

CITRUS GREENING DISEASES (CGD)

What is CGD?

Citrus Greening Disease is a disease of citrus plants caused by bacteria-like organisms.

How Does The Disease Affect Citrus Plants?

Initially, leaves of affected plants become yellow in colour. The leaves are smaller and show symptoms similar to zinc or magnesium deficiency. The fruits drop; the branches gradually die back and eventually the plant is killed.

How Is The Disease Spread?

The disease can be spread in two ways:

- by infected insect vector psyllids (*Diaphorina citri*) which feed on young shoots
- by growing infected planting materials (e.g. marcots) obtained from diseased plants

How Long Will The Citrus Plant Survive After Being Infected By The Disease

If infected material is grown, the leaves begin to turn yellow a few months after planting. The plant usually does not grow well and may die even before any fruit is produced.

If the disease is spread by the insect vector, the plant may survive another 3 years or thereabouts, but fruit production will be greatly reduced.

What Are CGD-Free Planting Materials?

These are citrus planting materials certified free from CGD

How Are CGD-Free Planting Certified and Who Can Determine The Disease Status of Citrus Plants?

CGD detection and certification is done in the laboratory by Research Officers at the Agricultural Research Centre (ARC), Semongok. The disease can be positively determined by using polymerase chain reaction (PCR/ gel electrophoresis technique. Using this technique the DNA of the bacterium - like organism which causes CGD can be detected.

Who Is Producing The CGD-Free Planting Materials and How Can They Be Obtained?

Foundation stocks of CGD-free plants developed through shoot-tip graft are kept at ARC, Semongok. Bud eyes from these stocks are used for mass propagation of CGD-free materials.

The Area Farmers' Organisation at Serian obtains bud eyes from ARC Semongok and grafts them onto citrus rootstocks. They are responsible for the commercial production, supply and sale of CGD-free planting materials.

Will These Materials Remain Free Of Citrus Greening Disease After They Are Planted In The Field?

The plants are not immune to the disease. However, they can remain free of the disease if the insect vector is properly controlled.

It is always advisable to start a citrus farm in an isolated area or where there is no nearby citrus garden. The farm must be frequently checked for the presence of the insect vector. The appropriate insecticide must be applied regularly. Any plant found to be infected with CGD must be destroyed to minimise the spread of the disease.

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