



UPRIGHT AND RUNNER DIEBACK

Phomopsis vaccinii / *Synchronoblastia crypta*

University of Massachusetts, Cranberry Experiment Station
Frank L. Caruso

Cranberry plants affected by this disease typically have individual uprights that die back from the growing point toward the runner. Every upright may be infected on some runners, while other runners may only have one or a few uprights showing the dieback. Dead uprights may be scattered in the bed or whole patches of dieback may occur. Patch dieback is particularly common in young beds. Symptoms appear at particular times during the growing season: dead uprights and leaf drop are evident shortly after the winter flood has been withdrawn; in June and early July dead uprights appear; and dead uprights appear again in late August and September.

Damage caused by this disease appears to be worse during growing seasons that have prolonged periods of drought or heat stress. This weakens the vines making them more susceptible to infection by fungal pathogens. The only cultivar that has shown potential resistance to this disease is Franklin, but this has not been proven by artificial inoculation with the pathogen to date.

Cause of the Dieback

The damage is probably caused by at least two different fungi. *Phomopsis vaccinii* (the same fungus as the one that causes viscid rot in the fruit) is routinely isolated from uprights showing symptoms. However,

to date the fungus has not been successfully inoculated into cranberry plants. This may be due to a lack of fulfilling the proper requirements necessary for the pathogen to infect the plant. *Synchronoblastia crypta* is also isolated from infected uprights, although much less frequently than *Phomopsis*. Infection by this fungus has been successfully obtained by artificial inoculations. Two or three other fungi may also be involved as pathogens. Infection by these fungi in the field probably occurs at or shortly after bud break when the tissue is particularly susceptible. Infection may also occur throughout the entire growing season. Symptoms do not appear, however, until weather-related stresses weaken the plants or until the following growing season. During periods of stress, the uprights are killed from the growing point downward.

Upright and Runner Dieback Control

The disease can be partially controlled through the avoidance of stress on the plants. Proper use of irrigation during July and August (and throughout the season) can minimize or eliminate heat or drought stress. Deep watering promotes deeply rooted vines that are better able to withstand drought and heat stress.

Early season fungicide applications at bud break and/or early upright expansion have given excellent control

Dead uprights can be seen scattered among the healthy uprights.



Upright dieback clearly seen on a new planting.



of the disease. From April 25 through May 15, Bravo or Champ formulations can be applied for control. See current Chart Book for formulations and rates. One pre-bloom application should be applied after the terminal bud has broken dormancy and begun to swell or has begun new growth. Exact timing will depend on whether the cultivar is early or late-season.

Sample Submission Guidelines

If you think your bog may have upright dieback, bring in at least 50 uprights showing the symptoms. Keep samples from different cultivars separate. The uprights will be cultured to identify the possible pathogen fungi. If these fungi are not isolated, then fairy ring or drought stress may be implicated as the cause of the dieback.



Upright dieback kills the new growth first.



Phomopsis growing on a upright segment in the lab on culture medium.



The disease spreads from the new growth down the runner and every upright may be affected on the runner.



Scattered uprights affected by the disease.



Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture.

UMass Extension provides equal opportunity in programs and employment.

Published by
Cranberry Experiment Station, University of MA
P.O. Box 569, E. Wareham, MA 02538. (508) 295-2212

May 2000. UMass Extension Agroecology Program. Frank L. Caruso is Extension Associate Professor of Plant Pathology at the Cranberry Experiment Station in East Wareham, MA.