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UW Plant Disease Facts

Extension
UNIVERSITY OF WISCONSIN-MADISON

Provided to you by:

Root Rots on Houseplants

Brian Hudelson, UW-Madison Plant Pathology and Laura Jull, UW-Horticulture

What is root rot? Root rot is a general term that describes any disease where the pathogen (causal organism) causes the deterioration of a plant's root system. Most plants are susceptible to root rots, including both woody and herbaceous ornamentals. Root rots can be chronic diseases or, more commonly, are acute and can lead to the death of the plant.

Wilting of poinsettia associated with Pythium root rot.

How do you know if your plant has a root rot? Homeowners often become aware of root rots when they note that a plant is wilted, even though the soil is wet. Plants with root rots are also often stunted, and may have leaves with a yellow or red color, symptoms that suggest a nutrient deficiency. Careful examination of the root systems of these plants reveals roots that are soft and brown. These roots may have a bad odor.

Where does root rot come from? Several soil-borne water molds (i.e., fungi-like organisms) and true fungi can cause root/crown rots, including (most frequently) *Phytophthora* spp. and *Pythium* spp. (both water molds), and *Rhizoctonia solani* and *Fusarium* spp. (both true fungi). These organisms have wide host ranges, and thus can cause root rots on a wide variety of plants. Most root rot pathogens prefer wet soil conditions and some, such as *Pythium* and *Phytophthora* produce thick-walled spores (called oospores) that can survive for long periods (years to decades) in soil or plant debris.

How do I save a plant with root rot? Often the best and most cost effective way of dealing with a houseplant with root rot is to throw it out. If you decide to keep a plant with root rot, REDUCE SOIL MOISTURE! Provide enough water to fulfill the plant's growth needs and prevent drought stress, but DO NOT over-water. DO NOT use fungicides for control of root rots on houseplants. Products for use by homeowners have limited availability, are often expensive, and typically will not be effective once plants are exhibiting root rot symptoms.

How do I avoid problems with root rots? First, buy plants from a reputable source and make sure they are root rot-free prior to purchase. Second, replant your houseplants properly. Use a pot with drainage holes, but DO NOT put rocks or gravel at the bottom of the pot. The presence of rocks or gravel can actually inhibit drainage. Use a pasteurized commercial potting mix, NOT soil from your garden. Garden soils often contain root rot organisms. Add organic material

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Throw out plastic pots if plants grown in them have suffered from a root rot.

(e.g., peat moss) to heavy potting mixes to impove drainage. Third, minimize potential contamination of your plants with root rot fungi. DO NOT reuse potting mix from other houseplants or water that has drained from your plants, as both potentially can contain root rot organisms. After working with plants with root rot, decontaminate tools and work surfaces by treating them for at least 30 seconds with a 10% bleach solution or 70% alcohol (e.g., rubbing alcohol, certain spray disinfectants). If you use bleach to decontaminate metal tools, be sure to thoroughly rinse and oil your tools after you are done to prevent rusting. Decontaminate clay pots by first rinsing them to remove any remaining soil, then soaking them in a 10% bleach solution for 30 minutes. Rinse the pots thoroughly after soaking to remove bleach residues. DO NOT reuse plastic pots as they are often difficult to decontaminate adequately. Finally and most importantly, moderate plant moisture. Provide enough water to fulfill your plants' needs for growth and prevent drought stress, but DO NOT over-water. In particular, DO NOT allow plants to sit in drainage water. REMEMBER, root rot fungi grow and reproduce best in wet soils.

For more information on root rots: Contact the University of Wisconsin Plant Disease Diagnostics Clinic (PDDC) at (608) 262-2863 or pddc@wisc.edu.

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