Efficacy of insecticides against melon fruit fly *Bactrocera cucurbitae* (Coquillett) in bitter gourd

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**ABSTRACT:** Field experiments conducted to evaluate the efficacy of selected insecticides against melon fruit fly, *Bactrocera cucurbitae* in bitter gourd, revealed that Deltamethrin 2.8 EC + jaggery bait (0.0028 + 0.015 %) was the most effective treatment resulting in minimum fruit infestation (13.15%, 8.61%), as well as lowest number of maggots per fruit (12.58, 9.58). The next superior treatment was deltamethrin 2.8 EC (0.0028 %), azadirachtin 1 EC (0.005 %) and malathion 50 EC (0.1 %) which were on par in terms of reduction of fruit infestation. However, the number of maggots per infested fruits was significantly lower in deltamethrin and azadirachtin treatment as compared to malathion. However, spinosad 45 SC (0.014 %) and dichlorovos 76 SC (0.152 %) were found to be inferior with comparatively lesser reduction in fruit infestation as well as number of maggots per infested fruit as compared to the other treatments, except untreated control. The combination consisting of deltamethrin + jaggery bait (0.0028 + 0.015 %) spray was found to be the most superior.

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**KEYWORDS:** *Bactrocera cucurbitae*, insecticides, jaggery bait, deltamethrin

**INTRODUCTION**

Fruit flies constitute an important group of pests infesting cucurbitaceous vegetables. Particularly bitter gourd (*Momordica charantia* L.), wherein the fruit fly damage is the major limiting factor in obtaining good quality fruits and high yield. The extent of loss caused by *B. cucurbitae* varies from 30 to 100 per cent depending on the cucurbit species and season (Dhillon *et al*., 2005). The history of fruit fly control with full cover sprays started with inorganic insecticides (eg, lead arsenate) in the early 1900s and spanned the century with a transition to synthetic insecticides such as chlorinated hydrocarbons, organophosphates and synthetic pyrethroids. The advantages of insecticidal cover sprays are that they are affordable, convenient and provide a high level of protection against fruit fly infestation with consistent results (Allwood, 1997). Keeping in view the damage inflicted by melon fly and also residual problems associated with the application of chemicals, there is a need to look at alternative strategies. Hence the present investigation explores emphasises the options for the management of melon fruit fly in bitter gourd with selected insecticides and minimise residual problems.

**MATERIALS AND METHODS**

Field experiments were conducted on bitter gourd during *kharif* season of 2014 at Division of Horticulture, Gandhi Krishi Vignya Kendra, University of Agricultural Sciences (UAS),...