

Fruit piercing moths on citrus

Achaea lienardi, *A. catocaloides*



Achaea lienardi adult moth (Donald Hobern, CC BY, via Wikimedia)



Larva of a related fruit piercing moth (Kim Starr, Starr Environmental, Bugwood.org)

Prevention	Monitoring	Direct Control	Direct Control	Restrictions
<ul style="list-style-type: none"> • Avoid planting citrus near alternate hosts (mango, peppers, watermelons, tomatoes, egg plants) to reduce pest populations • Harvest early when fruits are mature and green because over-ripe fruits attract fruit piercing moths • Conserve natural enemies which feed on larvae (e.g. Trichogramma, ants, rove beetles, birds and parasitic wasps) through minimum use of insecticides, and mixed/inter-cropping for enhanced biodiversity • Clear all bushes and weeds near and under the plantation to rob moths of their hiding places 	<ul style="list-style-type: none"> • Start monitoring as fruits begin to mature. Moths are nocturnal and hide in vegetation around citrus plantations and come out during the night to attack the fruits • Search twice a week for brown to dark-brown adult moths in neighbouring bushes which serve as indicators of possible infestation • When clearing bushes and weeds nearby and under the plantation, check for adult moths flying around • Look for larvae/pupae (which appear as maggots with varying colours and sizes) by cutting fruit open or checking in plant debris under tree canopies • Take control action when moths are observed in the plantation 	<ul style="list-style-type: none"> • Till the orchard top soil (5 to 10cm deep) to expose pupae to the sun, birds, poultry and parasites • Infested fallen fruits should be collected daily in sealed polythene bags and exposed to the sun for 2 days before burying (60cm deep) to break life cycle of moths • Bait with fresh orange fruit juice laced with insecticide killer such as Deltamethrin (see yellow control) at ratio 3:1. 	<ul style="list-style-type: none"> • When using a pesticide or botanical, 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 of EPA, Ghana 	<ul style="list-style-type: none"> • There is only limited contact between moth and fruit when feeding. There are concerns, too, for human health, because applications to pesticides would be needed near the time of harvest for them to be effective • WHO Class II (moderately hazardous)



Ghana

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