

Chilli - Healthy

Chilli plants are considered healthy when they exhibit vibrant green leaves, strong stems, and steady growth. They should produce flowers and fruits in abundance, with leaves showing no signs of distortion or discoloration. A healthy chilli plant also demonstrates good resistance to pests and diseases, and it thrives in optimal growing conditions with sufficient sunlight, water, and nutrients.

Chilli - Leaf Curl Virus

Chilli Leaf Curl Virus is a destructive disease that causes severe damage to chilli plants. The disease is characterized by the curling and distortion of leaves, which leads to stunted plant growth and reduced fruit yield. The virus is primarily spread by whiteflies, small sap-sucking insects that transfer the virus as they feed on the plant's leaves. The disease thrives in warm, humid conditions, which are ideal for whitefly populations to increase. Unfortunately, there is no cure for Chilli Leaf Curl Virus once the plant is infected. To manage the disease, it is crucial to focus on prevention and control methods. Removing infected plants from the field or garden helps reduce the source of infection. Controlling whiteflies using insecticides or biological control agents can minimize the spread of the virus. Additionally, planting virus-resistant chilli varieties can offer significant protection. Preventive measures are essential, as a single infected plant can rapidly lead to widespread crop loss. Maintaining garden hygiene, monitoring pest populations, and improving air circulation by pruning are also effective strategies to prevent the occurrence of this disease.

Tomato - Late Blight

Late Blight is a serious fungal disease that can cause catastrophic damage to tomato plants. Caused by *Phytophthora infestans*, the same pathogen responsible for the Irish potato famine, this disease leads to dark lesions on leaves, stems, and fruit, eventually resulting in plant collapse. The disease spreads quickly in cool, moist conditions, especially when rainfall or irrigation provides prolonged leaf wetness. There is no cure for Late Blight once it infects a plant. To manage the disease, it is important to remove and destroy infected plants early to prevent the disease from spreading to healthy ones. Fungicides can be applied as a preventive measure to protect plants not yet infected. These fungicides are most effective when applied before the appearance of symptoms or when weather conditions are conducive to disease development. Resistant tomato varieties are also available and offer some protection against Late Blight. Managing the disease requires careful monitoring and a quick response to the first signs of infection. Other preventive measures include improving air circulation around the plants, reducing humidity, and spacing plants properly to avoid overcrowding. Adequate crop rotation is also critical in preventing fungal spores from overwintering in the soil or plant debris.

Tomato - Leaf Mold

Leaf Mold is a common fungal disease affecting tomato plants, primarily attacking the leaves and reducing their ability to photosynthesize. The disease is caused by *Passalora fulva*, a fungus that thrives in warm, humid environments with poor air circulation. Initial symptoms appear as pale, yellow spots on the upper side of leaves, which eventually develop into fuzzy mold on the undersides of the leaves. The mold disrupts the plant's ability to absorb sunlight, leading to premature leaf drop and reduced yields. If left untreated, Leaf Mold can weaken the plant and significantly reduce fruit production. The spread of the disease can be controlled by early intervention with fungicides and by removing affected leaves. Proper air circulation is key to preventing the disease, so plants should be spaced adequately, and overhead watering should be avoided. Using resistant varieties and practicing good garden hygiene, such as removing plant debris, can also help prevent Leaf Mold.

Tomato - Mosaic Virus

Mosaic Virus is a viral disease that affects tomato plants, causing a distinctive mottled pattern of yellow and green on the leaves. The disease stunts plant growth and reduces fruit production. Infected plants show symptoms such as misshapen leaves, yellowing, and a characteristic mosaic-like pattern on the foliage. The virus is spread through insect vectors like aphids and thrips, as well as through contaminated gardening tools or human handling. Unfortunately, there is no cure for the disease once a plant is infected. Managing insect vectors by applying insecticides and removing infected plants from the garden can help limit the spread of the virus. Preventive measures are crucial, including using virus-resistant varieties, practicing good sanitation, and avoiding the use of contaminated tools. Ensuring plants are healthy and less stressed can also reduce the severity of the infection.

Tomato - Septoria Leaf Spot

Septoria Leaf Spot is a fungal disease that primarily affects the leaves of tomato plants, leading to defoliation and reduced yield. The disease is caused by *Septoria lycopersici*, a fungus that thrives in warm, wet conditions. Initial symptoms appear as small, circular spots with dark centers on the lower leaves. As the disease progresses, these spots can enlarge, causing the leaves to yellow and drop prematurely. Defoliation reduces the plant's ability to produce energy through photosynthesis, leading to poor fruit development. Fungicides are effective in controlling Septoria Leaf Spot if applied early, and removing affected leaves can help slow the disease's spread. Preventive measures include using resistant varieties, avoiding overhead watering, and maintaining good garden hygiene by removing plant debris and rotating crops.

Tomato - Target Spot

Target Spot is another fungal disease that can severely affect tomato plants, causing lesions on leaves, stems, and fruits. The disease is caused by *Corynespora cassiicola*, which thrives in warm, moist conditions. It is identified by the presence of circular, brown lesions with concentric rings, giving the disease its name. As the disease progresses, the affected leaves may fall off, leading to defoliation and exposing fruits to sunscald. Early application of fungicides can help

control the disease, and removing affected leaves is essential to stop the spread. Improving air circulation by spacing plants properly and avoiding overhead watering can help prevent the conditions that favor Target Spot. Using resistant varieties and maintaining good garden hygiene are also effective preventive measures.

Tomato - Two-Spotted Spider Mite

Two-Spotted Spider Mites are small pests that can cause significant damage to tomato plants. These mites feed by sucking sap from the leaves, leading to tiny yellow spots that can eventually cause the leaves to turn brown and drop. The infestation is often accompanied by the presence of fine webbing on the undersides of the leaves. Spider mites thrive in hot, dry conditions and can reproduce rapidly, making early detection and control critical. Management strategies include using insecticides or introducing biological control agents like predatory mites. Removing infected leaves and maintaining good humidity levels around the plants can also help reduce mite populations. Preventive measures include regularly monitoring plants for signs of spider mite activity and avoiding the use of broad-spectrum insecticides that can kill beneficial predators.

Tomato - Yellow Leaf Curl Virus

Yellow Leaf Curl Virus is a serious viral disease that causes stunted growth in tomato plants, as well as yellowing and curling of the leaves. The virus is transmitted by whiteflies, which feed on the plant's sap. Infected plants show reduced fruit production, and the overall yield is significantly affected. There is no cure for this disease, and managing whitefly populations is crucial to preventing its spread. Infected plants should be removed immediately to prevent the virus from infecting other plants. Using virus-resistant varieties and maintaining good garden hygiene by removing weeds and plant debris can help reduce the chances of infection. Preventive measures also include monitoring whitefly populations and using insecticides or biological control agents to keep their numbers in check.

Pepper Bell - Bacterial Spot

Bacterial Spot is a disease caused by *Xanthomonas campestris*, which affects pepper plants, causing small, water-soaked spots on leaves, stems, and fruit. These spots eventually turn dark and may lead to leaf drop and reduced fruit quality. The disease thrives in warm, moist conditions and can spread rapidly, particularly during heavy rains or overhead irrigation. Once infected, there is no cure for the plant, but copper-based bactericides can reduce the spread of the disease. Removing infected plants and practicing good field sanitation are crucial to controlling Bacterial Spot. Preventive measures include using resistant varieties, avoiding overhead watering, and maintaining good airflow around the plants to reduce humidity. Crop rotation and proper spacing between plants can help minimize the risk of infection.

Pepper Bell - Healthy

Healthy bell pepper plants are characterized by strong, upright stems, vibrant green leaves, and the regular production of flowers and fruits. A healthy pepper plant shows no signs of disease or pest damage and thrives in well-drained soil with consistent watering and adequate sunlight.

Potato - Early Blight

Early Blight is a fungal disease caused by *Alternaria solani*, which primarily affects potato leaves, stems, and tubers. The disease begins as small, dark lesions on older leaves, expanding into larger spots with concentric rings. As the disease progresses, affected leaves turn yellow and may drop prematurely, reducing the plant's ability to photosynthesize and leading to lower crop yields. There is no cure for infected plants, but management focuses on removing infected plant material and applying fungicides like chlorothalonil to prevent the disease from spreading. The fungus survives in plant debris and soil, so practicing crop rotation and removing plant residues is essential for preventing future outbreaks. Fungicide application is most effective when used preventively, especially under conditions favorable to disease development, such as high humidity and moderate temperatures.

Potato - Late Blight

Late Blight is one of the most devastating diseases affecting potatoes, caused by *Phytophthora infestans*. The disease spreads quickly under cool, wet conditions, causing large, water-soaked lesions on leaves, stems, and tubers. Infected plants can collapse within a few days if the disease is left unchecked. There is no cure for Late Blight once a plant is infected, but fungicides can protect healthy plants. Removing infected plants immediately and applying systemic fungicides like metalaxyl can help limit the spread. Using resistant potato varieties and practicing proper field sanitation are critical strategies in managing the disease. Preventive measures also include avoiding planting in

areas with poor drainage and maintaining good airflow around plants to reduce moisture buildup.

Potato - Mosaic Virus

Mosaic Virus affects potato plants, causing mottled leaves, stunted growth, and reduced yields. The disease is spread by aphids and through infected seed potatoes. Infected plants show symptoms such as light and dark green patches on leaves, distortion, and poor development. There is no cure for Mosaic Virus, so preventing the disease is essential. Control measures include using certified virus-free seed potatoes, controlling aphid populations, and removing infected plants. Rotating crops and avoiding the planting of potatoes in infected soil are also important preventive strategies.

Potato - Scab

Scab is a bacterial disease caused by *Streptomyces scabies*, which affects potato tubers, causing rough, cork-like lesions on the skin. The disease does not typically affect the plant's foliage but can reduce the marketability of the tubers. Scab thrives in dry, alkaline soils, so managing soil pH and moisture levels is crucial in preventing the disease. There is no cure for infected tubers, but crop rotation, using scab-resistant varieties, and maintaining proper soil pH between 5.0 and 5.2 can help prevent the disease.