't succumb to oak wilt disease. Avoid pruning until November.

Mary Wilson, Michigan State University Extension

Oak trees comprise a significant portion of Michigan forests and are grand, valuable members of our urban landscapes, providing shade and wildlife habitat and food. Sadly, oak wilt (*Ceratocystis fagacearum*) is a serious disease that can quickly kill oak trees. Oak trees pruned during the growing season are at greater risk of infection.

According to experts at Michigan State University Extension, the normal time-tested advice to prevent oak wilt is to **not prune oaks after April 1**, otherwise you risk injuring oaks. While risk of infection decreases after mid-July, it's prudent to avoid pruning any type of

injury of these majestic trees until November.

Oak wilt is a systemic fungal disease transmitted by sap beetles that are attracted to fresh wounds created during the growing season. (You may remember its cousin, the dreaded Dutch elm disease.) Beetles feed from tree-to-tree and if one of the host trees is infected with oak wilt, the pathogen can be carried from tree-to-tree as the sap beetle feeds. The disease can also spread from tree-to-tree through root grafts. Oak wilt can kill trees in the red oak group within a few months; members of the white oak group are not impacted as quickly.

Prevention

Due to the systemic nature of the disease, oak wilt is difficult to control; prevention is the best management tool. Not pruning or damaging oak trees during the warm season is probably the most effective tool for avoiding oak wilt. If storm damage or other emergencies necessitate that an oak tree be pruned during the growing season, promptly repair the damage



Red oak tree pruned in April.



All photos: Rebecca Fineran, MSU Extension

Same red oak tree in June.

and immediately seal the wound with latex paint or wound dressing. (One insect species that transmits the disease is known to arrive on wound surfaces within 10 minutes of their creation!) This rule also applies to damage caused by tree-climbing spikes, nailing signs on trees and accidental bark removal.

Spring is a popular time for people to transport firewood to vacation properties and other locations.

To prevent spreading oak wilt, it's also important to **not** move oak firewood from trees killed by oak wilt. If infected wood is moved to a different site and new wounding of oaks occurs in this area, sap beetles could transport the disease from the infected firewood and create a new pocket of this lethal disease.

If you suspect your firewood is tainted with oak wilt, cover

it with a plastic tarp all the way to the ground, being sure to not leave any openings. This creates a barrier to keep beetles away and generates heat inside the tarp, which helps to kill the fungus.

To get more information on the background, symptoms, life cycle, management and prevention of oak wilt disease, read the MSU Extension article "[Prune oaks in winter to avoid oak wilt.](#)"

Smart garden soil begins with organic matter

Build up your soil by taking a soil test to determine nutrient requirements, adding organic matter and planting cover crops.

Gary Heilig, Michigan State University Extension

Many gardeners begin the New Year thinking about possibilities. The garden plan is conceived and committed to paper in the hopes of having the best vegetable or flower garden ever. Seed varieties will be carefully selected and ordered. Tools are sharpened, fertilizers purchased, hoses and drip irrigation supplies are repaired and excited garden club members discuss their strategies with like-minded friends. It is a good gardening practice to develop a plan to insure that your crops thrive and yield abundant fruits, but smart gardeners will not forget to include a soil building program as part of their overall approach to gardening.

Nitrogen, phosphorous and potassium are not the only nutrients plants need for growth. They also require calcium, magnesium, sulfur, boron, manganese, chlorine, iron, zinc, copper and molybdenum, all of which they usually get from the soil. If any of the nutrients are in short supply, plants can develop deficiencies and more serious abnormalities such as misshapen fruits. Some soils are naturally low in certain minerals while others may have been reduced by growing crops repeatedly in the same area without replacement.

One of the best ways to "build up" your soil is to

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add organic matter. One source is compost, which can be made from grass clippings, tree leaves and kitchen waste such as salad trimmings, potato peels and other vegetable waste. Sawdust from untreated wood, pine needles and animal manures from chickens, cows, horses, goats, lambs and other herbivores (non-meat eating animals) can also be used. Animals require the same nutrients and minerals as plants do. When a cow consumes plants, the majority of the nutrients pass right through the animal and become available for plants to use.

Another way to increase soil organic matter levels is to plant cover crops such as alfalfa, clover, beans, peas or vetch. These legumes provide some nitrogen to plants via an association with certain bacteria that colonize the roots and are able to convert nitrogen from the air into a usable form for plants. Other cover crops send roots down deep in the soil to recover nutrients that may be out of the root zone of some vegetables and flowers. Some cover crops are grown primarily for the amount of organic matter that will be added to the garden when they rot. The organic matter not only recycles the nutrients, but will improve the water-holding capacity of the soil.

The soil's ability to hold and release nutrients for plant use is also improved by increasing the organic matter content. As the organic matter decomposes, bacteria and earthworm levels will increase to aid in the process. When earthworms consume organic matter, their waste releases nutrients that are immediately available for plant use.

Micronutrients such as boron, manganese and molybdenum are needed in very small amounts, but are not found in basic fertilizer mixes. Most gardeners generally don't monitor or think about

Don't guess - soil test!

As plants grow, they remove various nutrients from the soil to carry out various physiological processes. Most gardeners will tell you they generally apply some fertilizer every year, but the majority of these products provide only nitrogen (N), phosphorous (P) and potassium (K). It is also important to know how much of these nutrients are required for optimal plant growth. To determine the NPK requirements, a soil test is needed. You can obtain a Michigan State University Extension [Soil Test Kit Self-Mailer](http://www.bookstore.msue.msu.edu) by visiting www.bookstore.msue.msu.edu.



these nutrients unless plants develop problems such as hollow heart in broccoli, which is caused by a boron deficiency. Some of these nutrients can be purchased at a local farm elevator. Micronutrient levels in the soil can also be increased by using liquid fertilizers that contain micronutrients or by applying various animal manures.

Smart gardening tip sheets

- [Don't guess - soil test! Get your Home Lawn and Garden Soil Test kit today](#)
- [Smart soils: What you can do to reduce phosphorus](#)
- [Fertilizer basics for the smart gardener](#)

Looking for more?

For more information on a wide variety of **smart gardening** topics, or to find out about smart gardening classes and events, visit www.migarden.msu.edu. Stay up-to-date with resources and news for home gardeners by [signing up](http://bit.ly/MSUEDigestSignup) at <http://bit.ly/MSUEDigestSignup> to receive MSUE Home Gardening Production Digests via email.

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