CAES
The Connecticut Agricultural Experiment Station
Putting Science to Work for Society since 1875

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PHYTOPLASMAS

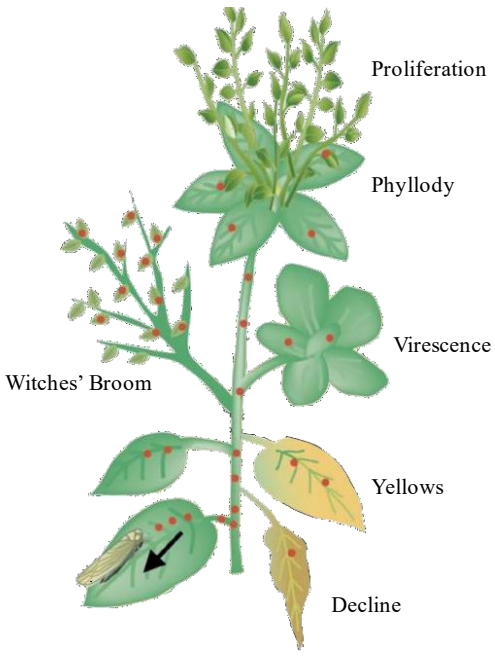
Phytoplasmas are a group of bacteria that causes disease in plants. They are obligate parasites of their host's cells, as they cannot make their own essential nutrients. Phytoplasmas additionally lack a cell wall and have very small genomes.

Symptoms caused by phytoplasmas can vary widely. These include, but are not limited to, yellowing and reddening of leaves and stems, decline and stunting of plants, and abnormal growth formations such as: witches' brooms, bolting, leaf growth appearing on flowers (phyllody), and green coloration on flowers (virescence). These symptoms can lead to death of the plant. Phytoplasmas can also interfere with fruit development and ripening. The disease caused by phytoplasmas can lead to severe damage to agricultural production, making them a pathogen of economic concern.

Phytoplasmas spread over long distances through the transport of infected plant material. The plant may be asymptomatic, which can prevent detection. Local spread is achieved via leaf-feeding insects which can move the pathogen when feeding on an uninfected plant.

Visual inspection for symptoms is the first step to detecting the presence of phytoplasmas. However, symptoms caused by phytoplasmas can resemble those caused by other pathogens and environmental factors. Genetic testing is needed to diagnose phytoplasmas and determine the specific type. Multiple samples of living infected tissue should be taken and sent to a laboratory that is equipped to identify phytoplasmas.

Symptoms



Sources:

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