

# Vegetable Disease Recommendations for Home Gardens

Fact Sheet FS1124

## Cooperative Extension

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### Disease Management

Vegetable diseases can severely limit productivity of the garden. Some vegetable diseases can be serious problems every year, while others may rarely appear in the garden. Soil-borne diseases such as *Fusarium*, *Phythium*, *Rhizoctonia* and *Phytophthora* can survive in soils for many years, and once established can be very difficult to get rid of. Therefore, proper crop rotation is very important for controlling soil-borne diseases in the home garden. Other diseases, such as powdery mildews, are wind-borne (aerial) and can cause problems anywhere your garden is located. In both cases, whether the disease is soil- or wind-borne, good cultural practices and prevention are critically important for maintaining a healthy garden.

Frequent monitoring of the garden to detect problems at an early stage and good cultural practices will allow you to prevent or reduce disease development. However, for effective monitoring, the homeowner must know where and when to look for vegetable diseases and be able to identify those that are found. Fact sheets and bulletins for important diseases of tomatoes (FS547) and cucurbit crops (i.e., pumpkin, summer squash, melon, etc.) (E310) in the home garden are available at the [NJAES website](#). Remember, without proper identification, disease management is impossible.

### Keys to Effective Management

1. Rotate the entire garden to a new location as often as possible. This is especially important for reducing the chances for soil-borne diseases to develop. If the same location is used more than one season, rotate the crops within the garden by plant family. Garden rotation is highly effective in reducing soil-borne disease problems.
2. Plow or turn the soil well in advance of planting. The garden should be well plowed and free of weeds, grass, etc., at least 30 days before planting.
3. Buy seed or vegetable transplants with known resistance to common diseases. In many cases, catalogs or tags will list pathogens that plants are resistant to. Transplants should be purchased from a reputable dealer and should be free of disease and insect pests at time of planting.
4. Follow recommended plant spacings and practice good weed control to maximize air movement through the garden to encourage rapid leaf drying. Use proper fertility and watering programs to maintain plant health and vigor.
5. If possible, use a soaker hose or hand water at the base of plants. Never run your sprinkler in the late afternoon or evening! Long hours of leaf wetness result in ideal conditions for disease development. If you need to water with a sprinkler, do so in the morning or early afternoon so leaves have enough time to dry out before sunset.
6. Learn to identify common garden diseases, know when and under what conditions they are likely to occur, and consider chemicals only when a disease problem exists. Seek alternatives to chemicals when possible.
7. Thoroughly inspect plants at regular and frequent intervals to monitor for any potential disease development. It is suggested to scout the garden at least twice weekly. Inspect plants carefully from top to bottom, including both upper and lower leaf surfaces.
8. Harvest fruit, seed, pods, etc., as soon as they are ripe. Allowing overripe fruit to remain on the plants often invites additional pest problems.
9. Once a plant is no longer productive, destroy it or plow it under or remove it from the garden. Avoid pulling infected plants up and leaving them in the garden area. Infected and/or dead plants left in the garden will only act to harbor the pathogen and potentially cause more disease to develop.
10. It is recommended that you do not use infested vegetable plants in any form to add to a mulch bed or compost bin. Vegetable plant matter can harbor insects, disease organisms and nematodes that can easily survive organic decomposition and cause future problems, especially if not composted properly.

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Crop	Disease	Fungicide <sup>1</sup>	Notes
Asparagus	Rust	Mancozeb	Plant rust resistant varieties.
	Purple spot	Chlorothalonil	Cut back and remove ferns after first frost.
	Phytophthora crown and spear rot		Start a new planting. Move to other area of garden.
Beans	Anthracnose (Lima Beans only)	Chlorothalonil	For use only on beans to be harvested dry with pods removed.
	Bacterial blights	Copper*	Use certified western-grown seed.
	<i>Botrytis</i> blight (Gray mold)	Chlorothalonil	Apply after extended wet periods.
	Downy mildew (Lima beans only)	Chlorothalonil	For use only on beans to be harvested dry with pods removed.
	Powdery mildew	Sulfur*	Sulfur may injure blossoms and some varieties of beans.
	Rust	Chlorothalonil, Sulfur*	Sulfur may injure blossoms and some varieties of beans.
	Seed Rot and Damping Off	Captan	Mix thoroughly in paper bag or glass jar.
	Viruses	No chemical registered	Clover control around edge of garden areas is important to reduce spread of virus from clover to beans. Some bean varieties are resistant. Aluminum foil mulch may prevent aphid feeding.
Beets	<i>Cercospora</i> - Leaf spot	Copper*	Apply fungicide preventively.
	Seed rot and Damping-off	Captan	Mix thoroughly in paper bag or glass jar.
Cole Crops	Black leg	Copper*	Buy disease-free transplants.
	Black rot	Copper*	Use resistant varieties for black rot control.
	Downy mildew	Chlorothalonil	Apply fungicide preventively.
	<i>Alternaria</i> leaf spot	Chlorothalonil, Copper*	Do not spray copper when plants are stressed.
	Seed rot and Damping-off	Captan	Mix thoroughly in paper bag or glass jar.
Carrots	Leaf blights - <i>Cercospora</i> , <i>Alternaria</i>	Chlorothalonil	Apply fungicides preventively before symptoms appear. Promote good air circulation and keep foliage dry.
	Bacterial blight	copper*	
	Powdery mildew	Chlorothalonil	
Celery	Bacterial blight	Copper*	Apply fungicides preventively before symptoms appear. Promote good air circulation and keep stalks dry.
	Leaf spots - <i>Cercospora</i> , Early blight	Chlorothalonil, Copper*	
	<i>Septoria</i> blight or Stalk rot ( <i>Rhizoctonia</i> )	Chlorothalonil	

Crop	Disease	Fungicide <sup>1</sup>	Notes
Cucurbits (Cucumbers, Summer Squash, Cantalopes, Pumpkins)	Alternaria leaf spot, Anthracnose, Downy mildew, Gummy stem blight	Chlorothalonil, Mancozeb, Copper*	See E310. Avoid using sprinkler. Follow good crop rotation to help reduce chances for gummy stem blight and anthracnose.
	Angular leaf spot (cucumbers only)	Copper*	See E310. Copper may injure some young plants.
	Belly rot ( <i>Rhizoctonia</i> ) suppression only	Chlorothalonil	See E310. Use mulch to keep fruit off soil surface.
	Powdery mildew	Sulfur* (Pumpkins only), Chlorothalonil, Potassium Bicarbonate*	See E310
	Seed rot and Damping-off (Melons and Squash)	Captan	Mix thoroughly in paper bag or glass jar.
Potatoes	Early blight, <i>Botrytis</i> vine rot	Chlorothalonil, Mancozeb	Plant early blight resistance varieties.
	Late blight	chlorothalonil, mancozeb	Plant late blight resistant varieties. Apply fungicides preventively.
Onion	Bacterial soft rot	Copper*	Apply fungicides preventively before symptoms appear. Promote good air circulation and keep stalks dry.
Onion (Dry Bulb)	<i>Botrytis</i> leaf blight, Downy mildew, Purple blotch	Chlorothalonil	Apply fungicides preventively before symptoms appear. Promote good air circulation and keep stalks dry.
Onion (Green Bunching) and Leeks, Shallots	<i>Botrytis</i> leaf blight, Downy mildew, Purple blotch	Chlorothalonil, Copper*	
Peas	Powdery mildew	Copper*, Neem Oil*	Apply copper, neem oil preventively.
	Bacterial blight		
	Seed rot and Damping-off	Captan	Mix thoroughly in paper bag or glass jar.
Peppers	Anthracnose fruit rot	Chlorothalonil, mancozeb	Remove infected fruit from garden.
	Bacterial leaf spot	Copper*	Plant varieties with resistance to BLS 1-5.
	<i>Phytophthora</i> crown and fruit rot	No chemical registered	Avoid planting in low-lying areas. Grow resistant cultivars such as 'Paladin' or 'Aristotle'.
Sweet Corn	Bacterial wilt	No chemical registered	Plant resistant varieties.
	Leaf blights, Rust	Chlorothalonil, Mancozeb	Plant resistant varieties.

Crop	Disease	Fungicide <sup>1</sup>	Notes
Tomatoes	Early Blight, Septoria leaf spot, Botrytis (Gray mold), Anthracnose fruit rot	Chlorothalonil, Mancozeb, Copper*	See FS547. Follow good crop rotations.
	Bacterial spot and speck	Copper*	Avoid working in garden when leaves are wet. Avoid sprinkler irrigation.
	Late blight	Chlorothalonil, Mancozeb, Copper*	Few varieties with resistance.
	<i>Fusarium</i> wilt and <i>Verticillium</i> wilt		Plant resistant varieties.
	Southern blight		Follow good crop rotations. Pathogens can survive in soil for many years.
Watermelon	Anthracnose, <i>Alternaria</i> leaf blight, Downy mildew, gummy stem blight	Chlorothalonil, Mancozeb, Copper*, Neem Oil* (Powdery Mildew)	See E310 Apply after extended wet periods and/or preventively. Apply weekly to protect new growth.

\*Some formulations of these products may considered organic, be sure to check the label.

1. Active ingredients, not product names, are listed. Pesticide products and formulations may change. Always follow label instructions. Check label for: personal protective equipment, number of applications allowed per season, interval between sprays, and the number of days between last spray and harvest.

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