Traditional Coconut Varieties

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Introduction

The Regional Agricultural Research Station (RARS) aims to strengthen agricultural research in the northern, comprising the districts of Kasaragod, Kannur, Kozhikode and Malappuram of Kerala state. The thrust area of research is to perform as the leading centre for research on coconut and coconut-based farming system. Regional Agricultural Research Station, Pilicode of Kerala Agricultural University which completed 100 years of its service since 1916 conserves unique coconut germplasm of indigenous and exotic types. The station maintains a unique collection of over 106 coconut germplasm in different blocks consisting of 56 indigenous collections along with 50 old germplasm including exotic species previously preserved in the station. The research station has developed various coconut varieties including Kerasree, using the germplasm maintained. The genetic makeup of indigenous species is an important contribution that will pave the way for future new varietal development. Germplasm conservation is of paramount importance for the preservation of valuable genetic material and also for future new varietal development as these are storehouse of many qualities like resistance to pests and diseases, drought resistance, yield potential, qualities related to enhance production. Traditional plant breeding methods like introduction, selection and hybridisation, with necessary modifications have been successfully employed for yield improvement in coconut. Hybrid vigour in coconut was first reported from this station. The first ever hybrid T x D (WCT x CDG) was developed and planted at Nileswar campus during 1936 which still exists at this campus. Later under the crop improvement programme the station had released eight high yielding coconut varieties.

Plant Habit

The major classification of coconut based on stature or height is as follows:

(1) Tall palms: Which are also referred to as var. typica.They are commonly cultivated in all regions of the world both for household and commercial purposes. They grow to a height of 20-30 m. They are slow maturing and starts flowering 6-10 years after planting. They are long-lived with an economic life of about 60-70 years. They are normally cross-pollinated and therefore considered to be heterozygous. Among the indigenous tall cultivars, West coast tall, Komadan, Kappadam, Andaman Ordinary, Lakshwadweep ordinary, Ayiramkachi, Basanda, Benaulim, Kuttiyadi etc. are popular and has good nut production and copra yield.

(2) Dwarf palms: Which are also referred to as var.nana.The dwarf palms are assumed to be mutants from tall types. The dwarf palm is short in stature and grows to a height of 5-7m. They start bearing early at about third year of planting. They have a short productive life of 30-40 years. They are normally self-pollinated and therefore considered to be homozygous. The dwarf palms occur with three nut colours viz. green, yellow, and orange. These are generally grown for tender nuts and also for hybrid production.

Four of the most popular indigenous dwarf cultivars are Chowghat Green Dwarf, Chowghat Orange Dwarf and Gangabondam.

The details of some popular tall and dwarf germplasm varieties conserved at Regional Agricultural Research Station, Pilicode are given below.

West Coast Tall

West Coast Tall (WCT) is a popular tall cultivar along the west coast of India. It is a high yielder under good management conditions. WCT has been extensively cultivated as it can grow in varied agroclimatic conditions and soil types. The inflorescences have distinct male and female phases. The palm is cross pollinated. 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. This cultivar commences to yield in about 6 to 8 years after planting under favourable conditions. This variety is useful for household purposes such as production of copra, coconut oil, coir etc. The palm yields good quality and quantity of coconut sap or toddy which can be used for producing into jaggery

or sugar. It produces good quality husk which is extensively used in making coir and coir products. It is tolerant to drought. Annual average yield is 60 to 80 nuts per palm. Copra content is 165 g/ nut. The variety is excellent for tapping and tender coconut production. The WCT variety shows greater resistance to pests and diseases.

Kappadam

This variety is seen most predominantly in Thrissur district of Kerala. Kappadam has large sized nuts with relatively low husk content. Kappadam nuts are predominantly green and round, ellipsoidal to oval shape and end in quite a pronounced point. The palms are strictly cross-pollinating since there is no intra- or inter-spadix overlapping between male and female phases. Kappadam has long pre bearing period of 8 to 10 years after planting. Average annual yield is 60-80 fruits per palm. Copra content per nut is 285 g.

Komadan

This variety is seen most predominantly in Central Kerala and Northern Kerala. Komadan with its regular bearing habit is a tall variety that produces green coloured nuts. Komadan has greater nut production potential than WCT. Average annual yield is 120 nuts per palm. Copra content per nut is 150 -180 g. This variety is good for cooking purposes, making

copra and also for coir production. This variety is highly suitable for tender coconut water and also for making toddy. It yields more than 300 ml volume of tender nut water.

Spicata

This is a tall variety of coconut having unbranched inflorescence or sometimes with one or two spikelets. The number of female flowers is very high. The branches are heavily packed with medium-sized nuts. The palms start flowering in around five to eight years after planting. The fruit is oblong in shape with a beak. The fruit is either green or greenish yellow with a thin husk. This variety is suitable for making copra and for household purposes. Average annual yield is 60 to 80 nuts per palm. Copra content per nut is 180g.

Lakshadweep Ordinary

This variety is a native of Lakshadweep. which is a Tall variety, similar to West Coast Tall in almost all characters. The palms start flowering from about 5 to 6 years after planting and is drought tolerant. Nut colour at maturity is orange green and round in shape. The average annual yield is 100 to 120 nuts per palm. These are recommended for good quality copra production. This variety is suitable for household purposes, tender coconut water and toddy. The tapping of this variety yields almost double the quantity of toddy produced from WCT. The copra content per nut is 160 g and the quantity of tender coconut water is 300ml which is very sweet.

Andaman Ordinary

This variery is largely grown in Andaman Islands. The palms are tall and massive in nature. This variety is drought tolerant suitable for rainfed and irrigated conditions. The variety starts producing fruits from 5 to 6 years after planting. This type is comparatively more vigorous than West Coast Tall in vegetative characteristics. These produces ovoid shaped nuts which are pale green in colour at maturity. Average annual yield is 80 nuts per palm. Copra content per nut is 173 g. The palm is also a good yielder of toddy. The variety is popular due to high yield and high

copra content even under rainfed conditions.

Sanramon

This variety is largely grown in Philippines. The palms produce bigger nuts and also a high yielder. Wide variation occurs in this type especially in relation to size and colour of nuts. Nut colour at maturity is green and it is round in shape. The variety is characterized by large fruits with average copra out turn of 377 g per nut and tender nut volume of 612 ml per nut. Annual average nut yield is 80 to 100 nuts per palm.

Chowghat Orange Dwarf

This variety is extensively grown in Chowghat regions of Thrissur district which is commonly known as " Gowrigathram or Chenthengu". This is an early flowering cultivar and takes around 3 to 4 years for initial flowering. The palms have characteristic orange colour on leaf petioles, inflorescences and fruits. Overlapping of male and female phase is noticed in this type. The palms show both self and cross pollination and hence it is noted that 80

percent of the progenies breed true to type, and the remaining 20 percent progenies as off types. The nuts are spherical and medium sized. Average annual yield is 80-100 nuts per palm¬ and copra content is 99 g. This has large number of female flowers in the inflorescence. This variety produces good quality tender coconut water and the quantity of tender nut water is 400 ml.

Chowghat Green Dwarf

This variety is one of the famous dwarf varieties of coconut in India which is extensively grown in Chowghat regions of Thrissur district. This variety is commonly known as "Pathinettam Patta". Which takes only 3-4 years to produce fruits. This is characterized by dark green colored nuts and leaves. This variety produces oblong nuts with a characteristic tapering end. There is overlapping of male and female phases and also has large number of female flowers in the spadix. It has alternate bearing nature. Average annual yield is 120 nuts per palm and copra yield is 90 g per nut.

Gangabondam

This is a semi tall type variety showing early bearing nature which produces dark green colored leaves and nuts and produce medium sized oblong nuts. This variety is widely used in many hybridization programmes for making hybrid seedlings. This type is early bearing and starts flowering in about 4 to 5 years after planting. Average annual yield is 80 nuts per palm and copra yield is 148 g per nut. It produces good quality and quantity of copra.

Conclusion

Studies on the trend analysis of area and production in coconut farming of Kerala state clearly shows that the state is gradually losing its days of coconut glory. Interventions are needed to be implemented to enhance the productivity and income from coconut farming as coconut is very closely associated with the socio-economic and cultural life of Keralites.Improvement in productivity has been the primary focus area of research to increase production which has resulted in the development of high yielding varieties and the hybridization programs in many countries. In addition to this, further strengthening of research and conservation of coconut palms is necessary to improve coconut farming and thereby benefit farmers in increasing the revenue.Thus collection, characterization, conservation and regeneration of both the indigenous and exotic germplasm is a growing need to meet the challenges of the breeder for long term crop improvement and also reducing the threat of losing the availability of wide genetic base of local varieties. ■