

Phytophthora Related Diseases

For the Dooryard

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PHYTOPHTHORA ROOT ROT



Healthy roots



Damaged roots



Root damage impairs the water and nutrient uptake



Root damage can deplete stored carbohydrate

SCIENTIFIC NAME: *Phytophthora nicotianae* or *P. palmivora* in wet soil

SYMPTOMS: Soft, water soaked root cortex; cortex sloughs off (comes off to touch) to leave thread-like tips; little to no water or nutrient uptake leading to wilting; mature trees difficult to diagnose; reduced fruit size and/or number; leaf loss; twig dieback; reduced yield over several years.

RESIDENTIAL MANAGEMENT: Resistant rootstocks like Swingle or trifoliolate oranges; plant bud union at least 6 inches above soil line; do not overwater; Diaprepes control.

DIAPREPES ROOT WEEVIL



Adult weevil is about 3/8 to 3/4 inch



Adult weevil feeds on young leaves causing a notching on the leaf margin



Root girdling by the *P. nicotianae*-*Diaprepes* complex on sour orange (Desoto County)



Leaf notching caused by Diaprepes root weevil

SCIENTIFIC NAME: *Diaprepes abbreviatus*

SYMPTOMS: Adults cause leaf notching, but larvae feed on roots; feeding allows the *Phytophthora* spp. to cause greater root damage.

RESIDENTIAL MANAGEMENT: When planting new trees, place landscaping cloth around tree base; adults will have trouble getting into soil and cloth will stop the larvae from emerging.

PHYTOPHTHORA FOOT ROT



Yellow veins



Shoot dieback



Damage to trunk



Damage to trunk

SCIENTIFIC NAME: *Phytophthora nicotianae*

INITIAL SYMPTOMS: Yellow foliage fall/winter and poor growth to shoot dieback.

TERMINAL SYMPTOMS: Leaf drop; fruit drop; further dieback leading to tree death.

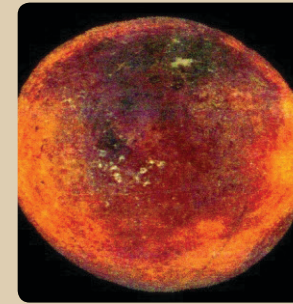
TRUNK SYMPTOMS: Bark cracking; gumming; lesions can girdle trunk; found near the crown to below soil line; some healing can occur.

RESIDENTIAL MANAGEMENT: Resistant rootstocks like Swingle or trifoliate oranges; plant bud union at least 6 inches above soil line; do not overwater; Diaprepes control.

BROWN ROT



Brown rotted fruit on grove floor



Brown rot on Hamlin orange



Brown rot on grapefruit



Fruit drop caused by brown rot



Fruit drop caused by brown rot

SCIENTIFIC NAME: *Phytophthora palmivora*

SYMPTOMS: Light brown leathery decay; white fungal growth on surface when humid; infected fruit have strong, sharp smell; can spread in container once fruit is harvested.

RESIDENTIAL MANAGEMENT: Remove premature fallen fruit; raise tree skirts; no overhead irrigation; apply preventative sprays of copper in late July (if a long rainy season, make a second application in October).