



Citrus Canker: Reproduction and Control Measures

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DESCRIPTION

Citrus canker is a disease caused by the bacteria *Xanthomonas citri* subsp. *citri* that causes severe damage to citrus crops. Citrus canker was discovered on three sites in the state's North West in May 2018. The most vulnerable leaves are the young ones. Symptoms usually emerge 14 days after being exposed to the canker bacteria.

Symptoms

Symptoms start on leaves, branches, stems, new shoots, and fruit. The disease develops small, circular blister-like structures. Canker lesions appear on leaves within seven days of infection. On leaves, stems, and twigs, the centre of the lesion can seem elevated and corky or scabby, surrounded by a water-soaked perimeter. On older symptomatic leaves, mature lesions may have a shot-hole appearance, and these lesions eventually die and fall away. Fruit is vulnerable for up to 90 days after the petals have fallen. Citrus canker is more common in young plants and seedlings. Citrus Leaf Miner (CLM) damage, which is caused by larvae that feed by tunnelling or mining, exposes more tissue to citrus canker. Infection and the number of affected regions grow along with the symptoms.

Reproduction

When wet, the canker lesions ooze bacteria, which can infect new growth and be dispersed over short distances by wind, rain splash, and overhead irrigation. Long-distance spread can occur through flooding and cyclones, as well as human-assisted movement of infected plant material and clothing (including bud wood, rootstock seedlings, and budded trees). Bacteria or bacteria spores infect plants through wounds and natural openings on leaves, developing shoots, and fruit. Birds, insects,

and humans can all spread the disease, especially when the trees are damp. The bacteria can live in both damaged plant tissue and soil. It can survive the winter in angular shoots and reappear the following season. This bacterium thrives in warm, moist environments, and illness development is best at temperatures ranging from 68°F to 86°F (20°F to 30°F). It pours out of damaged plant sections when there is a lot of moisture. There is plenty of free moisture, and it quickly travels to spread new illnesses. The disease is disseminated naturally by wind and rain, which splashes it onto adjacent plants and spreads it over short distances.

Control

As the bacterium has no cure, the best way to manage citrus canker is to prevent it. Buy plants, budwood, and seedlings only from TDA-certified citrus nurseries to keep the pathogen out of locations where it isn't known to exist. Follow TDA regulations before moving citrus materials (such as budwood, seedlings, and fruit) within or outside of the state. Practice excellent sanitation to prevent disease transmission. Use alcohol-based sanitizers, bleach solutions, and antibacterial soap for general cleaning. Methods to disinfect equipment and tools decrease the hazards of disease transmission by humans and machines.

CONCLUSION

The bacteria can survive for months in old wounds and on plant surfaces. Citrus canker is very infectious and spreads quickly when: lawnmowers and other landscaping or farm equipment, wind-driven rain those who have the disease on their hands, clothing, or equipment or plant components that are diseased or exposed should be moved (fruit, leaves, or stems).

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Received: 26-May-2022, Manuscript No. JPPM-22-16831; **Editor assigned:** 30-May-2022, Pre QC No. JPPM-22-16831 (PQ); **Reviewed:** 13-Jun-2022, QC No JPPM-22-16831; **Revised:** 20-Jun-2022, Manuscript No. JPPM-22-16831 (R); **Published:** 27-Jun-2022, DOI: 10.35248/2157-7471.22.13.615.

Citation: Huang H (2022) Citrus Canker: Reproduction and Control Measures. J Plant Pathol Microbiol. 13:615.

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