

Stem Rot of Annual Vinca

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Introduction

Stem rot can be a major disease problem for annual vinca (*Catantus roseus*) once the disease organism has been introduced into residential or commercial landscape plantings. This disease is caused by a soil-borne, fungal-like microorganism (*Phytophthora parasitica*) that can persist in the soil for several years. Under conditions of frequent overhead watering or heavy rainfall, this disease can spread rapidly within a planting of vinca. The fungus is often accidentally introduced into the landscape by infected plant material. This disease is often a major problem in greenhouse production systems where conditions may be ideal for disease development and spread. Disease incidence and severity are favored by extended periods of wet, hot weather. Heavy fertilization also tends to contribute to the disease by promoting tender plant growth that encourages infection.

Symptoms

The initial symptoms of disease onset are the presence of water-soaked, gray-green “greasy” areas on the shoots and leaves (Figure 1). This symptom is quickly followed by a sudden wilting or flagging of one or more shoots. As the parasite advances within the plant tissues, dark brown lesions (cankers) develop on plant stems (Figure 2). These lesions result in death of the stem or entire plants. Under wet conditions, the



Figure 1. Water-soaked leaf lesions of *Phytophthora* on vinca.



Figure 2. Reddish brown stem rot lesions on vinca.

microorganism can move from one plant to another merely by leaf-to-leaf contact. Although the disease is most destructive on the aboveground plant parts, a root rot may also develop. When foliage remains wet, the disease progresses very rapidly. Plants may be killed within one to two weeks after symptoms appear.

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Management

To prevent the accidental introduction of the disease organism into the planting area, always select high quality plants. Do not purchase discolored or unthrifty plant material. Always install these plants in well-drained soils. Raised beds that encourage good soil drainage are recommended. Avoid high clay content soils. Cultural practices may influence the incidence and severity of branch rot of vinca. By planting annual vinca in late May or June, disease severity may be reduced somewhat. Earlier plantings during March and April tend to suffer more from the disease. Since wet foliage is a major contributing factor for disease development, every effort should be made to minimize leaf wetness. Planting beds should be watered with a soaker hose or drip tubing. If plants are normally watered by overhead sprinkling, they should be watered in the early morning hours to encourage drying of foliage by mid to late morning. In order for growers to reduce the chances of introducing the organism into the growing area, they should not install annual vinca in the same landscape area year after year. If the growing area has a history of this disease on vinca, growers may wish to consider installing other bedding plants as alternatives. Begonia, celosia, geranium and ageratum are excellent replacement bedding plants in the landscape that provide good color.

Sanitation practices are helpful in limiting damage to a vinca planting in *Phytophthora*-infested soils. Plants showing symptoms of wilt or decline should be removed immediately. Disease spread can sometimes be checked by pruning and destroying any small, developing stem lesions. This practice is effective only if the disease is detected during the early stages. Mulching around plants greatly reduces the chances of infection by preventing infested soil from coming in contact with the susceptible vinca leaves. Be sure to allow plenty of distance between plants during installation. This practice will encourage dry leaves and minimize leaf-to-leaf contact. All vinca plants should be removed and destroyed at the end of the growing season. Fungicides containing chlorothalonil or aluminum tris are effective when applied on a preventative schedule according to the label information. Multiple chemical applications may be necessary during the growing season for effective disease management.

Timely, accurate disease diagnosis is essential for a successful disease management program. Contact your local county Extension office for additional information on this and other bedding plant diseases.