## Asian fruit fly in citrus crops

*Bactrocera dorsalis* (previously *B. invadens*)

### Prevention
- Remove infested fallen fruits; destroy infested fruits by burying or burning
- Harvest fruits nearing ripening; but do not wait harvest until total ripening of fruits
- Mass bait flies using area-wide: traps with brewer’s yeast dissolved in water and placed in troughs around the plantation; traps with maize extracted protein-NU-lure **
- Reduce male flies using area-wide pheromone traps based on trimedlure (TML), or cue lure (CL), or methyl eugenol (ME), by placing 5 traps into canopies/ ha just before the fruiting period ** to be done in conjunction with area-wide pest management by local governments through ZARI

### Monitoring
- Inspect fruits in the orchard during the fruiting period every week
- Inspect fruits for soft black spotted ovipunctures on the fruits weekly
- Dissect infested fruits to check for presence of larvae once every month
- For early detection, use pheromone traps with trimedlure (TML), or cue lure (CL), or methyl eugenol (ME) attractants (3 traps/ km2). Follow infestation regularly, once flies are detected.

### Direct Control
- Mass trap flies using pheromone traps; place traps in tree canopy 2 metres above the ground; 6-7 traps/ ha. This must be implemented area-wide because fruit flies can fly from plantation to plantation.
- If you have chickens and Guinea fowls then let them feed on pupae of fruit flies under citrus trees. But this can only little reduce the fruit flies.
- Spray botanicals such as neem products over the whole tree with a motorized sprayer. This is done twice a week until new infestations stop. Ask your local agro-input suppliers to organise such products if neem trees do not grow in your area.
- Chemical sprays on tree canopies should be avoided because the pesticide cloud is dangerous to you. Wear protective clothing and spray with wind!!! Assure that other persons particularly children are not in the area of the sprayed trees.
- When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, pre-harvest interval, max number of sprays, restricted re-entry interval. Do not empty into drains.
- WHO toxicity class II pesticides might not be allowed in local IPM schemes.
- Always consult recent list of registered pesticides (ZEMA).
- You may consider spraying for example malathion-based wettable powders (e.g. 25% WP) once a week for two weeks on the whole tree (Usually 40-50mils/ 20litres; 2.2 to 3litres per hectare). Organophosphate group of pesticide
- WHO toxicity class III (slightly hazardous); for single application rate pre-harvest interval (p.h.i.) is 7 d otherwise 14 d, restricted re-entry interval (r.e.i.) 3 d, max 3 sprays per season at 30 d intervals.

### Zambia

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