The experimental transmission of Coconut Wilt Virus (cwv) into *Areca catechu* Linn.

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INTRODUCTION

DURING transmission trials with the Coconut Wilt Virus using a number of test plants, the common arecanut, *Areca catechu* Linn. was found to be highly susceptible. This is considered to be of some importance since arecanuts and coconuts are raised as a mixed crop in many parts of India including Kerala where the Wilt disease of coconut is highly prevalent. This therefore necessitates the adoption of more rigorous control measures that are already difficult to put into practice because of the perennial nature of the crop involved. The experimental details and symptoms on arecanut are descibed here.

MATERIALS AND METHOD

One-year-old seedlings of arecanut, obtained from the Central Arecanut Research Station, Vittal, S. Kanara, which is a disease-free tract, constituted the test plants. These were grown in potted, steam-sterilised soil in a well lighted insect proof house. The seedlings were watered at weekly intervals with a balanced nutrient solution used at this institution in pot culture experiments on coconut seedlings. Crude infective sap from coconut leaves was prepared as described earlier (Shanta and Menon, 1960) and mechanical inoculation by the abrasion method was carried out on tender leaves of the test plants at quarterly intervals, using 600 mesh carborundum as abrasive. Sixteen months after the first inoculation the 12 inoculated seedlings appeared pale, 6 of them developing severe necrosis along veins. The 12 uninoculated control plants remained normal. When samples of leaves from the 24 test plants were cross-inoculated on cowpea which served as indicator plants for CWV (Shanta and Menon, 1960) only the 6 inoculated seedlings with necrosis produced the characteristic symptoms on cowpea.

The typical symptom (Fig. 1) on the 6 infected seedlings is

necrosis along the parallel main veins of the youngest leaf, accompanied with paling, stunting and flaccidity. A general paling of the entire plant is evident before these symptoms appear. In one seedling, where the necrosis was severe, the entire leaf dried on emergence. Except for the stunted growth of the youngest leaf, no other difference in growth rate between the healthy and diseased seedlings was noticed.

Symptoms described here do not tally with those of the yellow leaf disease of arecanuts which is common in many parts of Kerala. However, samples of leaves from arecanuts showing flaccidity, paling and necrosis in the field, produced typical symptoms of CWV infection on cowpea. Since no work has been done here on the incidence or symptomatology of this disease on arecanuts in nature, it is not proposed to draw up any comparison with the yellow leaf disease at this stage; on the other hand, this reveals one more perennial crop susceptible to the virus, which has already affected the coconut crop considerably.

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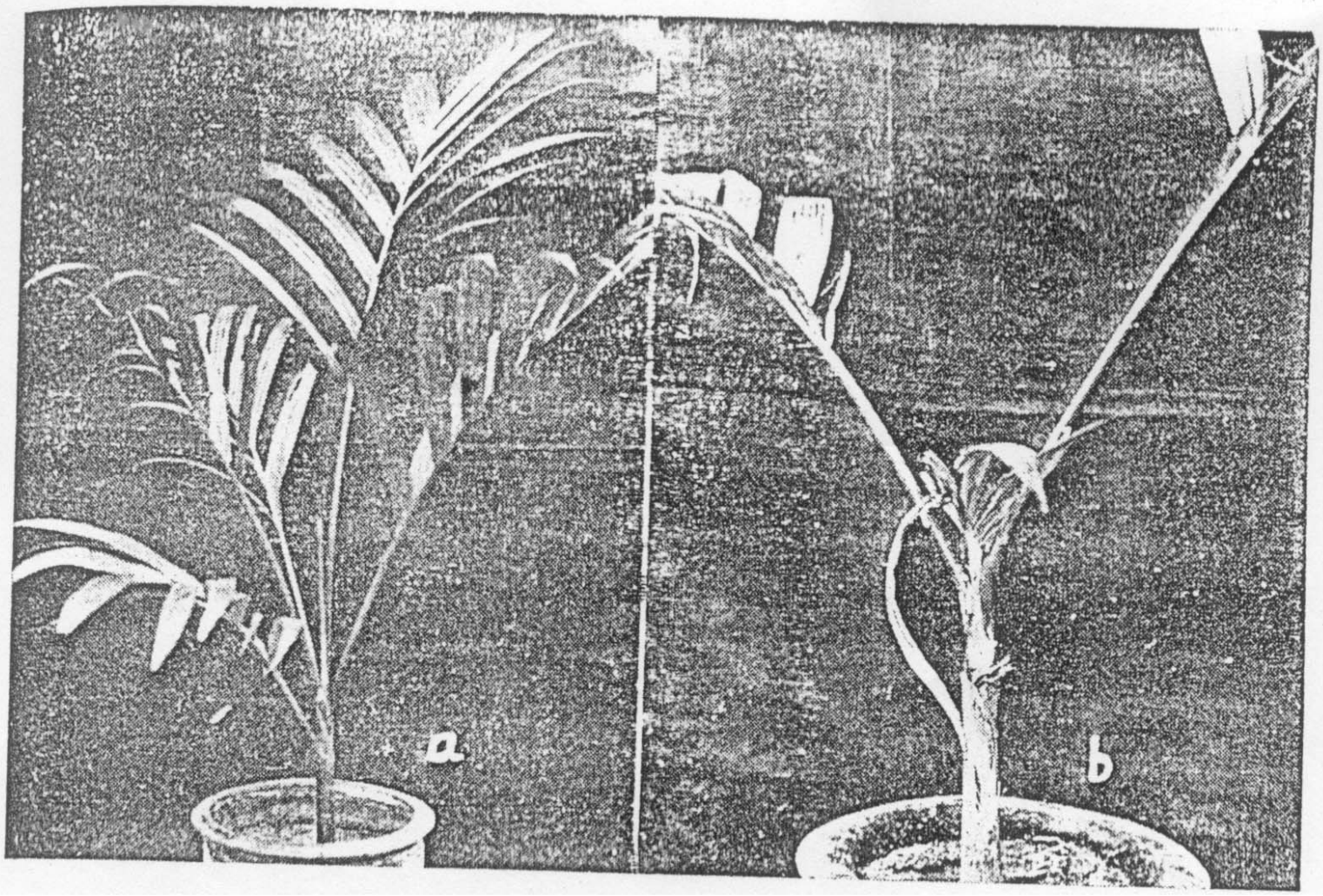
REFERENCE

Shanta, P. and Menon, K. P. V., (1960). Cowpea (*Vigna sinensis Endl.*), an Indicator Plant for the Coconut Wilt Virus. *Virology*, 12: 309.



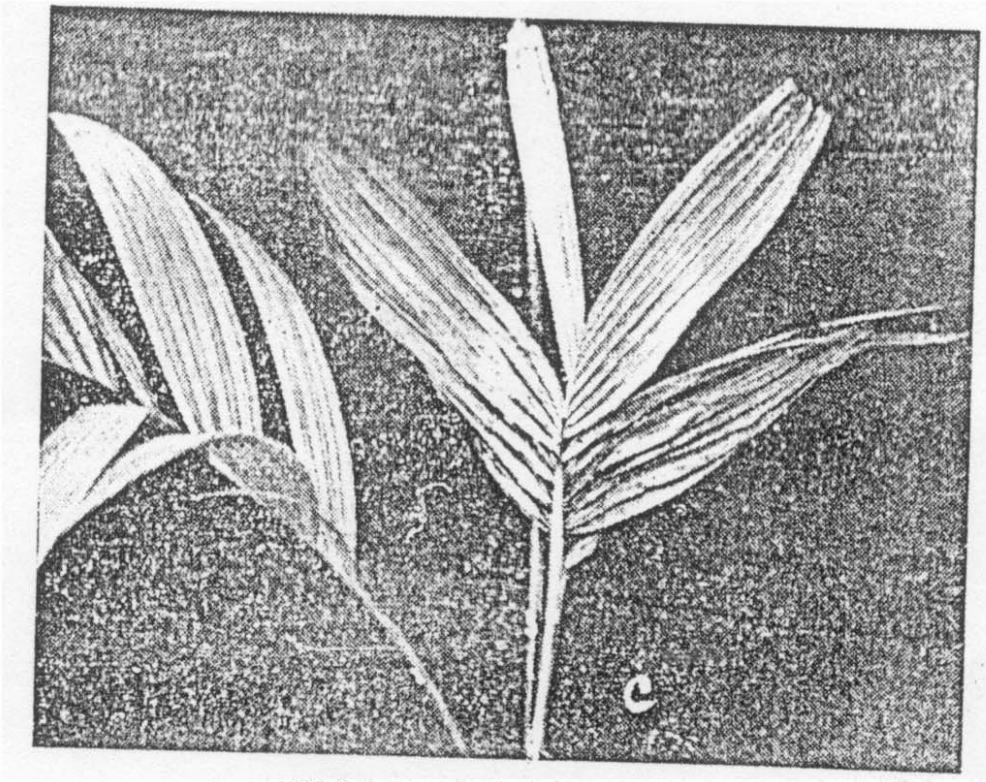


Fig. 1

a) *healthy seedling*

b) *diseased seedling showing stunted leaf*

c) *Stunted leaf (4) of a diseased seedling showing necrosis along the main veins*