

HIGH YIELDING VARIETIES OF ARECANUT

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The arecanut palm (*Areca catechu* L.) occupies a prominent place among the cultivated crops in India especially in the states of Assam, Kerala, Karnataka, West Bengal, Meghalaya, Maharashtra, Tamil Nadu and Andaman & Nicobar group of Islands. Research efforts by way of improved varieties and associated technology developed at the research institutes combined with developmental activities had considerable impact on increasing the production and productivity of arecanut. The area under arecanut in India was 0.196 million ha during 1955-56 which increased to 0.236 million ha during 1994-95, recording an increase of 123 % over a period of 40 years. The production for the corresponding period has increased from 0.081 million tonnes to 0.272 million tonnes (236% increase). The productivity increased from 850 kg/ha in 1957-58 to 1156 kg/ha during 1994-95. Thus the increase in production was not only due to increased area under cultivation but also increased productivity contributed by superior varieties, supply of quality planting materials, better agro-techniques and plant protection.

Evaluation of exotic and indigenous accessions and selection for high yield and its attributes have resulted to identification of varieties for different agroclimatic conditions of the country.

Salient features of the arecanut varieties

A: EXOTIC SELECTIONS

Mangala (VTL-3)

Among the exotic collections, under evaluations for yield and its component traits, cultivar VTL-3 introduced from China was found to have a number of desirable characters such as earliness in bearing, more number of female flowers per inflorescence, higher nutset, higher yield (initial and cumulative) quicker stabilization of production and lesser height on compared to local south kanara variety. The cultivar was released for coastal areas of Karnataka and Kerala upto an altitude of about 800 meters above MSL in 1972 for commercial cultivation under the name 'Mangala' which is characterized by partially drooping crown with well spreaded leaves and having more number of leaflets as compared to south kanara local. The leaflets are dark green in colour with characteristic crinkling at the tip.

Somangala (VTL-11) and Sreemangala (VTL-17)

Critical observations recorded on the exotic and local (South Kanara) showed that the cultivars introduced from Indonesia (VTL-11) and Singapore (VTL-17) had a higher number of desirable characteristics as compared to local South Kanara. There was an increase in yield of 63% and 48%, respectively in VTL-11 and VTL-17 over local control. In view of the

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significant yield increase in VTL-11 and VTL-17, these two varieties were released for all the areca growing areas in general and Dakshin Kannada (Karnataka) in particular as Sumangala and Sreemangala in 1985. These varieties have an yield increase of 62.89 and 47.59 per cent over South Kanara local and 53.33 and 38.93 per cent over Mangala.

Sumangala is a tall type with partially drooping crown. Under good management palms flower in 4-5 years. The colour of the ripe nuts is deep yellow to orange and oblong to round in shape. The variety recorded an average yield of 17.25 kg of ripe nuts per palm per year at the age of ten years.

Sreemangala arecanut palm is tall with partially drooping crown with longer internodes and sturdy stem. It starts flowering in 4-5 years. It is high yielder with an average yield of 15.63 kg ripe nuts per palm per year. Ripenuts usually oblong to round in shape with deep yellow colour.

B: INDIGENOUS SELECTIONS

The evaluation of indigenous collections of Mohitnagar, Calicut-17 and SAS-1 cultivars showed higher yield potential over others.

Mohitnagar:

Mohitnagar, an indigenous variety from Mohitnagar, West Bengal with high yield potential has been recommended for release during 1991. The important feature of this variety is its greater uniformity. The bunches are well placed and nuts are loosely arranged on spikes which help in their uniform development and also enable efficient plant protection measures. Early stabilization of yield as compared to Sumangala and Sreemangala is also noticed. The variety is consistent high yielder with an average yield of 15.08 kg ripe nuts per palm per year. This variety was released for cultivation in West Bengal and coastal areas of Kerala and Karnataka.

Calicut-17

The variety Calicut-17 (indigenous to Andaman and Nicobar islands) is tall in nature with longer internodes and crown as compared to Mangala. The striking features of this cultivar are its consistent and high yielding potential (average of 18.89 kg ripe nuts per palm per year with a kernel weight of 4.34 kg per palm per year), well placed bunches with round and bold nuts. This cultivar has been released for commercial cultivation in Andaman and Nicobar islands during 1995 where it has exhibited the best performance as compared to Mangala and other cultivars.

SAS-1

This variety is characterised by tall palms with compact canopy. Nuts are round and even sized and closely arranged on compact bunches. This variety is a regular bearer and has higher procuring percentage. It is suitable for both tender and ripenuts processing. It has got the potential to yield about 4.60 kg chali per palm per year. The variety has been recommended for traditional arecanut growing valleys of Sirsi hill zone of Karnataka.

Table: Distinguishing characters of released varieties of arecanut

Variety	Growth habit	Shape and size of nut	Chali yield(kg/palm)	Year of release	Recommended agro-climatic area
Mangala	Semi tall, early bearing	Round and small	3.0	1972	Coastal Karnataka and Kerala
Sumangala	Tall	Oval and medium	3.28	1985	Karnataka and Kerala
Sreemangala	Tall	Round and oval	3.18	1985	Karnataka and Kerala
Mohitnagar	Tall, homogenous	Oval to round medium	3.67	1991	West Bengal, Kerala and Karnataka
Calicut-17	Tall, sturdy	Elongated and bold	4.37	1995	Andaman and Nicobar islands
SAS-1	Tall, compact canopy	Round and medium	4.60	1995	valleys of Sirsi of Karnataka

Conclusion

Research and developmental efforts in arecanut have contributed immensely to the remarkable increase in the production and productivity of arecanut in our country. Among the various achievements in the field of arecanut research the release of high yielding varieties of arecanut assumes great significance. Mangala, Sumangala, Sreemangala, Mohitnagar, Calicut-17 and SAS-1 are the improved varieties released in arecanut. All these varieties are having high yield potential and other desirable features

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