

Diseases of Citrus

1. Gummosis: *Phytophthora parasitica*, *P. palmivora*, *P. citrophthora*



Symptoms

- The symptoms appear as yellowing of leaves, followed by cracking of bark and profuse gumming on the surface.
- The main source of infection is infected planting material. As a result of severe gumming, the bark becomes completely rotten and the tree dries owing to girdling effect.

Management

- The disease portions are scraped-out with a sharp knife and the cut surface is disinfected with Mercuric chloride (0.1%) or Potassium permanganate solution (1%) using a swab of cotton.
- Painting 1 m of the stem above the ground level with Bordeaux helps in controlling the disease.

2. Scab/Verucosis : *Elsinoe fawcetti*



Symptoms

- The lesions in early stages appear on the underside of the leaves as small semi-translucent dots, which finally become sharply defined pustular elevations.
- On the fruit, lesions consist of corky projections, which often break into scabs.

Management

- The diseased leaves, twigs and fruits should be collected and destroyed. Spraying of Carbendazim 0.1% is quite effective.

3. Canker: *Xanthomonas campestris* pv *citri***Symptoms**

- Affects leaf, twig and fruits. In canker, leaves are not distorted.
- Lesions are typically circular with yellow halo; appear on both sides of leaf, severe in acid lime. When lesions are produced on twigs, they are girdled and die.

Management

- Streptomycin sulphate 500-1000 ppm; or Phytomycin 2500 ppm or Copper oxychloride 0.2% at fortnight intervals.
- Control leaf miner when young flush is produced.

4. Tristeza or quick decline: *Citrus tristeza virus*

Symptoms

- Roots decay, twigs die back. Fruit set diminishes; only skeleton remains.
- Fine pitting of inner face of bark of sour orange stock.
- Tree stunted and dies yield very much reduced. Fruits are small in size.

Management

- For sweet orange and mandarin, avoid susceptible root stocks.
- For acid lime, use seedling pre immunised with mild strain of tristeza.

5. Exocortis of scaly butt: Viroid**Symptoms**

- Affects only Rangpur lime, trifoliate orange and citrange root stocks.
- Vertical cracking and scaling of bark in the entire, root stock.

Management

- Spray with any one of the systemic insecticide to control the aphid vector.
- Use virus-free certified bud wood; use tolerant stocks like rough lemon. Periodically wash budding knife with disodium Phosphate solution.

6. Greening: *Liberobacter asiaticum* (Phloem limited bacteria)



Symptoms

- Stunting of leaf, twig die back, poor crop of predominantly greened, worthless fruits.
- Young leaves appear normal but soon assume an upright position, become leathery and develop prominent veins and dull olive green color.
- Green circular dots on leaves. Many twigs become upright and produce smaller leaves. Fruits small, lopsided with curved columella.

Management Control

- 500 ppm tetracycline spray, requires fortnightly application.

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