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### Tomato Diseases to Watch For

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In the vegetable garden, be on the lookout for signs of foliar disease. Some diseases begin on lower leaves as leaf spots or brown blighted areas and symptoms progress upward.

The spread of these diseases can be slowed by pinching off and discarding infected leaves. If pesticides are used, the time to begin applications of a fungicide is at the first sign of leaf infections.

On tomatoes, two common fungal diseases are early blight and septoria leaf spot. Both begin as leaf spots on lower leaves, then work their way up the plant causing leaves to die. If many leaves die, it leads to fruit sunscald and reduced yields.

Early blight occurs during warm, humid periods and can spread rapidly. It begins as irregular, dark brown areas on leaves with concentric rings developing in the centers as spots enlarge. Dark brown, sunken lesions can form on stems and leaf petioles about 10 days after infection.

Septoria leaf spot begins as tiny black dots on leaves, enlarging to small circular spots with dark margins and grayish center. Infected leaves eventually turn yellow and die. Elongated lesions also develop on stems and leaf petioles.

Diseases can be slowed by avoiding overhead irrigation and increasing air circulation around plants with proper spacing and caging. Avoid working with tomatoes when their leaves are wet.

Mulching the soil around tomatoes and other vegetables helps reduce soil splash of pathogens onto lower leaves. During a rainstorm or irrigation, water droplets hit the soil surface, splashing water and soil onto the lowest leaves. For diseases that overwinter on old plant debris, this is a common means of infection.

Most important, plant resistant varieties and avoid planting tomatoes in the same area each year. It may be best to pull and destroy severely infected plants. During fall, use sanitation by cleaning up and destroying plant debris to help reduce overwintering fungi.

Both diseases can be reduced with fungicides labeled for use on tomatoes. For best results, applications need to begin as soon as symptoms first appear on lower leaves and applications made about every 7 to 10 days or according to label direction.

Keep in mind fungicides will not cure any infections that have already occurred. Thorough coverage of the leaf surface is needed. When a fungal spore lands on the leaf, the fungicide prevents new infection.

Tomatoes are also susceptible to bacterial diseases for which fungicides containing copper as an active ingredient need to be used. These diseases are bacterial speck and spot. Both are spread from infected plant debris during periods of humid, wet weather.

Bacterial speck appears as tiny, pinhead sized, raised black specks on tomato leaves and fruits. Bacterial spot is very similar to bacterial speck, but the leaf and fruit spots are slightly larger. On tomato fruits, bacterial spot results in slightly raised, brown, scabby lesions.

Follow the same general management recommendations for fungal diseases. If you wish to apply a pesticide, use a product that is labeled for use on tomatoes and contains copper as the active ingredient.

To be effective, the first treatment must be applied before many symptoms develop. Apply additional treatments every 10 to 14 days as long as cool, moist conditions continue. Keep in mind that if used excessively or for prolonged periods, copper may no longer control the diseases.

#### 21 June 14 PSAs

Fruit trees have chores that need to be done through the growing season to obtain good yields and maintain healthy trees. These chores include removing some fruit from heavily loaded trees, like apples, in June. Fruit thinning improves fruit size, helps prevent branch breakage, and can keep fruit trees from going into alternate year bearing. Apple fruits should be spaced about 6 to 8 inches. This is an average spacing so two apples can be closer together if the average spacing is correct. Suckers should also be removed from the base of fruit trees and water sprouts removed. Water sprouts are narrow twigs that grow straight up off of branches. During hot, dry spells, water fruit trees with about one inch of water per week. Moistening the soil six to eight inches deep is the goal. If you follow a fruit tree spray schedule for pest control, continue according to label directions for pesticides labeled for use on edible fruit trees.

Today's annual flowers have been bred to flower early and over a long period of time. For this reason, providing nitrogen through the growing season helps maintain a long lasting flower display. For annual flowers growing in a garden bed, apply a nitrogen side dressing four to six weeks after flowers have been planted. A side dressing is a granular fertilizer spread along the plant row and lightly scratched into the soil. Additional fertilization every three to four weeks can be helpful during a rainy summer, or if flower beds are irrigated. For annual flowers growing in containers, fertilize at least every three to four weeks when watering. It is best to use a nitrogen-only fertilizer in most cases. Common sources of nitrogen-only fertilizers are nitrate of soda, urea, and ammonium sulfate. Blood meal is an organic fertilizer that contains primarily, but not only, nitrogen. Do not use a fertilizer containing a weed killer or preventer.

Clumps of a dark green, wide-bladed grass in Kentucky bluegrass are most likely a forage type of tall fescue. Some homeowners refer to this grass as water grass, and it is then confused with yellow nutsedge, which also has the common name of water grass. However, these two weeds do not resemble one another and are easily distinguishable. Tall fescue has dark green, coarse, wide blades and grows faster than bluegrass. Yellow nutsedge is finer textured with narrow, yellowish green leaves that are triangular shaped in cross section. Positively identify all weeds and pests prior to controlling, especially when pesticides are used. For tall fescue in KBG lawns, mechanical removal by digging, or nonselective control with glyphosate or Roundup are control options. Whereas yellow nutsedge is controlled with herbicides such as Sedgehammer containing halosulfuron, when persistently applied prior to June 21.

In the vegetable garden, be on the look-out for early blight and septoria leaf spot on tomatoes. These are fungal diseases that begin as leaf spots on lower leaves, then work their way up the plant causing leaves to die. If many leaves die, this leads to fruit sunscald and reduced yields. Both diseases can be reduced with fungicides labeled for use on tomatoes. For best results, applications need to begin as soon as symptoms first appear on lower leaves and applications made about every 7 to 10 days. Avoid overhead irrigation and increase air circulation around plants with proper spacing and caging. Mulch the soil around tomatoes to reduce soil splash of fungus onto lower leaves. Most important, plant resistant varieties and avoid planting tomatoes in the same area each year. Severely infected plants are best pulled and destroyed. This fall, use sanitation, cleaning up and destroying plant debris, to reduce overwintering fungi.

June is chigger time. Chiggers are the larval stage of harvest mites. In early spring, adults lay eggs in soil that hatch in June. Adults are harmless, but the larval stage is parasitic on animals and humans. On hosts, chiggers move about until reaching a confined place, such as under socks or waistbands. Chiggers do not burrow into skin. They pierce skin and inject a fluid that causes tissues to be inflamed and itchy. Once fully fed, chiggers drop from hosts and enter the ground. Because several hours elapse before chiggers settle down to feed, bathing soon after exposure to chigger-infested areas may wash chiggers off and prevent feeding which causes itching. Clothing should also be washed. Insect repellents containing "DEET" are effective in reducing chiggers. If needed, you can monitor for chiggers by placing six-inch squares of black paper vertically in grass. If present, chiggers will climb to the top of the paper.