

Solution:

Integrated fruit fly (*Bactrocera dorsalis*) management technology in Mango

Submitter: ICAR

Solution overview

- The technology is developed for areawide management of the Oriental fruit fly, *Bactrocera dorsalis* (Hendel), a serious pest of mango. Fruit flies not only cause significant yield losses (10-40%) but also are trade barriers for export of Indian mangoes to other countries.
- No single method is effective against fruit flies.
- ICAR-IIHR has developed an integrated approach with an important component of 'Pheromone traps'.

Key Features & Benefits

- The technology aims for 'Male Annihilation Technique' by using a parapheromone called 'methyl eugenol' which is impregnated to plywood blocks. These blocks would be placed in low cost plastic containers which have to be hung to mango trees.
- This parapheromone attracts a large number of males of *B. dorsalis* and related species thus bringing down male population in nature (orchard and surroundings). In due course, for want of adequate males, chances of female flies getting mated would come down thus preventing off spring production.
- It is recommended to use 20-25 traps of pheromones per hectare. They have to be erected at the onset of fruiting.
- Besides using traps, IPM also advocates crop sanitation (regular removal and burying of fallen fruits) and bait splash with 10% jaggery solution mixed with an insecticide on tree trunks

Where It Works and Where It Can Work

It works in any mango orchard under tropical and subtropical conditions

Evidence & Impact

The technology was demonstrated in more than 60,000 acres in major mango growing areas and is presently being adapted almost all major mango growing belts of the country. The technology was licensed to about 12 firms and one KVK.

It results in 90-95% reduction in fruit fly infestation.

Scalability & Adoption Support (Why it can be scaled and what's needed to adopt it? Low-cost, adaptable, partner-ready, etc.)

It is salable as well as can be scaled up. Some of private firms who took license from ICAR-IIHR are producing in lakhs as it is simple, very low cost (retail price about Rs 40-50/trap with lure). Easy for adaptation by farmers. The technology was licensed to about 12 firms and one KVK.

Partners & Contact Info (Who's involved and how to connect? List of key contact and partners + email / phone.)

The technology is sold and licensed through ITMU of ICAR-IIHR, Bengaluru. For any enquiries they can contact Director, ICAR-IIHR, Bengaluru (director.iihr@icar.gov.in)

Or Nodal Officer, ITMU, IIHR, Bengaluru.

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