

Management of Fruit Flies through Various Trapping Techniques

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SUMMARY

Fruit flies are the serious pest of some horticultural crops. It attacks a wide range of cultivated fruits and some fruiting vegetables and able to cause about 90-100% yield losses. Trapping technique is very effective tool for the mass trapping of fruit flies. Various type of traps viz. McPhail trap, bio trap, Probodelt conetrapp, lynfield trap etc. are used with different type of lure/attractants for the trapping of fruit flies. Continuous mass-trapping tends to diminish fruit fly population in the area.

INTRODUCTION

Improving production, productivity as well as the quality of vegetables and fruits increases food security, employment and trade opportunities. Although, several elements confine the production of fruits/vegetables and tephritid fruit flies (*Bactrocera dorsalis* and *Bactrocera cucurbitae* and possibly *B. correcta*) are one of them and it is impossible to produce some fruits like mango, peach, guava and some vegetables like cucurbits, tomatoes etc. free from invasion by fruit flies (Narayanan and Batra, 1960; Bateman, 1972). These fruit flies are able to cause direct damage to vegetables and fruits, which can lead to up to 90-100% yield loss.

The yield loss caused by fruit flies is depending on the population of fruit flies, their locality, variety of the crop and season. In addition, to the direct losses, fruit fly invasion can cause some serious losses in trade value and export opportunity due to strict quarantine regulations imposed by most importing countries. That is why there is a need of effective control measures of fruit flies and trapping of fruit flies by various means is one of the most effective ways to manage the population of fruit flies.

Types of Traps For Mangement of Fruit Flies

McPhail trap: The first fruit fly tap, “McPhail trap”, was previously widely utilised in government trapping grids. It has a clear lid and a yellow base. The bait can be suspended from the lid, or a liquid protein lure can be introduced (which is more common). A hole in the base allows flies to enter. Newer models, which were originally made of hard plastic, are lighter and less expensive.



Bio trap: Similarly as McPhail trap, the biotrap also features a clear top with a yellow base. A liquid or a parapheromone lure can be used. The Biotrap has been shown to be a very successful tool for monitoring the flies when baited with a wax wafer impregnated with cuelure + maldison.



Probodelt conetrapp: The Probodelt Conetrapp comes flat packed, and is easily clipped together. Because the inside of the lid has been pre-coated with insecticide, it can be put together without gloves. A tyvec sachet holds the cue lure, which is then placed inside. Flies enter the inverted side holes, and then fly towards the light, where they are killed when they come into contact with the lid.



Lynfield trap: Lynfield trap is frequently baited with dental wicks soaked in cue lure or another parapheromone, as well as maldison. The OCP trap avoids handling concerns by using a fabric wick already impregnated with cue lure plus maldison. The wick is protected by a plastic protection, which is then securely fitted beneath the lid.



Modified lynfield trap: Modified lynfield traps are similar to original lynfield traps. Companies like Organic Crop Protectants (OCP) and Bugs for Bugs sell these modified versions of lynfield traps.



Female biased trap: Female biased traps are designed to attract and kill a significant portion of the fly population. Food, fruit volatiles, or fruit analogues can all be used. Despite years of effort, no pheromone-based lures for female fruit flies have been discovered. There are basically two types of female biased traps are discovered:

Cera trap: The Cera Trap is made of food and contains a liquid protein mixture that smells like mild ammonia. Flies simply drown, so no insecticide is required. In hot weather, the liquid must be kept adequately topped up; therefore units must be serviced on a frequent basis.



Fruition trap: This novel device was launched in November 2016, in which a slow-release sachet of fruit volatile fragrances is combined with a huge, sticky cobalt blue spherical. Visual and olfactory stimuli attract flies, which become stuck on the sphere. The creators say that their synthetic ripe fruit aroma is very appealing to *Bactrocera tryoni* and possibly other species for up to eight weeks. The usefulness of this gadget for vegetable crops has not been tested because it is a new device.



CONCLUSION

Fruit fly free crop can be produced using a variety of control measures to remain the damage below to economic threshold. These can comprise exploitation of fruit fly biology and behaviour, chemical controls, physical barriers and postharvest treatments. Trapping technique is one of the very effective measures for the management of fruit flies.

REFERENCES

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