

An Elite Seed Garden for Cashew

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An Elite Seed Orchard for cashew of the Central Plantation Crops Research Institute was inaugurated on the 10th November, 1973 by Shri. K. H. Patil, Hon'ble Minister for Agriculture and Forests, Government of Karnataka, at a meeting presided over by Shri K. Sankara Alva, Hon'ble Minister for Co-operation, Government of Karnataka.

This seed garden is located at Shantigodu near Puttur (in the Narimogru Reserve Forest) in South Kanara District of Karnataka. It is a unique venture and the first of its kind in the country. Cashew comes to full bearing 7 years after planting. Programmes to multiply better planting material after a superior variety is isolated, or a hybrid evolved, following the usual procedures will be very time consuming. The present procedure of collecting seeds from high - yielding trees available at the Cashew Research Stations, or isolated high yielders from the plantations, will not meet even a fraction of our demand. At the Seed Garden, Central Plantation Crops Research Institute has envisaged an evaluation-cum-seed multiplication programme.

Cashew is one of the most important dollar-earning cash crops. India, Mozambique, Malagasy Republic, Tanzania, Kenya and Brazil are the important cashew producing countries of the world. In India, Kerala, Karnataka, Maharashtra, Tamil Nadu, Andhra Pradesh, Goa and Orissa are the important cashew-growing

States. The total annual production of India is estimated to be 2,04,600 tonnes of raw nuts. At the same time India is importing raw nuts from African countries worth Rs. 30 crores per annum to cater to the needs of over 320 processing factories. These factories provide employment to lakhs of people. India with an export of 60,000 tonnes of processed nuts, accounts for 60% in the international market earning an annual foreign exchange of over Rs. 60 crores. It is the second biggest dollar-earning commodity among the plantation crops. While our export of cashew has been fairly steady for the last few years, the proportion from India in the world market has been going down. The availability of raw nuts from Africa is likely to stop in the next few years as they have begun to install their own processing units. The need for increasing cashew export is imperative. There is also a good scope for increasing internal consumption. It is estimated that the total requirement of raw nuts by 1980 will be about 4.4 lakh tonnes. From then on, our entire requirements may have to be met solely from internal production and towards this end, our production of raw nuts has to be increased gradually to this level. By 2000 A. D. the estimated demand has been assessed at 7.1 lakh tonnes of raw nuts. To achieve the targetted increase in production, the National Commission on Agriculture has estimated that an additional area of

about 3.8 lakh hectares have to be brought under cultivation and 1.7 lakh hectares replanted (out of the total 3.3 lakh hectares) before 2000 A. D. from the present level of production. For this purpose, as much as 10 million seedlings will be required per year. A seed orchard of about 150 hectares will be necessary for this.

A very high proportion of the cashew nuts that are now available for processing are harvested from self-sown trees or from plantations raised from unselected seed material. Cashew trees are generally grown in soils that are too poor or stony for most other crops. It is therefore not surprising that the yield of raw cashew nuts in India is less than 400 kg. per hectare. This can be easily increased 2 to 3 fold by planting genetically superior planting material and adopting proper package of practices including plant protection measures.

Promising varieties and hybrids have been assessed for their adaptability and yield potential under different agroclimatic conditions to a limited extent in India. However, no work has been done so far for a large scale isolation of superior planting material and multiplication of the same. In a perennial crop like cashew, a programme to multiply superior planting material of variety, or hybrids evolved following the usual procedure, will be of limited immediate benefit to the cultivator especially in view of the urgent need to increase our production. Vegetative propagation is no doubt, a sure and effective method of propagation of the high-yielding varieties in crops like cashew. Work in India, especially in Vengurla (Maharashtra) and Vittal (Karnataka) have shown that budding is possible; but the work is still in the initial stages and it is too early to recommend the adoption of this method

on a plantation scale. While inherent variation in yield and nut characters are only to be expected in seedling progenies of any cross-pollinated crop, it is also possible to isolate lines which give a high proportion of uniformly good progenies. From this, a greater uniformity could be obtained among progenies of trees selected for their superior performance.

From the above discussion, it is clear that in view of the limitations for adopting vegetative propagation in cashew on an extensive scale, there is an urgent need to quickly evaluate the available genetic material for isolating the superior ones and multiply them simultaneously so that sufficient planting material could be made available to the cultivator. With the above object in view the Central Plantation Crops Research Institute has established a seed multiplication centre for cashew at Narimogru near Puttur in South Kanara District (Karnataka). For this, the required land has been made available by the Karnataka Government.

In this garden, 50 promising selections from the different cashew Research Stations of the country will be planted in blocks of 0.4 hectare each in the first year. During the next 2 years, progenies of selections and hybrids from the research stations and also from phenotypically superior trees to be identified from private plantations will be planted. The layers and budded plants from the above selections and hybrids will also be planted here. They will then be evaluated in the field on the basis of their yield and nut quality to cull out the undesirable ones and replant with superior ones. By this process, the Elite seed orchard will be able to meet the seed requirements of the country within the next 6-7 years.