fresh NOTES
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# Trapping guidelines for *Bactrocera dorsalis* in South Africa

*Bactrocera dorsalis* (the Oriental Fruit Fly) is a quarantine pest of Asian origin capable of infesting various commercial fruit crops. This pest serves as a major phytosanitary problem for fruit marketing in areas where it is present in South Africa.

*B. dorsalis* is easily identified as follows:

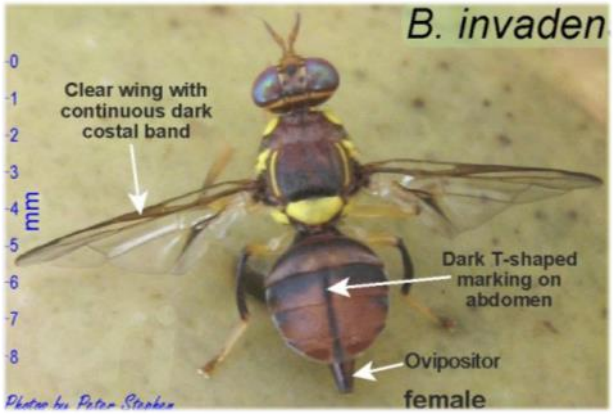


***Figure 1: A female B. dorsalis fly (Source: CRI)***

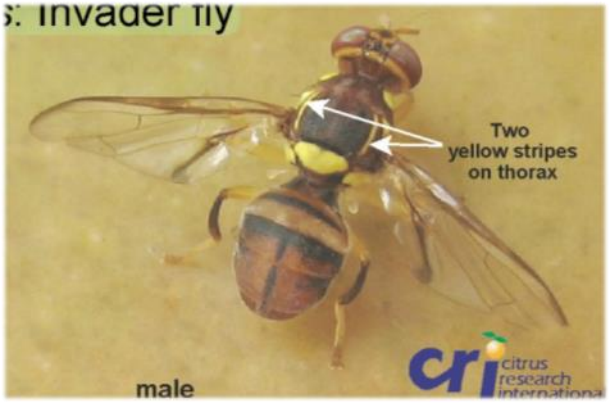


***Figure 2: A male B. dorsalis fly (Source: CRI)***

The trapping guidelines below aim at harmonizing trapping procedures for monitoring of B. dorsalis for early detection of the pest. Monitoring should take place throughout the year.

**Attractant and traps**

The attractant recommended for monitoring *B. dorsalis* is the para-pheromone methyl eugenol (ME). ME attracts the males of B. dorsalis. Various ME dispensers are commercially available in South Africa (such as Invader LureTM and Chempac ME Lure). ME is available as slow release dispensers in the form of a plug or a fibre-board block (Invader Lure).

ME should be used in bucket type traps such as the Moroccan trap, Lynfield trap, Chempac bucket trap or McPhail trap (see Figures 3 to 6). Only one ME dispenser should be placed in each trap. Maximum precaution is required while handling ME in order to avoid contamination on the outside of the trap. When using ME with other fruit fly attractants preferably designate different persons to handle the different attractants in order to avoid cross contamination of traps.

An insecticide such as DDVP (Dichlorvos) must also be placed in the bucket trap to kill any attracted flies. Dichlorvos is commercially available as solid strips and one small piece (1 x 1 cm) should be placed in each trap.

The ***Moroccan trap*** (Figure 3) is a simple white bucket trap composed of a cylindrical plastic container with four equidistant holes on the upper third. A plastic basket is fitted in the lid in which the ME dispenser should be placed.

***Figure 3: A Moroccan trap (Source: CRI)***

The ***Lynfield trap*** (Figure 4) is a bucket trap composed of a cylindrical plastic container with four equidistant holes on the upper third. The lid of the trap contains a hook to which an ME dispenser, such as Invader Lure, must be fitted.

***Figure 4: A Lynfield trap (Source: CRI)***

The ***Chempac bucket trap*** (Figure 5) is a yellow cylindrical container with an opaque lid. A plastic basket can be fitted in the lid of the trap to hold an ME dispenser. This is the most popular trap used for the monitoring of *B. dorsalis*.

***Figure 5: A Chempac bucket trap (Source: Tertia Grove)***

The ***McPhail trap*** (Figure 6) consists of two parts, a clear lid and a yellow bottom section with an inverted funnel entrance underneath. The ME dispenser is suspended from a plastic basket at the top of the trap.


***Figure 6: A McPhail trap (Source: CRI)***

ME baited traps should be suspended on host trees in the orchard. The trap should be placed about 1.5m above the ground and should not be exposed to direct sunlight, strong wind or dust. Trap entrances should be cleared of leaves to allow access to flies and prevent the entry of ants. The wire from which the trap hangs should be coated with a sticky ant barrier or petroleum jelly (e.g. Vaseline) for further protection against ants. In areas where the Oriental fruit fly is absent, the required trap density for early detection of the pest is 1 trap per $km^2$ or 1 trap per 100ha with at least 1 trap per Production Unit Code (PUC). In areas where the Oriental fruit fly is present, the required trap density for monitoring of the pest is 2 to 4 traps per $km^2$ or 2 to 4 traps per 100ha with at least 1 trap per PUC.

Once traps are placed in the orchard, the location of each trap should be recorded (province, area, farm name, production unit code (PUC), host / cultivated crop, orchard number, block number, trap number, date trap set and GPS co-ordinates). This information must be recorded in a datasheet.

Traps should be serviced every 1 to 2 weeks. All trap services should be recorded on the datasheet. When servicing a trap, the trap must be opened and checked for any insect specimens caught inside. If a suspected specimen is found in an area where the pest is considered absent, the specimen should be placed in a closed plastic vial and sent to Fruitfly Africa: Contact person: Eloise du Plessis: 021 882 9541, eloise@fruitfly.co.za - E. Early detection will aid the chances of successful eradication.

The lure and toxicant inside the trap should be replaced every 6 to 8 weeks. Old ME dispensers and DDVP strips must be disposed of properly away from the trapping site.

It is imperative that growers *immediately* make known any catches of suspected *B. dorsalis* in a previously pest free area. Growers should not fear the consequences of quarantine in the event of early detection and the implementation of eradication procedures, since it is still possible to move (under permit) host material from quarantined sites in compliance with established additional risk mitigation procedures.

**Suppliers of trapping materials and relevant agricultural chemicals:**

**River Bioscience (Pty) Ltd:**
http://www.riverbioscience.co.za
(041) 583 3464

**Insect Science (Pty) Ltd:**
http://www.insectscience.co.za
(015) 307 1391

**Chempac (Pty) Ltd:**
info@chemp.co.za
(021) 874 1055

**Dow AgroSciences Southern Africa (Pty) Ltd:**
http://www.dowagro.com/za
(012) 361-8112

## Sources

*Bactrocera Invadens Steering Committee South Africa.* September. (2011). Trapping Guidelines for Surveillance of *Bactrocera invadens* in Fruit Production Areas.
Grove, T. and De Beer, M. (2014) Management of Fruit Fly in Litchi Orchards. Subtrop Journal, Second Edition, Volume 6, pg 12-15.

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