



Nora Catlin
nora.catlin@cornell.edu

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Downy Mildew on Creeping Phlox

Downy mildew on creeping phlox can cause irregular leaf yellowing, followed by leaf necrosis and browning. This disease can spread rapidly in cool and wet conditions.

A crop of creeping phlox, *Phlox subulata*, was observed with scattered necrotic, browning, leaves, scattered throughout the canopy. The symptoms were not causing a branch dieback, nor were discrete leaf spots observed. The roots did not appear weakened. On closer inspection with magnification, the signs of downy mildew were seen. The small white-ish clusters of sporangiophores (spore-bearing structures) with sporangia (spores) were observed. Prior to the necrotic and browning leaves, a chlorosis or yellowing of the foliage might have been seen.



Creeping phlox showing symptoms of downy mildew. (Photo: Nora Catlin)

This downy mildew disease is caused by *Peronospora phlogina*. It has been reported on other species of Phlox including *Phlox paniculata* and *Phlox divaricata*, though it is rarely seen on these plants. Other host plants include closely relatives including *Collomia* sp., *Gilia* sp., *Microsteris* sp., and *Navarretia* sp. It is not known to infect other plants.

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Cool and wet conditions allow downy mildew to rapidly spread and thrive. Doing what you can to keep humidity low and leaf wetness periods short, including proper plant spacing and irrigation practices, will help. If plants are in a greenhouse, heating and venting is an option for humidity management.

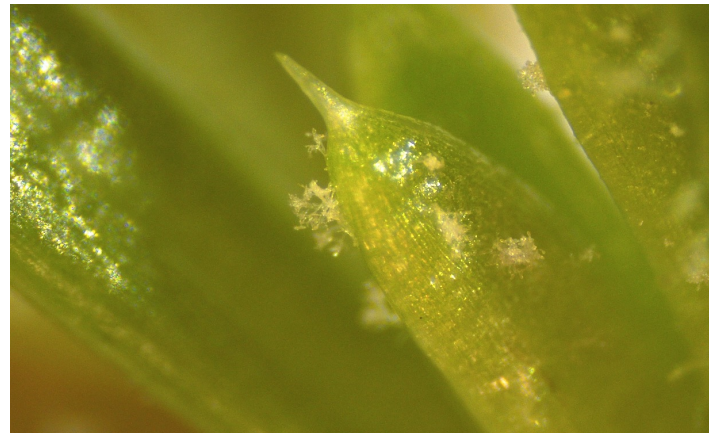
Fungicides will be an important component in your management strategy. Repeated applications will likely be necessary when the disease is present. Make sure to rotate between effective fungicides with different modes of action (identified as Group on labels). Fungicide groups reported to have good efficacy on downy mildew include:

- Group 40 (e.g., products containing dimethomorph or mandipropamid)
- Group 21 (e.g., products containing cyazofamid)
- Group 49 (e.g., products containing oxathiapiprolin),
- Group 11 (e.g., products containing azoxystrobin, pyraclostrobin, fenamidone, or trifloxystrobin)
- Group 43 (e.g., products containing fluopicolide)
- Group 4 (e.g., products containing mefenoxam)
- Group 33 (e.g., phosphonate fungicides)

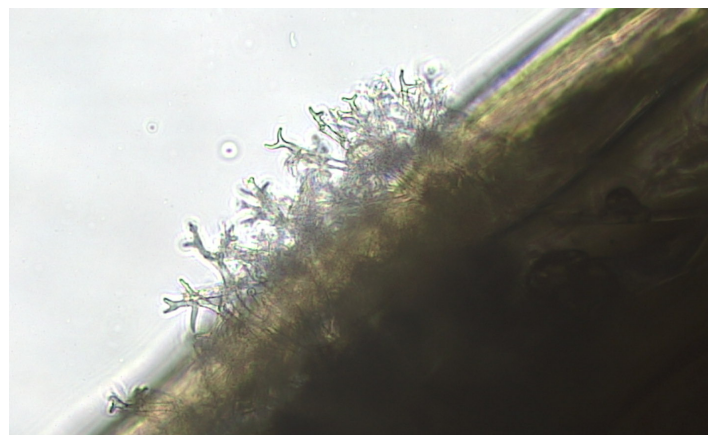
Products containing mancozeb are effective contact materials to use in a rotation. There are also various other products are labeled and available to use in rotations. As always, follow label instructions for use. Note that some products may not be available for use in some states and there may be other restrictions.



Sporangiophore (spore-bearing structure) with sporangia (spores) of downy mildew on a *Phlox subulata* leaf. I describe these as looking like coat racks. (Photo: Margery Daughtrey)



Sporulation of downy mildew on a *Phlox subulata* leaf. (Photo: Nora Catlin)



View from a microscope of the sporangiophores of the downy mildew pathogen. (Photo: Nora Catlin)

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CONTRIBUTORS

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

Dr. Chris Currey
Assistant Professor of Floriculture
Iowa State University
ccurrev@iastate.edu

Dr. Ryan Dickson
Greenhouse Horticulture and
Controlled-Environment Agriculture
University of Arkansas
rvand@uark.edu

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

Dr. Chieri Kubota
Controlled Environments Agriculture
The Ohio State University
kubota.10@osu.edu

Heidi Lindberg
Floriculture Extension Educator
Michigan State University
wolleage@anr.msu.edu

Dr. Roberto Lopez
Floriculture Extension & Research
Michigan State University
rglopez@msu.edu

Dr. Neil Mattson
Greenhouse Research & Extension
Cornell University
neil.mattson@cornell.edu

Dr. W. Garrett Owen
Sustainable Greenhouse & Nursery
Systems Extension & Research
The Ohio State University
owen.367@osu.edu

Dr. Rosa E. Raudales
Greenhouse Extension Specialist
University of Connecticut
rosa.raudales@uconn.edu

Dr. Alicia Rihn
Agricultural & Resource Economics
University of Tennessee-Knoxville
arihn@utk.edu

Dr. Debalina Saha
Horticulture Weed Science
Michigan State University
sahadeb2@msu.edu

Dr. Beth Scheckelhoff
Extension Educator - Greenhouse Systems
The Ohio State University
scheckelhoff.11@osu.edu

Dr. Ariana Torres-Bravo
Horticulture/ Ag. Economics
Purdue University
torres2@purdue.edu

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

Dr. Jean Williams-Woodward
Extension Plant Pathologist
University of Wyoming
jwilwood@uwyo.edu

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