

Course- B.Sc. (Honours), Part -1
Subject- Botany, Paper-II (Group-B)
Topic- Citrus canker.

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Citrus Canker

Symptoms of Citrus Canker:

The disease affects all above-ground parts of the tree, but most susceptible are the leaves, twigs and fruits. It particularly produces scabby lesion on the surface of the fruits (Fig. 390D) and thereby reduces their market value. The lesions first appear on host surface as small watery translucent spots which increase in size, turn dark-green with age.

The host tissues surrounding the spots become raised, resulting in the spots developing a convex surface. The central region of the spots gradually turns light-brown and spongy and breaks down, producing a crater-like appearance. With age, the spots become corky and brown, sometimes pinkish, assuming a cankerous appearance.

On the leaves, the lesions appear first on the lower surface (Fig. 390A & B). The lesions on the twigs (Fig. 390C) and fruits (Fig. 390D) are very similar to those of leaves, the only difference being the somewhat dull yellowish colour of the lesions on the leaves is absent in those of twigs and fruits. On fruits, the lesions often coalesce, forming very conspicuous, irregular patches of rough, scabby raised areas.

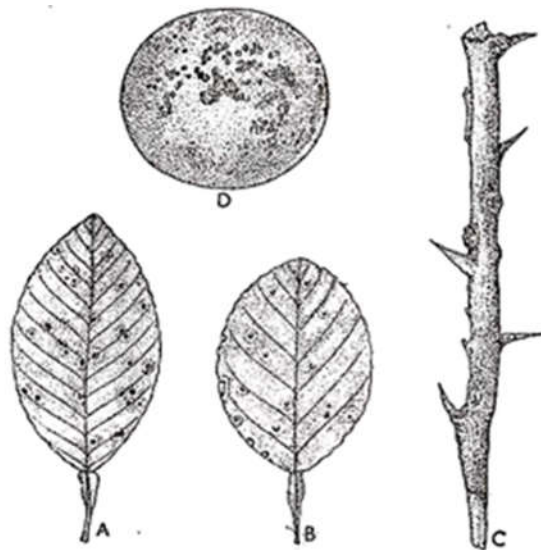


Fig. 390. Citrus Canker. A—D. Disease symptoms. A—B. On leaves. C. On twig. D. On fruit.

Causal Organism of Citrus Canker:

The disease is induced by the bacterial pathogen, *Xanthomonas citri* (Hassé) Dows. The organism is rod-shaped, monotrichous, with a yellow, water-soluble pigment. It is an aerobic bacterium.

Disease Cycle of Citrus Canker:

Bacteria gain entrance to the host through stomata, lenticels, and wounds. They perennate in the affected host tissue. The inoculum is disseminated by wind, rains, and sometimes by

insects. But the disease is commonly disseminated through infected nursery stock. Mild temperature accompanied with humid condition is very favourable for the disease.

The most suitable range of Temperature for the disease incidence is between 20 °C. and 35 °C.

Disease cycle of Citrus Canker is presented in Figure 391.

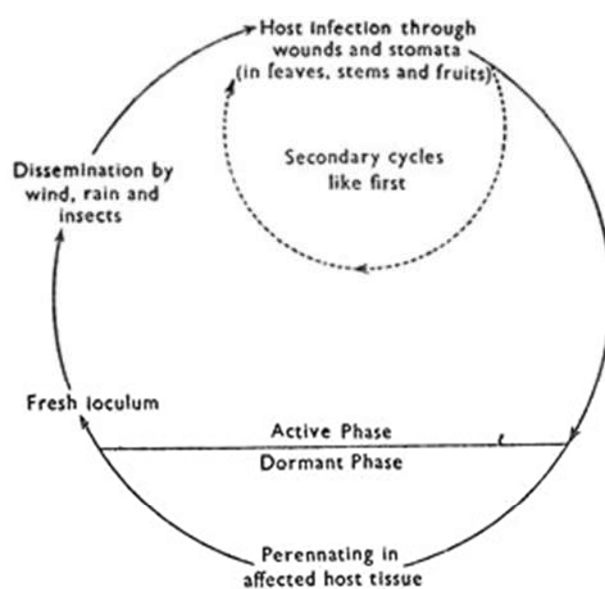


Fig. 391. Disease cycle of Citrus Canker.

Control of Citrus Canker:

It is rather very difficult to control the disease.

Following are some of the effective control measures:

(i) Sanitation:

Destruction of all affected trees by burning. Pruning of infected parts, particularly during dry season reduces source of inoculum.

(ii) Spraying of Fungicides:

Spraying of fungicides like Bordeaux mixture and lime-sulphur is often very effective to protect the fruits against infection. It should be done during the first three months of the development of fruits.

(iii) Use of Disease Resistant Varieties:

There is a possibility that cultivation of disease resistant citrus varieties may produce good results.