

FACT SHEET :

PHYTOPHTHORA : ROOT & CROWN ROT



Informational publication series brought to you by the staff of Metropolitan Forestry Services, Inc.

Phytophthora is a fungi-like organism that causes crown and root rot diseases of many herbaceous and woody plants. There are hundreds of varieties of these fungi and most are host specific. Infection is usually followed by decline and expiration, survival is difficult.

Many of these fungi and pathogens are always present in soil and in the air; however most are opportunistic and only become active when a tree is stressed. Once a tree becomes infected it can be made worse by other stresses such as construction or mechanical damage, soil compaction, poor drainage, and misapplied irrigation systems.

Identification: Leaves of infected plants often appear drought stressed. They may wilt easily during warm weather. Leaves may turn dull green, yellow, or in some cases red or purplish. Symptoms often develop first on one or two branches and then spread to the rest of the plant or tree. Trees may decline over a period of years before finally dying or they may be killed in a single season depending on other environmental or biological stresses and also where the fungi is. Infected roots cause long drawn -out decline, crown rot or infection around the base of the tree usually causes quicker decline.

Phytophthora easily spreads through saturated soils. Once a tree or shrub becomes infected survival is difficult. This fungus-like mold can be identified by a general decline or lack of vigor in the tree, white patches of thread-like mats under the bark, and oozing spots coming out the lower trunk or base of the tree. This problem often gets misdiagnosed as bark beetles and borers due to the oozing spots.

Highly susceptible species to root and crown rot: rhododendron, azalea, fruit trees (cherry, apple, pear), dogwoods, and others.



Management: There are some ways that we can manage fungi but as always prevention is the key. Correcting drainage issues can be improved by adjusting drain tiles, roof drains and swales where needed. Too often sprinkler systems over-water our lawns and are even set to water while it's raining. These can easily be adjusted so that they don't over-water or spray the trunks of the trees. Aerating heavily compacted soils is also helpful and allows oxygen to get into the ground. Root rots generally cannot be treated in the soil however some sprays are available to prevent and suppress the growth and spread of fungi in the root flares and lower trunk.

Left: Beneath the bark root and crown rots show up as blackened or with white fungal mats. The extent of the rot is always difficult to judge.