

LOUISIANA PLANT PATHOLOGY

DISEASE IDENTIFICATION AND MANAGEMENT SERIES

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Leaf and Crown Rot of Liriope

Phytophthora palmivora (E. J. Butler) E. J. Butler

Leaf and crown rot is a common problem on *Liriope* (or lily turf) in both nursery and landscape settings. All species and cultivars of *Liriope* are reported to be susceptible to this disease, but the cultivar 'Evergreen Giant' is particularly susceptible. This disease is caused by the "water mold" *Phytophthora palmivora*, which is a common pathogen in commercial nurseries that causes root and crown rots of many plants. In fact, *P. palmivora* is primarily a pathogen of the roots and rhizomes of *Liriope*, and the more noticeable leaf and crown rot symptoms occur only during the later stages of disease development. Initially, affected leaves turn yellow beginning at the base while the tips of the leaves remain green. The base of these leaves then develops a watery rot and turns brown. Eventually the entire leaf becomes yellow with a brown, rotted base.

This disease develops rapidly in late spring and early summer as temperatures increase and we encounter periods of prolonged rainfall. However, overhead irrigation can easily substitute for rainfall. The disease continues to develop through early fall and finally decreases during the cool period from late fall to early spring. Leaf and crown rot is most severe in areas where water stands for any length of time. The pathogen spreads in splashing water, whether caused by rainfall or overhead irrigation, and in standing water or water flowing over the soil surface. Potting mixes containing significant amounts of peat or other fine organic matter tend to hold water, which promotes disease development. Similarly, overcrowding of plants and planting too deeply promote the disease.



Fig. 1 *Phytophthora* leaf and crown rot of *Liriope*.

The severity of the disease can be reduced by the use of fungicides such as mefenoxam, fosetyl-AI and the phosphite fungicides. These materials do not completely eradicate the pathogen and must be reapplied on a regular basis to suppress disease development. Because of this, fungicides should not be relied on as the sole means of managing this disease. Growers should use disease-free propagation material grown in an area separate from the production nursery where access can be restricted. Strict sanitation practices should be followed to prevent the introduction and spread of the pathogen in this propagation area.

Once introduced into the landscape, *P. palmivora* can persist for a long time, and because it has a wide host range, it can become a problem on other plants as well. Preventing the introduction of the pathogen through the use of disease-free planting material is the best means of controlling this disease. Care must also be taken to avoid creating conditions that are conducive to disease development, such as overcrowding and overwatering. Cultural practices that promote good drainage and rapid drying should be used as well.

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