

# OCCURRENCE OF COCONUT ROOT (WILT) DISEASE IN NORTHERN KERALA AND A POSSIBLE APPROACH TO CONTAIN THE DISEASE

K. Radha

CPCRI Field Station, Trichur - 2, Kerala

## Introduction

The coconut root (wilt) disease from the time of its recognition as a major problem a century ago is known to occur sporadically. The disease was first reported to have manifested in three isolated foci, namely Erattupetta, in Mee-nachil Taluk of Kottayam District, Kaviyoor and Kallooppa areas of Tiruvalla Taluk and Kayangulam of Karthigappally Taluk of Alleppey District, between 1884 and 1897. Since then the disease has been located in adjoining areas. Six contiguous districts from Trivandrum to Trichur formed the disease affected tract by 1973 with pockets of disease affected gardens in Trivandrum and Trichur districts. By 1976, the limits of the diseased zone in Trichur district was Ala in Chowghat Taluk, Varandarappilly and Kallur in Mukundapuram Taluk and Killuppallikkara, Urakam and Nadathara in Trichur Taluk (Gopinathan Pillai, 1973, 1976 & 1981).

## Distribution

After the establishment of a field station by Central Plantation Crops Research Institute at Irinjalakuda in 1979, occurrence of the disease in Trichur district as well as other northern parts with Karuvannur river as the base towards the west and Amballur Palapilly road towards the east (the protective belt maintained by the Kerala Agriculture Department) was constantly monitored. Radha, *et. al* (1981) recorded the existence of the disease up to banks of Bharatapuzha in Desamangalam of Talappilly Taluk and Nagalasseri in Ottappalam Taluk of Palaghat District with isolated pockets of disease at Avinisseri, Ayyanthole and Madakkathara in between. The widespread distribution of the disease in such isolated pockets necessitated an assessment of the disease in this area in a short period to facilitate the eradication of diseased palms and achieve the objective of 'containing the disease'.

A rapid survey to locate disease affected palms in 209 villages from Karuvannur to 5 km north of Bharatapuzha was conducted by the CPCRI with the active co-operation of the Kerala Agricultural University and the Kerala Agriculture Department in 1981. 34 diseased palms were observed in 14 villages during this survey with the north-western limit at Thavannur in Ponnani Taluk of Malappuram District and easternmost point at Kavesseri in Alathur Taluk of Palghat District (Anon, 1981). To cover up the gaps in the rapid survey a detailed garden to garden survey was again organised by the three organisations in the same area in 1982.

Existence of coconut root (wilt) disease in Perambra area of Quilandy Taluk in Kozhikode District was noticed in June 1982. Survey of the 60 villages in Badagara and Quilandy Taluks

# DISTRIBUTION OF COCONUT ROOT (WILT) DISEASE IN NORTHERN PART OF KERALA-1982.

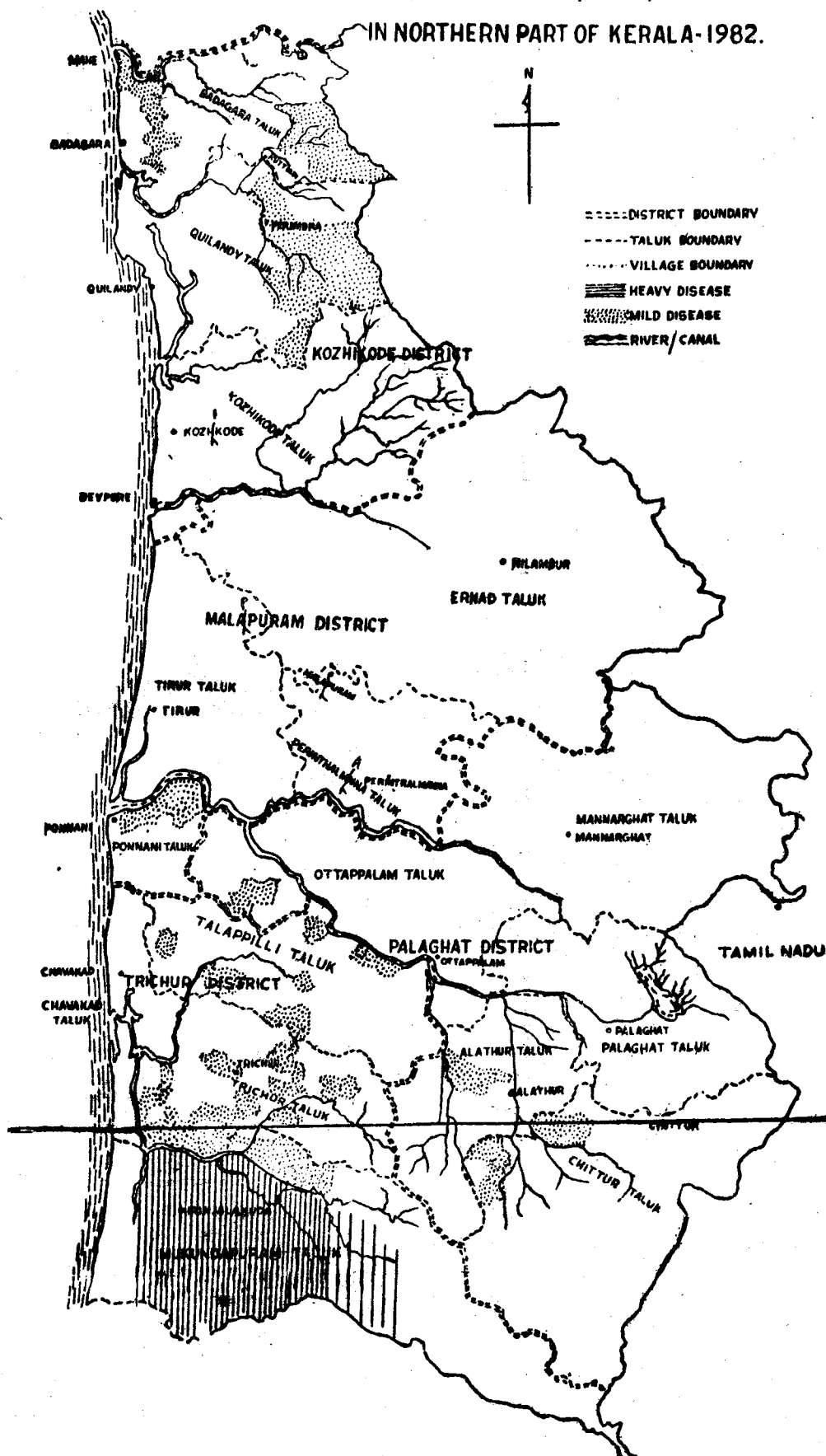


Fig. 1

revealed a total of 63 disease affected palms distributed in 9 villages (Anon. 1982).

The salient features of the occurrence of the disease in northern Kerala (Fig 1 and Table 1) are:-

1. Sporadic distribution of the disease in isolated locations affecting single palms as at Badagara, Ponnani and Talappilly Taluks.
2. In general, the occurrence of disease in young palms (10-25 years) in isolated gardens towards the periphery.
3. The disease occurs in varied soil conditions from the eastern hilly tract to the coastal belt.
4. Severe disease symptoms, incidence of disease in adult palms (40-60 years) and concentration of the disease occur in eastern hilly areas. In gardens at lower elevations and low lying areas adjacent to paddy fields as at Varandappally, Amballur, Perambra, Avinisseri, Ayyanthole and Madakkathara.

### The Approach

The occurrence of the disease in varied situations and its widespread incidence in isolated pockets calls for a critical evaluation of the probable factors contributing to the

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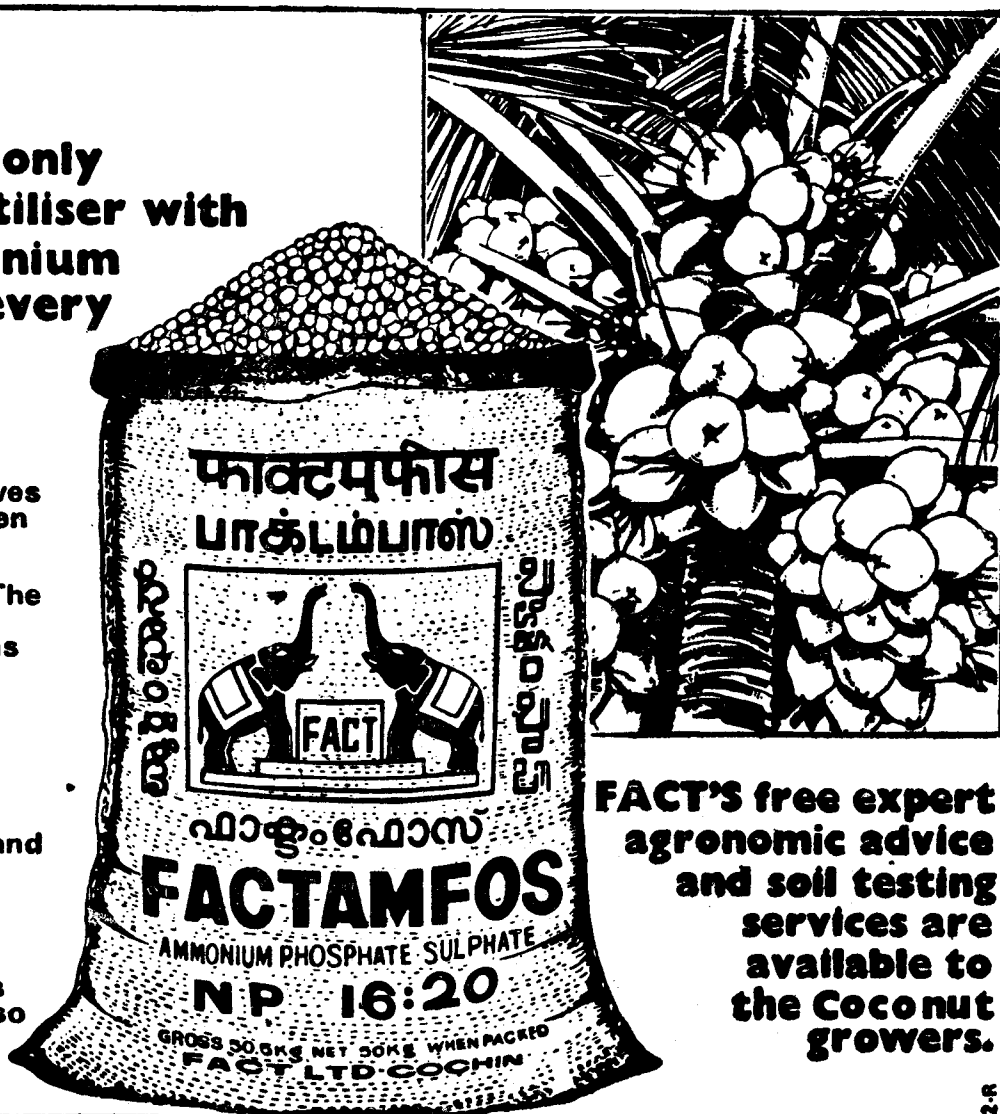
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development of disease. The role of biological agents already implicated / associated with the disease, soil conditions inciting / pre-disposing the crop, variations in host response to the inter-actions of the associated factors, or a simple aberration in host physiology leading to a chain reaction of the ubiquitous soil fauna/flora contributing to the condition which is recognised as root (wilt) disease need elucidation. Until an effective control measure is evolved, the eradication programme implemented by the CPCRI in 1979 based on the earlier experience of checking re-appearance of the disease for 6 to 9 years in two locations (Nadathra and Shencottah) appears to be the possible strategy to 'contain the disease'. Available information from the present programme indicates that the recurrence of the disease in the belt area from where 300

diseased palms were removed in 1979 is considerably low even in villages like Varandarappally and Amballur which are adjacent to heavily diseased area and very low to nil in the villages along Karuvannur river.

#### Acknowledgement

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**Table I**  
Distribution of Coconut Root (Wilt) Disease North of The Protective Belt\*

District	Taluk	Number of disease affected			
		Villages	Gardens	Palms	
1. Trichur	Mukundapuram	4	243	570	
	Trichur	25	224	550	
	Talappilly	6	6	6	
2. Palghat	Ottappalam	1	2	2	
	Alathur	1	3	5	
	Chittur	3	4	15	
3. Malappuram	Ponnani	2	3	3	
4. Kozhikode	Badagara	4	4	4	
	Quilandy	5	28	59	
<b>Total</b>	<b>4</b>	<b>9</b>	<b>51</b>	<b>517</b>	<b>1214</b>

\*Karuvannur river and Amballur - Palappally road