

Performance of six genotypes of cashew (*Anacardium occidentale* L.) under terai agro-climatic zone of West Bengal

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ABSTRACT

An investigation was undertaken to assess the performance of six genotypes of cashew viz., VTH-30/4, Kanaka, H-2/15, Damodar, VTH-12 and Madakkathara -1. Among the genotypes studied, Madakkathara -1 and VTH-30/4 were found superior for growth character like plant height, girth at collar, number of leaders and laterals per branch and canopy spread. Maximum fruit-set per panicle, yield and shorter duration for fruit maturity was observed in hybrid Kanaka. Present investigation also reveals that hybrid H-2/15 and Damodar possess the bigger size nuts which are one of the most important quality parameters to be cited. However, considering the vegetative growth characters since the plants were only four years old, variety Madakkathara-1 and VTH-30/4 were found promising for this region.

Key words : Variety, Growth, Floral, Fruit-set, Nut characters

Cashew (*Anacardium occidentale* L.) is an important export oriented cash crop of India. It is grown in tropical and sub-tropical region of the globe.

At present, area under cashew in the country is 8.68 lakh hectares with a production of 6.65 lakh MT and productivity of 860 kg per hectare (Huballi, 2009). Though India is the largest producer, exporter and consumer of cashew in the world, the country still suffers due to deficit of raw nuts to sustain the developing industries. Therefore, there is an urgent need to enhance the domestic production. In West Bengal, area under cashew is 10,000 ha mainly concentrated in the Midnapore East and Midnapore West districts (Bhat *et al.*, 2007). However, there is a prospect of growing cashew in other nontraditional tract of the regions. As the crop has also wider adaptability to various agro-climatic condition and different type of soil, extension of cashew plantation in this zone will be a boon in boosting the rawnut production. Successful cashew cultivation, however, depends on the selection of the best varieties suited for the agro-climatic condition and the adoption of right package of practices recommended for the region. Varietals selection is the most critical decision in plantation management (Salam, 1999). Taking into account, an attempt was undertaken to study the performance of six genotypes of cashew under terai agro-climatic zone of West Bengal and to evolve varieties suitable for this region.

MATERIALS AND METHODS

An experiment was conducted for two consecutive

years during 2005 and 2006 at the instructional farm of Uttar Banga Krishi Viswavidyalaya, Pundibari, Cooch Behar, West Bengal situated at 26°19' 86" N latitude and 89° 23' 53" E longitude, at an elevation of 43 meters above MSL. The soil type of the experimental plot was sandy loam having soil pH-5.3. The climatic condition of terai zone is sub-tropical in nature with high rainfall, high humidity and prolonged winter. The experiment was laid out in Randomized Block Design (RBD) with 3 replications. For evaluating the performance on growth, floral, fruit-set, yield and nut characters, the four year old grafted plants viz., VTH-30/4, Kanaka, H-2/15, Dhana, VTH-12 and Madakkathara-1 planted at a spacing of 8m x 8m were used. The plants were allowed to grown following normal cultivation practices. Recommended dose of fertilizers @ 500g, 125g, 125g NPK per plant were applied as 1/3rd for first year, 2/3rd for second year and full dose for third year onwards in two equal splits during May- June and September-October by broadcasting over the entire tree basin, 10 cm deep within a radial distance of 1.0 meter. Regular weeding, mulching and plant protection practices were adopted.

RESULTS AND DISCUSSION

The results obtained from the present investigation have been discussed under following heads:

Vegetative growth characters :

The varieties differed significantly for vegetative growth characters like plant height, girth at collar, canopy