

## REACTION OF DIFFERENT VARIETIES OF BANANA AGAINST BUNCHY TOP DISEASE

Bunchy top disease of banana is a serious virus disease occurring throughout Kerala. The necessity for identifying resistant to tolerant varieties is well recognised in view of increase in cost of insecticidal treatments against insect vector. Therefore a study was undertaken to screen different varieties of banana against bunchy top disease and the results are reported in the present paper.

During the year 1975-76 ten varieties of banana were planted in the Banana Research Station, Kannara and another set of nine varieties of banana was planted during the year 1976-77. In each variety fifteen plants were used for inoculation purpose.

The banana aphid (*Pentalonia nigronervosa* Coq) was used for transmission of bunchy top disease. The adult virus-free insects were fed on bunchy top banana plants for twentyfour hours and one hundred infective aphids were transferred to four months old plant for inoculation. After an inoculation feeding period of twentyfour hours the insects were killed by spraying Roger (0.05%).

The per cent of diseased plants in each variety was recorded and grouped according to their reaction to infection by the virus as shown below:

<i>Percentage of infection</i>	<i>Reaction type</i>
0	Immune
1—10	Resistant
11—30	Tolerant
31-60	Susceptible
61—100	Highly susceptible

The percentage of infection of the different varieties of banana is presented in Table 1.

During the first screening trial the variety *Kanchikela* had not taken infection under artificial inoculation. To confirm this result twentynine *Kanchikela* plants were again inoculated with infective aphids as described above. Only one plant was found to be infected with bunchy top disease. This trial clearly revealed that the *Kanchikela* variety of banana is highly tolerant to the disease. The results also show that the different varieties of banana varied

Table 1

Susceptibility of banana varieties to infection by bunchy top disease

Variety	No. of plants inoculated	No. of plants infected	Percentage of infection
<i>1975—76</i>			
Galanamalu	15	11	73.3
Malbhog	15	8	53.3
Boodithabanthatheesa	15	3	20.3
Karpooravally	15	2	13.3
Nendrapadathy	15	11	73.3
Lacatan	15	13	86.6
Harichal	15	11	73.3
Amritsagar	15	13	86.6
Kanchikela	15	—	—
Chakkarakadali	15	10	66.6
<i>1976—77</i>			
Suganthi	15	9	60.0
Karimkadali	15	7	46.6
Pisangraj	15	7	46.6
Chinali	15	12	80.0
Karimonthan	15	4	26.6
Ambalakadali	15	4	26.6
Sennachenkadali	15	2	13.3
Vadakkankadali	15	2	13.3
Venattukunnan	15	1	6.6

widely in their reaction to infection by the virus. Kanchikela and Venattukunnan are resistant. Karpooravally, Sennachenkadali, Vadakkankadali, Ambalakadali, Karimonthan and Boodithabanthatheesa showed tolerance. Malbhog, Suganthi, Karimkadali and Pisangraj are susceptible varieties. Galanamalu, Nendrapadathy, Lacatan, Harichal, Amritsagar, Chakkarakadali and Chinali are highly susceptible varieties.

Maghee (1948) has given a detailed list of susceptible banana varieties and those varieties to which the disease could be transmitted experimentally. He has mentioned that no species or variety of the genus *Musa* is known to be immune. In the present study also none of the varieties screened was found to be immune to the bunchy top disease.

### സംഗ്രഹം

കണ്ണാറ വാഴ ഗവേഷണകേന്ദ്രത്തിൽ കുറുനാവ് രോഗത്തെ ചെറുത്തു നില്ക്കുന്നതിന് പത്തൊൻപത് ഇനം വാഴകളുടെ പ്രതിരോധശക്തിയെ കുറിച്ച് പഠനം നടത്തിയതിൽ കാഞ്ചികേല, വേണാട്ടുകുന്നൻ, കർപ്പൂരവള്ളി, സെന്നചെങ്കള്ളി, വടക്കൻകള്ളി, അമ്പലകള്ളി, കരിമൊന്തൻ, ബുദിതബന്തബത്തിസ എന്നീ ഇനങ്ങൾക്ക് raioror>Ginica കുടുതൽ പ്രതിരോധ ശക്തിയുണ്ടെന്ന് തെളിഞ്ഞു.

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### Reference

Maghee, C. J. P. 1948. Transmission of bunchy top to banana varieties, *J. Aust. Inst. agric. Sci.* 14, 18-24.