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FACT SHEET

PLANT PATHOLOGY NO. 9—Revised 1976

Controlling Diseases in the Home Vegetable Garden

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Disease control in the home vegetable garden must start long before seeds and plants are put in the ground. Plan a long-range program of crop rotation. Dispose of crop refuse at the end of each season. Obtain seed and plants of disease-resistant varieties from a reliable source. Many vegetable diseases cannot be controlled with chemicals during the growing season. Preventive measures are most important.

GENERAL PRACTICES

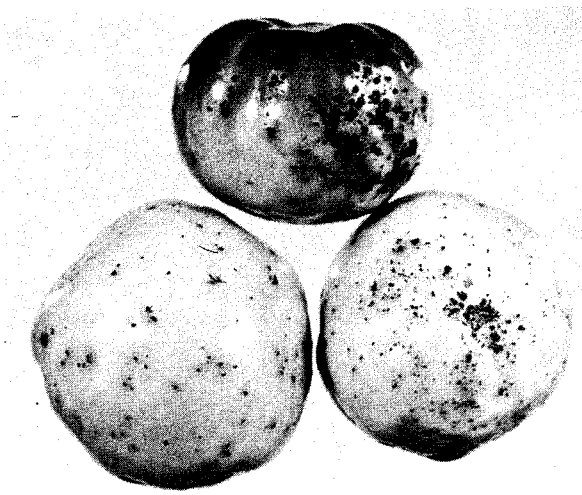
Treatments given are those generally necessary to control commonly occurring diseases. All treatments are not needed in all places every year. Past experience and the degree of perfection desired help determine a program.

Seed and plants may be infected when brought to the garden for planting. Special treatments with hot water may be required to free seed from certain disease-causing organisms. Hot water treated seed is usually available from commercial seed companies upon request. Try to obtain seed and plants that were produced under proper conditions and given the right treatments.

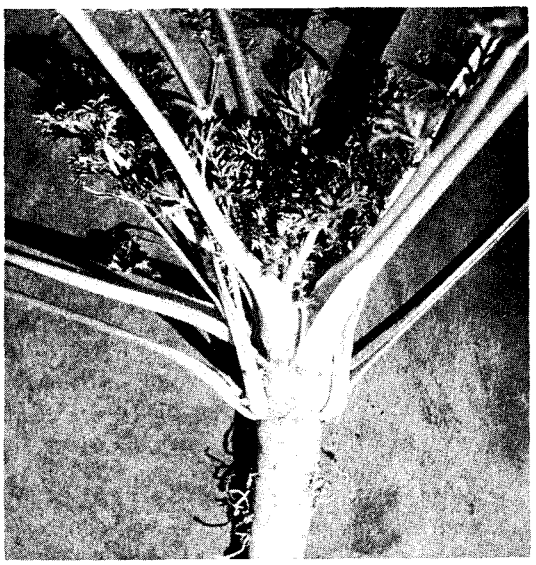
Fungicides and insecticides may be applied in combination when dusting or spraying. See Entomology Fact Sheet No. 11, "Controlling Insects in the Home Vegetable Garden," for recommendations on insecticide applications.

Take precautions against severe virus infestations. Some viruses are spread by handling plants after using tobacco. See Plant Pathology Fact Sheet No. 27, "Tomato-Tobacco Mosaic Virus Disease." This is especially important with tomatoes. Remove virus-infected plants, as viruses can be spread from plant to plant by handling or by insects.

Keep foliage dry as much as possible. Water and spray early in the day to allow time to dry. Space plants properly and prune when necessary to permit adequate ventilation.



Bacterial speck of tomatoes. Bacteria can come from seed, soil, plants, tools, or containers.



Aster yellows on carrot. Note multiple crowns and excessive side branches on main root. Control aster leafhopper to prevent infection.

ASTER YELLOWS

Aster yellows occurs on carrots, lettuce, onions, potatoes, tomatoes, and many other plants. This mycoplasma disease is spread by the aster leafhopper. Leafhoppers must be controlled with insecticides. Treatment during the first half of the growing season is most important.

Watch news reports for occurrence of the aster leafhopper. Severe infestations occur at irregular intervals. Don't expect complete control, especially during seasons with large populations of leafhoppers.

SEED TREATMENT FOR DAMPING-OFF CONTROL

Coat seeds lightly with a good fungicide before planting. If you apply too much chemical, shake off excess through a screen. Any one of the following seed treatment fungicides is suitable:

Common name	Some trade names
captan	Captan, Orthocide
chloranil	Spergon
dichlone	Phygon
thiram	Arasan, Panoram, Thiram

Septoria leaf spot of tomato. Control by fungicide application.

Anthracnose of muskmelon. Control by removing old vines and by fungicide application.

FUNGICIDES FOR SPRAYING OR DUSTING

The following fungicides control many diseases of vegetables. Check labels and recent publications for specific crops, uses and limitations for using these fungicides.

Benomyl 50% wettable powder

Bravo

Maneb—some trade names are: Dithane M-22 Special, Manzate D, Dithane M-45, and Manzate 200.

Zineb—some trade names are: Chemform Spray Zineb, Dithane Z-78, Ortho Zineb Wettable, Parzate Zineb Fungicide, and Acme Zineb.

Fixed or basic copper sulfate—some trade names are: C.O.C.S., Tri-basic Copper Sulfate, Ortho 53, and Kocide 101.

INDIVIDUAL CROP TREATMENTS

Beans—Crop rotation; use western-grown seed; seed treatment; don't handle plants when they are wet.

Carrots—Crop rotation; seed treatment; spray or dust with a fungicide if leaf spot diseases were present in previous seasons.

Crucifers—(cabbage, broccoli, brussels sprouts, cauliflower, rutabaga)—Crop rotation; seed treatment.

Cucurbits (cucumbers, melons, pumpkins, squash)—Crop rotation; seed treatment; control cucumber beetles to prevent bacterial wilt infection; if leaf spot was a problem, spray or dust with a fungicide, starting when plants begin to run.

Onions—Crop rotation; seed treatment; spray or dust with a fungicide if leaf spot is a problem. Use a spreader such as a household detergent with sprays (1 level teaspoonful dry or 1/3 teaspoonful liquid per gallon).

Peas—Crop rotation; seed treatment.

Peppers—Crop rotation; seed treatment; spray or dust with a fungicide.

Potatoes—Use certified seed; spray or dust with a fungicide.

Sweet corn—Seed treatment.

Tomatoes—Crop rotation; seed treatment; spray or dust with a fungicide. Keep fruit off the ground to prevent infection from soil.

DISEASE CONTROL TIPS

1. Purchase cabbage, cauliflower, and tomato seed that has been hot water treated and use a fungicide as a seed treatment.

2. Provide adequate space between plants. This allows for good air movement and will be helpful in controlling diseases.

3. Plant disease-resistant varieties when available.

4. Avoid planting tomatoes, eggplant, beans, potatoes in the same ground year after year, also avoid successive crops of the same vegetable side-by-side during the same growing season, as some of them are susceptible to the same diseases.

5. Water plants in the early morning hours so that the foliage will dry. Watering plants in the evening creates ideal conditions for disease development and spread.

6. Control insects early in the seasons as many of them transmit virus and bacterial diseases to healthy plants (See Entomology Fact Sheet No. 11).

7. Control the weeds around the garden area as many disease organisms survive on weeds and can be transferred by insects, wind, etc. to many garden crops, resulting in disease.

8. Disease control in the garden generally requires the use of a fungicide. Keep a sprayer on hand to apply the fungicides used for disease control.