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Commentary

The Devastating Effects of Aster Yellow on Plants

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DESCRIPTION

Yellow chrysanthemum is spread from plant to plant by insect called aphids, specifically aster leafhoppers or six-spotted leafhoppers. To be clear, only a small percentage of leafhoppers carry yellow rosette disease. But carriers can infect a wide variety of plants, including flowering annuals, flowering perennials, vegetables and weeds. Without the intervention of leafhoppers, the organism cannot be transmitted easily. The infection cycle begins when an aphid feeds on leaves on an infected plant. When the plant hopper uses its piercing/sucking mouth to eat the plant, it sucks up phytoplasma organisms.

Chrysanthemum phytoplasma is a difficult pathogen to control due to its wide host range. More than 300 plant species are sensitive to its AYP. There is currently no known cure for yellow rosette disease. Infected plants and weeds should be removed to eliminate the source of phytoplasmas and minimize their spread. At the agricultural level, especially for carrots, several methods can be used to manage leafhopper populations to control the spread of AYP. AYI is equal to the percentage of the leafhopper population containing AYP multiplied by the number of leafhoppers present per 100 scans. The resulting numbers can determine when to use pesticides based on the sensitivity of the crop or variety to leafhopper feeding. For susceptible crops or cultivars, an AYI of 50 indicates application is required, while for intermediate crops or cultivars, an AYI of 75 indicates a relatively resistant crop or cultivar. With symptoms causing economic losses.

One of the most alarming characteristics of Golden Chrysanthemum is its ability to disrupt the normal growth and development of plants. Infected plants often exhibit a variety of prominent symptoms, including stunted growth, yellowing or yellowing of leaves, overdeveloped leaf structures (witches' brooms), and deformed fruit, often unable to use to be. These symptoms are caused by phytoplasma manipulating the plant's hormonal balance, ultimately hindering its ability to perform essential functions such as photosynthesis and reproduction.

In addition to visual signs of distress, Aster Yellow can have serious economic consequences. Crop damage from this disease can be extensive, affecting both the quantity and quality of the harvested product. Additionally, the persistent nature of phytoplasma in leafhopper populations makes effective management difficult, often requiring costly control measures.

One of the first symptoms of yellow chrysanthemum disease is that the leaf veins lose color and turn yellow. All the new inner leaves turn yellow and the plant appears stunted and grows unusually dense. Flowers are distorted, small, petals lack color (or remain green) and do not produce seeds. Deformed leaves may develop pink or brown spots as the disease cycle progresses.

Symptoms of yellow rosettes can vary slightly depending on the plant species. For example, when echinacea is infected, you will see clusters of small green leaves where the flower should grow. With potatoes, the tops will turn purple and infected carrots will be too small and have a bitter taste. Carrot roots will also form clumps of white hairs. When the weather is hot, yellow aster disease symptoms appear faster, causing more harmful consequences for infected plants. Infected perennials harbor yellow aster phytoplasma during the winter and are capable of infecting other plants during the growth cycle. Often, yellow daisy disease symptoms are confused with herbicide damage.

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