High-yielding coconut hybrid
VHC 4 (LCOT x CCNT) for Tamil Nadu

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The genetic resources in coconut are widely exploited through selection and hybridization for a number of desirable traits and have resulted in the development of many varieties in India. Breeding efforts are mostly confined to conventional approaches such as mass selection and hybridization, besides attempts to use individual palm selection for novel traits. Crop improvement research, encompassing enrichment of coconut genetic resources, characterization, utilization and evaluation of germplasm/hybrids has resulted in development of improved coconut varieties. Based on multi-location trials, superior lines have been selected and released for cultivation in different parts of the country. Till date, about 48 improved varieties of coconut, including 20 high yielding hybrids have been released for cultivation in India, with yield potential of 84-167 nuts/palm/year or 1.8-4.6 tonnes of copra/ha/year. In coconut with its perennial nature, heterozygosity, long juvenile phase and lack of technologies for mass propagation of palms with targeted traits are the challenges in breeding efforts.

To develop coconut hybrid with high nut yield, tender nut-water content, copra recovery and oil yield, 14 cross combinations involving high-yielding parents were evaluated since 1986 in different centres of the All-India Coordinated Research Project (AICRP) on Palms. This resulted in the identification of a superior high- yielding cross combination, LCOT × CCNT, at the AICRP-Palms Centre, Veppankulam (TNAU, Tamil Nadu). It is a Tall × Tall combination; first of its kind in the country as well as in the South Asia. The hybrid LCT x CCNTat the age of 28 years had grown to a height of 13.4 m with a girth of 98 cm with circular crown shape and have the potential to produce 12 leaves per year. Nut characteristics of LCT x CCNT revealed that whole nut weight (1052g), dehusked nut weight (567g), kernel

Crown view of the hybrid LCT x CCNT

Performance of LCT x CCNT hybrid at AICRP-Palms Centre, Veppankulam			
Nut yield an copra out turn		Tender nut quality	
Nut yield / palm / year	161	Volume of tender nut water (ml)	300.0
Whole nut weight (g)	1052 g		
De-husked nut weight (g)	567 g	TSS (o Brix)	5.5
Copra content (g/nut)	149.8		
Copra yield (kg/ palm/year)	24.12	Total Sugars (g/100 ml)	5.8
Copra out turn (t/ha/year)	4.22		
Oil content (%)	70.0		

thickness (1.17cm), kernel wt. (275g), shell wt. (145g) and copra weight (149.8g). The average nut yield recorded over twelve years from 2001 to 2014 indicated that hybrids on an average it produces 161 nuts per palm per year and with respect to copra out turn, it produces 24.12 kg/ palm and it works out to 4.2 t/ha of coconut garden. The tender nut water quantity is 300 ml per nut with TSS of 5.50 Brix, total sugar content of 5.8 g/100ml. The mean nut yield of the hybrid during the stabilized bearing period was 161 nuts/palm/year, which was higher than ECT, VHC 2 and VHC 3 by 62.6, 43.8 and 11.0 %, respectively. This hybrid was released in May 2015 as VHC 4 for Tamil Nadu during the 24 Annual Group Meeting of the AICRP, held at the ICAR-Central Coastal Agricultural Research Institute, Goa.■

Shri. Saradindu Das, CCDO, CDB hoisting the National flag during the Republic Day celebration at CDB, HQ premises.