

Guidelines for Managing Specific Vegetable Diseases Organically

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Additional information posted at: <http://www.longislandhort.cornell.edu/vegpath/organic.html>

Virus Diseases

Symptoms: Leaves - mosaic pattern, ringspots, malformed.

Fruit - ringspots, color-breaking.

Management: Destroy affected plants, control insect vectors.

Beans

Anthracnose (fungus)

Symptoms: Pods - black, sunken spots with salmon-ooze when moist.

Source: Crop debris, seed, spores spread by wind or rain.

Management: Rotate, use mulch, destroy plant debris.

Bacterial Blights (bacteria)

Symptoms: Leaves - brown spots often with yellow halo.

Pods - water-soaked spots, become brown, sometimes sticky.

Source: Crop debris, seed, bacteria spread by rain.

Management: Rotate, avoid dispersing bacteria with water or by handling plants, destroy plant debris.

White Mold (fungus)

Symptoms: Pods + stems – water-soaked spots; white cottony growth with black ‘peas’.

Source: sclerotia (black ‘peas’), spores spread by wind or rain.

Management: Long rotation, minimize leaf wetness, destroy plant debris.

Corn

Smut (fungus)

Symptoms: Fleshy galls on ears, leaves, stems and tassels.

Source: Soil, wind-blown spores; injury promotes.

Management: Remove galls before they open, rotate.

Crucifers (broccoli, cabbage, cauliflower, etc.)

Black Rot (bacterium)

Symptoms: Yellow, wedge-shaped spots at leaf margins.

Source: Seed, crop debris. Spread: Splashing water

Management: Hot-water-treated seed, resistant varieties, water at base of plant, work when plants are dry.

Soft Rot (bacterium)

Symptoms: Brown rotting tissue often with foul odor.

Source: Soil.

Management: Avoid injury, water at base of plant, cut broccoli at angle.

Cucurbits (cucumber, melons, gourd, squash, pumpkin)

Bacterial Wilt (bacterium)

Symptoms: Wilt-starts with leaf spots; then leaves, vines, plant.

Source: Cucumber beetles.

Management: Control beetles.

Powdery Mildew (fungus)

Symptoms: White, powdery spots on leaves.

Source: Wind-blown spores from other fields.

Management: Resistant varieties, sulfur and oil fungicides, control weeds.

Phytophthora Blight and Pythium Fruit Rots (fungi)

Symptoms: White yeasty growth (Phytophthora). White cottony growth (Pythium).

Source: Soil

Management: Manage soil moisture.

Choanephora Fruit Rot (fungus)

Symptoms: gray cottony growth; looks like black-capped pins.

Peppers

Bacterial Leaf Spot (bacterium)

Symptoms: Small brown spots on leaves and fruit; leaves fall off.

Source: Seed, crop debris. Spread: Splashing water

Management: Hot-water-treated seed, resistant varieties, water at base of plant (keep leaves dry), work when plants are dry.

Blossom End Rot (abiotic)

Symptoms: Brown to black area at blossom end, depressed, leathery.

Cause: Calcium deficiency due to moisture fluctuations or excess nitrogen.

Management: Adequate moisture and nutrients; avoid root pruning.

Phytophthora Blight (fungus)

Sunscald (abiotic)

Symptoms: White area on fruit part facing sun; soft, wrinkled, then papery.

Cause: Fruit exposed to intense sunlight due to insufficient leaves.

Management: Control leaf diseases.

Soft Rot of Fruit

Management: Avoid injury.

Tomatoes

Anthracose (fungus; not the fungus causing anthracnose of bean)

Symptoms: Round, sunken spots on ripe fruit; turns black from center out. Entire fruit often rots.

Source: Crop debris, soil, seed, weeds (nightshade, velvetleaf).

Management: Rotate, treat seed, mulch, control weeds, destroy plant debris.

Blossom End Rot (see pepper section)

Catface (abiotic)

Symptoms: Malformation and scarring of fruit, usually blossom end.

Cause: Cool temperatures early in fruit development.

Management: Protect young plants from cool temperatures.

Late Blight (fungus)

Symptoms: Leaves - large, irregular, green to gray spots that turn brown; white mold on undersurface. Fruit - firm, large, irregular, brown/green spots with greasy, rough look; sharply defined margin.

Source: Crop debris, infected transplants, wind-blown spores.

Management: Rotate, inspect transplants, destroy debris.

Buckeye Rot (fungus)

Symptoms: Fruit - gray/green or brown large spot; becomes dark, firm leathery rot; concentric rings; smooth, undefined margin.

Source: Soil

Management: Rotate, mulch, stake plants, manage water.

Early Blight (fungus)

Symptoms: Leaves - small, circular, dark brown spots with concentric rings and yellow border.

Fruit - dark, leathery, sunken spots.

Source: Seed, debris, infected transplants, weeds, wind-blown spores.

Management: Rotate, treat seed, mulch, control weeds, destroy plant debris.

Septoria Leaf Spot (fungus)

Symptoms: Leaves - small, circular spots; gray with dark border; tiny black specks on gray part.

Source: Seed, debris, infected transplants, weeds.

Management: Rotate, treat seed, mulch, control weeds, avoid dispersing spores with water or by handling plants, destroy plant debris.

Bacterial Speck, Bacterial Spot and Bacterial Canker (bacteria)

Symptoms: Speck & Spot: Leaves - small, dark circular spots. Fruit - small, black spots. Canker:
Wilt. Leaves - margins brown and yellow. Fruit - corky spots. Stems - spots.

Source: Seed, debris, infected transplants.

Management: Hot-water-treat seed, avoid dispersing bacteria with water or by handling plants,
destroy plant debris.

Wilts (fungi: Fusarium, Verticillium; bacteria)

Symptoms: Leaves - turn yellow, die, old ones first. Stems - brown inside.

Source: Infected transplants, soil, planting materials.

Management: Destroy affected plants.