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| **Diseases** | **Cure** |
| Apple\_\_\_Apple\_scab | * Select a variety of flowering crabapple that's resistant to the **apple scab** fungus. * Apply a foliar spray of zinc sulfate and urea in the fall. ... * Rake and remove all dead leaves and dropped fruit immediately in the fall. |
| Apple\_\_\_Black\_rot | **Treating black rot** on **apple** trees starts with sanitation. Because fungal spores overwinter on fallen leaves, mummified fruits, dead bark and cankers, it's important to keep all the fallen debris and dead fruit cleaned up and away from the tree |
| Apple\_\_\_Cedar\_apple\_rust | Apply contact fungicide to trees in close proximity to the infected cedar according to the manufacturer’s guidelines. Look for the active ingredient potassium bicarbonate, approved in California for contact fungicide. Spray the trees, including trunk, branches and foliage, when you see yellow spots on the leaves, which often occurs in mid-April |
| Cherry\_(including\_sour)\_\_\_Powdery\_mildew | Azoxystrobin, penthiopyrad |
| Corn\_(maize)\_\_\_Cercospora\_leaf\_spot Gray\_leaf\_spot | The fungus that **causes gray leaf spot** is able to survive on residue for more than one year, and economically damaging disease levels have been observed in Indiana fields with two-year-old **corn** residue. Fungicides are available for in-season **gray leaf spot** management. |
| Corn\_(maize)\_\_\_Common\_rust\_ | * Scout for fungal leaf diseases 2 weeks before tasseling to 2 weeks after tasseling. * At that point, at least a 15% whole-plant infection is needed to justify a fungicide treatment. * Also consider these factors to make a reasonable decision:   + First, consider the weather. Fungi in general and rusts in particular need free water (on the leaves) and continued wet weather to continue to flourish.   + Next, consider the probability of other fungal leaf blights developing in the field and in your particular hybrid. Cropping history and corn residue levels can affect development of diseases such as gray leaf spot. |
| Corn\_(maize)\_\_\_Northern\_Leaf\_Blight | Picosystrobin,tetraconazol,pylaclostrobin,prothioconazol |
| Grape\_\_\_Black\_rot | Cut off the obviously affected parts of the grape vine with a sterile knife. Remove all spotted leaves and the black, mummified grapes. Be extremely thorough and make sure you remove all parts of the plant that are affected by the black rot.  Place fans in the growing area to keep the plants dry. This will help prevent the rot from spreading to other sections of the plant and will help dry out the newly cut parts of the plant. Black rot is quite contagious and is easily spread by water dripping from one affected part of the plant to another. Drying the plants as quickly as possible after watering or rainfall helps keep the disease in check. |
| Grape\_Esca\_(Black\_Measles) | As soon as symptoms are determined to be from Esca, not just the cordons, but the entire plant must be removed. The longer this is put off, the greater the possibility that removal will be ineffective.   Cures have been attempted with oil emulsions or Sodium Arsenite in France or the more recent Triazoles and Fosetyl-Al. The variables linked to success are innumerable and probably not yet clear, therefore not subject to consideration. |
| Grape\_\_\_Leaf\_blight\_(Isariopsis\_Leaf\_Spot) | Fungicides sprayed for other diseases in the season may help to reduce this disease.  Fungicides Used in Grapes  (azoxystrobin – captan -copper sulfate - fungicidal soap -kresoxim-methyl  -mancozeb ) |
| Orange\_\_\_Haunglongbing\_(Citrus\_greening) | HLB can kill a citrus tree in as little as 5 years, and there is no known **cure** or **remedy**. All commonly grown citrus varieties are susceptible to the pathogen. The only way to protect trees is to prevent the spread of the HLB pathogen by controlling psyllid populations and destroying any infected trees. |
| Potato\_\_\_Late\_blight | 1. Plant resistant cultivars when available. 2. Remove volunteers from the garden prior to planting and space plants far enough apart to allow for plenty of air circulation. 3. Water in the early morning hours, or use [soaker hoses](https://www.planetnatural.com/product/soil-soaker-hose/), to give plants time to dry out during the day — avoid overhead irrigation. 4. Destroy all tomato and potato debris after harvest |
| Potato\_\_\_Early\_blight | 1. Prune or stake plants to improve air circulation and reduce fungal problems. 2. Make sure to disinfect your pruning shears (one part bleach to 4 parts water) after each cut. 3. Keep the soil under plants clean and free of garden debris. ... 4. Drip irrigation and soaker hoses can be used to help keep the foliage dry. |
| Strawberry\_\_\_Leaf\_scorch | Remove the older and infected leaves from runner plants before setting.  Take care in spacing runner plants in matted-row culture.  Plant in light, well-drained soil in a location exposed to all-day sun and good air circulation.  Control weeds in the planting. Weeds reduce air circulation and increase drying time for leaves. (Leaves stay wet longer in weedy plantings.)  Removing infected leaves after harvest (during renovation) is helpful in reducing inoculum and controlling all the leaf diseases. |
| Tomato\_\_\_Bacterial\_spot | To avoid bacterial spot, cultivators should buy [certified disease-free tomato seeds](http://tomatodiseasehelp.com/disease-resistant-seeds-and-varieties) and use sterilized soil or a mix that is commercially rendered. If it is not possible to acquire disease-free tomato seeds, your seeds should be submerged for one minute in 1.3% sodium hypochlorite, which helps eliminate bacteria on their surface. Another option exists in submerging the seeds in 122-degree Fahrenheit water for 25 minutes. This will affect surface and inner seed bacteria, but might adversely affect the plant’s germination.  [Tomato crop rotation](http://tomatodiseasehelp.com/crop-rotation-benefits) can also be utilized each year to minimize the spread of bacterial spot. In addition, cultivators should ensure that the tomato plants do not receive too much water, as moist conditions attract the spot-causing bacteria. |
| Tomato\_\_\_Early\_blight | 1. Prune or stake plants to improve air circulation and reduce fungal problems. 2. Make sure to disinfect your pruning shears (one part bleach to 4 parts water) after each cut. 3. Keep the soil under plants clean and free of garden debris. 4. Drip irrigation and soaker hoses can be used to help keep the foliage dry. |
| Tomato\_\_\_Late\_blight | 1. [Actinovate](https://www.gardeners.com/buy/actinovate-organic-fungicide/39-394.html) (which contains the beneficial bacteria Streptomyces lydicus) as a **preventative** spray, and adding a[copper-based product](https://www.gardeners.com/buy/bonide-copper-fungicide-rtu-qt/8598746.html) when late blight is present. |
| Tomato\_\_\_Leaf\_Mold | When you notice the infected areas, the first thing you can do is let the plants air out. air exposure is a must, because the humidity that the fungus needs to survive is dried up.  If the tomatoes are being grown outside, try to keep from wetting the leaves when you are watering the plants. When you water the plants, earlier watering is optimal because it allows the plant time to dry when the sun comes, keeping humidity around leaves to a minimum.  [Another option for treatment is fungacide sprays](http://tomatodiseasehelp.com/fungicide-sprays). When using these sprays, be sure to cover each part of the plant that is above ground, paying special attention to the underside of the leaf. Some of the most widely recommended sprays are those containing calcium chloride. There are some organic fungicides available as well.  Some remedies that can be mixed up right in your kitchen include an apple-cider and vinegar mix to treat the mold. Corn and garlic spray can be used to prevent the fungi outbreaks before they even occur. A milk spray is also a natural, helpful cure. |
| Tomato\_\_\_Septoria\_leaf\_spot | **Improve air circulation around the plants.** If the plants can still be handled without breaking them, stake or cage the plants to raise them off the ground and promote faster drying of the foliage.  **Mulch around the base of the plants.** Mulching will reduce splashing soil, which may contain fungal spores associated with debris. Apply mulch after the soil has warmed.  **Do not use overhead watering.** Overhead watering facilitates infection and spreads the disease. Use a soaker hose at the base of the plant to keep the foliage dry. Water early in the day. |
| Tomato\_\_\_Spider\_mites Two-spotted\_spider\_mite | 1. Prune leaves, stems and other infested parts of plants well past any webbing and discard in trash (and not in compost piles). Don’t be hesitant to pull entire plants to prevent the mites spreading to its neighbors. 2. Use the [Bug Blaster](https://www.planetnatural.com/product/bug-blaster/) to wash plants with a strong stream of water and reduce pest numbers. 3. Commercially available [beneficial insects](https://www.planetnatural.com/product-category/natural-pest-control/beneficial-insects/), such as ladybugs, lacewing and predatory mites are important natural enemies. For best results, make releases when pest levels are low to medium. 4. [Nuke Em](https://www.planetnatural.com/product/nuke-em/), a relatively new organic insecticide containing food-grade ingredients, works fast and kills most indoor gardening pests at the egg, larvae or adult stage. Best of all, it does this without leaving a residue on the leaves that can impact flavor. 5. [BotaniGard ES](https://www.planetnatural.com/product/botanigard-es-insecticide/) is a highly effective biological insecticide containing *Beauveria bassiana*, an entomopathogenic fungus that attacks a long-list of troublesome crop pests – even resistant strains! Weekly applications can prevent insect population explosions and provide protection equal to or better than conventional chemical pesticides. |
| Tomato\_\_\_Target\_Spot | * Remove old plant debris at the end of the growing season; otherwise, the spores will travel from debris to newly planted tomatoes in the following growing season, thus beginning the disease anew. Dispose of the debris properly and don’t place it on your compost pile unless you’re sure your [compost gets hot enough](https://gardeningknowhow.com/composting/basics/overheated-compost-piles.htm) to kill the spores. * [Rotate crops](https://gardeningknowhow.com/edible/vegetables/vgen/rotating-vegetables.htm) and don’t plant tomatoes in areas where other disease-prone plants have been located in the past year – primarily [eggplant](https://gardeningknowhow.com/edible/vegetables/eggplant/growing-eggplant.htm), [peppers](https://gardeningknowhow.com/edible/vegetables/pepper/growing-peppers.htm), [potatoes](https://gardeningknowhow.com/edible/vegetables/potato/how-to-grow-potatoes-when-to-plant-potatoes.htm) or, of course – [tomatoes](https://gardeningknowhow.com/edible/vegetables/tomato/tips-for-growing-tomatoes.htm). Rutgers University Extension recommends a three-year rotation cycle to reduce soil-borne fungi. |
| Tomato\_\_\_Tomato\_mosaic\_virus | The only treatment is prevention. No chemical products are available to cure or protect plants. The best factor in controlling and reducing infection is to practice sanitation. Remove any infected plants, including the roots. Remove Also, discard any plants near those affected.  Wash hands with milk or soap and water as this can reduce the risk of contamination by over 90%. A gardener that has been in contact with tobacco products absolutely must do this. The coat of the mosaic virus reacts with proteins in milk, so milk can be used to inactivate the virus.  Avoid planting in a field where infected tomato plants were grown. Gardening tools, pots, and planters need to be sterilized and washed regularly. A milk solution of 5 gallons of milk to 100 gallons of water or soap and water may be used. Steam or commercial disinfectants may also be used for disinfection. |
| Tomato\_\_\_Tomato\_Yellow\_Leaf\_Curl\_Virus | Use only virus-and whitefly-free tomato and pepper transplants. Transplants should be treated with Capture (bifenthrin) or Venom (dinotefuran) for whitefly adults and Oberon for eggs and nymphs. Imidacloprid or thiamethoxam should be used in transplant houses at least seven days before shipping. Transplants should be produced in areas well away from tomato and pepper production fields.  Use a neonicotinoid insecticide, such as dinotefuran (Venom) imidacloprid (AdmirePro, Alias, Nuprid, Widow, and others) or thiamethoxam (Platinum), as a soil application or through the drip irrigation system at transplanting of tomatoes or peppers. After the efficacy of the neonicotinoid insecticide application begins to decline, the secondary spread of whiteflies will need to be controlled. Monitor whitefly populations throughout the season, treating when present. Rotate insecticide classes for insecticide resistance management (IRM). Foliar insecticide treatments used in IRM for whitefly control include: Capture, a pyrethroid; foliar neonicotinoid insecticides dinotefuran (Venom), imidacloprid (Provado), and thiamethoxam (Actara), but do not use if a neonicotinoid insecticide was applied as a soil or drip irrigation treatment; insect growth regulators such as pyriproxyfen (Knack) and buprofezin (Courier); insecticidal soap; and crop oils. |
| Peach\_\_\_Bacterial\_spot | Effective management of bacterial spot on peach and nectarine necessitates application of bactericides during the post-bloom cover spray period. Early fruit infections during the first two to three weeks of this period generally result in large, deeply pitted blackened lesions that often ooze with sap. Later season fruit lesions are less pitted and much more shallow, but can be numerous, particularly on highly susceptible cultivars. Either way, considerable yield loss can occur on susceptible cultivars when the environment is favorable and/or inoculum levels are high. |
| Pepper,\_bell\_\_\_Bacterial\_spot | The **bacterium** is spread by splattering damp soil onto the leaves. Reduce the splatter by using a soaker hose and avoiding overhead watering. Stay out of the garden on wet days to avoid spreading disease on your hands and clothes. **Bacterial leaf spot** is also spread through infected seeds. |
| Squash\_\_\_Powdery\_mildew | Combine one tablespoon baking soda and one-half teaspoon of liquid, non-detergent soap with one gallon of water, and spray the mixture liberally on the plants. Mouthwash. The mouthwash you may use on a daily basis for killing the germs in your mouth can also be effective at killing **powdery mildew** spores. |