VARIETAL REACTION OF CASHEW TO TEA MOSQUITO, *HELOPELTIS ANTONII* S. (HEMIPTERA : MIRIDAE), A MAJOR PEST OF CASHEW

B. SATHIAMMA

Central Plantation Crops Research Institute, Regional Station, Kayangulam, Krishnapuram 690 533, *Kerala, India.*

ABSTRACT

Helopeltis antonii is the most serious pest of cashew causing shoot and inflorescence blight. Its attack results in more than 30% loss in yield. The maximum pest population is observed during February–March and October–November depending on the new flush and panicle emergence. All indigenous accessions of cashew available in the germplasm collection of the Central Plantation Crops Research Institute, Regional Station, Vittal showed infestation by *H. antonii*. Seventy four accessions were selected during 1975 – 1977 for screening for field tolerance to tea mosquito attack. These included 45 accessions collected from Bapatla, 16 from Vridhachalam, 8 from Vengurla, 4 from Anakkayam and one from Vittal (local). Two sample trees per accession were selected for observations. Observations on shoot and panicle attack and count on nymph and adult bugs present on 100 shoots/panicles per tree were recorded respectively at 45, 30 and 10 days interval. Data revealed that the mean percentage of shoot attack ranged from 1.8 to 43.3; panicle attack from 5.5 to 54.3 and mean pest population from 1.5 to 105.5. Shoot and panicle damage and population of nymphs and adults were observed in all the accessions. But significant difference was observed between accessions in damage and pest population.

INTRODUCTION

Helopeltis antonii, the tea mosquito bug is the most serious pest of cashew in South India. The bug causes on an average 14% shoot damage, 49% panicle damage and 32% fruit injury. More than 30% loss in yield was estimated to be due to this pest alone. In young plantations the pest is present throughout the year. Maximum pest population was observed during February–March and October–November, depending on the emergence of new flushes and panicles. Field observations have revealed that all indigenous accessions of cashew are susceptible to tea mosquito infestation. Cashew accessions available in the germplasm colletion of Central Plantation Crops Research Institute, Regional Station

at Vittal were screened during 1975 - 1977, with a view to isolating the accessions that are tolerant to tea mosquito infestation. The results of observations recorded during 1975-1977 are presented in this paper.

Materials and Methods

Seventy four accessions, including fortyfive accessions collected from cashew Research Station, Bapatla; sixteen from Cashew Research Station, Vengurla, four from Cashew Research Station, Anakkayam; and one accession from CPCRI, Vittal (local), were screened for reaction to infestation by *H. antonii*. Two sample trees/accessions were selected for observations. Data on the number of attacked shoots and panicles and nymph and adult bugs present on 100 shoots/panicles per tree was recorded respectively at 45, 30 and 10 days interval.

Results and Discussion

Shoot and panicle damage were observed in all the accessions. Nymphs and adults of the pest were observed in all the accessions (Table 1). Mean percentage of shoot attack ranged from 1.8 to 43.3, panicle attack 5.5 to 54.3 and mean pest population from 1.5 to 105.5 per 100 shoots/panicles per tree. The intensity of damage and pest incidence was observed to vary in the different accessions. Percentage of total damage (shoot + panicle damage) was observed to be comparatively high in accession nos. VTH 46 (7/3 RASTUMBADA, Bapatla); VTH 54 (10/8 EPURUPALAM, Bapatla), VTH 78 (7/12 NEELIPUDI, Bapatla) and VTH 64 (2/4 NATHAVARAM, Bapatla). The damage was comparatively low in VTH 151 (BIA 256-4, Anakkayam), VTH 153 (H-3-17, Anakkayam), VTH 152 (BIA 226-1, Anakkayam), and VTH 2 (VETURE 56, Vengurla). Tea mosquito population was highest in VTH 54 (10/8 EPURUPALAM, Bapatla), followed by VTH 49 (8/11 EPURUPALAM, Bapatla), VTH 42 (4/1 GOLLAGUDAM, Bapatla) and VTH 40 (2/9 DICHERLA, Bapatla). Low population was observed in

Table 1. Varietal reaction of cashew to infestation by tea mosquito, *Helopeltis antonii* S.

Serial No. 1	VTH No. 2	Accession No. & Source 3		%Shoot attack 4	%Panicle attack 5	Average Pest 6
1.	34	T No. 1,	Bapatla	12.6	27.9	44.4
2.	35	T No. 40,	,,	9.1	16.8	20.4
3.	3T6	No. 56,	,,	9.3	16.9	14.5
4.	37	T No. 273,	,,	13.8	13.1	20.5
5.	38	1/11 DICHERLA,	,,	15.4	27.6	33.0
6.	39	2/6 ,,	,,	14.1	30.0	47.0
7.	40	2/9 ,,	,,	24.5	22.6	67.5
8.	41	3/10 GOLIAGUDAM	,,	6.7	25.9	26.0
9.	42	4/1 ,,	,,	28.9	28.1	70.0
10.	43	4/7 ,,	,,	22.0	37.6	48.0
11.	44	5/6 ,,	,,	5.5	26.5	20.0
12.	45	5/8 ,,	,,	7.9	23.1	22.5
13.	46	7/3 RASTUMBADA	,,	31.8	34.5	56.5
14.	47	8/5 EPURUPALAM	,,	18.0	29.6	28.5
15.	48	8/9 ,,	,,	12.3	18.9	51.5
16.	49	8/11 ,,	,,	24.1	31.4	77.0
17.	50	9/8 ,,	,,	25.0	25.5	29.0
18.	53	10/5 ,,	,,	6.4	54.3	18.5
19.	15	10/8 ,,	,,	43.3	51.7	105.5
20.	52	10/2 STUARTPURAM	,,	9.0	31.2	17.0
21.	55	11/1 ,,	,,	12.0	39.2	11.0
22.	56	11/8 DARIVADAKOTHUR	,,	17.0	21.0	22.5
23.	57	12/2 KAVITI	,,	22.8	22.7	41.0
24.	58	13/2 KODUR	,,	15.5	23.1	8.0
25.	59	13/5 ,,	,,	15.7	17.3	19.0
26.	60	9/3 ANAKAPALLI	,,	20.7	7.5	13.5
27.	61	10/15 KODUR	,,	1.4	17.3	1.5
28.	62	1/3 MITTAPALEM	,,	17.9	25.9	17.0
29.	63	2/3 KOTAURATLA	,,	14.9	23.9	8.0
30.	64	2/4 NATHAVARAM	,,	38.8	29.2	40.5
31.	65	4/1 BAPANNAPETA	,,	24.4	26.6	26.0
32.	66	4/6 YERRAVARAM	,,	21.9	20.8	23.0
33.	67	4/7 MULUGOPALAPATNAM	,,	20.8	27.1	17.5
34.	68	5/1 RAMABHADRAPURAM	,,	13.3	25.2	6.0
35.	69	5/10 SAMPADAPURAM	,,	12.0	5.7	6.0
36.	70	5/12 DIVANCHERUVU	,,	6.7	6.3	2.5

Table 1 *(Contd.)*

Serial No. 1	VTH No. 2	Accession No. of & Source 3	%Shoot attack 4	%Panicle attack 5	Average Pest 6
37.	71	6/1 DIVANCHERUVU Bapatla	26.7	45.4	38.5
38.	72	6/5 LALACHERUVU ,,	11.9	6.9	8.5
39.	73	6/8 KORUKONDA ,,	30.0	11.1	23.5
40.	74	6/11 PIDUMGOYYA ,,	17.9	5.6	30.5
41.	75	6/14 MORAMPUDI ,,	27.0	19.7	23.0
42.	76	7/1 HUKUMPETA ,,	15.0	28.9	13.0
43.	77	7/10 TETAGUNTA ,,	20.0	40.0	18.5
44.	78	7/12 NEELIPUDI ,,	38.3	46.8	55.5
45.	79	8/1 KUDUR ,,	14.3	5.6	11.5
46.	10	M6/1, Vridhachalam	6.0	11.6	11.0
47.	11	M 10/4, ,,	9.7	19.6	21.3
48.	12	M 44/3, ,,	5.7	17.4	7.1
49.	13	M 76/1, Vridhachalam	5.1	6.7	8.8
50.	14	M 13/4, ,,	21.5	29.4	51.0
51.	16	M 16/3, ,,	6.7	36.1	22.5
52.	18	M 28/2, ,,	9.9	10.9	9.5
53.	19	M 33/3, ,,	14.3	34.1	35.5
54.	20	M 37/3, ,,	9.0	15.7	26.5
55.	21	M 46/2, ,,	22.2	18.4	35.0
56.	22	M 54/4, ,,	13.5	29.0	12.0
57.	24	M 61/3, ,,	1.8	11.6	4.0
58.	25	M 67/3, ,,	11.4	29.9	25.5
59.	29	A 6/1, ,,	13.4	33.2	32.0
60.	31	E 2/4, ,,	26.1	27.0	58.5
61.	32	E 3/1, ,,	4.6	15.1	12.0
62.	1	ANSUR 1, Vengurla	11.4	13.1	14.4
63.	2	VETURE 56, ,,	5.4	7.2	6.6
64.	3	WBDC 5, ,,	10.4	21.2	15.6
65.	4	MORGAON 1, ,,	6.3	8.8	12.3
66.	5	WBDC, 6, ,,	15.7	44.6	31.5
67.	6	MIDNAPUR RED, Vengurla	13.9	34.7	20.5
68.	7	ANSUR EARLY ,,	13.4	18.3	29.5
69.	9	SAWANTWADI ,,	10.4	18.1	10.0
70.	150	BLA 139-1, Anakkayam	5.3	10.9	7.7
71.	151	BLA 256-4, ,,	3.8	5.5	6.0
72.	152	BLA 266-1, ,,	3.8	8.7	5.3
73.	153	H - 3 - 17, ,,	3.7	7.0	3.2
74.	155	T. No. 44, Vittal	6.1	13.6	16.5

VTH 61 (10/15 KODUR, Bapatla); VTH 70 (5/12 DIVAN-CHERUVU, Bapatla); VTH 153 (H-3-17, Anakkayam); VTH 68 (5/1 RAMABHADRAPURAM, Bapatla); VTH 69 (5/10 SAMPADAPURAM, Bapatla) and VTH 152 (BLA 266-1, Anakkayam). Significant difference was observed between accessions in damage and pest population. Damage and pest population was high in VTH 54 (10/8 EPURUPALAM, Bapatla) and low in VTH 153 (H-3-17, Anakkayam).

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