

VARIETAL SUSCEPTIBILITY OF BANANAS TO THE LACE WING BUG, *Stephanitis typicus* DISTANT (TIRGIDAE : HEMIPTERA)

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Seventy three types of bananas belonging to different genetic groupings were screened for their susceptibility to the attack of the lace wing bug, *Stephanitis typicus* under field conditions during a severe outbreak of the pest under heavy insect population. Based on the population of bugs and the number of eggs inserted in the leaf tissue, the plants were classified as resistant, susceptible and highly susceptible based on the grades assigned for symptoms, population of bugs per leaf and number of eggs per unit area. The types Jurmony, Thatillakunnan, Malakali, Padathi, Agneswar, Krishna vazhai and Kali were found to be resistant while the varieties Klueyeparod, and Manoranjitham were highly susceptible and rest of the varieties susceptible to the lace wing bug.

As early as 1903, the lace wing bug, *Stephanitis typicus* was recorded as a pest of banana by Distant. It was observed to feed on banana in Malaya (Corbett, 1926); in Canton (Hoffmann, 1935) and in Formosa, China, Java and India (Takahashi, 1936). During the past few years, this insect has assumed a major pest status in Thiruchirapalli district of Tamil Nadu where several commercial varieties of bananas are grown extensively under channal irrigation. Hence, it was considered desirable to study the varietal susceptibility of bananas to the lace wing bug. The investigations were undertaken at the Banana Research Station, Uyakondanthirumalai, Tiruchirapalli, an endemic area for this pest.

MATERIALS AND METHODS

Three plants of each variety were observed for the symptoms of attack; population density and varietal preference for egg laying. The observations were recorded on the lower three leaves due to the attack being confined to mature leaves only. On the basis of

the symptoms 5 different grades were given viz. 0 - no symptoms; 1 - very light feeding symptoms (V.L.); 2 - light feeding symptoms (L); 3 - medium feeding symptoms (M); 4 - severe feeding symptoms (S). The population of adult lace wing bugs was assessed on three plants taking one leaf in each. All the adults present on each of the leaf were counted and recorded. For studying the egg laying preference, three leaf samples from each variety were collected. An unit area of 6.25 sq.cm. was uniformly marked at random on the marked out area were counted under a low power stereobinocular microscope with transmitted light. Grades 1 to 5 were assigned for the population viz. 1 - below 10; 2 - above 10 but below 20; 3 - above 20 but below 30; 4 - above 30 but below 40; and 5 - above 40 adults per leaf. Similarly grades 1 to 5 were given for the egg counts namely, 1 to 10; 11 to 20; 21 to 30; 31 to 40; and above 40 respectively.

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Table 1 : Relative susceptibility of banana varieties to the lace wing bug, *S. typicus* Dist.

Variety	Grade of symptom of attack	Mean population/leaf	Mean No. of eggs per unit area of leaf	Weighted mean for the variety	Gradation as Resistant (R) Susceptible (S) Highly Susceptible (HS)
(1)	(2)	(3)	(4)	(5)	(6)
<i>Monthan group</i>					
Lamoi	L	3	—	1.00	S
Kuri Bontha	L	9	—	1.00	S
Booditha Bontha Botheesa	L	9	3	1.33	S
Octomen	L	8	10	1.33	S
Barharia	L	9	—	1.00	S
Kothia	L	4	3	1.33	S
Muthia	M	5	4	1.66	S
Dudh Manger	M	17	1	2.00	S
Barsain	S	21	4	2.66	S
Batheesa Ashy	S	15	3	2.33	S
Chakia	V.L.	6	7	1.00	S
Nalla Bontha	S	15	1	2.33	S
Bibutia	S	14	1	2.33	S
Monthan	S	15	23	3.00	S
Bhos	M	10	9	1.66	S
Kanchkala	M	25	—	2.00	S
Madurangaale	M	18	3	2.00	S
Ney Vannan	L	7	6	1.33	S
Bluggoe	M	9	—	1.33	S
Gauria	L	3	—	1.00	S
Jurmoney	V.L.	0	9	0.66	R
Lakhandi	V.L.	1	2	1.00	S
Bhurkel	S	18	1	2.33	S
Pidimonthan	V.L.	1	6	1.00	S
Govakker	M	10	1	1.66	S
Boothi Bale	M	8	1	1.66	S
<i>Kunnan Group</i>					
Thenkunnam	V.L.	3	5	1.00	S
Thatillakunnan	V.L.	1	—	0.66	R

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(1)	(2)	(3)	(4)	(5)	(6)
Vonneetinkunnan	V.L.	1	3	1.00	S
Kunnan	V.L.	3	4	1.00	S
Adakka kunnan	L	5	—	1.00	S
Nendra kunnan	L	6	10	1.33	S
<i>Poovan Group</i>					
Chinafi	L	2	1	1.33	S
Poovan	L	6	1	1.33	S
Rasthafi	M	9	—	1.33	S
Suganthi	L	6	1	1.33	S
Ayirange Rasthafi	L	2	2	1.33	S
<i>Nendran Group</i>					
Velathan	M	8	5	1.66	S
Anivazhai	S	13	5	2.33	S
Nendran	M	12	8	2.00	S
Thiruvannandapuram	S	20	—	2.00	S
<i>Nadan Group</i>					
Kali (Red pseudostam)	V.L.	5	10	1.33	S
Melakali	L	2	—	0.66	R
Cheenabale	L	1	1	1.33	S
Padarhi	No injury	—	1	0.33	R
Agneswar	V.L.	—	—	0.33	R
Krishnavazhai	V.L.	1	—	0.66	R
Kallar ledan	L	4	1	1.33	S
Walha	L	2	17	1.66	S
Ney vazhai	L	1	4	1.33	S
Galiabale	V.L.	1	8	1.00	S
Vannan	V.L.	1	20	1.33	S
Kali	V.L.	1	—	0.66	R
<i>Musa bullisiana</i>					
Klueyteparod	S	43	88	4.66	H.S.
<i>Hybrid</i>					
Ney Vannan x Sawai	M	9	6	1.66	S
<i>Cavendish Group</i>					
Lecaten	L	5	8	1.33	S
Dwarf Cavendish	L	6	2	1.33	S
Robusta	L	4	31	2.33	S

(1)	(2)	(3)	(4)	(5)	(6)
Red banana	M	10	48	3.00	S
Manoranjitham	V.S.	65	43	4.66	H.S.
Amirthasagan	L	2	7	1.33	S
Grosmichei	L	3	5	1.33	S
Rajavazhai	L	3	44	2.66	S
Wathere	L	7	31	2.33	S
Anaikomban	M	8	27	2.33	S
Erachivazhai	L	3	38	2.33	S
Ambalakadali	M	13	6	2.00	S
<i>Peyan Group</i>					
Kalibow	M	10	4	1.66	S
Karapuravalli	S	26	5	3.00	S
Pey kunnan	M	5	..	1.33	S
Alshi	M	9	7	1.66	S
Peyan	V.L.	3	1	1.00	S
Ney Poovan	L	4	6	1.33	S

V.L. = Very Light; L = Light; M = Medium; S = Severe

On the basis of the three criteria an appropriate weightage was given and the weighted mean was worked out for each variety. Weighted mean below 0.7 was categorised as resistant; above 0.7 and below 3.0 as susceptible and above 3.0 as highly susceptible.

RESULTS AND DISCUSSION

The results of the study is presented in Table 1. Among the varieties studied Jurmony, Thatillakunnan, Malakali, Padathi, Agneswar, Krishna vazhai and Kali were found to be resistant while the varieties Kluete-parod and Manoranjitham were highly susceptible, and the rest of the types susceptible. None of the varieties

studied are immune to the attack of the lace wing bug. The Nadan group of bananas had more resistant types.

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