Plant Archives Vol. 15 No. 1, 2015 pp. 51-52 *ISSN 0972-5210*

CROP-PEST CALENDAR IN TEAK AGAINST TEAK SKELETONIZER AND DEFOLIATOR UNDER HEAVY RAINFALL ZONE OF SOUTH GUJARAT CONDITION

K. H. Kabade*, Z. P. Patel and S. T. Gawali

Department of Entomology, N. M. College of Agriculture, N. A. U., Navsari -396 425 (Gujarat), India.

Abstract

Result revealed that infestation of teak skeletonizer and defoliator started appearing from April and June, who reached to peak (> 40%) during July-August and thereafter, it declined during November and December and finally reached to the zero level during the rest of months.

Key words : Teak, defoliator, skeletonizer, Calendar.

Introduction

Teak (*Tectona grandis* L.) is one of the most important hardwood tree commercial timbersin tropics. In India, the major teak growing states are Madhya Pradesh, Andhra Pradesh, Tamil Nadu, Karnataka, Kerala, Uttar Pradesh, Orissa and Gujarat (Tewari, 1992). The pests attacking teak are grouped into root and stem feeders, sap suckers, defoliators, tree borer, fruit borers and gall formers. There are two species of defoliators *i.e.*, *Eutectona machaeralis* Walker and *Hyblea purea* Cramer. These are the most pernicious pests of teak responsible for epidemic defoliation regularly in nurseries, plantations and natural forests of all teak growing areas (Beeson, 1941). It caused 25 to 35.79% loss in annual growth in teak nursery (Anonymous, 2001). No such attempt has been made in Gujarat, India. With this intension the present investigation was undertaken to study crop-pest calendar against teak skeletonizer and defoliator under heavy rainfall zone of south Gujarat condition.

Materials and Methods

Abundance of defoliating pests of teak was recorded at different elevations *viz*., Sarvar and Subir representing upper elevation and Waghai and Shamgahan representing lower elevations in Dangs district and N.A.U. Farm, Navsari (Gujarat), India; representing plane elevation. At each location, five trees of teak showing uniform growth pattern and age were selected. On each tree, five terminal twigs were randomly selected from the lower canopy, from which leaves on each twigs was sampled for observing number of healthy and damaged leaves, thus per cent infestation of defoliating pests was worked out.

Based on data of infestation at different growth stage of the crop throughout the year, a Crop-Pest Calander is prepared both for defoliator and skeletonizer.

***Author for correspondence:** E-mail: kailash.kabade1003@gmail.com

Results and Discussion

Teak defoliator

It can be seen from average data presented in table 1 and depicted in fig. 1 that the per cent infestation of teak defoliator started from June reached to a peak *i.e.* > 40 per cent in the month of July-August and declined towards the end of November and thereafter, disappeared during the rest of months. Earlier, Pandey *et al.* (2009) from Faizabad reported that teak defoliator appeared during second fortnight of June and was seen for the last time during first fortnight of the October.

Teak skeletonizer

It can be seen from average data presented in table 1 and depicted in fig. 1 that the per cent infestation of teak skeletonizer initiated from April, reached to a peak *i.e.* > 50 per cent in the month of July-August and declined towards the end of December and thereafter disappeared during the rest of months. The present finding are in more or less agreement with that of Khan *et al.* (1988), who noted peak incidence of *E. machaeralis*

Table 1 : Stages of teak in relation to damage of defoliator and skeletonizer.

Month	% leaf damage by		Stages of clone
	Defoliator	Skeletonizer	
January	0.00	0.00	Complete maturation of leaves and fruit
February	0.00	0.00	Initiation of leaf shedding
March	0.00	0.00	Partial defoliation
April	0.00	14.10	Complete defoliation and emergence of new leaves
May	0.00	22.73	Unfolding of new leaves
June	22.46	39.78	
July	47.69	66.78	Maturity of new leaves and flowering
August	42.57	53.35	Full foliage, flowering and fruiting
September	23.84	37.31	
October	11.14	24.49	Flowering and fruiting
November	5.06	11.68	Final maturation of fruits
December	0.00	6.78	Final maturation of leaves

Fig. 1 : Crop-Pest Calander in teak against skeletonizer and defoliator.

during September in Madhya Pradesh.

References

Anonymous (2001). *Implementation Completion Report*. Word Bank Forestry Research, Education and Extension Project (FREEP), Entomology. Forest Entomology Division, Tropical Forest Resaerch Institute (ICFRE), Jablpur. pp-48-54.

Beeson, C. F. C. (1941). *The ecology and control of the forest insects of India and the neighbouring countries*. (1961 Reprint), New Delhi, Govt. of India, pp. 767.

Khan, H. R., R. S. Bhandari, Lalji Prasad and Sushil Kumar (1988). Population dynamics of *Hyblaea puera* Cram (Lepidoptera : Hyblaeidae) and *Eutectona machaeralis* Walk. (Lepidoptera : Pyralidae) in teak forest of Madhya Pradesh (India). *Indian For*., **114 (11)** : 803-813.

Pandey, V., R. P. Sharma and A. K. Singh (2009). Seasonal occurance of teak defoliator, *Hyblaea puera* (Cramer). *J. Appl. Zool. Res*., **20(1)** : 45-47.

Tewari, D. N. (1992). A monograph on teak (*Tectona grandis* Linn. f). International Book Distributors 9/3, Rajpur Road, Dehra Dun (India) pp 214-215.