




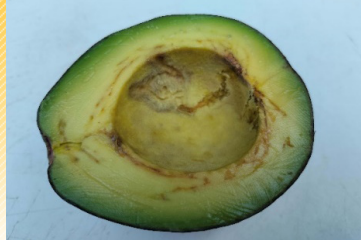
Avocado Fruit Fly

KALRO E-mimea Plant Clinic

KALRO/NAVCDP Factsheet No. 192/2024

Other crops:	Mango, citrus, pawpaw,	
		
<p>Invasive mango fruit fly (<i>Bactrocera invadens/dorsalis</i>). Source: Feed the Future Mboga na Matunda (2019)-Tanzania</p>	<p>Fruit fly larvae Source: Feed the Future Mboga na Matunda (2019)-Tanzania</p>	<p>Adult female fruit fly (Mango fruit fly <i>Ceratitidis cosyra</i>) Source: Joseph Mulwa, KALRO</p>
<p>Pest Name</p>	<p>Fruit fly (<i>Bactrocera dorsalis</i>, <i>Ceratitidis cosyra</i>, <i>Ceratitidis capitata</i>)</p>	
<p>Description</p>	<p>This is a winged insect with close resemblance to the common housefly, but is of economic significance in avocado production due to its infestation nature.</p> <ul style="list-style-type: none"> - Fruit flies are about the same length as a common housefly but slenderer. - They grow 6-8 mm in length and have clear wings, generally black chests and paler abdomens with a distinctive black T-shaped marking. - Larvae are about 10 mm long and creamy white whilst pupae are white to yellow-brown in colour and barrel shaped. - Eggs are white, oblong and elliptical measuring about 0.9 x 0.2 mm. - Adult female flies have exceptionally long ovipositors, allowing them to lay their eggs just under the skin of fruit, depositing fruit decaying bacteria at the same time. 	

Diagnosis/Identification



Fruit fly larvae tunneling avocado fruit skin surface,
Source: Lusike Wasilwa, KALRO

Symptoms

Damage begins when the female fly punctures the skin and lays eggs underneath it, which results in a star shaped crack lesion developing on the fruit.

- Considerable damage can occur inside the flesh before obvious signs of infestation can be seen on the fruit.
- The most obvious signs of infestation are small discolored patches on the skin, which develop from punctures or stings made by the female as she lays her eggs.
- Infested young fruit become distorted, callused and usually drop; mature fruit develop a water soaked appearance.
- The larval tunnels provide entry points for bacteria and fungi that cause the fruit to rot.

Conditions prevailing that contribute to success

- Presence of other host plants fruiting where fruit flies are not managed
- Lack of canopy management through pruning
- Not practicing field sanitation

Conditions prevailing that contribute to failure

- Proper field sanitation (picking fallen fruits/plant debris and dispose through burying or burning)
- Proper pruning of avocado

Management Strategy

The following management options are recommended:

Cultural Management

- Remove neglected (unmanaged) host plants like guava, chillies, citrus, melons, coffee, mangoes, wild fruits to reduce pest population.
- Prune regularly to improve aeration.
- Bag fruits using old newspapers to prevent fruit flies from laying eggs on fruits.
- Harvest early when crop is mature and green because over-ripened fruits attract fruit flies.
- Preserve the natural enemies like ants, rove beetles, birds and parasitic wasps by planting hedge rows.
- Release poultry in the orchard to feed on pupa at the base of plants.
- Store harvested fruit in cool place or cold storage for 5 days.
- Flood around the base of trees with water weekly to kill pupae.



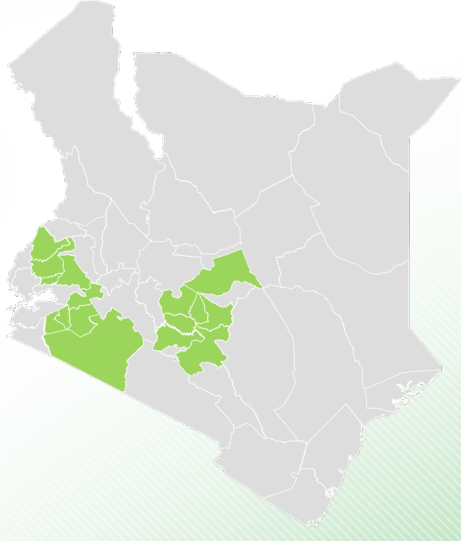
Chemical Management

- Spot treat affected trees with poison baits of molasses with deltamethrin (Decis 2.5 EC) or bifenthrin (Brigade 25EC or defender 2.5% EC) or Buprofezin (Applaud 40% SC).

	<ul style="list-style-type: none"> - Use pyrethrin extract (e.g. Flower DS) at a rate of 60ml per 20 litres of water every 5 days to two weeks depending on infestation severity. Start applications shortly after flowering - Use traps and baits. The traps should contain ½ cup (150 ml) of vinegar mixed with water and liquid soap as prescribed. Seek technical advice where necessary to be sure. - Spay neem extracts as recommended e.g. Achook 0.15% EC at 20 ml in 20 liters of water. <p>Note: Agrochemicals should be used in consultation with professional practitioners and considering existing cautionary/safety measures, particularly the manufacturer’s instructions.</p>
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Mandate Centres	<p>More information can be obtained from: ICRI KALRO–NSRC Email: kalro.sericulture@kalro.org Address: P. O. Box 7816-01000, Thika</p> <p>ABIRI KALRO Perkerra Email: director@abiri.org Address: P. O. Box 32-30403, Marigat</p> <p>KALRO Seed Email: info.kalroseeds@kalro.org; info@kalro.org Address: P. O. Box 6223-01000, Thika</p> <p>KALRO-NARL Kabete Email: cd.narl@kalro.org; info@kalro.org Address: P. O. Box 14733-00800, Nairobi</p> <p>Website: www.kalro.org</p>
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Geographic Coverage	This is pest is found in major avocado producing areas in Kenya
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<p>Geographic Coverage The project counties for avocado are Bomet, Bungoma, Embu, Kakamega, Kiambu, Kericho, Kirinyaga, Kisii, Machakos, Meru, Muranga, Nandi, Narok, Nyamira, Nyeri, Uasin Gishu, and Vihiga</p> <p> Counties where pest occurs</p> <p> Counties with no observation</p>	
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