REPUBLIC OF KENYA

KALRO
Kenya Agricultural & Livestock Research Organization

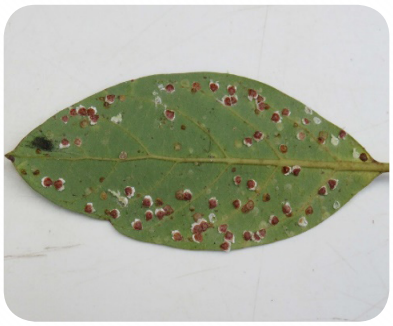
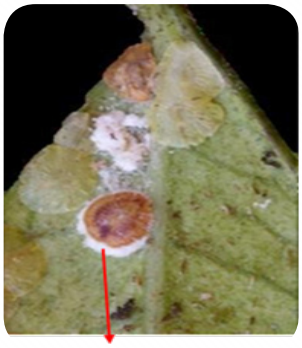
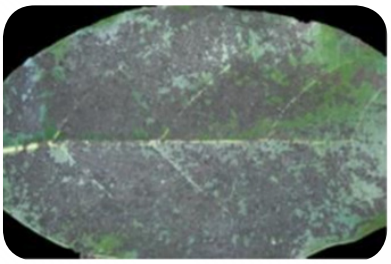
NAVCDP
NATIONAL AGRICULTURAL VALUE CHAIN DEVELOPMENT PROJECT

Avocado Scales

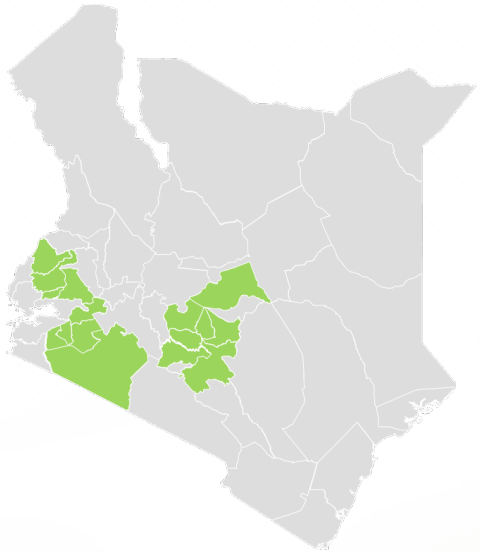
KALRO E-mimea Plant Clinic

KALRO/NAVCDP Factsheet No. 191/2024

Other crops:	Mango, citrus, maize, and pigeon pea

		
Adult female scales feeding and breeding on avocado leaf Source: Lusike Wasilwa, KALRO	*White wooly egg secretion from adult female scales on avocado leaf, Source: Feed the Future Mboga na Matunda (2019)-Tanzania*	*Sooty mould which, develops on the honeydew, Source: Feed the Future Mboga na Matunda (2019)-Tanzania*
Pest Name	**False Codling Moth *(Thaumatotibia Leucotreta)***	
Description	Scales are small, stationary brown greenish insects occasionally found sucking sap from avocado leaves**.** Females lay about 200-300 eggs, protected by a white, woolly secretion beneath her body. Scale insects that attack avocado can be of two types; armored scales or soft scales. Armored scales being the most common in avocado orchards are characterized with a distinct, hard, separable shell while soft scales have a delicate body not protected by a shell and often produce honeydew.	

Diagnosis/Identification	**Symptoms** - Scales feed mainly on the ventral side of avocado leaves, where they extract plant sap and produce white wooly egg secretion. Fruit and shoots can also be attacked. - Damage is caused by toxic saliva, extraction of plant sap and honeydew in association with sooty mould - A severe infestation forms a continuous crust over the underside of leaves. - Discoloration, malformation, leaf and fruit drop, and retarded growth.
Conditions prevailing that contribute to success	- Presence of other host plants flowering/fruiting at the same time with avocado - Low soil fertility and insufficient soil water supply - Lack of canopy management
Conditions prevailing that contribute to failure	- Proper soil fertility and water management - Proper pruning of avocado
Management Strategy	The following management options are recommended: *Cultural Management* - Inspect incoming plants for scale insects. - Remove heavily infested plants and do not overwinter pet plants infested with scale insects. - Prune out heavily infested branches. - Avoid over-fertilizing especially with nitrogen, as this encourages the development and reproduction of scales. *Biological Management* Ant control, habitat manipulation, and pesticide management are the key conservation strategies that can be practiced to maintain natural enemy populations. • Ladybird beetle feeds upon armored scale insects. It lays its eggs under the scale insect in small groups of 1 to 5 eggs. • Scales are preyed upon by small parasitic wasps and many predators, including certain bugs, lacewings, and predatory mites. **Chemical Management** Spray infested crops with PCPB approved pesticides such as Dimethoate 400 g/L, Petroleum (mineral oil 98.8%), Diazinon 600 g/L and, Chlorpyrifos 480 g/L in strict conformity to manufacturer's guidelines. **Note:** *Agrochemicals should be used in consultation with professional practitioners and considering existing cautionary/safety measures, particularly the manufacturer's instructions.*

Mandate Centres	More information can be obtained from: ICRI KALRO–NSRC **Email:** kalro.sericulture@kalro.org **Address:** P. O. Box 7816-01000, Thika ABIRI KALRO Perkerra **Email:** director@abiri.org **Address:** P. O. Box 32-30403, Marigat KALRO-NARL Kabete **Email:** cd.narl@kalro.org; info@kalro.org **Address:** P. O. Box 14733-00800, Nairobi KALRO Seed **Email:** info.kalroseeds@kalro.org; info@kalro.org **Address:** P. O. Box 6223-01000, Thika **Website:** www.kalro.org
Geographic Coverage	This is pest is found in major avocado producing areas in Kenya
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 Project counties Counties where pest occurs	
Expert Names – Dr. Mr., Mrs., Ms. (circle one)	Mulwa J., Kasina M., Too A. and Nyaga A.
Expert Contact Details	Joseph.Mulwa@kalro.org - KALRO NSRC, Thika Muo.Kasina@klaro.org – KALRO ABIRI, Perkerra Abel.Too@kalro.org – KALRO Kabete tony.njue.nyaga@gmail.com – KALRO Seed
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Contacts:
Director General
Kenya Agricultural & Livestock Research Organization, Kaptagat Road, Loresho Nairobi Kenya
P.O. Box 57811, City Square, Nairobi, 00200, Kenya
Email: info@kalro.org
Safaricom: +254 722206986/722206988
Airtel: +254 733-333-223/4/733333299/4

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