

Wilts

Verticillium wilt

Pathogen: *Verticillium alboatrum* and *V. dahlia*.

Hosts include: *Aconitum*, *Aster*, *Chrysanthemum*, *Coreopsis*, *Dahlia*, *Delphinium*, *Dianthus*, *Helichrysum*, *Papaver*, *Paeonia* and *Phlox*.



Symptoms: Wilt-
ing and dieback,
stunted growth
and yellowing,
sometimes affect-
ing only part of
the plant. Some
plants may have
discoloration or
streaking in the
vascular system.

Severe dieback of
Coreopsis caused by
Verticillium infection.
Both stems and
crowns are infected
by this pathogen.

Verticillium wilt – continued

Spread: *Verticillium* is common in soil, where it survives as mycelium. *Verticillium dahlia* can also produce microsclerotia, a long-term survival structure. Plants are infected through roots, and infection moves into the vascular system. Wood chips produced from infested trees and used in potting media or as mulch can spread the disease. Disease incidence is less common in plants grown in soilless potting media.



Verticillium produces microsclerotia in soil and infested plant debris. The fungal pathogen readily grows out of infected material that is cultured in a diagnostic lab. The black microsclerotia are a diagnostic feature.

Management: Remove all symptomatic plants; fungicide treatments are generally not helpful. Avoid planting susceptible plants in fields with high populations of *Verticillium*. Feeding by root and lesion nematodes can increase damage from *Verticillium* wilt. Plants and soil can be tested for nematodes and the populations quantified by submitting samples to a diagnostic lab. Maintain good control of weed hosts in the field – some weeds are hosts for *Verticillium*.