



# COMMON DISEASES OF TREE NURSERIES IN PUERTO RICO

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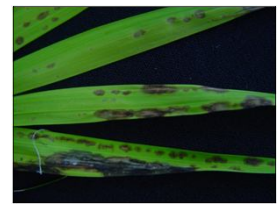


Integrated pest management is the most practical and environmentally safe approach for control of diseases in tree nurseries. The most common diseases in nurseries in Puerto Rico are leaf spots by *Pestalotiopsis* spp., *Cercospora* spp., *Phoma* spp., *Guignardia* sp., *Corynespora casicola* and *Meliola* sp.; anthracnose by *Colletotrichum gloeosporioides* and *Gloeosporium* sp.; damping off of seedlings by *Pythium*, *Rhizoctonia* and *Fusarium*, and *Phytophthora* root rots. Nursery managers have to learn coordinated tactics to prevent damages caused by diseases and arthropods. The tactics recommended to nursery managers are preventive, cultural, chemical, and biological so they can achieve pest management goals in the most practical manner. The Agricultural Extension Service in conjunction with Forest Service - IITF support is developing educational materials about identification and management of pests of importance to the forest system in Puerto Rico. Information is disseminated to nursery managers, community groups, private land managers and the general public through the Extension offices and the forest health management web page (<http://www.seam.uprm.edu/forest/index.htm>). The availability of information about common diseases of trees in nurseries and their management improve pest control and the quality of forest nurseries and trees in urban areas. These information help nursery managers and other personnel related to forest pest management to determine correctly the damaging agents, allowing the best evaluation of the control methods to use. The diagnosis of diseases is based on signs and symptoms observed in visits to state and private nurseries throughout the Island. Diseased samples are analyzed in the Extension Diagnostic Clinic by cultivation of pathogens on specific nutrient rich media. The development of fungal colonies and reproductive structures are observed to identify the fungi to the genus level using specific taxonomic keys. Is important to nursery managers and other personnel related to nursery management to know the symptoms of the diseases affecting trees. Early detection and use of good management practices will prevent major problems in trees when transplanted to urban settings.



Host: *Tectona grandis*  
Disease: Anthracnose

**Symptoms:** Leaf spots begin as small, water-soaked, dark green areas about 1–2 mm wide. These areas expand into circular spots with tan to light brown centers, bordered by water-soaked tissue. As the spots expand, lesion centers lighten to very light tan to cream color, with some spots developing brown margins around the centers.



Host: *Roystonea* spp.  
Disease: Anthracnose

**Symptoms:** Leaf spots begin as small, water-soaked, dark green areas about 1–2 mm wide. These areas expand into oval spots with light brown centers, bordered by water-soaked tissue. As the disease progress, lesion centers lighten to a very light tan color and the tissue develops a brown black color.



Host: *Tabebuia glomerata*  
Disease: *Guignardia* leaf spot

**Symptoms:** Leaf spots are brown with reddish brown borders. In environmental conditions of high humidity spots cover great part of the leaf. Premature defoliation occurs in susceptible trees.



Host: *Swietenia macrophylla*  
Disease: *Pestalotiopsis* leaf spot

**Symptoms:** Leaf spots will begin as small light brown spots that enlarge in size. The spot usually turns dark brown with a darker outline. Sanitation and water management are critical for disease management, especially in nurseries.



Host: *Terminalia cattapa*  
Disease: *Cercospora* leaf spot

**Symptoms:** Circular small spots with purple borders and light tan centers. In periods of high temperature and humidity lesions coalesce to form larger spots.



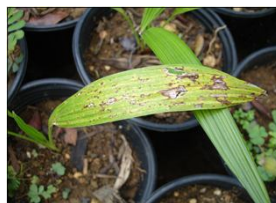
Host: *Tabebuia argentea*  
Disease: *Cercospora* leaf spot

**Symptoms:** Circular spots with reddish purple borders and tan centers. In periods of high temperature and humidity numerous lesions coalesce to form large irregular spots. Leaves wilt, die and fall off the tree.



Host: *Tabebuia*  
Disease: *Meliola* black mildew

**Symptoms:** Powdery black patches appear on the upper surfaces of mature leaves. As the infection develops, the upper leaf surface becomes densely coated with the fungi black growth. Severe infection reduces effective photosynthetic area of the leaves.



Host: *Roystonea* spp.  
Disease: *Pestalotiopsis palmarum*

**Symptoms:** Leaf spots begin as small spots of a dark brown color developing into larger irregular lesions. As the disease progress the spots take a tan color with dark brown borders.



Host: *Bursera simaruba*  
Disease: *Cercospora* leaf spot

**Symptoms:** Leaf spots appear as small circular black spots scattered over the leaves. The spots are not outlined by defined borders. Periods of high temperatures and humidity favor the presence of *Cercospora*.



Host: *Tabebuia argentea*  
Disease: *Corynespora* leaf spot

**Symptoms:** Individual leaf spots are initially less than 1 mm in diameter but can expand to form irregular spots. The larger spots are tan to light brown with darker borders, may coalesce, and are not vein limited.



Host: *Ochroma pyramidale*  
Disease: *Phyllosticta* leaf spot

**Symptoms:** Leaf spots appear as irregular lesions with a light brown to reddish color. The fruiting bodies of the fungus are observed over the lesions.

## References:

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