



by Nora Catlin
nora.catlin@cornell.edu

Leafy Gall (*Rhodococcus fascians*) on Geranium, Wallflower, and Coreopsis

Rhodococcus fascians causes leafy gall, which is an odd proliferation of leaf tissue.



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A couple of samples of geranium, wallflower, and coreopsis showing unusual symptoms were recently found. On the geranium, the upper portion of the plant appeared normal, but a proliferation of small leaves were found at the base. The coreopsis and wallflower samples also showed an abnormal proliferation of leaf tissue, creating an odd bunched-up appearance of the foliage.

These symptoms are caused by the bacterium *Rhodococcus fascians*; the disease is commonly called leafy gall.

This disease is not commonly seen in greenhouses, and when it is seen it can often be mistaken for other causes



Leafy gall symptoms on geranium.

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CONTRIBUTORS

Dr. Nora Catlin
Floriculture Specialist
Cornell Cooperative Extension -
Suffolk County
nora.catlin@cornell.edu

Dr. Kristin Getter
Floriculture Outreach Specialist
Michigan State University
getterk@msu.edu

Dan Gilrein
Entomology Specialist
Cornell Cooperative Extension -
Suffolk County
dog1@cornell.edu

Dr. Brian Krug
Floriculture Ext. Specialist
Univ. New Hampshire
brian.krug@unh.edu

Dr. Joyce Latimer
Floriculture Extension & Research
Virginia Tech
jlatime@vt.edu

Dr. Roberto Lopez
Floriculture Extension Specialist &
Research
Purdue University
rglopez@purdue.edu

Dr. Paul Thomas
Floriculture Extension & Research
University of Georgia
pathomas@uga.edu

Dr. Brian Whipker
Floriculture Extension & Research
NC State University
bwhipker@ncsu.edu

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Leafy gall symptoms on coreopsis.

such as herbicide or plant growth regulator injury. Leafy gall symptoms are also sometimes mistaken for symptoms of crown gall, caused by *Agrobacterium tumefaciens* (*Rhizobium radiobacter*), however, symptoms are distinct. Crown gall results in a mass of undifferentiated tissue, while leafy gall results in numerous formed shoots and leaves in tight clusters.

Rhodococcus fascians has a wide host range, infecting numerous plant families,

nearly 70 genera of both monocots and dicots. Many hosts are herbaceous perennials, though it has also been reported on various commonly produced annuals as well as some woody plants. Leucanthemum, Viola, Veronica, Lavatera, Phlox, Petunia, Hosta, Campanula, Iberis and Aster are particularly troubled by this disease. You can find links to comprehensive lists of hosts, photos of symptoms, and photos of look-a-like symptoms at the Oregon State University Plant

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Clinic website, <http://plant-clinic.bpp.oregonstate.edu/rhodococcus>.

It's troubling enough that this pathogen can cause these strange symptoms, making your plant unsalable. But this pathogen can often be present on plant surfaces for long time periods before causing any symptoms, allowing it to go undetected and spread throughout a growing operation.

Rhodococcus fascians is most commonly spread through propagating infected plant material and it is suspected that it can also be spread through contaminated tools such as trimmers, clippers, or cutting blades. This pathogen can also spread via water splash and irrigation water. The good news is that it does not appear that this pathogen can survive long time periods in the soil nor is it widely spread in the environment.



Leafy gall symptoms on wallflower.

Like all bacterial diseases, the key to management is prevention. Once infected, the plant cannot be cured and should be discarded immediately, before the pathogen can spread to new plants. Symptomless plants that have been in contact with the infected plants are also potentially infected, so it is best to also discard these or to at least carefully quarantine and scout them. Make sure to sanitize areas where infected plants were located, as well as

any tools that might have come in contact with them. Remember that this pathogen can be present for long time periods without causing symptoms, so continue to scout your crops carefully and regularly. Rogue out any plants showing symptoms and follow the necessary sanitation steps.

An excellent reference and summary of this disease was written by Melodie Putnam from Oregon State University, and can be

found at: http://c.ymcdn.com/sites/www.oan.org/resource/resmgr/Digger2/Digger_201402_pp33-37_OSU.pdf. As mentioned above, find helpful links to comprehensive lists of hosts, photos of symptoms, and photos of look-a-like symptoms at the Oregon State University Plant Clinic website, <http://plant-clinic.bpp.oregonstate.edu/rhodococcus>.