

Root and stem rots

Thielaviopsis or black root rot

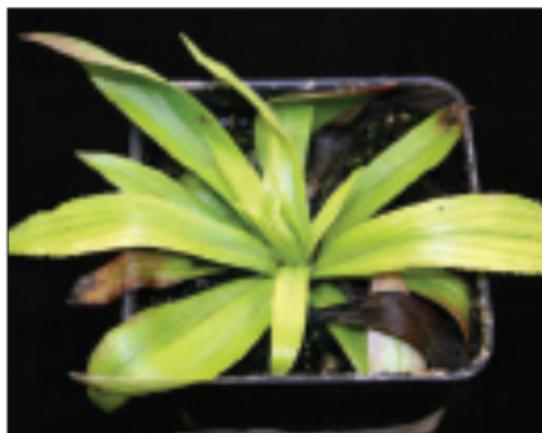
Pathogen: *Thielaviopsis basicola*.

Hosts include: *Digitalis*, *Gaillardia*, *Geranium*, *Lathyrus*, *Lupinus*, *Pachysandra*, *Phlox* and *Viola*.

Symptoms: Stunting, yellowing and plant death. Symptoms are often mistaken for nutrient deficiency symptoms.

Spread: *Thielaviopsis basicola* produces spores

Chlorotic foliage caused by *Thielaviopsis basicola*. These symptoms are easily mistaken for a nutrient deficiency. At right, infected roots are darkly colored and rotted by black root rot.



Thielaviopsis/black root rot – *continued*

that can persist for long periods of time in soil or on infested pots and equipment. Reusing contaminated equipment is a common source of disease. Fungus gnats and shore flies can vector spores.

Management: Do not reuse plug trays, flats or pots for susceptible crops. Keep good records of the production areas where there have been problems with *T. basicola*. Avoid growing susceptible crops in these areas for several years. Fungicide drenches should be used to protect very susceptible plants from infection.



Infected geranium with poor vigor and dieback symptoms.

Yellowing of phlox foliage caused by black root rot.



Darkly colored spores of *Thielaviopsis basicola* have a distinctive morphology. Their thick spore wall helps them persist for several years in soil.