

## Indian West Coast Tall (WCT)

Ratnambal MJ, Kumaran PM, Bashkara Rao EVV, Pillai RV

### Conservation

Indian West Coast Tall (WCT) is conserved at the Central Plantation Crops Research Institute in Kasaragod (Kerala), India.

### History

Known in India as the ordinary Tall variety, WCT has been extensively cultivated since ancient times and thus, may be considered indigenous to the country.

### Identification

The Indian West Coast Tall grows to 15-18 m with a stem girth of 75-79 cm and a distinct bole. The leaves are long with medium-sized strong petioles. The inflorescences have distinct male and female phases. The palm is allogamous. The fruits vary in colour from green to greenish yellow to different shades of brown. The shape of the fruit varies from oval to oblong. The husk is 52% of total fruit weight. The husked nut is 566g with 283g of kernel.

### Yield and production

Fruiting starts 6-8 years after planting, producing 8-13 bunches per palm per year with yields of 80 fruits per palm at Kasaragod. In mature palms, the fruits weigh over 1 kg (1195g), producing 160g copra per nut with 68% oil content. The palm yields 3 t copra per ha and 2 t of oil per ha. The variety yields 74 fruits per palm with 180g of copra per nut in Karnataka; 90 fruits per palm with a copra yield of 2.4 t per ha and oil yield of 1.7 t per ha in Ratnagiri (Maharashtra); and 34 fruits per palm with 5.8 kg of copra per palm in Veppankulam (Tamil Nadu). Some palms yield up to 471 fruits per palm per year.

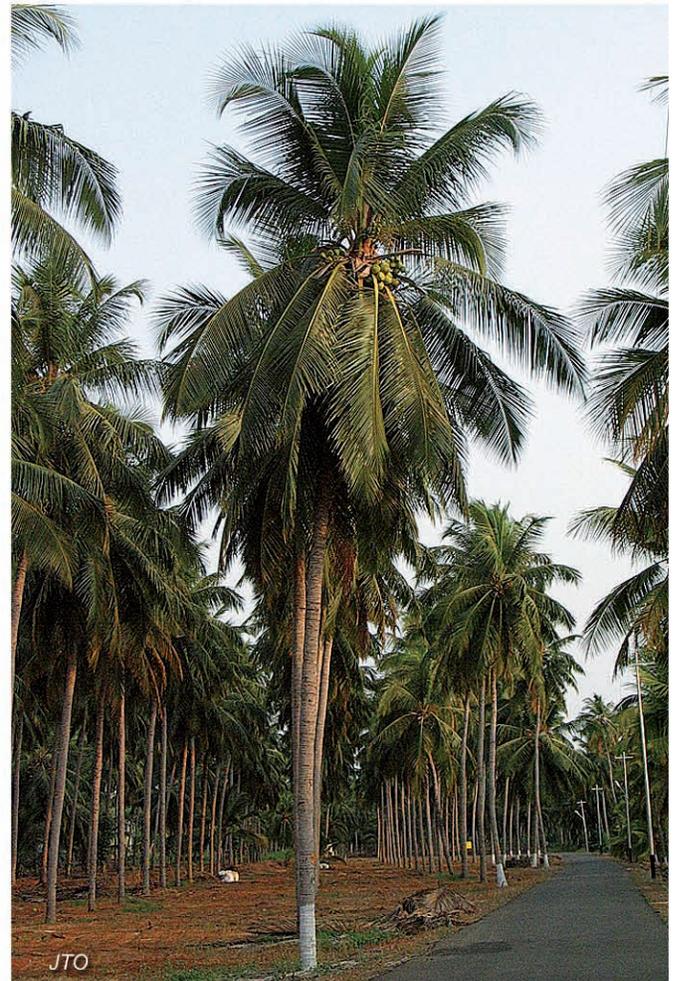
### Other information

West Coast Tall is popular along the west coast of India. It is a high yielder under good management conditions and the husk, being of good quality, is extensively used in making coir and coir products. The palm also yields good quality and quantity of coconut sap or toddy which can be made into jaggery or sugar. It is tolerant to drought. It is sensitive to root wilt in Kerala, bleeding disease, leaf blight disease and basal stem rot. It is moderately tolerant to the burrowing nematode. West Coast Tall is one of the cultivars recommended for planting in Kerala, Karnataka, Gujarat, Orissa, Maharashtra, Goa and Lakshadweep and as parent for the production of Dwarf x Tall and Tall x Dwarf hybrids. It was used as the male or female parent for the following released varieties: Chandrasankara (COD x WCT), Kerasankara (WCT x COD), Keraganga (WCT x GBGD) and Kerasree (WCT x MYD). These hybrids gave 20-35% more nut and copra yield than the parents.

### References

- Indiresh KM, Hanumanthappa H, Shankar S, Mahrudrappa K, Palanimuthu V. 1997. Evaluation of coconut germplasm in Maidan tract of Karnataka. *Indian Coconut Journal* 28:2-4.
- Jacob PM, Nair RV, Rawther TSS. 1998. Varietal resistance. In: Nampoothiri KUK, Koshy PK, editors. *Coconut root (wilt) diseases*. Central Plantation Crops Research Institute, Kasaragod, Kerala, India. pp 97-104.
- Mathai G, James M, Balakrishnan B. 1991. Reaction of exotic cultivars of coconut (*Cocos nucifera*. L) to root (wilt) disease of Kerala. In: Silas EG, Aravindakshan M, Jose AI, editors. *Coconut Breeding and Management*. Kerala Agricultural University, Thrissur, Kerala, India. pp 161-164.

# Indian West Coast Tall (WCT)



## Indian West Coast Tall Spicata (WCT01)

Ratnambal MJ, Kumaran PM, Bashkara Rao EVV, Pillai RV

### Conservation

Indian West Coast Tall Spicata (WCT01) is conserved at the Central Plantation Crops Research Institute in Kasaragod (Kerala), India.

### History

This type of palm was named 'Spicata' by Jacob (1941), although such palm may have been described earlier. Unbranched inflorescences appear very rarely. Davis (1959) also reported a Tall palm with a massive spadix bearing 416 female flowers. 'Spicata' palms occur in different varieties; Thampan (1981) reported that different palms of 'Spicata' in Indonesia were similarly named.

### Identification

The palms grow up to 8 m with about 32 leaves on the crown of a 35-year old tree. The leaf length is 527 cm, with 223 leaflets which are 129 cm long and 5.7 cm wide. Inflorescences are long with large and stout petiole. 'Spicata' palms cross freely with other coconut varieties. In Kasaragod, 50% of the natural progeny breed true-to-type of the mother palm. Ratnambal *et al.* (2000) reported the occurrence of 1:1 *Spicata*: typical ratio in a trial in Kasaragod. The palms start flowering about eight years after planting. The inflorescence is without spikelets and the number of female flowers is very high, which range from 170-560. The branches are heavily packed with medium-sized nuts. The fruit is oblong in shape with a beak. The fruit is either green or greenish yellow with a thin husk (25.4%). The nut is round with a thin shell and thick kernel.

### Yield and production

The palm starts fruiting 10 years after planting and yields 80 to 150 nuts per palm, with a copra content of 208g and 66% oil. In Veppankulam, under the trials in the All India Coordinated Research Project on Palms, the yield was 86 fruits per palm with a copra yield of 10.8 kg per palm. In Arsikere, the average yield of nuts per tree was 73 with 117g of copra per nut, giving 8.5 kg of copra per palm.

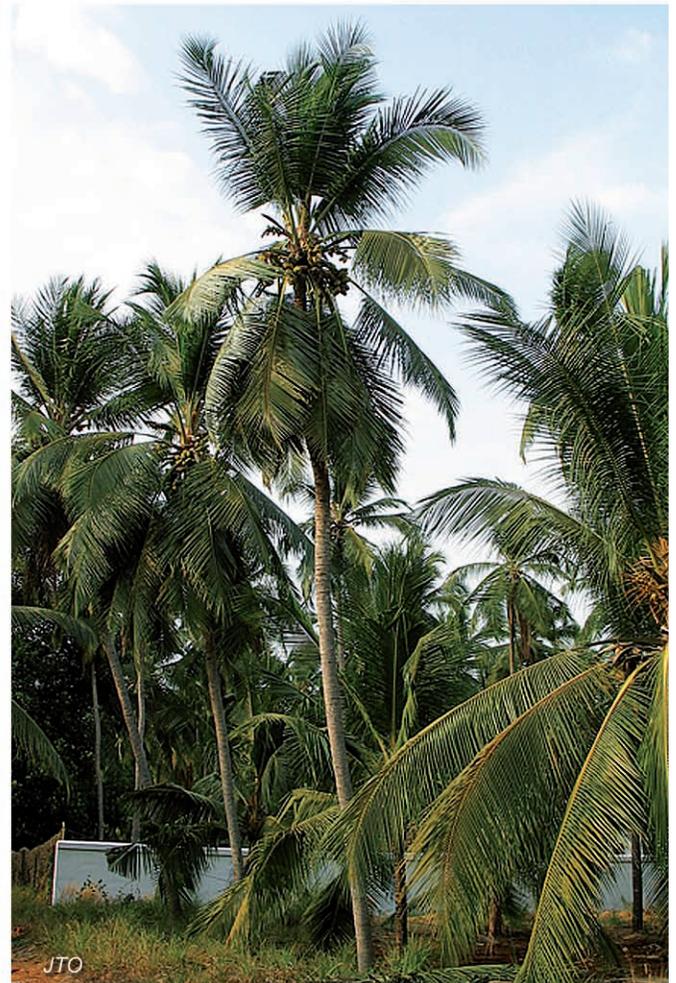
### Other information

The large number of female flowers in this variety can be exploited in breeding programmes.

### References

- Davis TA. 1959. Coconut palm possessing characteristic unbranched bunches. *Coconut Bulletin* 13:71-73.
- Indiresk KM, Hanumanthappa H, Shankar S, Mahrudrappa K, Palanimuthu V. 1997. Evaluation of coconut germplasm in Maidan tract of Karnataka. *Indian Coconut Journal* 28:2-4.
- Jacob KC. 1941. A new variety of coconut palm (*Cocos nucifera* L var. *spicata* KC Jacob). *Journal of Bombay Natural Historical Society*, Bombay, India.
- Ratnambal MJ, Krishnan M, Devadas K. 2000. Popular coconut cultivars of Goa. *Indian Coconut Journal* 31:1-3.
- Thampan PK. 1981. Varieties of coconut. In: PK Thampan, editor. *Handbook on coconut palm*. Oxford and IBH Publishers Co. New Delhi, India.

Indian West Coast Tall Spicata  
(WCT01)



## Kappadam Tall (KPDT)

Ratnambal MJ, Kumaran PM, Bashkara Rao EVV, Bourdeix R.

### Conservation

According to the 2002 CGRD database, the Kappadam Tall is represented by 4 accessions totalling 173 living palms. The seednuts of this variety were brought to Kasaragod Research Centre, India, in 1935, and sent to Côte d'Ivoire in 1966. In the latter country, due to poor transportation conditions, only 13 seednuts could be saved and finally gave plants; when the accession was renewed, ten parents were used to reconstitute a population of 50 palms. This population may differ substantially from the original accession.

### History

Kappadam Tall, also known as 'Chappadan' in some parts of Kerala, is a robust palm from the southwest coast of India. This cultivar was brought to Kasaragod in 1935. Open-pollinated progenies were planted in 1972 in a replicated trial. An *inter se* population of this cultivar was planted in the International Coconut Genebank for South Asia in Kidu, Karnataka. KPDT is also being maintained at the experimental stations in Aliyarnagar and Veppankulam (Tamil Nadu) and Ratnagiri (Maharashtra). This cultivar was exported to the Marc Delorme Station, Côte d'Ivoire in 1968.

### Identification

Compared to other Indian varieties, the Kappadam gives the heaviest fruits with relatively low husk content (30%). Of course, some varieties from Southeast Asia bear heavier fruits with thinner husk. Kappadam fruits, which are predominantly green and oblong to round in shape, end in quite a pronounced point, but without a nipple. The palm grows to a height of 13 m. The stem girth at 1 m height is 86 cm. There are 25 leaf scars on the stem between 1 and 2 m from the ground. The leaf is 3.7 m long with 194 leaflets. The leaflets are long and broad measuring 133 cm and 5.1 cm, respectively. The palms are strictly cross-pollinating since there is no intra- or inter-spadix overlapping between male and female phases. The palm produces 12-13 inflorescences annually with about 24% fruiting.

### Yield and production

Kappadam flowers seven years after planting, yielding 58-80 fruits per palm per year. The average annual nut yield is 58 fruits per palm in Veppankulam and 83 fruits per palm with 15.2 kg of copra at Arsikere (Karnataka). KPDT is a regular bearer and the nuts are large. On average, the fruits weigh 1200g to 1510g in Côte d'Ivoire, and 1200g in India. The inner nuts weigh 740 to 870g. The kernel weighs 370g in Côte d'Ivoire and 510g in India, and gives 215 to 280g of copra when dried. In Côte d'Ivoire, the second generation was planted on poorer soil and the fruits were smaller.

In Côte d'Ivoire, yields are lower, at around 1.6 t of copra per hectare on average from 9-10 years, i.e. slightly less than the West African Tall (WAT).

### Other information

This variety is moderately tolerant to *Radopholus similis*, but is not popular with many farmers due to its low nut yield. However, due to its large nut size and high yield of copra, this variety is attractive to some farmers. KPD has yet to be widely used in breeding programmes. In India, it has been crossed with the West Coast Tall (WCT). In Côte d'Ivoire, it has been crossed with improved WAT and RIT Tall testers.

### References

- Bourdeix R, Konan JL, N'Cho YP. 2005. Coconut: A guide to traditional and improved varieties. Editions Diversiflora, Montpellier, France.
- Indiresk KM, Hanumanthappa H, Shankar S, Mahrudrappa K, Palanimuthu V. 1997. Evaluation of coconut germplasm in Maidan tract of Karnataka. Indian Coconut Journal 28:2-4.

Kappadam Tall (KPDT)

