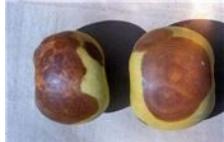


Black rot on Apple

Botryosphaeria obutusa Black rot fungi

	Prevention	Monitoring	Direct Control	Direct Control	Restrictions
 Shrivelled infected fruit (Bruce Watt, University of Maine/via Bugwood.org - CC BY-NC 3.0 US)	<ul style="list-style-type: none"> Plant disease free apple seedlings from certified nursery operators such as KALRO and Wambugu farm in Olkalou 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 in 1 litre of water) 	<ul style="list-style-type: none"> Look for large brown rotten areas with firm and leathery flesh and concentric rings that alternate between black and brown anywhere on the fruit 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 	<ul style="list-style-type: none"> Prune out dead or infected branches, dried and shriveled fruits that remain on trees and destroy by burning Destroy all infected plant materials by burning 	<ul style="list-style-type: none"> When using a pesticide, always wear protective clothing and follow the instructions on the product label 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) 	
 Black rot on apple fruit. (University of Georgia Plant Pathology/via Bugwood.org - CC BY 3.0 US)				<ul style="list-style-type: none"> Spray Mancozeb such as BIOTHANE or AMICOP 50 WP or MILTHANE SUPER at the rate of 50 ml/20 L of water. 	<ul style="list-style-type: none"> WHO Class U (unlikely to cause acute hazard). PHI: 14 days, REI: 24 days. Repeat every 15 days.
 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)				<ul style="list-style-type: none"> Spray propineb 70 m/m such as ANTRACOL WP 70 at the rate of 50g/20L 	<ul style="list-style-type: none"> WHO class III (Slightly hazardous). PHI 14 days. Repeat at 7 to 14 days intervals
				<ul style="list-style-type: none"> Spray Carbendazim 500g/L such as BENDAZIM 500 SC or RODAZIM SC at the rate of 20 ml/20L water 	<ul style="list-style-type: none"> WHO class III (Slightly hazardous). PHI 14 days. Repeat at 5 to 7 days intervals
				<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> WHO Class II Moderately hazardous; REI: 24hours
				<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> WHO Class II Moderately hazardous; REI: 24hours



Kenya

CREATED/UPDATED: February 2021

AUTHOR(S): Eunice Sakong (MOALFC), Miriam Otipa (KALRO), Abel Too (KALRO), Eunice Lingeera (KEPHIS)

EDITED BY: Plantwise

LOSE LESS, FEED MORE

PlantwisePlus is a CABI-led global initiative www.plantwise.org
©CAB International. Published under a CC BY-NC-SA 4.0 licence