A good home gardener recognizes the symptoms of plant diseases quickly and takes steps to prevent or control them.

Diseased plants will not grow normally. They may have one or more of the following symptoms: stunted or wilted spots on leaves, stems, or fruits; decayed fruit, decayed areas on the stems, distorted leaves, rapid death of leaves, and discoloration of the leaves and fruit.

If the disease is caused by a bacterium or fungus, the foliage symptoms will normally develop first on the older leaves. If the cause is a virus, the symptoms will develop on the younger leaves.

Causes of plant diseases

Organisms that cause plant diseases are divided into four groups: viruses, bacteria, fungi, and nematodes.

Viruses are very simple forms of life. They are often spread to healthy plants by insects or on a person’s hands during normal gardening practices.

Bacterial cells are much larger than virus particles, but they are still too small to see with the naked eye. Bacterial cells move in the water film on a leaf surface or in the water surrounding plant roots or soil particles. They are spread most often by splashing water.

Fungal spores are larger than bacterial cells but are not visible without a microscope. Fungi are like small plants.

Most plant diseases caused by fungi are most severe when temperatures are moderate and when water is retained on the leaves or fruit for an extended period. Many fungi are spread by wind, splashing rain, and equipment.

Nematodes are small, wormlike animals that live in the soil. They feed on plant roots and cause stunted plants.

The most damaging nematode in the home garden is root knot. It causes galls or knots on susceptible plants such as toma-
Researchers observed that planting tomatoes, cucumbers, squashes, beans, and many other vegetables in areas where the same vegetable or vegetables from the same plant family have been planted in the past 24 months. Plants of the same family include:
- Tomatoes, eggplant, and potatoes
- Squash, cucumber, pumpkin, and melons
- Cabbage, broccoli, cauliflower, mustard, turnips, and collards

It is best to plant on a raised bed. This allows excess water to move out of the root area and prevent many root diseases and fruit rots. When possible, train the vegetables to grow upright on cages or trellises. This keeps the fruit from contacting the ground and reduces fruit rots.

Plant disease-resistant varieties when they are available. Resistant varieties may reduce or eliminate the need for crop care products.

Viruses, bacteria, and fungi control

In some cases, crop care products may be required to control plant diseases. Use these products with caution and only when needed. Read and follow the product label carefully.

Some copper-containing products and sulfur are considered to be organic based. However, they are not always the most effective.

Before using any crop care product, make sure the vegetables that you are spraying are listed on the label.

Nematode control

Nematodes in the soil are best controlled using a combination of practices to reduce the nematode population to num-
You can almost never completely eliminate nematodes. This means that each year you will need to take steps to control this pest.

No crop care chemicals are recommended to control nematodes in the home garden.

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