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## EARLY BLIGHT OF TOMATOES

Control Series 82

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Early blight, caused by *Alternaria solani*, is one of the most common diseases of tomatoes in Virginia. It occurs to some extent every year wherever tomatoes are grown.

**DAMAGE:** The fungus can attack tomato leaves at any time during the growing season. It is one of the principle causes of damping-off in the seedbed. The fungus also causes a stem canker or collar rot that is destructive to transplants in the field. The fruit is also affected and may drop before it is mature. The disease can survive from year to year in old diseased vines left in the field. The principle means of spreading the disease is by transportation of disease fruit. Splashing rain, running water and moving machinery can spread the disease in the field. The disease is greatly influenced by the degree of thriftiness in the growth of the plants. Infection takes place slowly unless the plants have been weakened or wounded. Disease symptoms are usually visible about 10 days after the plants are infected.

**SYMPTOMS:** The first and most noticeable symptoms are the small, irregular, brown leafspots on the older, lower leaves. These spots may enlarge until they are one-half inch in diameter and show concentric rings or ridges giving a target-like pattern (Figure 1). Some spotting of the leaves may be found early in the season, but the greatest damage usually appears after fruit set. During periods of high temperature and high humidity the entire plant may be defoliated, exposing the fruit to sunscald.

On the stem the disease causes small, dark, slightly sunken areas that enlarge to form elongated lesions with concentric markings similar to those on the leaves.

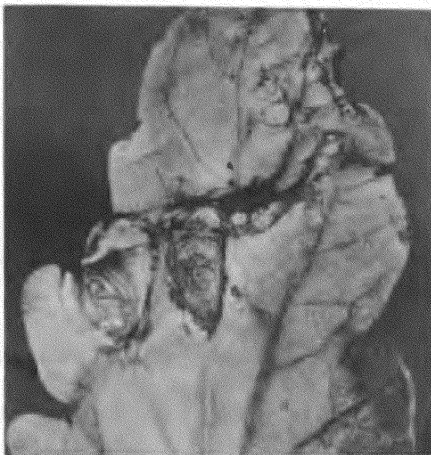


FIGURE 1. Tomato leaflet showing characteristic target type lesions caused by early blight.

may cause blossoms and very young fruit to drop.

Large spots often appear on the stem near the ground line causing partial girdling or collar rot (Figure 2). Plants which survive the early stem cankers usually remain small and produce few fruits.

This disease also affects the fruit causing a dark, sunken, leathery lesion to appear around the stem-end. On older fruits these lesions reach considerable size, extending the rot deep into the

flesh of the fruit. Infected fruits usually drop and if they reach maturity, are not marketable. Under favorable conditions, the disease also causes spotting of the fruit stems and

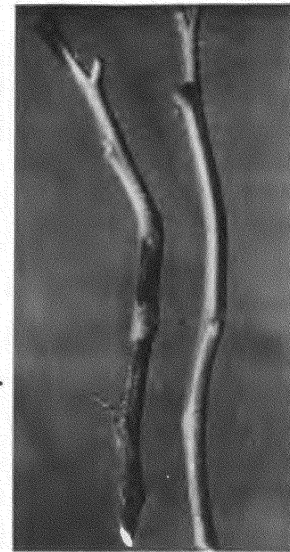


FIGURE 2. Left: Tomato stem showing collar rot and stem canker symptoms caused by the early blight fungus. Right: Tomato stem from a healthy plant.

*CONTROL:* An effective control program involves a number of steps each of which is important.

1. Obtain the best certified seed or transplants. Prevention of seedling infection is very important.
2. Practice crop rotation. Tomatoes should not be planted in areas where susceptible vegetables like tomatoes, potatoes, peppers or eggplants have been grown during the previous three or four years.
3. Space transplants to allow good air circulation, thereby permitting plants to dry off rapidly after rains and dews. This will reduce the hazard of disease development.
4. Plow under or remove old vines as soon as the harvest is completed.
5. Apply a fungicide according to the schedule described in the 1978 Control of Diseases and Weeds in the Home Vegetable Garden PMG-12.

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#### KEYS TO PROPER USE OF PESTICIDES

1. Read the label on each pesticide container before each use. Follow instructions to the letter; heed all cautions and warnings, and note precautions about residues.
2. Keep pesticides in the containers in which you bought them. Put them where children or animals cannot get to them, preferably under lock and away from food, feed, seed, or other material that may become harmful if contaminated.
3. Dispose of empty containers in the manner specified on the label.

**SEE YOUR DOCTOR IF SYMPTOMS OF ILLNESS OCCUR DURING OR AFTER USE OF PESTICIDES.**