

Verticillium Wilt of Strawberry

Small Fruit

Pest
Fact
Sheet **51**



Introduction

Verticillium wilt occurs widely in New Hampshire and causes severe losses on some farms. This disease is caused by the soil-borne fungus *Verticillium albo-atrum* which lives from year to year in the soil. In addition to strawberries, many other common crops and weeds are also hosts of this fungus.

Symptoms & Damage

The fungus is most active during cool weather. Symptoms often first appear in late spring in response to stress such as sudden heat or drought. In established plantings symptoms often peak as the fruit begin to ripen.

Outer leaves first exhibit interveinal and marginal browning, followed by complete browning and wilting. Younger leaves are stunted and remain green until plants die. This symptom is specific to verticillium wilt - with other root and crown diseases, young leaves also wilt. Few, if any, new leaves develop. New roots that grow from the crown often are very short and have blackened tips. Plants appear to be dry and flattened. Black sunburn lesions may appear on leafstalks and runners. Severely affected plants collapse, sometimes abruptly. Less severely affected plants are unproductive. Plants will often "recover" when environmental stress and harvest are past, but they will not be productive.

Some of the most susceptible varieties are Honeoye, Earlidawn, Kent, Jewel, Sparkle, Raritan, and Vesper. Varieties that are partially resistant include Earliglow, Allstar, Tristar, Delite, Surecrop, Guardian, Catskill, Lateglow and Redchief.

Prevention

Avoid excessive nitrogen-induced plant vigor. Allow at least 2 years between tomatoes, peppers, or potatoes and strawberries. Verticillium may persist 10 years or more in the soil.

In areas where verticillium wilt is a problem, plant only strawberry varieties which have resistance to this


disease.


Fumigation of the soil with chloropicrin, frequently with methyl bromide added for weed control, has given good results; however, due to concerns of groundwater protection, its use is not recommended as a general rule. Proper site selection, crop rotation, soil drainage improvement, and resistant cultivars constitute the recommended management program.

Summary

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| 1. Causal Agent: | Fungus |
| 2. Plant Parts Attacked: | Roots |
| 3. Major Symptoms: | Outer leaves wilt and die, severely affected plants collapse. |
| 4. Times of First Noticeable Symptom: | In late spring - in response to stress such as sudden heat or drought. As fruit begin to ripen. |
| 5. Chemical Control: | Soil fumigation (not recommended as part of a general control program). |
| 6. Cultural Control: | Plant resistant varieties, don't follow susceptible crops or rotations, improve soil drainage, maintain moderate nitrogen levels. |

Stop! Read the label on every pesticide container each time before using the material. Pesticides must be applied only as directed on the label to be in compliance with the law. All pesticides listed in this publication are contingent upon continued registration. Contact the Division of Pesticide Control at (603) 271-3550 to check registration status. Dispose of empty containers safely, according to N.H. regulations.


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