

STEM BLIGHT OF VINCA MINOR

Stem blight is a serious disease of *Vinca minor*, commonly known as periwinkle or ground myrtle. The disease is widespread and potentially destructive wherever this popular ground cover is grown in the United States and Europe. Vigorous, established plants produce abundant new shoot growth, but hidden below this new foliage can oftentimes be found severely infected and damaged old runners. Stem blight may be so severe that attempts to maintain vinca plantings fail, and the plants have to be removed and replaced with other ground covers. Damage is most prevalent in cool wet weather in spring and, to a lesser extent, in autumn when soil moisture is high. Newly planted beds, where plantings are thin and not well established, are particularly susceptible.



Figure 1. Stem blight on *Vinca minor* runners.

Incidence of the disease tapers off during the hot dry weather of summer, however, in prolonged periods of cool wet weather, new infections can occur from June through August. Stem blight can also be a severe problem in nurseries where plants are grown under mist propagation.



Figure 2. *Phoma exigua* causing stem blight on *Vinca Minor*.

Stem blight is caused by *Phoma exigua* var. *exigua*, a fungus that grows and persists indefinitely in moist soil and plant debris and attacks big-leaf or variegated vinca (*Vinca major*). The fungus has been repeatedly isolated from plants shipped into Illinois from propagating nurseries in other states. It is not unusual for vinca plants to appear healthy when received from a grower, only to become diseased when planted in sterilized soil. The causal fungus is probably in or on the soil in most diseased plantings.

Symptoms

Soon after the new green shoots appear in late April or early May, rapidly expanding, dark brown to black girdling lesions appear on the stems of overwintered runners at the ground line, causing them to die back

For further information concerning diseases of ornamentals, contact Nancy R. Pataky, Extension Specialist and Director of the Plant Disease Clinic, Department of Crop Sciences, University of Illinois at Urbana.

to the base. Some lesions may extend the entire length of the stem in just a few days. Lesions soon appear at the stem base on the new shoots and at nodes along the runner stems (Figure 1) where the stems contact the soil or nearby infected plant tissue. The stems soon wilt, turn dark brown to black, and die. After several weeks, entire clumps of plants may wither and die. The fungus frequently spreads from stem lesions into the leaf petiole and base of the leaf (Figure 2).

Dark spots may occasionally form in the leaves (Figure 3) and cause the leaves to turn brown, wither, and generally drop prematurely. These leaf spots are not ordinarily associated with stem infections.

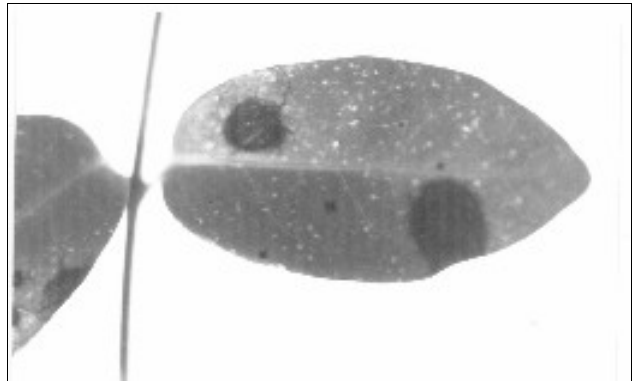


Figure 3. *Phoma* leaf spot on *Vinca minor* leaves.

Disease Cycle

The stem blight fungus grows saprophytically throughout moist soil (soil with a moisture content greater than 50 percent field capacity) and commonly colonizes dead and dying plant material. The fungus is believed to overseason as dormant mycelium and as speck-sized, brown to black fruiting bodies (pycnidia) on the dead stems and leaves.

The dormant mycelium resumes growth in the spring about the time new leaves and shoots appear on vinca plants. Microscopic spores (conidia), produced in tremendous numbers within the pycnidia, probably provide an important source of early season infections, disseminated primarily by splashing and flowing water. Infections usually occur when the temperature is between 50° and 65°F (10° to 18°C). Wounding is not required for infection to take place. Stem lesions are evident 10 to 15 days after infection occurs. The cycle of infection, disease development, symptom expression, and reinfection may be repeated as long as cool, damp conditions prevail and the soil moisture remains high.

Control

1. For new beds, select and plant **only** vigorous, disease-free stock purchased from a reputable nursery.
2. After transplanting, apply only enough water to maintain vigor. Avoid frequent irrigations if the soil is sufficiently moist for good growth. Mulch newly planted vinca beds with 6-mil black plastic, perforated every four to six inches, and covered with pea gravel or rough ground corn cobs. This type of mulch promotes rapid establishment of plant root systems and reduces competition by broadleaf weeds and grasses. The vinca plants also survive winter in a more vigorous condition under this type of mulch.
3. Once vinca beds are well established and healthy, the annual spring soil drench may be eliminated entirely. Annual drenches in April or early May may be resumed if stem blight again becomes a serious problem.

Refer to the Illinois Homeowner's Guide to Pest Management for chemical control. This publication is revised annually and is available from the Information Technology and Communication Services at the University of Illinois.