

Controlling citrus scab in lemon using Captan

Recognize the problem

Scab is a fungal disease of lemon, but it also affects limes, rough lemon rootstocks, oranges, tangerine and mandarin. Citrus scab attacks fruits, leaves and twigs. It produces slightly raised, irregular scabby or hard rough lumpy small outgrowths. The scabs are grey or pinkish at first and become darker with age. The raised lumps from scab may be confused with Botrytis fungus disease or rub scratches caused by wind. However, Botrytis affected fruits become soft and covered with grey mould. Scratches result in raised areas and ridges on the rind, but not in spot like lumpy outgrowths as for scab.

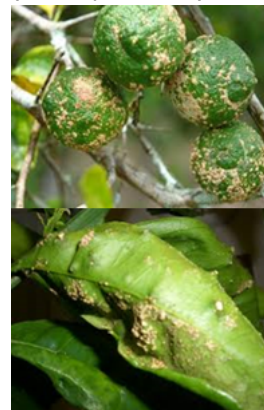
Background

The fungus spreads by rain, dew, overhead irrigation, wind, and through infected fruits and leaves. Leaves are susceptible to infection as they emerge from the bud up to 2 weeks after, and then become resistant before reaching full size. Small lemons are susceptible to infection for about 12 weeks (until 3-4 cm fruit). Hence contact protective fungicides such as copper or Captan can be used to prevent new infections and fungal spread. Captan is safer than other fungicides, but still toxic if not used correctly. It is also toxic to aquatic organisms. Consider action before flowering starts, and when symptoms are found on leaves of several trees.

Management

- Buy your Captan-based fungicides from a registered agro-dealer.
- Some trade names for Captan include Merpan, Orthocide, SR-406, Vancide 89, but others exist.
- Use 2 level tablespoon full (about 10 grams) per 5 litres water, or use 30 grams in 15 litres, or 40 grams in 20 litres. But always double-check product label for dosage, as products may differ.
- When mixing, spraying and cleaning wear protective clothing.
- Spray 0.5 to 1 litre of mix per small tree with knapsack sprayer; 5-15 litres per big tree with a mist blower or broom sprayer.
- Apply 1st spray to leaves before flowering, a 2nd spray 6-8 weeks later at flowering and a 3rd spray three weeks after second spray.
- Apply a maximum of 5 sprays per season. The fruit surface needs to be protected until fruits are 3-4 cm in (9-12 weeks).
- Spray mid-morning when there is no dew or late afternoons when the day is calm. Reach full cover spray to protect fruits.
- Do not use close to fruit maturation. Do not spray later than 14 days before harvest.
- Do not enter the sprayed areas until 4 days after spray.
- Do not repeat the same fungicide the following season, but use alternate products to prevent resistance development

Scabs on rough lemon (top) and on leaf (bottom) because of fungus. (Photo by S. Nelson)



Protective equipment is a "must" to protect you. (Photo by Landakademie)



When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval.

Scientific name(s) > *Elsinoe fawcettii*

The recommendations in this factsheet are relevant to: Zambia



Authors: Mooya Nzila
Zambia Agriculture Research Institute ZARI of Ministry of Agric. And Livestock
tel: +260 966 728668 email: mooyanzila@yahoo.com

Edited by Plantwise.