

ARECANUT DWARF HYBRIDS

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Arecanut (*Areca catechu* L.) belonging to the family Arecaceae is an extensively cultivated tropical palm. Arecanut crop improvement programmes started at ICAR-Central Plantation Crops Research Institute, Regional Station, Vittal, Karnataka, with the mandate to improve the production and marketing of arecanut. Comprehensive collection of germplasm (both indigenous and exotic), has been made and screening them under uniform conditions is being done. On the basis of comparative yield trials of indigenous and exotic accessions, promising tall and semi tall cultivars were selected and released as varieties. Under the evaluation of indigenous accessions, the varieties Mohitnagar, Kahikuchi, Madhuramangala, Nalbari and more recently Shatamangala with high yield potential have been released for commercial cultivation. By evaluation of exotic germplasm and selection for high yield and its attributes, the varieties released were Mangala, Sumangala, Sreemangala and Swarnamangala.

Though tall varieties possess high yield potential, they are prone to wind damage and further the tall nature of the palm hinders various operations like spraying and harvesting which are quite labour intensive and cumbersome. Therefore, arecanut breeding programs in addition to yield improvement are also aimed at development of dwarf varieties/hybrids. Hirehalli Dwarf (HD) a natural mutant identified for its short stature is a good genetic

source for arecanut improvement. Dwarf varieties with high yield potential will directly benefit the growers by way of enhanced returns and reduced cost of various cultural operations like harvesting, spraying, in addition to minimising damages to palms due to heavy wind owing to greater mechanical support of the stem. Therefore, the exploitation of dwarfing genes in breeding dwarf hybrid varieties with high yield potential was initiated. Hybrids involving Hirehalli Dwarf (HD) and released high yielding tall/ semi tall varieties (Mangala, Sumangala, Sreemangala and Mohitnagar) as parents, were developed and evaluated for yield performance and dwarfness. Among the hybrids, HD x Sumangala and HD x Mohitnagar were identified as superior for yield with relatively dwarf plant habit and recommended for cultivation as, VTLAH-1 (Vittal Arecanut Hybrid-1) and VTLAH-2 (Vittal Arecanut Hybrid-2), respectively.

a. VTLAH -1: Vittal Arecanut Hybrid-1

This hybrid between Hirehalli Dwarf (female parent) and Sumangala (male parent) is relatively dwarf in plant habit and was recommended for release during 2007. The palms have sturdy stem with super imposed nodes, reduced canopy size, well spread leaves, partial drooping crown. The fruits are medium sized, oval to round in shape and yellow-orange in color. Early stabilization in yield and high

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recovery of chali (26.45%) are the other striking features of this hybrid. The average chali yield of this hybrid is 2.54 kg/palm/year. This variety is recommended for commercial cultivation in arecanut growing tracts of Karnataka.

recommended for release during 2007. Medium thick stem with super imposed nodes, reduced canopy size, well spread leaves, drooping crown, medium sized oval nuts, early stabilization in yield and high recovery of chali



VTLAH-1 (Vittal Arecanut Hybrid-1)



VTLAH-2 (Vittal Arecanut Hybrid-2)

b. VTLAH -2: Vittal Arecanut Hybrid-2

Vittal Arecanut Hybrid-2, involving Hirehalli Dwarf (female parent) and Mohitnagar (male parent) is dwarf in plant habit and was

(28.53%) are the striking features of this hybrid. The average chali yield of this hybrid is 2.64 kg/palm/year. This variety is recommended for commercial cultivation in Karnataka.

Table 1: Arecanut hybrids developed by ICAR-CPCRI

Dwarf hybrids	Dry kernel yield (kg/palm/year)	State for which recommended	Year of release
VTLAH-1	2.54	Karnataka	2007
VTLAH-2	2.64	Karnataka	2007
