Agroecological Management of Chinese Citrus Fruit Fly (Bactrocera minax (L.) Enderlein) in Ramechhap, Nepal

Susmita Tiwari[1*], Sundar Tiwari[2] and Hariom Yadav[1]

[1]*Agriculture and Forestry University, Rampur, Chitwan*
[2]*Department of Entomology, Faculty of Agriculture, Agriculture and Forestry University, Rampur, Chitwan*

*Corresponding authors' email: susmitatiwari635@gmail.com

Abstract

Chinese citrus fly (*Bactrocera minax* (L.) Enderlein) is an alarming pest of citrus, causing 100% fruit drop in sweet orange (Citrus sinensis L. Osbeck) orchards during a severe infestation. Here, we report an agroecological management protocol for the Chinese citrus flies in sweet orange orchards in Ramechhap, Nepal. A field experiment was carried out in six different places by setting a net of 1 square meter (m2) at various distances (T1 = 0.5 m, T2 = 0.75 m, T3 = 1 m, T4 = 1.25 m) from the base of a sweet orange tree to analyze the larval distribution, adult emergence, peak period of emergence, during February to May 2020. Pupae were collected from farmer's orchard and reared in six different substrates (normal soil, poultry manure, sawdust, sand, rice husk, and dung) - each replicated thrice - at ambient temperature to study the effect of locally available substrates on pupa's growth. The result depicted maximum larval distribution at 0.75 m from the base of a tree with a mean population of 1.193; adult emergence started from 10th of April, while peak emerging period observed 20th to 26th of April, and emergence continued up to 16th of May.Also, the pupae of the pest endured through different locally available substrates. From the study, it is concluded that the management of Chinese citrus fly by the use of different substrates is ineffectual; therefore, different control methods must be deployed one week before the peak emergence period (20th to 26th of April).

Keywords: Sweet orange, Substrates, Peak emergence period, Larval distribution