

Invader-B-Lok™

Effective Control of Oriental Fruit Fly





The Problem:

The production of citrus, deciduous and subtropical fruits are usually constrained by local fruit fly pests which either cause direct damage resulting in crop losses or restrict market access as they are a phytosanitary pest.

How Do Fruit Flies Damage Your Crops?

Fruit flies sting fruit to deposit their eggs, which hatch into larvae. These larvae feed on the fruit pulp leading to decay and secondary infections.

The Solution: Invader-B-Lok™

Invader-B-Lok™ is a fibre block impregnated with methyl eugenol and mercaptothion (an organophosphate insecticide). The methyl eugenol component of the Invader-B-Lok™ is highly attractive to males of several *Bactrocera* species, including the oriental fruit fly. Male fruit flies, which are attracted to the methyl eugenol mixture, die upon contact with the mercaptothion.

The use of 10-12 blocks per hectare is adequate to control the species if present. Blocks should be replaced every six weeks for effective control. When handling the Invader-B-Lok™, protective gloves should be worn as the product contains mercaptothion. Bait stations must be hung on a branch within the canopy on the shady side of the tree, at a height of about 1.5m above the ground.

How Does Invader-B-Lok™ Work?

MAT Principle:

The application of Invader-B-Lok™ follows the principle of male annihilation technique (MAT) (see below illustration), targeting high levels of male mortality for species that respond to methyl eugenol. Eradicating males significantly reduces the amount of mating encounters in the fruit fly population, thereby suppressing the population and lowering fruit infestation.



MAT
1ST week



MAT
2ND week



MAT
3RD week



MAT
4TH week

The results lead to lower fruit fly populations and less fruit infestations.

Efficacy of male annihilation is largely improved when combined with protein baiting, either through sprays or use of protein bait stations, such as the M3™ Bait Station which target the females.

Invader-B-Lok™ Benefits:

Apart from the Invader-B-Lok™ being safe to both the environment and the consumer, there are a number of advantages to using Invader-B-Lok™:



Efficacy

It contains a highly specific attractant, of natural origin for several species of fruit fly, particularly of the genus *Bactrocera*.



Residues

There are no restrictions on using Invader-B-Lok™ up to the time of harvest, as Invader-B-Lok™ does not leave any residues on the fruit.



IPM Friendly

Invader-B-Lok™ is therefore fully compatible with an Integrated Pest Management (IPM) programme.



Specificity

It does not harm fish, birds or wildlife and has minimal effect on most beneficial insects.

Efficacy of Invader-B-Lok™:

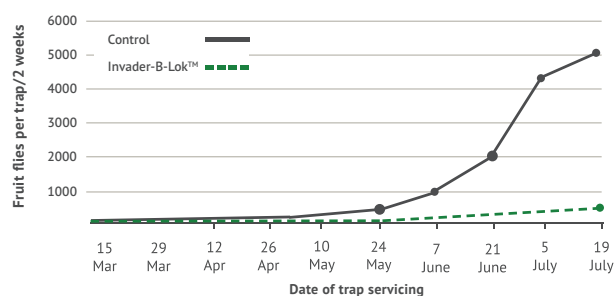
Invader-B-Lok™ has been developed to control the oriental fruit fly in all types of agricultural crops. Research has shown that Invader-B-Lok™ is extremely effective against the oriental fruit fly. Trials conducted in Benin, using methyl eugenol and mercaptothion impregnated blocks for annihilation of male oriental fruit fly, in collaboration with Citrus Research International (CRI), showed a substantial reduction in male numbers with consequent reduction in fruit fly infestation of mangoes and a greater harvest of marketable mangoes.

Research trials conducted over a 2-year period in Nelspruit found that Invader-B-Lok™ at 10-12 blocks per ha performed significantly better than 4 blocks/ha at reducing fruit fly infestation on Star Ruby grapefruit.

The Result:

97% Fruit fly reduction by using Invader-B-Lok™

Population trends of male fruit fly in methyl eugenol traps in control (solid line) and Invader-B-Lok™ treated orchards (dashed lines).



Invader-B-Lok™ was found to be a highly effective method that results in significant reductions in fruit fly numbers and significantly reduced fruit infestation compared to untreated orchards.



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Invader-B-Lok™ L8585
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Active Ingredient:
Methyl Eugenol (15g/bait station) &
Mercaptothion EC500/UL 1130 (5ml/bait station)