



Efficacy of different management schedules against mango shoot gall psylla, *Apsylla cistellata* (Buckton) (Hemiptera: Psyllidae)

GUNDAPPA, DEEPENDER SINGH and M. M. TRIPATHI

ICAR- Central Institute for Subtropical Horticulture, Rehmankhura, Lucknow, India-226 101

E-mail: Gundappa@icar.gov.in.

ABSTRACT: A study was undertaken in mango orchards (cv. *Dushehari*) to evaluate different management schedules (MS) against shoot gall psylla *Apsylla cistellata* at four locations viz., Braijalpur and Barabhari in Sitapur district and Sohawal and Katrauli in Faizabad district for two years. Among the management schedules, MS-II comprising of first spray with profenophos was found superior with lower nymphs(4.58) per *in situ* ovipositional slit. Among the management schedules the lowest number of infested shoots (2.22 infested shoots/5 shoots) were observed in MS-IV, however in other management schedules also number of infested shoots were found on par each other except control. Lowest number of galls/shoot was recorded in MS- IV with 8.1 galls /shoot. Lowest number of nymphs/gall was observed in MS-IV with 3.80 nymphs/gall, MS-I, MS-II, MS-IV was found on par each other. With considering the lower number of infests shoots, galls/infested shoot and nymphs/gall MS-IV was found effective in reducing the shoot gall psylla infestation. This management can be used for effective management of the mango shoot gall psylla.

Keywords: Apsylla, mango, management, gall psylla

INTRODUCTION

Mango (*Mangifera indica* L.) is one of the most important fruit crops, grown in tropical and subtropical regions of the world. India is the largest producer of the mango with an average productivity of 8.3 tonnes/ha (NHB 2017). Compare to the other countries India's productivity is lower and this is mainly due to constraints like abiotic and biotic stresses. Among the biotic stresses, insect pests and diseases cause considerable yield loss in mango. Among the insect pests, shoot gall psylla, *Apsylla cistellata* is regarded as one of the most noxious pests affecting the mango production. It produces galls on leaf axils and apical buds. Psylla converts the apical buds into hard conical galls within which psyllid nymphs are nourished and developed into adults. The nymphs suck the sap and exude whitish sticky droplets through their anal openings later galls gradually dry. Due to transformation of reproductive and vegetative buds into galls no fruit is set on affected shoots. The occurrence of this pest has been reported from Uttar Pradesh, Uttarakhand, Himachal Pradesh, Bihar, Jharkhand, West Bengal, Orissa and North Eastern states of India. In case of severe incidence the yield loss incurred due to this pest has been reported as 50-60 per cent (Gupta *et al.* 1994). In the recent past, the magnitude of shoot gall psylla damage on mango has been gradually increasing in many parts of the country. The studies on the management of mango shoot gall psylla were solely concentrated on insecticides. Bioefficacy of organophosphates,

carbamates, neonicotinoids have been studied and they are found effective in reducing the pest incidence (Kumar 1988; Singh 2006; Kumaret *al.* 2007b; Singh 1995; Samui&Jha 2009). Till date no systematic study has been taken by targeting the weak life stages (eggs and nymphs) of the pest. Hence, this study was carried out to evaluate the different management schedules consisting of newer insecticides by of targeting the susceptible stages of the pest at different locations.

MATERIALS AND METHODS

This study was undertaken in mango orchards (cv. *Dushehari*) of 25-30 year age. Four different management schedules (Table 1) were evaluated for two years (2015-16 and 2016-17) at four locations viz., Braijalpur and Barabhari in Sitapur district, Sohawal and Katrauli in Faizabad district. The experiment was conducted in randomized complete block design (RCBD) with four replications. Management schedules were designed to target the weak life stages (eggs and nymphs) of the pest. Mango shoot gall psylla lays eggs during the last week of February nymphal emergence takes place during the first week of August, hence first spray was taken up during the first week of August and randomly leaf samples were sampled and brought to the laboratory. For first spray observation on the numbers of first instar nymphs in the oviposition slits were enumerated before and after 3, 7 and 14 days after spray. In the management schedule second spray was carried out during third week