



Downy Mildew on Impatiens- Increased Threat for 2012? Rick Yates, Technical Services Manager 1.12

Several recent articles in trade publications have brought attention to significant downy mildew outbreaks on impatiens in parts of Europe and South Africa during the 2011 growing season. England was particularly hard hit with most landscape plantings of impatiens reportedly being wiped out. Seed grown bedding impatiens and vegetatively propagated double impatiens are susceptible, N.G. Impatiens appear to be resistant. Does this tell us anything about the threat to impatiens in the US for 2012? Perhaps, but there are some variables to consider.

Downy mildew also attacked impatiens in landscape beds in several locations in the US late in the 2011 growing season. Bear in mind that downy mildew is favored by cool temperatures (60's to low 70's)ⁱ and wet conditions. Late summer and early fall saw repeated heavy rains from hurricanes and tropical storms drench the eastern US and probably contributed to these occurrences. Most of Europe where the worst downy mildew problems occurred in 2011 has summer climates that average cooler and wetter than most parts of the US.ⁱⁱ This would seem to make our risk less severe, although last year proved we can have those types of weather conditions from time to time. The other variable is that England appears to have more widespread fungicide resistance when it comes to downy mildew of impatiens than we do. Fungicides that failed in England are still reported to be working here. We also have the advantage of being forewarned for 2012.

What is a reasonable response to this threat?

The possibility of a downy mildew outbreak in the eastern US should be discussed with our grower customers. When there is still time to modify plug orders growers may wish to dial back their impatiens numbers somewhat in favor of other shade tolerant annuals such as begonias and coleus. The downy mildew that attacks impatiens is not known to affect other plants except the closely related balsam.

Scouting for early detection is essential. Early symptoms of infection are easily missed and will require whole plant inspections. While some chlorosis and leaf curl may be visible there are several other things that could cause similar symptoms. Turning over leaves and looking for the white powdery spores will be needed. On impatiens downy mildew sporulation will only appear on the bottom of the leaves. Downy mildew can make infection into healthy leaf



Figure 1White, fuzzy downy mildew sporulation on impatiens



Figure 2 Chlorosis and leaf curl on double impatiens from downy mildew infection

tissue with as little as 6 hours of free moisture on leaf surfaces. Growers attempting to save fuel by reducing night temperatures may be increasing the risk of infection if the temperature reduction results in longer periods of leaf wetting. Irrigate in such a way as to minimize the duration of wet leaves. Downy mildew of impatiens is not believed to be seed-borne but it can arrive on vegetative produced cuttings of susceptible varieties making close scrutiny of incoming plants imperative.

Preventative fungicide treatments for bedding plant and double impatiens are recommended for 2012.

Downy mildew, like most other foliar diseases is much more easily prevented than eradicated.

Preventative Fungicide Treatments

GGSPro recommends preventative foliar sprays for downy mildew on susceptible impatiens at two week intervals. At the first detection of downy mildew on impatiens proceed to the eradication program below, even if it is found in a separate greenhouse. Spores are persistent and airborne so it can quickly spread to adjacent growing facilities. Due to the ability of downy mildew to readily develop resistance to fungicides careful selection and rotation is necessary.

Preventative foliar treatment options:

MOA 43- Adorn plus MOA 33- Fosphite (or Alude) - the Adorn label requires tank mixing with another product labeled for the same disease. Multiple applications of Fosphite or Alude could encourage plant stretch.

MOA M3- Protect DF- inexpensive but leaves some residue. Use earlier in the crop to overcome risk of residue on the finished product.

MOA 21- Segway- newer product with a unique mode of action.

MOA 40- Stature SC- consistently good results against downy mildew.

MOA 11- Strobiluron fungicides such as: Compass, Disarm O, Fenstop, Heritage and Pageant are good preventatives but are more vulnerable to resistance development. Just one application per crop is recommended.

If Downy Mildew is detected:

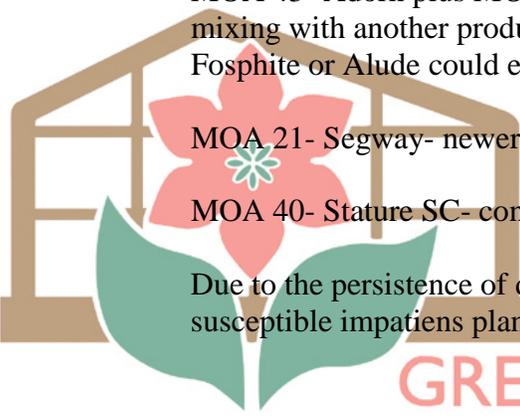
A difficult decision needs to be made about tossing out infected plants. Early infections may show only the white sporulation on the bottom of the leaves. Prompt effective treatment might eradicate the disease at that stage. If the infection has progressed to yellow and/or curled leaves, leaf drop or stunting the plants should be bagged and disposed of offsite. Some pathologists suggest even dumping non-symptomatic plants in a 3' circle around infected plants. Downy mildew produces a resistant spore that can persist for a year or possible longer. Loading up the compost pile behind the greenhouse with infected plants is not an option. After disposal of infected plants make a onetime drench of MOA 4- Subdue Maxx to all remaining susceptible impatiens at a rate of 1 oz per 100 gallons.ⁱⁱⁱ This will provide some systemic protection. Resistance is a very real threat which is why it should only be applied once per crop. Start a weekly spray regiment and keep it up until 14 days have passed with no new infections. At that point resume the preventative regime described above combined with diligent scouting.

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Due to the persistence of downy mildew spores, infected landscape beds should not have susceptible impatiens planted in them for at least one full growing season.



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GREENHOUSE & NURSERY SUPPLIES

ⁱ Grower Talks Magazine, Ball Publishing, "Downy Mildew of Impatiens"- Dr. Coleen Y. Warfield. January 2012 Vol 75 No 9

ⁱⁱ Grower Talks Magazine, Ball Publishing, "Joining Forces"- Jennifer Zurko. January 2012 Vol 75 No 9

ⁱⁱⁱ www.veggies.msu.edu/Research/orn%20DM%20Impatiens.pdf, "Downy Mildew on Impatiens in the UK.....A Problem for U.S.?" Dr. Mary K. Hausbeck, Michigan State University