



## STATUS AND MONITORING OF THE INVASIVE FRUIT FLY- *BACTROCERA INVADENS* - IN SOUTH AFRICA

by  
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On 5 May 2010, exotic fruit fly specimens were detected in surveillance traps in the northernmost part of the Limpopo province adjacent to the Zimbabwe border. They were identified as *Bactrocera invadens*, a quarantine pest of serious concern to the Southern African region.

A delimiting survey was deployed by the Department of Agriculture, Forestry and Fisheries directorates Plant Health and Agricultural Product Inspection Services (APIS) on 12 May 2010 to determine the geographical extent of the occurrence. A risk assessment was conducted and phytosanitary control and containment actions were implemented with immediate effect to control the movement of fruit from the area under delimitation according to the provisions of Regulation R110 of the Agricultural Pests Act, 1983 (Act number 36 of 1983). Eradication procedures commenced on 4 June 2010 and are directed at host patches in the area between Pontdrift and Musina. Eradication will be carried out over a period of at least 8 weeks using a combination of ground applied male annihilation treatments and air/ground applied protein bait treatments. This will be followed by another 4 week monitoring period to determine if eradication has been successful and quarantine measures can be relaxed. Intensified monitoring will continue in the area after completion of eradication.

*Bactrocera invadens* can be monitored through trapping using methyl eugenol (ME), which is an attractant specific to males of this pest; ME is commercially available and can be used with bucket type traps, e.g. Chempac Bucket trap or the Moroccan trap. Each trap should contain an ME dispenser. Extreme care must be taken while handling the attractant in order to avoid contamination on the outside of the trap. An insecticide such as DDVP (dichlorvos), should also be placed inside each trap to kill any attracted flies. Dichlorvos is commercially available as solid strips and a small piece (1 cm x 1 cm) can be used per trap. Traps should be

suspended on host trees such as mango, citrus and guava. In case of vegetable crops such as tomatoes and pumpkin, which are also known hosts of *B. invadens*, traps can be placed in the immediate surrounding vegetation.

In order to monitor the progress of eradication, it is essential that **all fruit and vegetable production areas (inclusive of home garden areas on farms) within the eradication zone have 3-5 ME baited traps per km<sup>2</sup>.**

In all other **fruit and vegetable production areas outside of eradication zone**, surveillance trapping should either be set up or continued for detection of the pest. **Density of ME baited traps for detection in production areas (inclusive of home garden areas on farms) should be 1 per km<sup>2</sup>.**

When traps are set up, the following details should be recorded: farm name, location, host tree, date trap set, GPS positions. **Traps should be serviced (checked and emptied of caught specimens) every week in the eradication zone and at least once every month outside of the eradication zone.** Fresh attractants and dichlorvos should be placed inside the trap every 6 weeks. It is essential to record all trap servicing records (date when trap checked and date when trap re-baited) even if no specimens are caught.

All trapping information (trap details and service records) must be forwarded to the relevant surveillance co-ordinators (citrus - Aruna Manrakhan, [aruna@cri.co.za](mailto:aruna@cri.co.za), 013-7598000; deciduous fruit including grapes – Leslie Brown, [leslie@dfpresearch.co.za](mailto:leslie@dfpresearch.co.za), 021-8828470; subtropical fruits – Wilna Stones, [Wilna@subtrop.co.za](mailto:Wilna@subtrop.co.za), 015-3073676; all other fruit and vegetable crops – Department of Agriculture, Forestry and Fisheries : Jan Hendrik Venter, [JanHendrikV@nda.agric.za](mailto:JanHendrikV@nda.agric.za), 012-3196384). If specimens are caught, they should be placed in closed plastic vials and the relevant surveillance co-ordinator must be contacted immediately for arrangements to forward the specimens for identification. A trapping protocol that includes datasheets for records of trap details and trap servicing is available from the surveillance co-ordinators.

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## STATUS EN MONITERING VAN DIE INDRINGER VRUGTEVLIEG- *BACTROCERA INVADENS* - IN SUID AFRIKA deur

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Op 5 Mei 2010 is daar eksotiese vrugtevlieg monsters in 'n lokval in die noordelike gedeelte van Limpopo, teenaan die Zimbabwe grens gevind. Die monsters is geïdentifiseer as *Bactrocera invadens*, 'n pes van kwarantyn belang vir die Suider Afrikaanse streek.

Die Departement van Landbou, Bosbou en Vissery direktorate Plant Gesondheid en Landbou Produk Inspeksie Dienste het op 12 May 2010 'n delimiterings opname van stapel gestuur om die geografiese verspreiding te bepaal. 'n Risiko bepaling is uitgevoer, waarna fitosanitêre beheer en inperkings regulasies dadelik geïmplementeer is om die vervoer van vrugte vanuit die gedelimeerde area te beperk volgens die stipulasies van Regulasie R110 van die Landbou Pes Wet, 1983 (Wet nommer 36 van 1983). Uitroeiing het op 4 Junie 2010 begin en is gerig op gasheer kolle in die area tussen Pontdrift en Musina. Dit sal voortduur vir 'n periode van tenminste 8 weke en bestaan uit 'n kombinasie van grond toegedende manlike vernietigings behandelings sowel as lug/grond toegedende proteïene lokaas behandelings. Die proses word deur 4 weke van monitering opgevolg om te bepaal hoe suksesvol die uitroeiing was. Verhoogde monitering sal aanhou nadat die uitroeiings proses voltooi is.

*Bactrocera invadens* kan met behulp van metiel-eugenol (ME) gemonitor word, die lokaas is spesifiek vir die aantrekking van die manlike geslag. ME is kommersieel beskikbaar en kan saam met die emmer tipe lokvalle soos byvoorbeeld die Chempak lokval of die Marokko lokval gebruik word. Elke lokval moet toegerus wees met een ME vrysteller. Daar moet egter daarop gelet word dat die buitekant van die lokval nie besmet word met ME tydens die hantering daarvan nie. 'n Pesdoder soos byvoorbeeld DDVP (dichlorvos), word aanbeveel om in die lokval geplaas te word om sodoende die gelokte vlieë dood te maak. Dichlorvos is kommersieel in soliede stroke beskikbaar en slegs 'n klein stukkie (1 cm x 1 cm) word in die lokval benodig. Die

lokvalle word verkieslik in gasheer bome soos mango, sitrus en koejawel gehang. In die geval waar die gasheer groente soos tamatie en

pampoen is, kan die lokvalle in omliggende plantegroei gehang word.

Om die vordering van die uitroeiing te monitor is dit noodsaaklik dat **alle vrugte en groente verbouings areas (insluitend plaashuis tuine) binne die uitroeiings sone 3 tot 5 ME lokvalle per km<sup>2</sup> het.**

In alle **vrugte en groente verbouings areas buite die uitroeiings sone**, is dit noodsaaklik dat monitering opgestel word of andersins voortgaan om die pes op te spoor. **Die voorgestelde digtheid van ME lokvalle in hierdie verbouings areas (plaashuis tuine ingesluit) is 1 per km<sup>2</sup>.**

Sodra die lokvalle opgestel is, moet die volgende aangeteken word: plaas naam, ligging, gasheer plant, datum wat die lokval opgehang is sowel as die GPS koördinate. **Lokvalle binne die uitroeiings gebied moet wekeliks nagegaan word en monsters moet verwyder word terwyl die lokvalle buite die sone slegs elke maand nagegaan hoef te word.** Vars lokaas en dichlorvos moet elke 6 weke vervang word. Dit is van uiterste belang om alle lokval dienste data aan te teken (datum wat die lokval nagegaan is sowel as datum wanneer lokaas en pesdoder vervang is) al is daar geen monsters in die tydperk gevang nie.

Alle lokval inligting moet aangestuur word na die verantwoordelike moniterings koördineerders (citrus – Aruna Manrakhan, [aruna@cri.co.za](mailto:aruna@cri.co.za), 013-7598000; sagtevrugte insluitend druwe – Leslie Brown, [leslie@dfptresearch.cp.za](mailto:leslie@dfptresearch.cp.za), 021-8828470; subtropiese vrugte – Wilna Stones, [Wilna@subtrop.co.za](mailto:Wilna@subtrop.co.za), 015-3073676; alle ander vrugte en groente – Departement van Landbou, Bosbou en Vissery: Jan Hendrik Venter, [JanHendrikV@nda.agric.za](mailto:JanHendrikV@nda.agric.za), 012-3196384). Monsters wat gevang is moet in 'n verseelde plastiese houër geplaas word waarna die verantwoordelike moniterings koördineerder onmiddelik gekontak moet word om reëlins te tref vir die aanstuur van die monster vir identifikasie. 'n Lokval protokol wat datablaaie vir die aantekening van lokval inligting en lokval dienste kan vanaf die moniterings koördineerders bekom word.