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Home Vegetable Garden: Disease, Insect, and Weed Control

Michigan State University

Cooperative Extension Service

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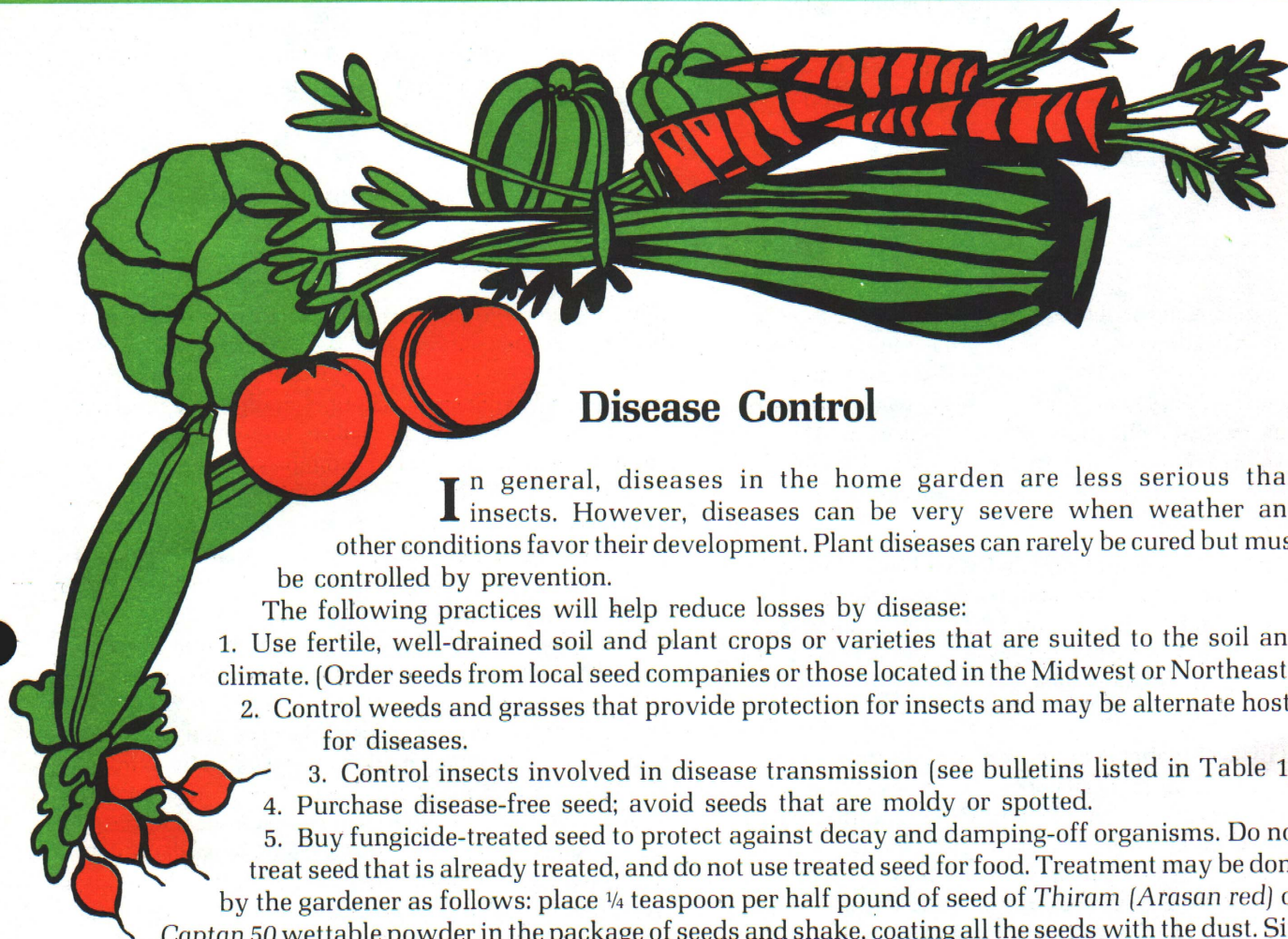
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Home Vegetable Garden Disease, Insect and Weed Control

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MICHIGAN STATE UNIVERSITY



Disease Control

In general, diseases in the home garden are less serious than insects. However, diseases can be very severe when weather and other conditions favor their development. Plant diseases can rarely be cured but must be controlled by prevention.

The following practices will help reduce losses by disease:

1. Use fertile, well-drained soil and plant crops or varieties that are suited to the soil and climate. (Order seeds from local seed companies or those located in the Midwest or Northeast.)
2. Control weeds and grasses that provide protection for insects and may be alternate hosts for diseases.
3. Control insects involved in disease transmission (see bulletins listed in Table 1).
4. Purchase disease-free seed; avoid seeds that are moldy or spotted.
5. Buy fungicide-treated seed to protect against decay and damping-off organisms. Do not treat seed that is already treated, and do not use treated seed for food. Treatment may be done by the gardener as follows: place $\frac{1}{4}$ teaspoon per half pound of seed of *Thiram* (*Arasan red*) or *Captan 50* wettable powder in the package of seeds and shake, coating all the seeds with the dust. Sift the excess dust from the seed through a fine mesh screen.
6. Purchase disease-free plants; make sure they do not have swellings on the roots, cankers on the stems, or spots on the leaves.
7. Grow disease-resistant varieties such as those listed in Extension bulletin E-760(a), "Variety Suggestions for the Home Vegetable Garden." Some of those varieties are highly resistant; others give partial protection.
8. Because most bacteria, fungi and some home garden insects live in the soil from one growing season to the next, much of their damage can be avoided by relocating the garden or rotating the crops within the garden.
9. Closely related crops, such as melons and cucumbers or tomatoes, potatoes, peppers and eggplant, should not follow each other, because they are usually damaged by the same pests.

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10. Destroy or compost plants of each annual crop as soon as the harvest is completed.
11. To rid soil of disease organisms, it is often desirable to fumigate. Apply Vapam Soil Fumigant Solution (Bonide) in water to the soil surface two to three weeks before planting, using a watering can or a simple proportioner attached to a garden hose. Read label for correct dosages and specific application procedures.
12. Stay out of the garden when plants are wet to avoid spreading diseases. Water during the day and not at night.
13. At the first sign of disease, use a good fungicide for control. Read the label on the pesticide container to determine which crop diseases it will control, how much to use, and how and when to apply. Contact your County Extension office if you do not know what disease is causing your problems, or consult U.S. Department of Agriculture Home and Garden Bulletin No. 46, "Insects and Diseases of Vegetables in the Home Garden," available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Insect Control

The management of insect pests in the home garden is a multifaceted process. We will describe it in the following step-by-step approach that can increase gardening efficiency (and enjoyment) and decrease control costs by dealing with specific pests only as the need arises. This allows for increased activity by the natural enemies of pests—predators, parasites and pathogens.

STEP 1. Know Your Crops and Their Pests. Familiarize yourself with insect pests known to be associated with the crops you intend to grow. Pay special attention to when damage is most likely to occur. Refer to Table 1 for a list of helpful resource aids.

STEP 2. Monitor Your Crops. Check your crops at regular intervals (at least once or twice a week), preferably at different times of the day. This is helpful because pests are active at different times of the day (or night) according to their habits and environmental conditions. Look for wilting, missing foliage, damaged fruits and the like—these are possible signs of insect activity. Determine what pests are present and how much damage they are doing. This process will, of course, be much easier if you have prepared in advance (Step 1). Don't assign guilt on the basis of presence alone—many incidental and beneficial insects may occur in the home garden. Have questionable insects identified by an expert (See Table 1). Store insect specimens in a solution of 1 part isopropyl (rubbing) alcohol and 1 part water. This keeps the insect specimen from deteriorating and aids identification.

STEP 3. Decide on Controls. First, decide if control is actually necessary; second, decide what type of control option(s) might be applicable. Control options include:

BIOLOGICAL CONTROL—Natural enemies of pests found in the typical home garden include predators, parasites and pathogens. Common predators include lady beetles (both larvae and adults), lacewing larvae ("aphid

lions"), spiders, ground beetles (small to medium blackish beetles and their larvae) and praying mantids.

Most parasites go about their activity unnoticed. However, the following signs will tip you off to the presence and activity of some parasites: brownish, dried-up, empty, aphid skins ("aphid mummies"); larger insects, especially caterpillars, with small white eggs or larger white cocoons attached to their backs; or pest bodies stuffed full of grub-like parasite larvae. All these are signs of beneficial natural enemies at work. Protect them by protecting parasitized pests.

Insect pests also suffer the ravages of fatal diseases caused by various pathogens. The following signs will tip you off to the presence of pathogens: dark-brown, shriveled, mushy caterpillar corpses (viruses and bacteria); flies, such as root maggot adults, suspended by a thread of saliva from any object 2 or 3 feet off the ground, and the body bloated with white fungal spores (fungal disease). Do not remove these individuals from the garden—they will provide inoculum to infect other pest individuals. (NOTE: these pathogens are host specific to insects and will not infect plants or other animals or humans.)

MECHANICAL CONTROL—Several mechanical control techniques have proven effective in the home garden. Hand picking larger pests—especially hornworms and other caterpillars, and potato beetles—often provides effective control. Many small insects, such as aphids, can be washed from the foliage with a forceful spray of water. Borers, such as squash vine borer, can be killed in the stem with a needle or sharp knife, often with a minimum of damage to the plant. Barriers, such as soup cans sunk 1 inch into the soil around transplants, are effective in preventing damage by cutworms.

CULTURAL CONTROL—A considerable amount of insect control can be achieved through garden planning and maintenance. Some plant varieties may be resistant to insect damage. Check the package, or experiment with several varieties. Rotate your crops. Don't plant the same crops, or similar crops (such as tomatoes-peppers or

radishes-turnips) in the same spot in the garden year after year. Corn rootworm can be effectively controlled by rotation because the eggs are laid in the fall and the larvae, which hatch in the spring, must have corn roots to feed upon. Adjusting planting time may control certain pests. For example, a late planting of summer squash will mature after squash vine borer is gone for the season. Trap crops can be useful. Plant a small area of highly susceptible crop "for the bugs." These areas can then be destroyed, sprayed or allowed to be destroyed by the pests. Proper cleanup of crop residues after harvest helps to control many pests. Several pests, such as root maggots, cabbage aphids and European corn borer, have additional generations on, or overwinter in, crop residue and weeds.

CHEMICAL CONTROLS—Recommended insecticides for the various crops are listed in detail in the following sections of this bulletin. Dust formulations are not as highly recommended as the sprayable formulations listed here, because dusts are much more difficult to apply evenly and do not adhere as well to the plant foliage.

Some insecticides are naturally occurring toxicants extracted from plants (rotenone and pyrethrum). *Bacillus thuringiensis* ("B.T."), marketed under the names Dipel® and Thuricide®, is a bacterial disease specific to caterpillars. It is not toxic to predators, parasites or mammals, including humans.

If you decide to use an insecticide, **READ THE LABEL** before purchasing, to be certain it is suitable for your needs, and **USE WITH CAUTION**, following all label instructions.

Insecticides available for use in the home garden are not highly toxic, and they are safe when used according to label instructions. Most accidents are the result of improper storage and handling. Store all insecticides out of the reach of children, preferably in a locked cabinet. Always store insecticides in their original containers so everyone knows what they are. Do not reuse containers for any other purpose, and destroy them promptly after they are empty.

When mixing and using insecticides, follow any precautions given on the label about wearing protective clothing. Mix small amounts of insecticides—it is better to mix two or three batches than to have surplus mixture. **DO NOT** pour leftover insecticides into drains or sewers.

STEP 4. Apply the Selected Control—Put the selected control(s) into practice. Combinations of biological, cultural, mechanical and/or chemical controls may be most effective.

STEP 5. Continue Monitoring—It is necessary to continue monitoring your garden to determine the effectiveness of the controls and to detect continued or additional pest activity. Additional decision making and controls might be necessary.

The success of this garden pest management program depends in great part on early detection of pest problems, followed by prompt action. In cases where insect pests are known to be severely damaging, it is often necessary to anticipate serious damage and begin a series of regular insecticide applications as "insurance." This is especially true in the case of root maggots, European corn borer in peppers or sweet corn, and squash vine borer.

Weed Control

Before planting a garden, it is essential to kill all perennial weeds present. Perennials are usually not controlled by pre-emergence herbicides, so they come up and compete with crop plants each year unless they are killed. Some common perennial weeds causing problems in gardens are dandelion, quackgrass, milkweed, poison ivy, bindweed (morning glory) and plantain.

The simplest way to control perennials in the home garden is to apply a translocated-type herbicide at the most susceptible stage for each weed. Though several herbicides are available for general vegetation control, the safest herbicide with no residual activity is Kleenup (Roundup). For most perennial weeds, best control is achieved when the weeds are near or at flowering. Do not till the soil until the weeds are at their most susceptible stage. Then spray, wait a week and then till the soil. For instance, quackgrass is most susceptible to Kleenup

when it is 8-10 inches high, just before seed heads appear. This occurs about mid-May or later in most parts of Michigan.

Weed control will be improved by clean culture and crop rotation. Removing weeds each year before they go to seed reduces the amount of seed in the soil. Rotating to crops on which other herbicides can be used will avoid the buildup of certain weeds. Unfortunately, only a few pre-emergence herbicides are readily available to home gardeners, and all of them control about the same weeds.

Herbicides can be classified in several ways. The most common classification is by time of application. The majority of herbicides are pre-emergence herbicides—that is, they are applied before weeds emerge and either keep weed seeds from germinating or kill the small seedlings as they come up. Some pre-emergence herbicides must be incorporated (mixed into the soil) to be effective. They are

usually applied and incorporated before the crop is planted, but in some cases they can be applied and incorporated between rows of the crop after it is up. Other pre-emergence herbicides are applied to the surface of the soil after the crop is planted. A small amount of rainfall is usually needed to move the herbicide into the soil.

Postemergence herbicides are applied to existing weeds. They either kill on contact or are translocated in the plants and kill the growing point or reproductive organs. Some kill only grasses, some kill only broadleaved weeds, and some kill virtually any plant. Post-emergence herbicides available to home gardeners are for weed control in turf or non-crop areas and should not be used on or near vegetable plants.

The pre-emergence herbicides listed in this bulletin contain either Dacthal or Treflan (trifluralin). Both keep weed seeds from germinating or emerging. Both are primarily grass herbicides, but they give some control of certain broadleaved weeds. Both will give approximately three to four weeks of weed control, with resistant weeds germinating earlier. In some cases, herbicides can be reapplied later in the season to extend weed control.

Dacthal should be applied to weed-free soil after seeding or transplanting; trifluralin should be incorporated after application. Neither will control emerged weeds.

Soil type affects activity of herbicides. Generally, the coarser the soil, the lower the rate of herbicide needed and the sooner herbicide activity is lost. Thus lower rates of herbicide are used on sands and sandy loams, and higher rates on clay and organic soils. Also, high organic matter level in soil reduces the activity of some herbicides. Dacthal and trifluralin are not very effective on organic soils.

Postemergence lawn herbicides should not be used on vegetable gardens, because they will kill most vegetable crops. Many of them also leave a residue in the soil that can affect crops the following year. They also leave toxic residues in the sprayer, which are often sufficient to injure or kill vegetables sprayed later with the same equipment.

No herbicide will give complete, season-long control of all weeds in all crops. Good weed control is achieved through a combination of practices: clean culture, hand hoeing and weeding, mulching and herbicide application. There is no substitute for some hard work.

TABLE 1. Resource Aids for the Home Gardener

	Who/What	How to Find
EXPERTS	Experienced gardeners	Check with neighbors, garden center, local garden club or graduate of a Master Gardener Program.
	Extension agents	Consult the phone book for the county Cooperative Extension Service office nearest you.
EXTENSION BULLETINS	A large variety of extension bulletins dealing with insect control, disease control and variety recommendations are available.	Check with your county Extension office <i>or write:</i> MSU Bulletin Office P.O. Box 231 East Lansing, MI 48823-0231 (Single copies of up to 10 different titles are free, except for sale only bulletins.)
OTHER	NCR126 Diseases of Radishes in the U.S. (75 cents, for sale only) WREP15 How to reduce bee poisoning from pesticides	
BOOKS and PERIODICALS	A wide range of information is available.	Check at your local public library or bookstore.

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Asparagus	Asparagus beetles	PYRETHRIN			
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	Treat with recommended pesticides as needed to minimize egg laying on the spears during picking or serious defoliation during the summer.
		Tomato and Vegetable Insect Killer	Ortho	0	
		ROTENONE			
		Garden Guard	Acme	1	
		Rotenone Dust or Spray	Ortho	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
	Rust	SULFUR			
		Wettable Dusting Sulfur	Acme	0	When disease appears; apply every 7 to 10 days.
	Weeds	TREFLAN			
Beans	Aphids	Preen Flower and Garden Weed Preventer	Lebanon		Apply before spears emerge in the spring, mix into top 1 inch of soil. Apply again after harvest, mix or soak into soil.
		Weed Preventer Granules	Acme		Same as above.
		CARBARYL			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	Apply recommended pesticides if aphid numbers are high (exceed 5 per leaflet). Try to get good coverage on the undersides of the leaves.
		Vegetable-Floral Dust or Spray	Bonide	1	
		DIAZINON			
		Diazinon Dust 4%	Bonide	7	
		Diazinon Insect Dust	Acme	7	
		Diazinon Insect Spray	Ortho	7	
		Diazinon Soil and Foliage Dust	Ortho	7	
		Diazinon Spray	Acme	14	
		Fruit and Vegetable Insect Control	Ortho	7	
		DI-SYSTON			
		Systemic Granules 1%	Bonide	*	
		MALATHION			
		Malathion 50 Insect Spray	Ortho	0	
		Malathion 50%E	Bonide	1	
		Malathion 50% Spray	Acme	3	
		METHOXYCHLOR			
		Tomato Vegetable Dust	Ortho	3	

*Apply prior to planting

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Beans cont.	Aphids, <i>continued</i>	PYRETHRIN			See page 6.
		Garden Dust	Bonide	1	
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
		Rotenone-Copper Dust for Potato-Tomato-Vegetable	Bonide	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
	Cutworms	CARBARYL			Apply recommended pesticides if significant numbers of seedlings are being cut off.
		Liquid Sevin Dura-Spray	Acme	*	
		Sevin Garden Dust	Ortho	0	
		Sevin 50W	Bonide	0	
		Sevin 2 Flowable Insecticide	Bonide	0	
		Tomato-Vegetable Dust	Bonide	0	
		DIAZINON			
		Diazinon Dust 4%	Bonide	*	
		Diazinon Insect Dust	Acme	*	
		Diazinon Insect Spray	Ortho	7	
		Diazinon Soil & Turf Insect Control	Ortho	*	
		Diazinon Spray	Acme	*	
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Leafhoppers	CARBARYL			Apply recommended pesticides if numbers exceed 1 per trifoliate leaf or when leaf cupping first appears.
		Liquid Sevin Dura-Spray	Acme	0	
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin 5% Dura-Dust	Acme	0	
		Sevin 5% Dust	Bonide	0	
		Sevin 50W	Bonide	0	
		Sevin 50W Insecticide	Acme	0	
		Sevin 2 Flowable Insecticide	Bonide	0	
		Tomato-Vegetable Dust	Bonide	0	
		Vegetable-Floral Dust or Spray	Bonide	1	

*Apply prior to planting

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Beans, cont.	Leafhoppers, <i>continued</i>	DIAZINON			See page 7.
		Diazinon Dust 4%	Bonide	7	
		Diazinon Insect Dust	Acme	7	
		Diazinon Insect Spray	Ortho	7	
		Fruit and Vegetable Insect Control	Ortho	7	
		DI-SYSTON			
		Systemic Granules 1%	Bonide	*	
		MALATHION			
		Malathion 50 Insect Spray	Ortho	0	
		Malathion 50% Spray	Acme	3	
		METHOXYCHLOR			
		Gypsy Moth, Japanese Beetle and Mosquito Spray	Bonide	3	
		Methoxychlor 25% E Insecticide	Bonide	3	
		Tomato Vegetable Dust	Ortho	3	
		PYRETHRIN			
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
		Rotenone-Copper Dust for Potato-Tomato-Vegetable Gardens	Bonide	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
	Mexican Bean Beetle	CARBARYL			Treat with recommended pesticide if more than 20 to 25 percent of the foliage is lost.
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin 50W	Bonide	0	
		Sevin 50W Insecticide	Acme	0	
		Sevin 5% Dura-Dust	Acme	0	
		Sevin 5% Dust	Bonide	0	
		Sevin Garden Dust	Ortho	0	
		Sevin 2 Flowable Insecticide	Bonide	0	
		Tomato-Vegetable Dust	Bonide	0	
		Vegetable-Floral Dust or Spray	Bonide	1	
		DIAZINON			
		Diazinon Dust 4%	Bonide	7	
		Diazinon Insect Spray	Ortho	7	
		Diazinon Spray	Acme	14	
		Fruit and Vegetable Insect Control	Ortho	7	

*Apply prior to planting

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Beans cont.	Mexican Bean Beetle, <i>continued</i>	MALATHION			See page 8.
		Malathion 50%E	Bonide	1	
		Malathion 50% Spray	Acme	3	
		METHOXYCHLOR			
		Gypsy Moth, Japanese Beetle and Mosquito Spray	Bonide	3	
		Methoxychlor 25%E Insecticide	Bonide	3	
		Tomato Vegetable Dust	Ortho	3	
		PYRETHRIN			
		Garden Dust	Bonide	1	
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
		Blue Death Garden Dust	Bonide	1	
		Garden Guard	Acme	1	
		1% Rotenone	Bonide	1	
		Rotenone-Copper Dust for Potato-Tomato-Vegetable Gardens	Bonide	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
		Rotosyn Insect Dust	Bonide	1	
	Seed Corn Maggot	DIAZINON			Apply at planting.
		Diazinon Insect Dust	Acme	*	
	Tarnished Plant Bug	CARBARYL			Treat with recommended pesticide if numbers exceed 1 per plant.
		Liquid Sevin Dura-Spray	Acme	0	
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin Garden Dust	Ortho	0	
		Sevin 2 Flowable Insecticide	Bonide	0	
		Tomato-Vegetable Dust	Bonide	0	
		Vegetable-Floral Dust or Spray	Bonide	1	
		PYRETHRIN			
		Tomato and Vegetable Insect Killer	Ortho	0	
		ROTENONE			
		Rotenone-Copper Dust for Potatoes, Tomatoes and Vegetables	Bonide	1	
		Rotenone 5 Organic Insecticide	Bonide	1	

*Apply prior to planting

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Beans cont.	Anthracnose	CAPTAN Captan 50% WP	Bonide	0	When disease appears; apply every 7 to 10 days.
		CHLOROTHALONIL** Vegetable Disease Control	Ortho	14	
		COPPER Garden Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		Rotenone-Copper Dust for Potato-Tomato and Vegetable Gardens	Bonide	1	Every 7 to 10 days after flowering.
		SULFUR Tomato and Vegetable Dust	Acme	7	When disease appears; apply every 7 to 10 days.
		ZINEB All Round Dust	Acme	14	Every 7 days after disease appearance.
		Red River Vegetable Spray	Acme	7	When disease appears; apply every 5 to 7 days.
	Bacterial Blight	COPPER Liquid Copper 4E	Bonide	0	Every 7 days after disease appears.
		Rotenone-Copper Dust for Potato-Tomato- Vegetable Gardens	Bonide	1	When disease appears; apply every 7 to 10 days.
	Gray Mold	CAPTAN Captan 50% WP	Bonide	0	When disease appears; apply every 7 to 10 days.
		CHLOROTHALONIL** Vegetable Disease Control	Ortho	14	When disease appears; apply every 7 to 10 days.
		COPPER Garden Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		SULFUR Tomato and Vegetable Dust	Acme	7	When disease appears; apply every 7 to 10 days.
	Powdery Mildew	COPPER Garden Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		Rotenone-Copper Dust for Potato-Tomato Vegetable Gardens	Bonide	1	When disease appears; apply every 7 to 10 days.

**Chemical that has demonstrated best control

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Beans	Powdery Mildew, <i>continued</i>	SULFUR Flotox Garden Sulfur	Ortho	0	When disease appears; apply every 7 to 10 days.
		Tomato and Vegetable Dust	Acme	7	When disease appears; apply every 7 to 10 days.
	Rust	CAPTAN Captan 50% WP	Bonide	0	When disease appears; apply every 7 to 10 days.
		Tomato Vegetable Dust	Ortho	1	When disease appears; apply every 7 to 10 days.
		CHLOROTHALONIL** Vegetable Disease Control	Ortho	14	When disease appears; apply every 7 to 10 days.
		MANEB Maneb Tomato and Vegetable Dust	Acme	4	Every 7 days after disease appears.
		SULFUR Tomato and Vegetable Dust	Acme	7	When disease appears; apply every 7 to 10 days.
		Wettable Dusting Sulphur	Acme	0	When disease appears; apply every 7 to 10 days.
		ZINEB Red River Vegetable Spray	Acme	7	When disease appears; apply every 5 to 7 days.
	White Mold	CHLOROTHALONIL Vegetable Disease Control	Ortho	14	When disease appears; apply every 7 to 10 days.
		COPPER Garden Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		SULFUR Tomato and Vegetable Dust	Acme	7	When disease appears; apply every 7 to 10 days.
	Weeds	DACTHAL Garden Turf and Ornamental Herbicide 5G	Bonide		Apply immediately after sowing.
		Garden Weed Preventer	Ortho		As above.
		Garden Weed Preventer Spray	Acme		As above.
		TREFLAN Preen Flower and Garden Weed Preventer	Lebanon		Apply before sowing; mix into top 2 inches of soil.
		Weed Preventer Granules	Acme		As above.
	Aphids	DIAZINON Diazinon Insect Dust	Acme	14	Treat with recommended pesticide if aphid numbers are high (exceeding 5 to 10 per leaf).
		ROTENONE Rotenone 5 Organic Insecticide	Bonide	1	Treat sooner if tops are to be eaten.

**Chemical that has demonstrated best control

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Beets cont.	Cutworms	DIAZINON Diazinon Spray	Acme	*	Apply if cut-off seedlings are observed.
	Flea Beetle	CARBARYL Liquid Sevin	Acme	3 (for roots)	Treat with recommended pesticide if leaves show numerous "shot holes" from adult feeding.
		Dura-Spray		14 (for tops)	
		Sevin 2 Flowable Insecticide	Bonide	3	
		ROTENONE Rotenone 5 Organic Insecticide	Bonide	1	
	Cercospora Leaf Spot	ZINEB All Round Dust	Acme	14	Every 7 days after disease appears. When disease appears; apply every 7 to 10 days.
		Zineb 75W (also kale, mustard, and Swiss chard)	Acme	7	
	Downy Mildew	ZINEB Zineb 75W (also kale, mustard and Swiss chard)	Acme	7	When disease appears; apply every 7 to 10 days.
	Carrots	DIAZINON Diazinon Insect Dust	Acme	10	Apply recommended pesticide if aphid numbers are very high and leaves are curling from damage.
		Diazinon Insect Spray	Ortho	10	
		Diazinon Soil and Foliage Dust	Ortho	10	
		Diazinon Spray	Acme	14	
		Fruit and Vegetable Insect Control	Ortho	10	
		ROTENONE Rotenone 5 Organic Insecticide	Bonide	1	
		Cutworms	CARBARYL Liquid Sevin	Acme	Treat with recommended pesticide if cut off seedlings are observed.
			Dura-spray		
			DIAZINON Diazinon Dust 4%	Bonide	
			Diazinon Insect Dust	Acme	
		Diazinon Spray	Acme	*	
			Acme	*	
		Leafhoppers	CARBARYL Liquid Sevin	Acme	Control aster leafhopper with recommended pesticide to reduce aster yellows disease.
			Dura-Spray		
			Sevin 5% Dust	Bonide	
			Sevin 5% Dura-Dust	Acme	
			Sevin Garden Dust	Ortho	
			Sevin 2 Flowable Insecticide	Bonide	
			Tomato-Vegetable Dust	Bonide	
			DIAZINON Diazinon Insect Spray	Ortho	
			Fruit and Vegetable Insect Control	Ortho	

*Apply prior to planting

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Carrots cont.	Wireworms	DIAZINON			Treat soil prior to planting if wireworms are observed during cultivation.
		Diazinon Dust 4%	Bonide	*	
		Diazinon Insect Dust	Acme	*	
		Diazinon Soil & Turf Insect Control	Ortho	*	
		Diazinon Spray	Acme	*	
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Alternaria Leaf Spot	CAPTAN			When disease appears; apply every 7 to 10 days.
		Captan 50% WP	Bonide	0	
		Tomato Vegetable Dust	Ortho	0	
		ZINEB			
		All Round Dust	Acme	7	
	Cercospora Leaf Spot	Zineb 75W	Acme	7 (if top used)	Every 7 days after disease appears. When disease appears; apply every 7 to 10 days.
		CAPTAN			
		Captan 50% WP	Bonide	0	
		COPPER			
		Copper Spray or Dust	Bonide		
	Weeds	Liquid Copper 4E	Bonide	0	When disease appears; apply every 7 to 10 days.
		MANEB			
		Maneb Tomato and Vegetable Fungicide	Acme		
		Tomato-Vegetable Dust	Bonide	0	
		ZINEB			
	Aphids	Zineb 75W	Acme		When plants are 6 weeks old or at disease appearance. Apply at 7- to 10-day intervals.
		TREFLAN			
		Preen Flower and Garden Weed Preventer	Lebanon		
Celery	Aphids	Weed Preventer Granules	Acme		As above.
		DIAZINON			Treat with recommended pesticide if high numbers are occurring on new growth.
		Fruit and Vegetable Insect Control	Ortho	10	
		PYRETHRIN			
	Aphids	Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	

*Apply prior to planting

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Celery cont.	Cutworms	DIAZINON			Treat, as needed, in spring to prevent cut-off plants and in July to control larvae feeding inside the plant.
		Diazinon Soil & Turf Insect Control	Ortho	0	
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	0	
	Loopers	BACILLUS THURINGIENSIS			Treat with recommended pesticide if numbers exceed 1 per 10 plants.
		B. thuringiensis Moth Larvae Control	Bonide	0	
		Dipel 0.86% WP	Bonide	0	
		METHOXYCHLOR			
		Methoxychlor 25% E Insecticide	Bonide	0	
		PYRETHRIN			
	Damping Off	Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	Apply to seed bed after germination.
		Captan 50% WP	Bonide	0	
		Early Blight, Late Blight			
		COPPER			
		Copper Spray or Dust	Bonide	0	
Cole Crops (broccoli, Brussels sprouts, cabbage, cauliflower)	Aphids	Liquid Copper 4E	Bonide	0	When disease appears; apply every 7 to 10 days. When disease appears; apply every 7 to 10 days.
		CHLOROTHALONIL**			
		Vegetable Disease Control	Ortho	7	
		CARBARYL			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	7	
		DIAZINON			
		Diazinon Dust 4%	Bonide	7 (cab.), 5 (broc. & caul.)	
		Diazinon Insect Dust	Acme	7 (cab.), 5 (broc. & caul.)	
		Diazinon Insect Spray	Ortho	7	
		Diazinon Soil and Foliage Dust	Ortho	7 (cab.), 5 (broc. & caul.)	
		Diazinon Spray	Acme	14	
		Fruit and Vegetable Insect Control	Ortho	7 (cab.), 5 (broc. & caul.)	
		DI-SYSTON			
		Systemic Granules 1%	Bonide	*	
		MALATHION			
		Malathion 50% Spray	Acme	7	
		PYRETHRIN			
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		ROTENONE			
		Rotenone 5 Organic Insecticide	Bonide	1	

*Apply prior to planting

**Chemical that has demonstrated best control

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Cole Crops cont.	Cabbage Looper	<i>BACILLUS THURINGIENSIS</i>			Apply recommended pesticide as needed during July and August. Small larvae will be much easier to control.
		<i>B. thuringiensis</i> Moth Larvae Control	Bonide	0	
		Dipel 0.86% WP	Bonide	0	
		Thuricide Microbial Insecticide	Acme	0	
		CARBARYL			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	7	
		Sevin 50W	Bonide	3	
		Sevin 2 Flowable Insecticide	Bonide	3	
		Tomato-Vegetable Dust	Bonide	7	
		ROTENONE			
		Garden Guard	Acme	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
		PYRETHRIN			
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
	Cabbage Worms	<i>BACILLUS THURINGIENSIS</i>			Apply recommended pesticide as needed to control damage (easier to control than loopers).
		<i>B. thuringiensis</i> Moth Larvae Control	Bonide	0	
		Dipel 150 Dust for Vegetables	Bonide	0	
		Dipel 0.86% WP	Bonide	0	
		Thuricide Microbial Insecticide	Acme	0	
		CARBARYL			
		Liquid Sevin Dura-Spray	Acme	3	
		Old Pro Vegetable and Fruit Tree Spray	Bonide	7	
		Sevin 50W Insecticide	Acme	3	
		Sevin 5% Dust	Bonide	3	
		Sevin 5% Dura-Dust	Acme	3	
		Sevin Garden Dust	Ortho	3	
		Sevin 2 Flowable Insecticide	Bonide	3	
		Tomato-Vegetable Dust	Bonide	7	
		DIAZINON			
		Diazinon Dust 4%	Bonide	7 (cab.), 5 (broc. & caul.)	
		Diazinon Insect Spray	Ortho	7	
		Diazinon Soil and Foliage Dust	Ortho	7 (cab.), 5 (broc. & caul.)	
		Diazinon Spray	Acme	7	
		Fruit & Vegetable Insect Control	Ortho	7 (cab.), 5 (broc. & caul.)	

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Cole Crops cont.	Cabbage Worms, <i>continued</i>	MALATHION			See page 15.
		Malathion 50% Spray	Acme	7	
		METHOXYCHLOR			
		Gypsy Moth, Japanese Beetle and Mosquito Spray	Bonide	7, 3 (caul.)	
		Methoxychlor 25% E Insecticide	Bonide	7 (caul.), 3 (cab.)	
		PYRETHRIN			
		Tomato and Vegetable Insect Killer	Ortho	0	
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		ROTENONE			
		Blue Death Garden Dust	Bonide	1	
		1% Rotenone	Bonide	1	
		Rotenone Dust or Spray	Ortho	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
		Rotosyn Insect Dust	Bonide	1	
	Cutworms	DIAZINON			Treat if needed to prevent cut-off of transplants or seedlings.
		Diazinon Dust 4%	Bonide	*	
		Diazinon Insect Dust	Acme	*	
		Diazinon Insect Spray	Ortho	7	
		Diazinon Soil and Turf Insect Control	Ortho	*	
		Diazinon Spray	Acme	*	
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Flea Beetle	CARBARYL			Treat with recommended pesticide if needed to control adults.
		Liquid Sevin	Acme	3	
		Dura-Spray			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	7	
		Sevin 50 W Insecticide	Acme	3	
		Sevin 5% Dura-Dust	Acme	3	
		Sevin Garden Dust	Ortho	3	
		Tomato-Vegetable Dust	Bonide	7	
		DIAZINON			
		Diazinon Soil and Foliage Dust	Ortho	7	
		Fruit and Vegetable Insect Control	Ortho	7	
		PYRETHRIN			
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	

*Apply prior to planting

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Cole Crops cont.	Flea Beetle, <i>continued</i>	ROTENONE			See page 16.
		Blue Death Garden Dust	Bonide	1	
		Rotenone Dust or Spray	Ortho	1	
	Root Maggots	DIAZINON			Apply to the soil around the base of the plants after transplanting or planting evergreens.
		Diazinon Soil and Turf Insect Control	Ortho	*	
		Diazinon Spray	Acme	*	
		Vegetable Guard Soil Insect Killer	Bonide	7	
	Thrips	DIAZINON			7 (cab.), 3 (broc. & caul.)
		Diazinon Insect Spray	Ortho	7	
		Fruit and Vegetable Insect Control	Ortho		
		MALATHION			
		Malathion 50 Insect Spray	Ortho	7 (cab. & Brus. spts.), 5 (broc. & caul.)	
	Alternaria Leaf Spot	COPPER			When disease appears; apply every 7 to 10 days.
		Copper Spray or Dust	Bonide	1	
		MANEB			Every 7 days after disease appears.
		Maneb Tomato and Vegetable Fungicide	Acme	10	
		Tomato-Vegetable Dust	Bonide	3	When disease appears; apply every 7 to 10 days.
		(7 days for cabbage)			
		SULFUR			When disease appears; apply every 7 to 10 days.
		Tomato and Vegetable Dust	Acme	7	
		ZINEB			Every 7 days after disease appears.
		All Round Dust	Acme	14	
	Downy Mildew	Red River Vegetable Spray	Acme	10	When disease appears; apply every 5 to 7 days.
		CAPTAN			
		Tomato Vegetable Dust	Ortho	3	When disease appears; apply every 7 to 10 days.
		(7 days for cabbage)			
		CHLOROTHALONIL			When disease appears; apply every 7 to 10 days.
		Vegetable Disease Control	Ortho	0	
		COPPER			When disease appears; apply every 7 to 10 days.
		Copper Spray or Dust	Bonide	1	
		MANEB			When disease threatens; then weekly.
		Maneb Tomato and Vegetable Fungicide	Acme	10	
	ZINEB			When disease appears; apply every 5 to 7 days.	
	Red River Vegetable Spray	Acme	10		

*Apply prior to planting

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Cole Crops cont.	Weeds	DACTHAL			
		Garden Turf and Ornamental Herbicide 5G	Bonide		Immediately after sowing or transplanting.
		Garden Weed Preventer	Ortho		As above.
		Garden Weed Preventer Spray	Acme		As above.
		TREFLAN			
		Preen Flower and Garden Weed Preventer	Lebanon		Before sowing or transplanting, mix into top 2 inches of soil.
		Weed Preventer Granules	Acme		As above.
Cucurbits	Aphids	DIAZINON			
		Diazinon Dust 4%	Bonide	7 (summer squash), 3 (melon, winter squash)	Treat with recommended pesticide if numbers exceed 1 per 10 leaves in virus-susceptible plants, 10 per leaf in virus-resistant varieties.
		Diazinon Insect Dust	Acme	7 (cuke, summer squash), 3 (melon, winter squash)	
		Diazinon Insect Spray	Ortho	7 (cucumber), 3 (cantaloupe)	
		Diazinon Soil and Foliage Dust	Ortho	7 (cuke, squash), 3 (melon)	
		Diazinon Spray	Acme	14	
		Fruit and Vegetable Insect Control	Ortho	7 (summer squash) 3 (cantaloupe, melon, winter squash)	
		MALATHION			
		Flower-Vegetable 4-in-1 Spray	Bonide	7	
		Malathion 50 Insect Spray	Ortho	7	
		Malathion 50% E	Bonide	1	
		METHOXYCHLOR			
		Tomato-Vegetable Dust	Ortho	7	
		PYRETHRIN			
		Garden Dust	Bonide	1	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
		Cuke and Melon Dust	Bonide	1	
		Rotenone-Copper Dust for Potato-Tomato-Vegetable Gardens	Bonide	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
		THIODAN			
		Tomato-Potato-Vegetable Insecticide/Fungicide Dust	Bonide	5	

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Cucurbits cont.	Cucumber Beetles	CARBARYL			Control beetles with recommended pesticide to minimize leaf damage and prevent spread of bacterial wilt disease.
		Liquid Sevin	Acme	0	
		Dura-Spray			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin 50W	Bonide	0	
		Sevin 50W Insecticide	Acme	0	
		Sevin 5% Dura-Dust	Acme	0	
		Sevin 5% Dust	Bonide	0	
		Sevin Garden Dust	Ortho	0	
		Tomato-Vegetable Dust	Bonide	1	
		DIAZINON			
		Diazinon Insect Spray	Ortho	7 (cucumber), 3 (cantaloupe)	
		Diazinon Soil and Foliage Dust	Ortho	7 (cuke & squash), 3 (melon)	
		Diazinon Spray	Acme	14	
		Fruit and Vegetable Insect Control	Ortho	7 (summer squash)	
				3 (cantaloupe, melon, winter squash)	
		MALATHION			
		Flower-Vegetable 4-in-1 Spray	Bonide	7	
		Malathion 50% E	Bonide	1	
		METHOXYCHLOR			
		Tomato-Vegetable Dust	Ortho	7	
		PYRETHRIN			
		Garden Dust	Bonide	1	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
		Blue Death Garden Dust	Bonide	1	
		Cuke and Melon Dust	Bonide	1	
		Garden Guard	Acme	1	
		1% Rotenone	Bonide	1	
		Rotenone-Copper Dust for Potato-Tomato-Vegetable Gardens	Bonide	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
	Cutworms	DIAZINON			Treat as needed to prevent cut-off seedlings or transplants.
		Diazinon Dust 4%	Bonide	*	
		Diazinon Insect Dust	Acme	*	
		Diazinon Insect Spray	Ortho	7 (cuke), 3 (cantaloupe)	
		Diazinon Soil and Turf Insect Control	Ortho	*	
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Seed Corn Maggot	DIAZINON			Apply at planting if soil is high in organic material and cold.
		Diazinon Insect Dust	Acme	*	

*Apply prior to planting

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Cucurbits cont.	Squash Bug	CARBARYL			
		Liquid Sevin	Acme	0	Begin treatment with recommended pesticide when black bugs are first seen. Repeat as needed.
		Dura-Spray			
		Sevin 50W	Bonide	0	
		Sevin 50W Insecticide	Acme	0	
		Sevin 5% Dura-Dust	Acme	0	
		Sevin 5% Dust	Bonide	0	
		Sevin Garden Dust	Ortho	0	
		Tomato-Vegetable Dust	Bonide	1	
		METHOXYCHLOR			
		Tomato-Vegetable Dust	Ortho	7	
		ROTENONE			
		Rotenone 5 Organic Insecticide	Bonide	1	
	Squash Vine Borer	MALATHION			Begin weekly applications with recommended pesticide as vines start to run, or when wasp-like adult moths are seen. If vine wilts, slit stem with knife and remove the borer, heap earth over stem joints to start new roots. Second planting will mature after borer feeding. Destroy vines after harvest.
		Flower-Vegetable 4-in-1 Spray	Bonide	7	
		Malathion 50% E	Bonide	1	
		METHOXYCHLOR			
		Tomato-Vegetable Dust	Ortho	7	
		PYRETHRIN			
		Garden Dust	Bonide	1	
		ROTENONE			
		Garden Guard	Acme	1	
	Alternaria Blight	SULFUR			When disease appears; apply every 7 to 10 days.
		Tomato and Vegetable Dust	Acme	5	
		ZINEB			
		Red River Vegetable Spray	Acme	5	
	Angular Leaf Spot	Zineb 75W	Acme	5	When disease appears; apply every 5 to 7 days. When disease appears; apply every 7 to 10 days.
		CAPTAN			
		Captan 50% WP	Bonide	0	
		Orthocide Garden Fungicide	Ortho	0	
		COPPER			
		Copper Spray or Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		Liquid Copper 4E	Bonide	0	

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Cucurbits cont.	Anthracnose	CAPTAN			
		Captan 50% WP	Bonide	0	When disease appears; apply every 7 to 10 days.
		Orthocide Garden Fungicide	Ortho	0	When disease appears; apply every 7 to 10 days.
		Tomato-Vegetable Dust	Ortho	7	When disease appears; apply every 7 to 10 days.
		CHLOROTHALONIL**			
		Vegetable Disease Control	Ortho	0	When disease appears; apply every 7 to 10 days.
		COPPER			
		Copper Spray or Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		Cuke and Melon Dust	Bonide	1	Apply when plants are above ground.
		Garden Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		MANEB			
		Maneb Tomato and Vegetable Fungicide	Acme	5	Begin when runners form, then daily.
		Tomato-Vegetable Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		SULFUR			
		Tomato and Vegetable Dust	Acme	5	When disease appears; apply every 7 to 10 days.
		ZINEB			
		All Round Dust	Acme	7	Every 7 days after disease appears.
Red River Vegetable Spray	Acme	5	When disease appears; apply every 5 to 7 days.		
Zineb 75W	Acme	5	When disease appears; apply every 7 to 10 days.		
Bacterial Wilt (Must control cucumber beetles to avoid this disease. See insect control section.)					
	Gummy Stem Blight	COPPER			
		Copper Spray or Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		CHLOROTHALONIL**			
		Vegetable Disease Control	Ortho	0	When disease appears; apply every 7 to 10 days.
		MANEB			
		Tomato-Vegetable Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		ZINEB			
		Red River Vegetable Spray	Acme	5	When disease appears; apply every 5 to 7 days.
		Zineb 75 W	Acme	5	When disease appears; apply every 7 to 10 days.
	Powdery Mildew	CHLOROTHALONIL			
		Vegetable Disease Control	Ortho	0	When disease appears; apply every 7 to 10 days.

**Chemical that has demonstrated best control

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Cucurbits cont.	Powdery Mildew, <i>continued</i>	COPPER			
		Copper Spray or Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		Cuke and Melon Dust	Bonide	1	When disease appears; apply every 5 to 7 days.
		Garden Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		Liquid Copper 4E Fungicide	Bonide	0	When disease appears; apply every 7 to 10 days.
		MALATHION			
		Flower-Vegetable 4-in-1 Spray	Bonide	7	When disease appears; apply every 7 to 10 days.
	SULFUR	Tomato and Vegetable Dust	Acme	5	When disease appears; apply every 7 to 10 days.
	Pythium Fruit Rot	MANEB			
		Maneb Tomato and Vegetable Fungicide	Acme	5	Every 7 days after disease appears.
	Rhizoctonia Fruit Rot	CHLOROTHALONIL			
		Vegetable Disease Control	Ortho	0	Every 7 days after disease appears.
	Scab	CHLOROTHALONIL			
		Vegetable Disease Control	Ortho	0	When disease appears; apply every 7 to 10 days.
		COPPER			
		Copper Spray or Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		Cuke and Melon Dust	Bonide	1	When disease appears; apply every 5 to 7 days.
	ROTENONE	Rotenone-Copper Dust for Potato-Tomato-Vegetable Gardens	Bonide	1	When disease appears; apply every 7 to 10 days.
	Weeds	DACTHAL			
		Garden, Turf & Ornamental Herbicide 5G	Bonide		Apply to weed-free soil when plants have 4 to 5 leaves.
		Garden Weed Preventer	Ortho		As above.
		Garden Weed Preventer Spray	Acme		As above.
		TREFLAN			
		Preen Flower and Garden Weed Preventer	Lebanon		When crop plants have 3 to 4 leaves, mix into top 2 inches of soil.
		Weed Preventer Granules	Acme		
Eggplant	Aphids	CARBARYL			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	Apply recommended pesticide if numbers exceed 5 to 10 per leaf.
		METHOXYCHLOR			
		Tomato-Vegetable Dust	Ortho	7	

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Eggplant cont.	Aphids, <i>continued</i>	PYRETHRIN			
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
	Colorado Potato Beetle	Rotenone 5 Organic Insecticide	Bonide	1	
		CARBARYL			
		Liquid Sevin	Acme	0	Treat with recommended pesticide if numbers exceed 1 to 2 adults or larvae per plant or if greater than 10 percent foliage loss occurs.
		Dura-Spray			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin 2 Flowable Insecticide	Bonide	0	
		Tomato-Vegetable Dust	Bonide	1	
		PYRETHRIN			
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
		1% Rotenone	Bonide	1	
		Rotenone-Copper Dust for Potato-Tomato-Vegetable Garden	Bonide	1	
		Rotenone 5 Organic Insecticide			
		Rotosyn Insect Dust	Bonide	1	
	Cutworms	CARBARYL			Treat as needed to prevent cut-off transplants.
		Liquid Sevin	Acme	0	
		Dura-Spray			
		Sevin 2 Flowable Insecticide	Bonide	0	
	Flea Beetle	CARBARYL			Treat with recommended pesticide if numbers exceed 2 per 10 leaves.
		Liquid Sevin	Acme	0	
		Dura-Spray			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin 50W	Bonide	0	
		Sevin 50W Insecticide	Acme	1	
		Sevin 2 Flowable Insecticide	Bonide	0	
		Tomato-Vegetable Dust	Bonide	1	

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Eggplant cont.	Flea Beetle, <i>continued</i>	METHOXYCHLOR			See page 23.
		Gypsy Moth, Japanese Beetle and Mosquito Spray	Bonide	1	
		Methoxychlor 25% E Insecticide	Bonide	1	
		Tomato-Vegetable Dust PYRETHRIN	Ortho	7	
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
		Blue Death Garden Dust	Bonide	1	
		Garden Guard	Acme	1	
		1% Rotenone	Bonide	1	
		Rotenone-Copper Dust for Potato-Tomato-Vegetable Gardens	Bonide	1	
		Rotenone 5 Organic Insecticide			
		Rotosyn Insect Dust	Bonide	1	
	Anthracnose	COPPER			When disease appears; apply every 7 to 10 days.
		Rotenone-Copper Dust for Potato-Tomato-Vegetable Gardens	Bonide	1	
		MANEB			
		Maneb Tomato and Vegetable Fungicide	Acme	0	
		SULFUR			
		Tomato and Vegetable Dust	Acme	5	
	ZINEB	Red River Vegetable Spray	Acme	5	When disease appears; apply every 5 to 7 days.
	Fruit Rot	MANEB			As fruit forms; then weekly.
		Maneb Tomato and Vegetable Fungicide	Acme	0	
Garden Greens (collards, kale, mustard, Swiss chard)	Aphids	MALATHION			Apply recommended pesticide as needed to minimize foliar damage.
		Malathion 50% Spray	Acme	7	
		PYRETHRIN			
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Garden Greens cont.	Cabbage Worm	<i>BACILLUS THURINGIENSIS</i>			Apply recommended pesticide as needed to minimize foliar damage.
		<i>B. Thuringiensis</i> Moth Larvae Control	Bonide	0	
		Dipel 150 Dust for Vegetables	Bonide	0	
		Dipel 0.86% WP	Bonide	0	
		Thuricide Microbial Insecticide	Acme	0	
		CARBARYL			
		Liquid Sevin Dura-Spray	Ortho	14	
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Sevin 2 Flowable Insecticide	Bonide	14	
		MALATHION			
		Malathion 50% Spray	Acme	7	
		ROTENONE			
		Rotenone 5 Organic Insecticide	Bonide	1	
	Flea Beetle	CARBARYL			Apply as needed to minimize foliar damage.
		Liquid Sevin Dura-Spray	Acme	14	
		Sevin 2 Flowable Insecticide	Bonide	14	
		ROTENONE			
		Rotenone 5 Organic Insecticide	Bonide	1	
	Weeds	DACTHAL			Apply immediately after sowing.
		Garden, Turf & Ornamental Herbicide 5G	Bonide		
		Garden Weed Preventer	Ortho		
		Garden Weed Preventer Spray	Acme		As above.
		TREFLAN			Apply before sowing and mix into top 2 inches of soil.
		Preen Flower and Garden Weed Preventer	Lebanon		
		Weed Preventer Granules	Acme		
					As above.
Lettuce and Endive	Aphids	DIAZINON			Apply recommended pesticide weekly as needed.
		Fruit and Vegetable Insect Control	Ortho	10	
		DI-SYSTON			
		Systemic Granules 1% PYRETHRIN	Bonide		
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho		

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Lettuce and Endive cont.	Cabbage Looper	<i>BACILLUS THURINGIENSIS</i>			Apply recommended pesticide if necessary to minimize foliar damage.
		<i>B. Thuringiensis</i> Moth Larvae Control	Bonide	0	
		Dipel 0.86% WP	Bonide	0	
		Thuricide Microbial Insecticide	Acme	0	
		CARBARYL			
		Sevin Garden Dust	Ortho	3 (head), 14 (leaf)	
		Sevin 2 Flowable Insecticide	Bonide	14	
		PYRETHRIN			
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
	Cabbage Worms	ROTENONE			
		Rotenone 5 Organic Insecticide	Bonide	1	
	Cutworms	DIAZINON			Apply to soil surface around base of plant.
		Diazinon Dust 4%	Bonide	*	
		Diazinon Insect Dust	Acme	*	
		Diazinon Soil and Turf Insect Control	Ortho	*	
		Diazinon Spray	Acme	*	
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Leafhoppers	CARBARYL			Apply recommended pesticide weekly if numbers exceed 1 to 2 per 10 plants to reduce aster yellows disease.
		Liquid Sevin	Acme	3 (head), 14 (leaf)	
		Dura-Spray			
		Sevin 5% Dura-Dust	Acme	3 (head), 14 (leaf)	
		Sevin 5% Dust	Bonide	3	
		Sevin 2 Flowable Insecticide	Bonide	14	
		Tomato-Vegetable Dust	Bonide		
		DI-SYSTON			
		Systemic Granules 1% PYRETHRIN	Bonide		
		Tomato and Vegetable Insect Killer	Bonide	0	
	Downy Mildew	ROTENONE			When disease appears; apply every 7 to 10 days.
		Rotenone 5 Organic Insecticide	Bonide	1	
		COPPER			
		Liquid Copper 4E	Bonide	0	
		MANEB			
		Maneb Tomato and Vegetable Fungicide	Acme	10	When disease appears; apply every 7 to 10 days.
		Tomato-Vegetable Dust	Bonide	14	

*Apply prior to planting

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Lettuce and Endive cont.	Downy Mildew, <i>continued</i>	SULFUR Tomato and Vegetable Dust	Acme	10	When disease appears; apply every 7 to 10 days.
		ZINEB Zineb 75 W	Acme	10	When disease appears; apply every 7 to 10 days.
Onions	Cutworms	DIAZINON Diazinon Dust 4%	Bonide	*	Apply if needed to prevent cut-off plants.
		Diazinon Insect Dust	Acme	*	
	Onion Maggot	DIAZINON Diazinon Insect Dust	Acme	*	Apply at planting to reduce damage to roots and stand loss.
		Diazinon Soil and Turf Insect Control	Ortho	*	
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Thrips	DIAZINON Diazinon Dust 4%	Bonide	10	Apply recommended pesticide if numbers exceed 30 to 35 per plant.
		Diazinon Insect Dust	Acme	10	
		Diazinon Insect Spray	Ortho	10	
		Diazinon Soil and Foliage Dust	Ortho	10	
		Fruit and Vegetable Insect Control	Ortho	10	
		ROTENONE Rotenone 5 Organic Insecticide	Bonide	1 (also leeks, garlic & shallots)	
	Botrytis Leaf Blight and Other Fungal spots	ZINEB Zineb 75 W	Acme	5	When disease appears; apply every 7 to 10 days.
	Downy Mildew	COPPER Liquid Copper 4E	Bonide	0	When disease appears; apply every 7 to 10 days.
		MANEB Maneb Tomato and Vegetable Fungicide	Acme	0	
		ZINEB Zineb 75 W	Acme	7	When disease appears; apply every 7 to 10 days.
	Weeds	DACTHAL Garden, Turf and Ornamental Herbicide 5G	Bonide		Apply immediately after sowing.
		Garden Weed Preventer	Ortho		As above.
		Garden Weed Preventer Spray	Acme		As above.

*Apply prior to planting

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Peas	Aphids	DIAZINON			Treat with recommended pesticide if numbers exceed 5 per 100 leaves to reduce virus disease transmission.
		Diazinon Dust 4%	Bonide	0†	
		Diazinon Insect Dust	Acme	0	
		Fruit and Vegetable Insect Control	Ortho	1	
		DI-SYSTON			
		Systemic Granules 1%	Bonide	*	
		MALATHION			
		Malathion 50 Insect Spray	Ortho	3	
		Malathion 50% Spray	Acme	3 (do not use vines for forage)	
	Cutworms	ROTENONE			Treat with recommended pesticide as needed to prevent cut-off seedlings.
		Rotenone 5 Organic Insecticide	Bonide	1	
		CARBARYL			
		Liquid Sevin	Acme	0	
		Dura-Spray			
		DIAZINON			
		Diazinon Dust 4%	Bonide	*	
		Diazinon Insect Dust	Acme	*	
		Diazinon Soil and Turf Insect Control	Ortho	*	
	Leafhoppers	Diazinon Spray	Acme	*	Treat with recommended pesticide if numbers exceed 1 per trifoliate leaf or if leaf cupping appears.
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
		CARBARYL			
		Liquid Sevin	Acme	0	
		Dura-Spray			
		Sevin 50W Insecticide	Acme	1	
		DIAZINON			
		Diazinon Insect Dust	Acme	0	
	Tarnished Plant Bugs	MALATHION			Treat with recommended pesticide if numbers exceed 1 per plant.
		Malathion 50 Insect Spray	Ortho	3	
		ROTENONE			
		Rotenone 5 Organic Insecticide	Bonide	1	
	Powdery Mildew	SULFUR			When disease appears, apply every 7-10 days.
		Flotox Garden Sulfur	Ortho	0	
		Wettable Dusting Sulfur	Acme	0	

*Apply prior to planting

†If used as dust, do not feed fodder to livestock for 10 days following last application.

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Peas cont.	Weeds	TREFLAN			
		Preen Flower and Garden Weed Preventer	Lebanon		Before sowing, mix into top 2 inches of soil.
		Weed Preventer Granules	Acme		As above.
Peppers	Aphids	CARBARYL			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	Treat with recommended pesticide if numbers exceed 1 per 20 leaves to reduce virus disease transmission.
		DIAZINON			
		Diazinon Insect Spray	Ortho	5	
		Diazinon Soil and Foliage Dust	Ortho	5	
		Diazinon Spray	Acme	14	
		Fruit and Vegetable Insect Control	Ortho	5	
		METHOXYCHLOR			
		Tomato-Vegetable Dust	Ortho	7	
		PYRETHRIN			
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
		Rotenone 5 Organic Insecticide	Bonide	1	
		THIODAN			
		Tomato-Potato-Vegetable Insecticide/Fungicide Dust	Bonide	1	
	Colorado Potato Beetle	CARBARYL			Treat with recommended pesticide if more than 10 percent foliage loss occurs.
		Liquid Sevin	Acme	0	
		Dura-Spray			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin Garden Dust	Ortho	0	
		Sevin 2 Flowable Insecticide	Bonide	0	
		Tomato-Vegetable Dust	Bonide	1	
		DIAZINON			
		Fruit and Vegetable Insect Control	Ortho	5	
		METHOXYCHLOR			
		Tomato-Vegetable Dust	Ortho	7	
		PYRETHRIN			
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
		Rotenone 5 Organic Insecticide	Bonide	1	

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Peppers cont.	Corn Borer	CARBARYL			Apply every 3 to 5 days during fruiting if more than 1 egg mass per plant is found.
		Liquid Sevin	Ortho	0	
		Liquid Sevin	Acme	0	
		Dura-Spray			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin 50 W	Bonide	0	
		Sevin Garden Dust	Ortho	0	
		Sevin Garden Spray	Ortho	0	
		Tomato-Vegetable Dust	Bonide	1	
	Cutworms	CARBARYL			Treat with recommended pesticide as needed to prevent cut-off transplants.
		Liquid Sevin	Acme	0	
		Dura-Spray			
		DIAZINON			
		Diazinon Dust 4%	Bonide	*	
		Diazinon Insect Dust	Acme	*	
		Diazinon Insect Spray	Ortho	5	
		Diazinon Soil and Turf Insect Control	Ortho	*	
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Anthracnose	MANEB			As fruit forms, then weekly.
		Maneb Tomato and Vegetable Fungicide	Acme	0	
		Tomato-Potato-Vegetable Insecticide/Fungicide	Bonide	1	
		SULFUR			When disease appears; apply every 7 to 10 days.
		Tomato and Vegetable Dust	Acme	5	
		ZINEB			
		All Round Dust	Acme	7	
		Red River Vegetable Spray	Acme	5	Every 7 days after disease appears.
	Phytophthora Root Rot	ZINEB			When disease appears; apply every 5 to 7 days.
		Red River Vegetable Spray	Acme	5	
	Weeds	DACTHAL			Apply to weed-free soil 4 to 6 weeks after transplanting.
		Garden, Turf and Ornamental Herbicide 5G	Bonide		
		Garden Weed Preventer	Ortho		
		Garden Weed Preventer Spray	Acme		As above.

*Apply prior to planting

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Peppers cont.	Weeds, <i>continued</i>	TREFLAN			
		Preen Flower and Garden Weed Preventer	Lebanon		Before transplanting, mix into top 2 inches of soil.
		Weed Preventer Granules	Acme		As above.
Potatoes	Aphids	CARBARYL			Treat with recommended pesticide if more than 30 aphids per leaf are present to prevent foliar damage and reduce disease transmission.
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Vegetable-Floral Dust or Spray	Bonide	1	
		DIAZINON			
		Diazinon Dust 4%	Bonide	35	
		Diazinon Insect Dust	Acme	35	
		Diazinon Insect Spray	Ortho	35	
		Diazinon Soil and Foliage Dust	Ortho	35	
		Diazinon Spray	Acme	35	
		Fruit and Vegetable Insect Control	Ortho	35	
		DI-SYSTON			
		Systemic Granules 1%	Bonide	*	
		MALATHION			
		Malathion 50 Insect Spray	Ortho	0	
		Malathion 50% Spray	Acme	3	
		METHOXYCHLOR			
		Tomato-Vegetable Dust	Ortho	1	
		PYRETHRIN			
		Garden Dust	Bonide	1	
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
		Rotenone 5 Organic Insecticide	Bonide	1	
		THIODAN			
		Tomato-Potato-Vegetable Insecticide/Fungicide Dust	Bonide	0	
	Blister Beetle	METHOXYCHLOR			Treat with recommended pesticide if foliar damage is greater than 10 percent.
		Gypsy Moth, Japanese Beetle and Mosquito Spray	Bonide	1	
		Methoxychlor 25% E Insecticide	Bonide	1	
		Tomato-Vegetable Dust	Ortho	1	

*Apply prior to planting

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Potatoes cont.	Blister Beetle, <i>continued</i>	PYRETHRIN			See page 31.
		Garden Dust	Bonide	1	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
	Cabbage Looper	PYRETHRIN			Treat if foliar damage is greater than 10 percent.
		Tomato and Vegetable Insect Killer	Ortho	0	
	Colorado Potato Beetle	CARBARYL			Treat with recommended pesticide if numbers exceed 1 to 2 per plant or if foliar damage is greater than 10 percent.
		Liquid Sevin	Acme	0	
		Dura-Spray			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	0	
		Sevin 50W Insecticide	Acme		
		Sevin 5% Dura-Dust	Acme		
		Sevin 5% Dust	Bonide		
		Sevin Garden Dust	Ortho		
		Sevin 2 Flowable Insecticide	Bonide		
		Tomato-Vegetable Dust	Bonide		
		Vegetable-Floral Dust or Spray	Bonide		
		DIAZINON			
		Fruit and Vegetable Insect Control	Ortho	35	
		METHOXYCHLOR			
		Gypsy Moth, Japanese Beetle and Mosquito Spray	Bonide	1	
		Methoxychlor 25% E Insecticide	Bonide	1	
		Tomato-Vegetable Dust	Ortho		
		PYRETHRIN			
		Garden Dust	Bonide	1	
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	1	
		Tomato and Vegetable Insect Killer	Ortho		
		Tomato and Vegetable Insect Spray	Ortho		
		ROTENONE			
		Garden Guard	Acme	1	
		1% Rotenone	Bonide	1	
		Rotenone-Copper Dust for Potato-Tomato-Vegetable Garden	Bonide		
		Rotenone 5 Organic Insecticide	Bonide		
		Rotosyn Insect Dust	Bonide		

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Potatoes cont.	Colorado Potato Beetle, <i>continued</i>	THIODAN Tomato-Potato- Vegetable Insecticide/ Fungicide Dust	Bonide		See page 32.
	Cutworms	CARBARYL Liquid Sevin Dura-Spray	Acme	0	Treat, if needed, to prevent cut-off plants in the spring or severe defoliation (greater than 10 percent) during the summer.
		Sevin 2 Flowable Insecticide	Bonide	0	
		DIAZINON Diazinon Dust 4%	Bonide	*	
		Diazinon Insect Dust	Acme	*	
		Diazinon Insect Spray	Ortho	35	
		Diazinon Soil and Turf Insect Control	Ortho	*	
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Flea Beetle	CARBARYL Liquid Sevin Dura-Spray	Ortho	0	Treat with recom- mended pesticide if numbers exceed 2 per 10 leaves or defoliation is greater than 10 percent.
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin 50W Insecticide	Acme	0	
		Sevin 5% Dura-Dust	Acme	0	
		Sevin 2 Flowable Insecticide	Bonide	0	
		Tomato-Vegetable Dust	Bonide	1	
		Vegetable-Floral Dust or Spray	Bonide	1	
		DIAZINON Diazinon Insect Spray	Ortho	35	
		Diazinon Soil and Foliage Dust	Ortho	35	
		Fruit and Vegetable Insect Control	Ortho	35	
		DI-SYSTON Systemic Granules 1%	Bonide	*	
		METHOXYCHLOR Gypsy Moth, Japanese Beetle and Mosquito Spray	Bonide	1	
		Methoxychlor 25% E Insecticide	Bonide	1	
		Tomato-Vegetable Dust	Ortho	1	
		PYRETHRIN Garden Dust	Bonide	1	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	

*Apply prior to planting

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Potatoes cont.	Flea Beetle, <i>continued</i>	ROTENONE			See page 33.
		Garden Guard	Acme	1	
		1% Rotenone	Bonide	1	
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Rotenone-Copper Dust for Potato-Tomato-Vegetable Garden	Bonide	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
		Rotosyn Insect Dust	Bonide	1	
		THIODAN			
		Tomato-Potato-Vegetable Insecticide/Fungicide Dust	Bonide	0	
	Hornworms	CARBARYL			Treat with recommended pesticide if foliage loss is greater than 10 percent.
		Liquid Sevin	Acme	0	
		Dura-Spray			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin Garden Dust	Ortho	0	
		Sevin 2 Flowable Insecticide	Bonide	0	
		Tomato-Vegetable Dust	Bonide	1	
		PYRETHRIN			
		Tomato and Vegetable Insect Spray	Ortho	1	
	Leafhoppers	ROTENONE			Apply recommended pesticide if numbers exceed 30 per 100 leaves or at first signs of leaf cupping.
		Rotenone 5 Organic Insecticide	Bonide	1	
		CARBARYL			
		Liquid Sevin	Acme	0	
		Dura-Spray			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin 50W Insecticide	Acme	0	
		Sevin 5% Dura-Dust	Acme	0	
		Sevin 5% Dust	Bonide	0	
		Sevin 2 Flowable Insecticide	Bonide	0	
		Tomato-Vegetable Dust	Bonide	1	
		DIAZINON			
		Diazinon Dust 4%	Bonide	35	
		Diazinon Insect Dust	Acme	35	
		Diazinon Insect Spray	Ortho	35	
		Diazinon Soil and Foliage Dust	Ortho	35	
		Fruit and Vegetable Insect Control	Ortho	35	
		Vegetable-Floral Dust or Spray	Bonide	1	

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Potatoes cont.	Leafhoppers, <i>continued</i>	DI-SYSTON Systemic Granules 1%	Bonide	*	See page 34.
		MALATHION Malathion 50 Insect Spray	Ortho	0	
		METHOXYCHLOR Gypsy Moth, Japanese Beetle and Mosquito Spray	Bonide	1	
		Methoxychlor 25% E Insecticide	Bonide	1	
		Tomato-Vegetable Dust PYRETHRIN	Ortho	1	
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE Rotenone-Copper Dust for Potato-Tomato- Vegetable Garden	Bonide	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
		THIODAN Tomato-Potato- Vegetable Insecticide/ Fungicide Dust	Bonide	0	
	Wireworms	DIAZINON Diazinon Dust 4%	Bonide	*	Treat soil at planting if larvae are present in the soil.
		Diazinon Insect Dust	Acme	*	
		Diazinon Soil and Turf Insect Control	Ortho	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Botrytis Vine Rot	CHLOROTHALONIL Vegetable Disease Control	Ortho	0	When disease appears; apply every 7 to 10 days.
	Damping off and seed rot	Captan 50% WP	Bonide	0	Pre-plant dip.
	Early Blight	CAPTAN Captan 50% WP	Bonide	0	When disease appears; apply every 7 to 10 days.
		Orthocide Garden Fungicide	Ortho	0	
		CHLOROTHALONIL** Vegetable Disease Control	Ortho	0	When disease appears; apply every 7 to 10 days.

*Apply prior to planting

**Chemical that has demonstrated best control

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Potatoes cont.	Early Blight, <i>continued</i>	COPPER Bordeaux Mixture	Acme	0	When disease appears; apply every 10 to 14 days.
		Copper Spray or Dust	Acme	0	When disease appears; apply every 7 to 10 days.
		Rotenone-Copper Dust for Potato-Tomato- Vegetable Garden	Bonide	1	When disease appears; apply every 7 to 10 days.
		MANEB Tomato-Potato- Vegetable Insecticide/ Fungicide Dust	Bonide	0	When disease appears; apply every 7 to 10 days.
	Late Blight	CAPTAN Captan 50% WP	Bonide	0	When disease appears; apply every 7 to 10 days.
		Orthocide Garden Fungicide	Ortho	0	When disease appears; apply every 7 to 10 days.
		Tomato-Vegetable Dust	Ortho		When disease appears; apply every 7 to 10 days.
		CHLOROTHALONIL Vegetable Disease Control	Ortho	0	When disease appears; apply every 7 to 10 days.
		COPPER Bordeaux Mixture	Acme	0	When disease appears; apply every 7 to 10 days.
		Copper Spray or Dust	Bonide	1	When disease appears; apply every 7 to 10 days.
		ROTENONE Rotenone-Copper Dust for Potato-Tomato Vegetable Garden	Bonide	1	When disease appears; apply every 7 to 10 days.
	Weeds	DACTHAL Garden, Turf, and Ornamental Herbicide 5G	Bonide		Apply to soil surface at planting or up to 9 weeks after planting.
		Garden Weed Preventer	Ortho		As above.
		Garden Weed Preventer Spray	Acme		As above.
Radishes and Turnips	Aphids	DIAZINON Diazinon Dust 4% (turnips)	Bonide	0	Apply recommended pesticide if numbers exceed 30 per 100 leaves or at first signs of leaf cupping.
		Diazinon Insect Dust	Acme	10	
		Fruit and Vegetable Insect Control	Ortho	10	
		MALATHION Malathion 50 Insect Spray	Ortho	7	
		Malathion 50% Spray	Acme	3	

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Radishes and Turnips cont.	Aphids, <i>continued</i>	PYRETHRIN Organic Greenhouse, Houseplant and Vegetable Spray (radish)	Bonide	0	Apply recommended pesticide if numbers exceed 30 per 100 leaves or at first signs of leaf cupping.
		Tomato and Vegetable Insect Killer	Ortho	0	
		ROTENONE Rotenone 5 Organic Insecticide	Bonide	1	
	Cabbage Looper	BACILLUS THURINGIENSIS Thuricide Microbial Insecticide	Acme	0	Treat with recom- mended pesticide if more than 10 percent foliar damage occurs.
		CARBARYL Liquid Sevin Dura-Spray	Acme	3	
		Sevin 2 Flowable Insecticide	Bonide	3	
		Tomato-Vegetable Dust (turnip)	Bonide		
		MALATHION Malathion 50% Spray	Acme	3	
		PYRETHRIN Tomato and Vegetable Insect Killer	Ortho	0	
		ROTENONE Rotenone 5 Organic Insecticide (turnip)	Bonide	1	
	Cutworms	Diazinon Spray	Acme	*	Apply to bases of plants to prevent cut-off plants.
	Flea Beetle	CARBARYL Liquid Sevin Dura-Spray	Acme	3	Treat with recom- mended pesticide if foliar damage exceeds 10 percent.
		Sevin 2 Flowable Insecticide	Bonide	3	
		Tomato-Vegetable Dust	Bonide	0	
		DIAZINON Fruit and Vegetable Insect Control	Ortho	10	
		PYRETHRIN Organic Greenhouse, Houseplant and Vegetable Spray (radish)	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		ROTENONE Rotenone 5 Organic Insecticide	Bonide	1	

*Apply prior to planting.

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Radishes and Turnips cont.	Root Maggot	DIAZINON			Treat at planting to minimize root injury.
		Diazinon Insect Dust	Acme	*	
		Diazinon Soil and Turf Insect Control	Ortho	*	
		Diazinon Spray	Acme	*	
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Downy Mildew	ZINEB Zineb 75 W	Acme	10	When disease appears; apply every 7 to 10 days.
	Leaf Spot	ZINEB All Round Dust	Acme	7	When disease appears; apply every 7 to 10 days.
		Zineb 75 W	Acme	10	When disease appears; apply every 7 to 10 days.
Spinach	Aphids	DIAZINON			Treat with recommended pesticide as needed to prevent damage to new growth and contamination.
		Fruit and Vegetable Insect Control	Ortho	10	
		DI-SYSTON			
		Systemic Granules 1% PYRETHRIN	Bonide	*	
		Organic Greenhouse, Houseplant and Vegetable Control	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
	Cutworms	DIAZINON			Treat with recommended pesticide as needed to prevent damage to new growth and contamination.
		Diazinon Dust 4%	Bonide	*	
		Diazinon Insect Dust	Acme	*	
		Diazinon Soil and Turf Insect Control	Ortho	*	
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Flea Beetle	CARBARYL			Treat with recommended pesticide as needed to prevent damage to new growth and contamination.
		Liquid Sevin	Acme	14	
		Dura-Spray			
		DIAZINON			
		Fruit and Vegetable Insect Control	Ortho	10	

*Apply prior to planting

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Spinach cont.	Flea Beetle, <i>continued</i>	DI-SYSTON Systemic Granules 1%	Bonide	*	Treat with recommended pesticide as needed to prevent damage to new growth and contamination.
		ROTENONE Rotenone 5 Organic Insecticide	Bonide	1	
	Leaf Miner	DIAZINON Fruit and Vegetable Insect Control	Ortho	10	Apply as soon as leaf mines are visible. Remove and destroy infested foliage.
		DI-SYSTON Systemic Granules 1%	Bonide	*	
	Loopers	BACILLUS THURINGIENSIS <i>B. thuringiensis</i> Moth Larvae Control	Bonide	0	Treat with recommended pesticide as needed to control foliar damage.
		Dipel 0.86 WP	Bonide	0	
		PYRETHRIN Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		ROTENONE Rotenone 5 Organic Insecticide	Bonide	1	
	Downy Mildew, Anthracnose, Cercospora, Red Spot	ZINEB Zineb 75 W	Acme	10	When disease appears; apply every 7 to 10 days.
Strawberries	Leafhoppers	DIAZINON Diazinon Insect Spray	Ortho	5	Apply after bloom. Sample at least 10 plants when leafhoppers first appear. If 5 or more leafhoppers per 10 plants are observed, spray plants.
		Fruit and Vegetable Insect Control	Ortho	5	
	Mites	METHOXYCHLOR Tomato-Vegetable Dust	Ortho	7	Apply when leafhoppers first appear.
		CARBARYL Old Pro Vegetable and Fruit Tree Spray	Bonide	3	When 2 to 5 mites per leaf can be observed. Repeat as needed.
		DIAZINON Diazinon Dust 4%	Bonide	5	When 2 to 5 mites per leaf can be observed. Repeat as needed.
		Diazinon Insect Dust	Acme	5	As above.
		Diazinon Insect Spray	Ortho	5	After bloom, repeat every 10 to 14 days.
		Diazinon Soil and Foliage Dust	Ortho	5	When 2 to 5 mites per leaf can be observed. Repeat as needed.

*Apply prior to planting

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Strawberries cont.	Mites, <i>continued</i>	Diazinon Spray	Acme	21	After bloom, repeat every 10 to 14 days. When 2 to 5 mites per leaf can be observed. Repeat as needed.
		Fruit and Vegetable Insect Control	Ortho	5	
		ROTENONE Rotenone 5 Organic Insecticide	Bonide	1	
	Mole Crickets	DIAZINON Diazinon Soil and Turf Insect Control	Ortho		Before planting.
		Garden Soil Insecticide	Bonide		Before planting.
		Vegetable Guard Soil Insect Killer	Ortho		Before planting.
	Omnivorous Leaf tiers	METHOXYCHLOR Tomato-Vegetable Dust	Ortho	7	Apply when one leaf tier per plant is observed.
	Spittlebugs	CARBARYL Old Pro Vegetable and Fruit Tree Spray	Bonide	3	Apply recommended pesticide when one spittle mass per plant is observed.
		Sevin 50W Insecticide	Acme		
		Sevin 5% Dura-Dust	Acme	1	
		Sevin 5% Dust	Bonide	1	
		Sevin Garden Dust	Ortho	1	
		DIAZINON Diazinon Soil and Foliage Dust	Ortho	5	
		METHOXYCHLOR Tomato-Vegetable Dust	Ortho	7	
		ROTENONE Rotenone 5 Organic Insecticide	Bonide	1	
	Strawberry Leafroller	CARBARYL Old Pro Vegetable and Fruit Tree Spray	Bonide	1	Apply recommended pesticide when leaf rolling is observed and aphids are present in rolled leaf. Note that aphids are often controlled by lady beetle larvae in the rolled leaf.
		Sevin 50W Insecticide	Acme	1	
		Sevin 5% Dura-Dust	Acme	1	
		Sevin 5% Dust	Bonide	1	
		Sevin Garden Dust	Ortho	1	
		DIAZINON Diazinon Dust 4%	Bonide	5	
		Diazinon Spray	Acme	21	
		Fruit and Vegetable Insect Control	Ortho	5	
		ROTENONE Rotenone 5 Organic Insecticide	Bonide	1	
	Strawberry Weevil	CARBARYL Sevin 5% Dura-Dust	Acme	1	Apply when weevils first appear. Look for cut fruit clusters. This insect usually appears during
		Sevin 5% Dust	Bonide	1	
		Sevin Garden Dust	Ortho	1	

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Strawberries cont.	Strawberry Weevil, <i>continued</i>	ROTENONE Rotenone 5 Organic Insecticide	Bonide	1	bloom, but no insecticide sprays can be applied or pollinators (bees) will be killed.
	Botrytis Rot	CAPTAN Orthocide Garden Fungicide	Ortho	0	Apply as fruit forms; repeat every 7 days. Apply as fruit forms; repeat every 7 days.
		Tomato-Vegetable Dust	Ortho	7	
	Leaf Blight	COPPER Copper Spray or Dust	Bonide	1	Apply prior to leaf formation; repeat at 10- to 14-day intervals.
	Leaf Spot	COPPER Bordeaux Mixture	Acme	0	When disease appears; apply every 7 to 10 days. Prior to leaf formation; repeat at 10-day intervals.
		Copper Spray or Dust	Bonide	1	
		ZINEB Zineb 75 W	Acme		When disease appears; apply every 7 to 10 days.
	Weeds	DACTHAL Garden, Turf and Ornamental Herbicide 5G	Bonide		Apply immediately after transplanting. On established plants, apply in early fall and early spring. As above.
		Garden Weed Preventer	Ortho		
		Garden Weed Preventer Spray	Acme		As above.
Sweet Corn	Aphids	DIAZINON Fruit and Vegetable Insect Control	Ortho	1	Apply recommended pesticide as needed to control honeydew and sooty mold on ears.
		PYRETHRIN Tomato and Vegetable Insect Spray	Ortho	1	
	Corn Earworm Larvae	CARBARYL Liquid Sevin Dura-Spray	Acme	0	Begin treatments of recommended pesticide to silks when silks first appear. Continue treatment every 3 to 5 days.
		Old Pro Vegetable and Fruit Tree Spray	Bonide	5	
		Sevin 50 W	Bonide	0	
		Sevin 50W Insecticide	Acme	0	
		Sevin 5% Dura-Dust	Acme	0	
		Sevin 5% Dust	Bonide	0	
		Sevin Garden Dust	Ortho	0	
		DIAZINON Diazinon Dust 4%	Bonide	2	

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Sweet Corn cont.	Corn Rootworms	DIAZINON			
		Diazinon Soil and Turf Insect Control	Ortho	*	Apply to soil at planting to control larvae if corn was in same area the previous year.
		Garden Soil Insecticide	Bonide	8	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Corn Rootworm Adults	CARBARYL			Treat as needed to control adults and minimize damage to silk.
		Liquid Sevin Dura-Spray	Acme	0	
		Sevin Garden Dust	Ortho	0	
	Cutworms	CARBARYL			Treat with recommended pesticide as needed to minimize cut-off plants.
		Liquid Sevin Dura-Spray	Acme	0	
		DIAZINON			
		Diazinon Dust 4%	Bonide	*	
		Diazinon Insect Dust	Acme	*	
		Diazinon Soil and Turf Insect Control	Ortho	*	
		Diazinon Spray	Acme	*	
		Garden Soil Insecticide	Bonide	0†	
		Vegetable Guard Soil Insect Killer	Ortho	0†	
	European Corn Borer	CARBARYL			Apply recommended pesticide every 3 to 7 days beginning at tasseling or first silk.
		Liquid Sevin Dura-Spray	Acme	0	
		Sevin 50 W	Bonide	0	
		Sevin 50W Insecticide	Acme	0††	
		Sevin Garden Dust	Ortho	0	
		DIAZINON			
		Diazinon Soil and Turf Insect Control	Ortho	0†	
		Vegetable Guard Soil Insect Killer	Ortho	0†	
		ROTENONE			
		Rotenone Dust or Spray	Ortho	1	
	Flea Beetle	CARBARYL			Apply recommended pesticide when plants emerge, as needed. Repeat 2 to 3 times at 5-day intervals if necessary.
		Old Pro Vegetable and Fruit Tree Spray	Bonide	5	
		Liquid Sevin Dura-Spray	Acme	0	
		Sevin Garden Dust	Ortho	0	
		DIAZINON			
		Fruit and Vegetable Insect Control	Ortho	1	
		PYRETHRIN			
		Tomato and Vegetable Insect Spray	Ortho	1	

*Apply prior to planting

†If used as dust, do not feed fodder to livestock for 10 days following last application.

††Do not feed treated fodder to animals.

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Sweet Corn cont.	Sap Beetle	CARBARYL			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	0	Treat as needed. Also, check for primary cause of damage.
		Sevin 50 W	Bonide	0	
		Sevin Garden Dust	Ortho	0	
	Seed Corn Maggot	DIAZINON			
		Diazinon Insect Dust	Acme	*	Treat at planting if soil is high in organic matter and cold.
	Helminthosporium Leaf Blight and Rust	CHLOROTHALONIL			
		Vegetable Disease Control	Ortho	14	When disease appears; apply every 7 to 10 days.
		MANEB			
		Maneb Tomato and Vegetable Fungicide	Acme	0	When fruit first forms; apply on 7- to 10-day intervals.
		SULFUR			
		Tomato and Vegetable Dust	Ortho	0	When disease appears; apply every 7 to 10 days.
Tomatoes	Aphids	CARBARYL			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	Apply recommended pesticide if numbers exceed 5 to 10 per leaf.
		Vegetable-Floral Dust or Spray	Bonide	1	
		DIAZINON			
		Diazinon Insect Dust	Acme	3	
		Diazinon Insect Spray	Ortho	1	
		Diazinon Soil and Foliage Dust	Ortho	3	
		Diazinon Spray	Acme	1	
		Fruit and Vegetable Insect Control	Ortho	3	
		DI-SYSTON			
		2% Systemic Granules	Acme	*	
		MALATHION			
		Malathion 50% E	Ortho	1	
		Malathion 50 E Insect Spray	Ortho	7	
		Malathion 50% Spray	Acme	3	
		METHOXYCHLOR			
		Tomato-Vegetable Dust	Ortho	7	
		PYRETHRIN			
		Garden Dust	Bonide	1	
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
		Rotenone 5 Organic Insecticide	Bonide	1	

*Apply prior to planting

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Tomatoes cont.	Aphids, <i>continued</i>	THIODAN Tomato-Potato- Vegetable Insecticide/ Fungicide Dust	Bonide	5	
	Cabbage Loopers	BACILLUS THURINGIENSIS <i>B. thuringiensis</i> Moth Larvae Control	Bonide	0	Treat with recom- mended pesticide if foliage damage exceeds 10 percent.
		Dipel 0.86% WP	Bonide	0	
		Thuricide Microbial Insecticide	Acme	0	
		DIAZINON Diazinon Spray	Acme	1	
		PYRETHRIN Tomato and Vegetable Insect Killer	Ortho	0	
	Colorado Potato Beetle	CARBARYL Liquid Sevin Dura-Spray	Acme	0	Apply recommended pesticide if numbers reach 1 per plant or if damage exceeds 10 percent foliage loss. (Note: if foliage is very sparse, earlier treatment may be needed to avoid fruit damage by larvae.)
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin 2 Flowable Insecticide	Bonide	0	
		DIAZINON Fruit and Vegetable Insect Control	Ortho	1	
		METHOXYCHLOR Tomato-Vegetable Dust	Ortho	7	
		Vegetable-Floral Dust or Spray	Bonide	1	
		PYRETHRIN Garden Dust	Bonide	1	
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		Tomato-Vegetable Dust	Bonide	1	
		ROTENONE 1% Rotenone	Bonide	1	
		Rotenone-Copper Dust for PTV	Bonide	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
		Rotosyn Insect Dust	Bonide	1	
		THIODAN Tomato-Potato- Vegetable Insecticide/ Fungicide Dust	Bonide	5	

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Tomatoes cont.	Cutworms	CARBARYL			Treat with recommended pesticide as needed to prevent cut-off transplants or damage to fruit.
		Liquid Sevin	Acme	0	
		Dura-Spray			
		Sevin 2 Flowable Insecticide	Bonide	0	
		DIAZINON			
		Diazinon Dust 4%	Bonide	*	
		Diazinon Insect Dust	Acme	*	
		Diazinon Insect Spray	Ortho	1	
		Diazinon Soil and Turf Insect Control	Ortho	*	
		Diazinon Spray	Acme	*	
		Garden Soil Insecticide	Bonide	*	
		Vegetable Guard Soil Insect Killer	Ortho	*	
	Flea Beetle	CARBARYL			Apply recommended pesticide if damage exceeds 10 percent foliage loss.
		Liquid Sevin	Acme	0	
		Dura-Spray			
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		Sevin 50 W	Bonide	0	
		Sevin 50W Insecticide	Acme	1	
		Sevin 5% Dura-Dust	Acme	0	
		Sevin 5% Dust	Bonide	0	
		Sevin 2 Flowable Insecticide	Bonide	0	
		Sevin Garden Dust	Ortho	0	
		Tomato-Vegetable Dust	Bonide	1	
		DIAZINON			
		Diazinon Insect Spray	Ortho	1	
		Fruit and Vegetable Insect Control	Ortho	1	
		Vegetable-Floral Dust or Spray	Bonide	1	
		DI-SYSTON			
		Systemic Granules 1%	Bonide	*	
		2% Systemic Granules	Acme	*	
		METHOXYCHLOR			
		Gypsy Moth, Japanese Beetle, and Mosquito Spray	Bonide		
		Methoxychlor 25% E Insecticide	Bonide	1	
		Tomato-Vegetable Dust	Ortho	7	
		PYRETHRIN			
		Organic Greenhouse, Houseplant and Vegetable Spray	Bonide	0	
		Tomato and Vegetable Insect Killer	Ortho	0	
		Tomato and Vegetable Insect Spray	Ortho	1	
		Garden Dust	Bonide	1	

*Apply prior to planting

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Tomatoes cont.	Flea Beetle, <i>continued</i>	ROTENONE			See page 45
		Blue Death Garden Dust	Bonide	1	
		Garden Guard	Acme	1	
		1% Rotenone	Bonide	1	
		Rotenone-Copper Dust for Potato-Tomato-Vegetable Gardens	Bonide	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
		Rotosyn Insect Dust	Bonide	1	
		THIODAN			
		Tomato-Potato-Vegetable Insecticide/Fungicide Dust	Bonide	5	
	Hornworms	BACILLUS THURINGIENSIS			Treat with recommended pesticide if damage exceeds 10 percent foliage loss or if significant fruit damage is noted.
		<i>B. thuringiensis</i> Moth Larvae Control	Bonide	0	
		Dipel 0.86% WP	Bonide	0	
		Thuricide Microbial Insecticide	Acme	0	
		CARBARYL			
		Liquid Sevin	Ortho	0	
		Liquid Sevin Dura-Spray	Acme	0	
		Sevin 50 W	Bonide	0	
		Sevin 5% Dura-Dust	Acme	0	
		Sevin 5% Dust	Bonide	0	
		Sevin Garden Dust	Ortho	0	
		Sevin Garden Spray	Ortho	0	
		Sevin 2 Flowable Insecticide	Bonide	0	
		Tomato-Vegetable Dust	Bonide	1	
		Old Pro Vegetable and Fruit Tree Spray	Bonide	3	
		PYRETHRIN			
		Tomato and Vegetable Insect Spray	Ortho	1	
		ROTENONE			
		Blue Death Garden Dust	Bonide	1	
		Rotenone-Copper Dust for Potato-Tomato-Vegetable Gardens	Bonide	1	
		Rotenone 5 Organic Insecticide	Bonide	1	
	Anthracnose Fruit Rot	CAPTAN			At flowering; apply at 7- to 10- day intervals. At flowering; apply at 7- to 10-day intervals. When disease appears; apply every 7 to 10 days.
		Captan 50% WP	Bonide	0	
		Orthocide Garden Fungicide	Ortho	0	
		Tomato-Vegetable Dust	Ortho	7	

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Tomatoes cont.	Anthracnose, Fruit Rot, <i>continued</i>	CHLOROTHALONIL Vegetable Disease Control	Ortho	0	At flowering; apply at 7- to 10-day intervals.
		COPPER Garden Dust	Bonide	1	
		MANEB Maneb Tomato and Vegetable Fungicide	Acme	5	When first fruit forms; apply at 7- to 10-day intervals.
		SULFUR Tomato and Vegetable Dust	Acme	5	When disease appears; apply every 7 to 10 days.
		ZINEB All Round Dust	Acme	14	After disease appears; apply every 7 days.
		Red River Vegetable Spray	Acme	5	When disease appears; apply every 5 to 7 days.
		Zineb 75 W	Acme	5	When disease appears; apply every 7 to 10 days.
	Bacterial Leaf Spots	COPPER Copper Spray or Dust	Bonide	1	When disease appears; apply every 7 days.
		Liquid Copper 4E Fungicide	Bonide	0	When disease appears; apply every 7 days.
	Cladosporium Leaf Spot	ZINEB Zineb 75 W	Acme	5	Apply every 7 to 10 days after disease appears.
	Early Blight	CAPTAN Captan 50% WP	Bonide	0	Apply every 7 to 10 days after disease appears.
		Orthocide Garden Fungicide	Ortho	0	Apply every 7 to 10 days after disease appears.
		CHLOROTHALONIL Vegetable Disease Control	Ortho	0	Apply every 7 to 10 days after disease appears.
		COPPER Bordeaux Mixture	Acme	0	Apply every 10 to 14 days after disease appears.
		Garden Dust MANEB	Bonide		
		Maneb Tomato and Vegetable Fungicide	Acme	5	Apply every 7 days after disease appears.
		Tomato-Potato- Vegetable Insecticide/ Fungicide Dust	Bonide	5	Apply every 7 days after disease appears.
		Tomato-Vegetable Dust	Bonide	7	Apply every 7 days after disease appears.
		SULFUR Tomato and Vegetable Dust	Acme	5	Apply every 7 days after disease appears.

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Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Tomatoes cont.	Early Blight	ZINEB			
		Red River Vegetable Spray	Acme	5	When disease appears; apply every 5 to 7 days.
		Zineb 75 W	Acme	5	When disease appears; apply every 7 to 10 days.
	Late Blight	CAPTAN			
		Captan 50% WP	Bonide	0	Apply every 7 to 10 days after disease appears.
		Orthocide Garden Fungicide	Ortho	0	Apply every 7 to 10 days after disease appears.
		CHLOROTHALONIL**			
		Vegetable Disease Control	Ortho	0	Apply every 7 to 10 days after disease appears.
		COPPER			
		Bordeaux Mixture	Acme	0	Apply every 10 to 14 days after disease appears.
		Garden Dust	Bonide		
		MANEB			
		Maneb Tomato and Vegetable Fungicide	Acme	5	Apply every 7 days after disease appears.
		Tomato-Potato-Vegetable Insecticide/Fungicide Dust	Bonide	5	Apply every 7 days after disease appears.
		Tomato-Vegetable Dust	Bonide	7	Apply every 7 days after disease appears.
		SULFUR			
		Tomato and Vegetable Dust	Acme	5	Apply every 7 days after disease appears.
		ZINEB			
		Zineb 75 W	Acme	5	Apply every 7 to 10 days after disease appears.
	Septoria Leaf Spot	CAPTAN			
		Captan 50% WP	Bonide	0	Apply every 7 to 10 days after disease appears.
		Orthocide Garden Fungicide	Ortho	0	Apply every 7 to 10 days after disease appears.
		COPPER			
		Garden Dust	Bonide	1	Apply every 7 to 10 days after disease appears.
		MANEB			
		Maneb Tomato and Vegetable Fungicide	Acme	5	Apply every 7 to 10 days after disease appears.
		SULFUR			
		Tomato and Vegetable Dust	Acme	5	Apply every 7 to 10 days after disease appears.
		ZINEB			
		Zineb 75 W	Acme	5	Apply every 7 to 10 days after disease appears.

**Chemical that has demonstrated best control.

Recommendations for disease, insect and weed control

Crop	Pest	Pesticide	Manufacturer	Days from Last Application to Harvest	When to Apply
Tomatoes, cont.	Weeds	DACTHAL			
		Garden, Turf and Ornamental Herbicide 5G	Bonide		Apply to weed-free soil 4 to 6 weeks after transplanting.
		Garden Weed Preventer	Ortho		As above.
		Garden Weed Preventer Spray	Acme		As above.
		TREFLAN			
		Preen Flower and Garden Weed Preventer	Lebanon		Before transplanting mix into top 2 inches of soil.
		Weed Preventer Granules	Acme		As above.

Registered Herbicides

Trade Name	Common Name	Formulation	Rate of Application*	Manufacturer
Garden, Turf and Ornamental Herbicide 5G	Dacthal	5% granules	1 lb/250 sq ft	Bonide
Garden Weed Preventer	Dacthal	5% granules	1 lb/250 sq ft	Ortho
Garden Weed Preventer Spray	Dacthal	75% Wettable powder	3 T/250 sq ft	Acme
Kleenup	Roundup	5% liquid	1 c/gal/250 sq ft	Ortho
Preen Flower and Garden Weed Preventer	Treflan	1.47% granules	1.5 lb/250 sq ft	Lebanon
Weed Preventer Granules	Treflan	1.47% granules	1 to 2 c/300 sq ft	Acme
Vapam Soil Fumigant Solution	Metam Sodium	32.7	1 tsp/8 oz/sq ft	Bonide

NOTE: Chemicals which require dilution are mixed with water.

Registered Insecticides

Trade Name	Common Name	Formulation (Percent Active Ingredient)	Rate of Application*	Manufacturer
Blue Death Garden Dust	Rotenone	.75	Cover surfaces or 3.2 oz/gal	Bonide
Cuke and Melon Dust	Rotenone	.35	Cover surfaces or 4 T/gal	Bonide
Diazinon Dust 4%	Diazinon	4	3.5 oz/100 sq ft for soil or 12 to 40 lb/A for foliage	Bonide
Diazinon Insect Dust	Diazinon	4	Cover surfaces	Acme
Diazinon Insect Spray	Diazinon	25	2 tsp/gal	Ortho
Diazinon Soil and Foliage Dust	Diazinon	4	2 lb/900 sq ft (soil) Cover surfaces (foliage)	Ortho
Diazinon Soil and Turf Insect Control	Diazinon	5	7 to 15 oz/500 sq ft	Ortho
Diazinon Spray	Diazinon	12.5	4 T/gal (foliage) 3 oz/100 sq ft (soil)	Acme
Dipel 150 Dust for Vegetables	<i>Bacillus thuringiensis</i>	.064	2.5 to 4 oz/435 sq ft	Bonide
Dipel 0.86%	<i>B. thuringiensis</i>	0.86	1 to 4 T/gal	Bonide
Flower-Vegetable 4-in-1 Spray	Malathion	9.4	3.5 T/gal	Bonide
Fruit and Vegetable Insect Control	Diazinon	25	2 tsp/gal	Ortho
Garden Dust	Pyrethrin Rotenone Copper Sulfur	0.03 0.5 25 5	Cover surfaces or 8 T/gal	Bonide
Garden Guard	Rotenone	1.0	Cover surfaces	Acme
Garden Soil Insecticide Diazinon 5% g	Diazinon	5	4 to 15 oz/500 sq ft	Bonide
Gypsy Moth, Japanese Beetle and Mosquito Spray	Methoxychlor	25	1.5 to 2 T/gal	Bonide
Liquid Sevin	Carbaryl	27	1 T/gal	Ortho
Liquid Sevin Dura-Spray	Carbaryl	50	2 T/gal	Acme
Malathion 50 Insect Spray	Malathion	50	1.5 tsp to 1 T/gal	Ortho
Malathion 50% E	Malathion	50	1.5 to 3 T/gal	Bonide
Malathion 50% Spray	Malathion	50	1 T/gal	Acme
Methoxychlor 25% E Insecticide	Methoxychlor	25	1.5 to 2 T/gal	Bonide
Old Pro Vegetable and Fruit Tree Spray	Carbaryl Malathion	13.5 13.5	2.5 T/gal	Bonide
1% Rotenone	none	1	10 to 30 lb/A or 3.2 oz/gal	Bonide
Organic Greenhouse, Houseplant and Vegetable Spray	Pyrethrin Pyperonyl butoxide	1 10	1 to 2 tsp/gal	Bonide

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Registered Insecticides, continued

Trade Name	Common Name	Formulation (Percent Active Ingredient)	Rate of Application*	Manufacturer
Rotenone-Copper Dust for Potato-Tomato-Vegetable Gardens	Rotenone	0.35	Cover surfaces or 4 T/gal	Bonide
Rotenone Dust or Spray	Rotenone	1	1 lb/1,000 sq ft or 6 to 8 T/gal	Ortho
Rotenone 5 Organic Insecticide	Rotenone	5	3 to 6.5 T/gal	Bonide
Rotosyn Insect Dust	Rotenone	0.35	Cover surfaces or 4 T/gal	Bonide
Sevin 50 W	Carbaryl	50	2 T/gal	Bonide
Sevin 5W Insecticide	Carbaryl	50	2 T/gal	Acme
Sevin 5% Dura-Dust	Carbaryl	5	Cover surfaces	Acme
Sevin 5% Dust	Carbaryl	5	Cover surfaces	Bonide
Sevin Garden Dust	Carbaryl	5	Cover surfaces	Ortho
Sevin Garden Spray	Carbaryl	50	2 T/gal	Ortho
Sevin 2 Flowable Insecticide	Carbaryl	22.5	4 to 16 tsp/gal	Bonide
Systemic Granules 1%	Di-Syston	1	6 to 12 oz/50 ft row	Bonide
Tomato and Vegetable Insect Killer	Pyrethrin	0.02	as labeled	Ortho
Tomato and Vegetable Insect Spray	Pyrethrin	0.03	as labeled	Ortho
	Rotenone	0.128		
Tomato-Potato-Vegetable Insecticide/Fungicide Dust	Thiodan	5.6	Cover surfaces	Bonide
Tomato Vegetable Dust	Methoxychlor	5	Cover surfaces	Ortho
	Rotenone	0.75		
Tomato-Vegetable Dust	Carbaryl	3.0	Cover surfaces or 8 T/gal	Bonide
Thuricide Microbial Insecticide	<i>B. thuringiensis</i>	0.8	1 T/gal	Acme
2% Systemic Granules	Di-Syston	2	1 tsp/row ft.	Acme
Vapam Soil Fumigant Solution	Metam Sodium	32.7	1 tsp in 8 oz/sq ft	Bonide
Vegetable-Floral Dust or Spray	Carbaryl	1.25	Cover surfaces or 4 T/gal	Bonide
	Rotenone	0.50		
Vegetable Guard Soil Insect Killer	Diazinon	5	4 to 10 oz/500 sq ft	Ortho

*Chemicals that require dilution are mixed with water.

Registered Fungicides

Trade Name	Common Name	Formulation (Percent Active Ingredient)	Rate of Application*	Manufacturer
All Round Dust	Zineb	5.2	Cover surfaces	Acme
Bordeaux Mixture	Copper	12.75	2.5 oz/gal	Acme
Captan 50% WP	Captan	50	1.5 T/gal	Bonide
Copper Spray or Dust	Copper	7	2.25 to 2.75 oz/gal	Bonide
Cuke and Melon Dust	Copper	7	Cover surfaces or 4 T/gal	Bonide
Flotox Garden Sulfur	Sulfur	90	2.5 T/gal	Ortho
Flower-Vegetable 4-in-1 Spray	Dinocap (Karathane)	1.4	4 tsp/gal	Bonide
Garden Dust	Copper Sulfur	5 25	Cover surfaces or 8 T/gal Cover surfaces or 8 T/gal	Bonide
Liquid Copper Fungicide 4E	Copper	48	4 tsp/gal	Bonide
Maneb Tomato and Vegetable Fungicide	Maneb	80	1.5 to 2 T/gal	Acme
Orthocide Garden Fungicide	Captan	47.3	4 tsp/gal	Ortho
Red River Vegetable Spray	Zineb	38	2.5 T/gal	Acme
Rotenone-Copper Dust for Potato-Tomato-Vegetable Gardens	Copper	7	Cover surfaces or 4 T/gal	Bonide
Tomato and Vegetable Dust	Sulfur	20	1 lb/600 to 1,200 row ft.	Acme
Tomato-Potato-Vegetable Insecticide/Fungicide Dust	Maneb	5.6	30 to 33 lb/acre	Bonide
Tomato Vegetable Dust	Captan	4.7	Cover surfaces	Ortho
Tomato-Vegetable Dust	Maneb	4.8	Cover surfaces or 8 T/gal	Bonide
Vapam Soil Fumigant Solution	Metam Sodium	32.7	1 tsp/8 oz/sq ft	Bonide
Vegetable Disease Control	Chlorothalonil	29.6	2 tsp/gal	Ortho
Wettable Dusting Sulfur	Sulfur	95	Cover surfaces or 3 to 4 T/gal	Acme
Zineb 75 W	Zineb	75	1 T/gal	Acme

*All chemicals that require dilution are mixed with water.

C = cup
gal = gallon
T = tablespoon
tsp = teaspoon



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