

WNRF Technical Bulletin : 04

Pests and their natural enemies of *Morinda* in South India

by

Sun Agro Biotech Research Centre, Chennai

&

World Noni Research Foundation

12, Rajiva Gandhi Road, Perungudi, Chennai - 600 096, India

Published by	Edited by	Author (s)	Year of Publication
Prof. P. I. Peter Chairman Noni BioTech, Chennai, India	Dr. P. Rethinam Dr. T. Marimuthu Dr. K.V. Peter	Dr. M. Jayakumar	September, 2010

Citation :

Jayakumar, M. 2010. Pests and their natural enemies of *Morinda* in South India.

WNRF Technical Bulletin-04, World Noni Research Foundation and Sun Agro Biotech Research Centre, Chennai, India, p. 29

Summary and Conclusion

This project was aimed to find out pests of *Morinda* and its natural enemies in two states of South India, namely Tamil Nadu and Andhra Pradesh. Survey for the pests and their natural enemies were carried out from 1st April 2008 to 31st March 2010. Monthly observations were made on the incidence of pests and their natural enemies in noni (*M. citrifolia* L.) in three Noni farms in Tamil Nadu and two farms in Andhra Pradesh. In addition, similar surveys were also made fortnightly on *M. tinctoria*, at five locations in Chennai viz., Madras University, Loyola College, Central Leather Research Institute and Madras Christian College site-1 and Madras Christian College site 2 from 1st April to 30th June 2008.

A total of 88 field surveys were made both at Andhra Pradesh (2 farms) and Tamil Nadu (3 farms) during the stipulated times. Totally 47 arthropod species were seen, which included pests (39 species) and natural enemies (8 species). The pests were categorized into major (9 species), minor (17 species) and sporadic (13 species). The collected specimens were labelled and documented in the laboratory. Among them, 38 species were identified by the expert. Among the different insect groups observed in our surveys, Hemiptera appeared to the highest in their populations, followed by Lepidoptera, Coleoptera, Orthoptera, Thysanoptera, Diptera and Acari. While the lacewing bug (*Dulinius conchatus*) was recorded only at Katrampakkam in Tamil Nadu,

the rest of the pest species were recorded in all the noni farms. Among the farms surveyed at the one Katrampakkam appeared to harbor more insects while the Sangeetha Agraharam apparently supported less number of insect pests. In general, the insect population abundance was higher in the first year of surveys than in the second year. Relatively higher species abundance was recorded in the order Hemiptera at Sangeetha Agraharam, followed by Lepidoptera at Kethi Reddy Pally. Species richness index was higher in hemipteran populations.

The survey for pests and their natural enemies on *Morinda tinctoria* indicated occurrence of 6 insect pests species namely Whiteflies, Lace wing bug, Leaf hopper, Green sting bug, scales and mealy bugs and two natural enemies viz., lady bird beetle and spider. The whitefly population was higher in Madras University location, compared to other locations (April and May, 2008). The *D. conchatus* population was low in April and May (2008) but it increased in June in all the locations. Overall, natural enemies were high in MCC location followed by Madras University location.

Notable damage was found in *Morinda citrifolia* by the Tingid (*Dulinius conchatus*), Blackfly (*Aleurocanthus terminaliae*), Spingid caterpillar (*Macroglossum* spp. & *Thereta alecto*), Stem girdler beetles (*Apriona swainsoni* and *Sthenias grisator*), Grasshoppers (*Cyrtacanthacris tatarica*, *Orthacris maindroni* and *Neorthacris acuticeps*) and Leaf eating beetle (*Schizonychus ruficollis*). Among them, a dozen species were the major pest that can cause substantial loss to the crop which includes two sub-groups namely defoliators and sucking pests. At this juncture there is no proper integrated pest management practice available for the insect pests of noni. Hence, it is essential to develop an integrated pests management practices for each sub groups of pests viz. defoliators, sucking pests and fruit pests at farm level.

-----End of statement-----