



HOST RESISTANCE AGAINST MANGO HOPPERS *AMRITODUS ATKINSONI* AND *IDIOSCOPUS NAGPURENSIS*

AASHISH KUMAR ANANT, ALOK AWASTHI, SOUMIA, P. S.* AND G. GURU PIRASANNA PANDI**

Department of Entomology, College of Agriculture,
Indira Gandhi Krishi Vishwavidyalaya, Raipur 492012, Chhattisgarh

*ICAR-Directorate of Onion and Garlic Research, Pune 410505

**Crop Protection Division, ICAR-National Rice Research Institute, Cuttack 753006

**Email: guruagri@gmail.com (corresponding author)

ABSTRACT

Field experiments were conducted at the Horticultural orchard, TCB College of Agriculture and Research Station, Bilaspur, Chhattisgarh during October-May 2015-16 to evaluate the population level of mango hoppers *Amritodus atkinsoni* and *Idioscopus nagpurensis* on varieties viz., Dashehari, Langra, Sundarja, Dilpasand and Himsagar. The hopper incidence was found to significantly vary among the varieties with minimum being with Sundarja (0.96/twig/panicle) followed by Himsagar (1.32/twig/panicle); and the one in Langra variety (2.56/twig/panicle) being moderate. Maximum incidence was observed with the variety Dashehari (3.20/twig/panicle) followed by Dilpasand (2.72/twig/panicle). Irrespective of the varieties, significantly more hopper population was observed during first fortnight of February.

Key words: Mango, *Amritodus atkinsoni*, *Idioscopus nagpurensis*, varieties, Dashehari, Langra, Sundarja, Dilpasand and Himsagar, seasonal incidence

Mango (*Mangifera indica* L.) suffers from 492 insects, 17 mites and 26 nematodes as pests (Pena and Mohyuddin, 1997). Of these, 188 species of insects had been reported from India (Tandon and Verghese, 1985). Among these, the leafhoppers viz., *Amritodus atkinsoni*, *Idioscopus clypealis* and *Idioscopus niveosparsus* (Cicadellidae: Homoptera) are serious resulting in yield losses to an extent of 25-60% (David and Kumaraswamy, 1988; Patel et al., 2004). In the central eastern part of Chhattisgarh, *A. atkinsoni* is the most predominant. A low population of hoppers is normally observed in mango orchards throughout the year during both vegetative and reproductive phase of the tree. During offseason, these adults rest on bark of the tree till next flush appear (Babu et al., 2002).

Insecticidal control remains as the only viable option, and indiscriminate application of insecticides has led to several problems such as secondary pest outbreak, pest resurgence, insecticide resistance, residue on fruits and environmental pollution (Babu and Singh, 2014). Hence, alternate strategies like host plant resistance should be explored. Resistant cultivar discourages breeding of hoppers population during flowering stage and is safe for pollinators. Hence, identification of tolerant/resistant cultivars that deter breeding of precursor hopper population on new shoots

prior to flowering is more valid than screening during flowering. Therefore, a preliminary study was carried out to evaluate resistance or susceptibility in prominent mango varieties against hoppers.

MATERIALS AND METHODS

The study was carried out in the Horticultural orchard, TCB College of Agriculture and Research Station, Bilaspur, Chhattisgarh (21.04°N, 82.13°E and 263 amsl) during October-May 2015-16 with five treatments, replicated thrice in Randomized Block Design. The mango trees were kept free from insecticide spray. Five varieties in equal age (about 15-20 years old trees) and growth were screened and population density of hoppers was observed at fortnightly intervals. The varieties included Dashehari, Langra, Sundarja, Dilpasand and Himsagar. From each variety, three trees were randomly selected and one branch from each direction (north, south, east and west) was tagged in each. From each branch three twigs/panicles were selected for observations. For counting the hoppers, both nymph and adult stages, the selected twigs/panicle was inserted into the polythene bag (30-60 cm size) during the morning hours between 6-9 am and their population was recorded. The sample size of each twig/panicle was of about ten to twelve cm.