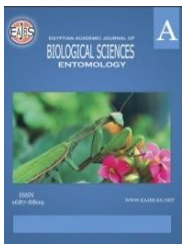
Egypt. Acad. J. Biolog. Sci., 15(1):91-103(2022)

Egyptian Academic Journal of Biological Sciences
A. Entomology

ISSN 1687- 8809
http://eajbsa.journals.ekb.eg/



Oviposition Preference and Performance of *Bactrocera dorsalis* Hendel, (Diptera: Tephritidae) on Four Colour Types of Willard mango (*Mangifera indica* L)

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ARTICLE INFO

Article History
Received:21/2/2022
Accepted:22/3/2022
Available:24/3/2022

Keywords: *Bactrocera dorsalis*, oviposition preference, fruit colors, Willard mango

ABSTRACT

Bactrocera dorsalis Hendel is the most widespread serious fruit pest in Asia and the knowledge on oviposition behaviour of *B. dorsalis* on different fruit varieties are vital for effective management of the pest. Hence, the present study investigated the preference and oviposition behaviour of *B. dorsalis* on different colour types of Willard mango variety. A series of choice and non-choice laboratory experiments for testing the oviposition preference were conducted and tested fruits were incubated until pupation and the emergence of adults. The results revealed that female *B. dorsalis* showed a significantly high preference to visit and oviposit in yellow colour Willard mangoes ($p<0.05$) over red, orange and green colours. The number of pupae and number of adult flies that emerged was also significantly high in yellow colour mangoes under choice condition ($p<0.05$). In both choice and non-choice tests, green colour Willard was less prominently used by female flies for their visiting and ovipositing ($p<0.05$). The number of visits and visit duration of fruits was positively correlated with oviposition attempts of female flies in choice conditions. In both tests, the number of oviposition attempts was significantly correlated with the number of pupae and adults who emerged. There was no influence of the colour on the percentage of adult emergence from the pupae in non-choice trials. The study findings could be incorporated to plan and implement the control measures to avoid infestations of commercial mango varieties by fruit flies at the field and at the market level.

INTRODUCTION

Fruit flies (Diptera: Tephritidae) are common agricultural pests, they damage fruits and vegetables making a significant economic loss. Most of the species are polyphagous and they survive on a wide range of host plants. Female fruit flies deposit eggs inside the host fruits or vegetables using their ovipositor. The flesh inside of mature fruits is subsequently consumed by their larvae and before pupation, mature larvae moved outside and usually pupate in the soil. When developing larvae, they feed inside the host fruits and thus fruits become unsuitable for consumption (Mohd *et al*., 2011). The development of larvae of fruit flies depends on the quality of available nutrients of the