

## TOMATO DISEASES/PROBLEMS

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EARLY BLIGHT

### EARLY BLIGHT (*Alternaria solon*) SOILBORNE FUNGAL DISEASE

Most tomatoes are susceptible to Early Blight which usually develops in early summer, after heavy rains or when it is humid and warm.

**SYMPTOMS:** Leaves at the base of the plant near the ground develop dry looking, irregularly shaped brown patches surrounded by concentric rings. The best prevention is prune off the affected leaves as soon as you see them. I prune off all branches and leaves within 18 inches of the ground to try to prevent this as it is a soilborne disease. Early Blight overwinters in the soil. Remove affected plants and clean up fall garden debris as it overwinters in plant residue. Wet weather increase likelihood of getting this disease.

**CONTROL:** Protectant fungicides-Copper or sulphur can prevent further development of it, Green Cure (potassium bicarbonate), and Serenade (QST 713 strain of *Bacillus subtilis*), a biofungicide helps more to prevent disease and is not a cure. Also spacing plants farther apart for good air circulation may help. Good sanitation and disposal of plants at end of season are important.



SEPTORIA LEAF SPOT

### SEPTORIA LEAF SPOT (*Septoria lycopersici*) NOT SOIL-BOURNE-FUNGAL DISEASE

Septoria leaf spot can occur at any stage of a tomato plant development especially after heavy rains or when it is wet and warm. Spores are spread by windburn rain, insects, splashing rain

**SYMPTOMS:** It's usually observed first on the lower leaves.

Leaves that are heavily infected have small circular brown spots, turn yellow, dry up and drop off. The fungus is not soil inhabitant but can persist from one season to the next if the debris from the diseased plant is not removed and ends up in the soil.

**CONTROL:** Copper fungicides, Green Cure (potassium bicarbonate), Serenade (QST 713 strain of *Bacillus subtilis*), a biofungicide, helps more to prevent disease.



BACTERIAL WILT

### BACTERIAL WILT-SOILBORNE DISEASE

Soil borne and waterborne pathogens that causes leaves to wilt in day only to recover at night and then complete sudden wilting of plant.

**TEST:** Cut a four inch long section from low down on the stem and suspend this cutting in a jar of water. If a cloudy, milky ooze comes out, this is an indication of bacterial wilt. Dried leaves may remain green.

**CONTROL:** Dispose of plants. Plant in different location. 3-4 year rotation of crops

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BEET CURLY TOP VIRUS

### BEET CURLY TOP VIRUS DISEASE

Transmitted by the beet leafhopper which build up high numbers on tumbleweeds and survive the winters on mustard plants.

**SYMPTOMS:** upward curling leaves that become thick, stiff and twisted. May stay green or become yellow with purple veins, plants become stunted. Plant next to them may be virus free.

**CONTROL:** Provide partial shade is beneficial as leafhoppers prefer to eat in the sun. Possibly use row cover/shade cloth to cover plants.



TOMATO SPOTTED WILT

### TOMATO SPOTTED WILT VIRUS DISEASE

This virus is caused by thrips that transmit the virus from infected tomato plants to other healthy tomato plants.

**SYMPTOMS:** Two symptoms are dominant- young leaves turn bronze and develop small brown spots. Second, the leaves wilt and tips die-back. Infected plants produce poor quality fruit and less yield. Pull plants and dispose of them.

**CONTROL:** Elimination difficult. Using reflective mulches may help reduce infection, physical barriers like covering plant with row cover when it is young.



TOMATO SPOTTED WILT on tomato fruit



BLOSSOM-END ROT  
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### BLOSSOM-END ROT DEFICIENCY

Hard brown or black leathery patches on the blossom ends of ripening tomatoes indicate blossom-end rot. It is more common in large fruited varieties. This is generally caused by a calcium deficiency at fruit set or uneven watering and is prevented by planting tomatoes in compost enriched soil and mulched with straw to keep moisture levels more constant. I put a tablespoon or two of dry milk in the bottom of each hole when first planting tomatoes. In the fall dig in some gypsum which is a good source of calcium without raising the ph of the soil here in Santa Fe.