PEST MANAGEMENT DECISION GUIDE: GREEN AND YELLOW LIST



Black rot on Apple

Botryosphaeria obutusa Black rot fungi



Shrivelled infected fruit (Bruce Watt, University of Maine/via Bugwood.org - CC BY-NC 3.0 US)



Black rot on apple fruit. (University of Georgia Plant Pathology/via Bugwood.org -CC BY 3.0 US)



Frogeye leaf spot (Circular spots with purplish or reddish edges and light tan interiors) on apple leaves affected by black rot. (Paul Bachi, University of Kentucky Research and Education Center/via Bugwood.org - CC BY 3.0 US)

• Plant disease free apple seedlings
from certified nursery operators
such as KALRO and Wambugu
farm in Olkalou

Prevention

- Establish apple orchards in well drained soils as waterlogging increases susceptibility to black rot
- Remove dead wood or stumps of any apple trees cut down from the orchard as dead stumps can be a source of spores for future infections
- Prune apple trees properly every year when during dormant period (see direct control)
- Irrigate apple trees grown in sandy soils and for other soil types irrigate during dry spells
- Clean farm tools thoroughly after use on infected plants using jik solution (3 to 5 ml jik in1 litre of water)

Look for large brown rotten areas with firm and leathery flesh and concentric rings that alternate between black and brown anywhere on the fruit

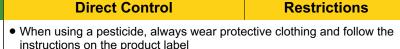
Monitoring

- Check for shriveled and dried out fruits that remain attached on the tree
- Look for fruits that ripen early and are rotten at the core
- Look for circular spots with purplish or reddish edges and light tan interiors on the leaves
- Check for branch dieback and cankers which appear as sunken,reddish - brown areas on infected branches
- Consider direct control actions when first symptoms are seen any leaf

Prune out dead or infected branches, dried and shriveled fruits that remain on trees and destroy by burning

Direct Control

 Destroy all infected plant materials by burning



- Do not use chemicals with the same mode of action year after year as this can lead to resistance
- Always consult the most recent list of registered pesticides (PCPB)
- Spray Mancozeb such as BIOTHANE or AMICOP 50 WP or MILTHANE SUPER at the rate of 50 ml/20 L of water.
- WHO Class U (unlikely to cause acute harzard).
 PHI: 14 days, REI: 24 days. Repeat every 15 days.

WHO class III (Slightly)

intervals

hazadous). PHI 14 days.

Repeat at 7 to 14 days

- Spray propineb 70 m/m such as ANTRACOL WP 70 at the rate of 50g/20L
- Spray Carbendazim 500g/L such as BENDAZIM 500 SC or RODAZIM SC at the rate of 20 ml/20L water
- WHO class III (Slightly hazadous). PHI 14 days. Repeat at 5 to 7 days intervals
- Spray copper oxychloride 500g/kg e.g AMICOP 50 WP or COBOX 50 WP or GREEN COP 500WP at the rate of 40 -60g/20L water
- Spray copper based fungicides (Mancozeb 120g/kg + Cymoxanil 42g/kg + copper oxychloride) e.g TRINITY GOLD 425 WP or Cymoxanil 42g/kg + copper oxychloride) e.g COLONIZER 440 WP at the rate of 40 - 60g/20L water

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- WHO Class II Moderately hazardous; REI: 24hours
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Kenya

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