

Chowghat Green Dwarf - A suitable variety for the coconut root (wilt) diseased tract

R.V. Nair, M.G. Rajesh and P.M. Jacob

Central Plantation Crops Research Institute, Krishnapuram (P.O.), Kayangulam, Kerala - 690 533

The coconut root (wilt) disease, reported over a century ago in Kerala, is contiguously prevalent in 8 southern districts from Thrissur to Thiruvananthapuram. Most of the best coconut palms growing in this diseased tract have succumbed to the disease, resulting in heavy loss to the tune of 968 million nuts annually. Studies carried out at Central Plantation Crops Research Institute and observations made on the Chowghat Green Dwarf palms in the disease endemic area revealed that the CGD palms are disease free when compared to other varieties. Therefore it will be useful to examine the characteristic features of this variety.

Typical CGD palms are short in stature with circular crown. They usually live for 40 to 50 years. The crown bears 28 to 30 leaves. The leaves are short with short and narrow leaflets. The plant reaches a height of about 4.5 meters at 35 years of age. The stem is narrow with prominent leaf scars and short inter nodes. The palms generally start flowering at the age of 3-4 years.

Inflorescence bears both male and female flowers. Both self and cross-pollination occur in nature in CGD in contrast to the popular W C T variety where cross - pollination is the general rule. In CGD, the male phase remains for an average of 16 days from the date of opening of spathe and the female phase remains for an average of 5 days. The intra spadix overlapping for the male and female phase is found to be four days with no inter-spadix overlapping. While 80 percent of the palms are usually alternate in their bearing habit, 20 percent of them are regular bearers. They usually produce 8 to 9 inflorescence per year with an average yield of 75 nuts-per palm per

year.

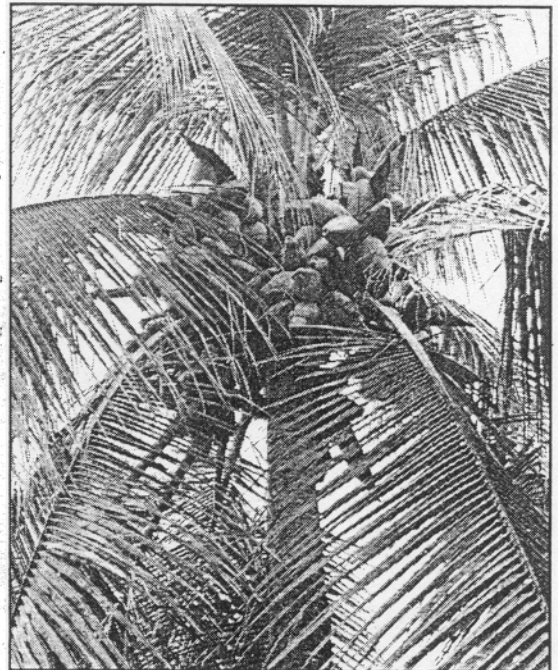
About 38 percent of the total female flowers set fruit. Another characteristic of this variety is that majority of the unfertilised buttons are retained in the inflorescence even after they become dry.

Fruits are green, small sized and oblong with prominent beak. Fruits have an average weight of 450 gm. with a nut weight of 190 gm/nut. Tender nut water is sweet with a total sugar content of 4.8 gm per 100 ml. Copra content is about 75 gm per nut. Oil content is 66% with oil yield of 0.65 tonnes/hectare. The copra and oil content are comparable with other varieties.

In a survey of 400 CGD palms in the hot spot areas for root (wilt) disease, it was observed that only 25% of them are having the root (wilt) disease. Rest of the CGD palms show characteristics intermediate, between CGD and WCT. In the root (wilt) disease tracts where large percentage of the palms are diseased and show heavy decline in yield, this variety can be closely planted even in courtyards adjacent to houses and buildings because of its short stature and smaller crown. Even older palms of this variety can be harvested from the ground itself, an advantage to circumvent the shortage of climbers experienced in this region.

Although many CGD palms are found growing in the diseased tract, only some of them are having the true characters of CGD. In a study of 100 CGD palms in the hot spot areas for root (wilt) disease, it was observed that only 32% of them showed typical character of CGD,

as described in this article. These typical dwarfs, when crossed with tall, produce high yielding hybrids, which have the ability to yield more than 100 nuts per palms per year. CPCRI has laid out a trial of these hybrids (CGD X WCT and WCT X CGD) utilising the typical disease - free and high yielding palms of CGD and WCT found in the disease endemic tracts in the districts of Alappuzha, Pathanamthitta and Kottayam. These mother palms are also being utilised for producing planting materials for seed gardens, being established at CPCRI (R.C) Kannara, DSP farm of Coconut Development Board at Neriamangalam in Ernakulam District and District Agricultural farm at Mavelikkara, Allappuzha District. DSP farm at Neriamangalam has a good collection of yielding CGD palms and planting materials of this variety will be available to farmers for general cultivation from there.



CGD variety