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New vistas in cashew breeding

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irectorate of Cashew Research, Puttur, Karnataka is the nodal agency for cashew research in the country. Since its establishment in 1986, the Directorate has made concerted efforts for the improvement of cashew. Cashew is highly cross pollinated, heterozygous and perennial in nature that hinders rapid improvement programs. The reproductive biology, pollination mechanism, pollen germination have been studied and hybridization technique has been standardized. A total of 528 germplasm accessions representing the spectrum of diversity have been collected and conserved in the National Cashew Field Gene Bank (NCFGB). Elite germplasm with consistent performance with medium nuts were selected and released as three varieties viz., NRCC Selection-1, NRCC Selection-2 and Bhaskara for commercial cultivation. The recent approach in breeding cashew has been to develop dwarf and compact hybrids with high yield and better nut characters for high density planting. For this, direct crosses and back cross breeding have been deployed and few promising hybrids are in advanced stage of evaluation. The hybridization program involving wild species like A. microcarpum and A. othonianum with popular cultivars has been done to generate variability especially for insect pest resistance. Evaluation of cashew genotypes specifically for cashew apple has been initiated. Under micropropagation program, though cashew is highly recalcitrant for tissue culture, efforts on micrografting and somatic embryogenesis have been successful. Current focus is on to regenerate plants from mature explants. DNA finger printing for released cashew varieties and selected germplasm accessions has been accomplished. Keeping in view of the juvenile period of cashew, identification of molecular markers linked to economic traits through SSR markers has been commenced, which helps in screening of potential plants in the seedling stage itself. The current paper discusses the advances in cashew breeding programs with reference to above aspects.

Keywords: Cashew, germplasm, breeding, biotechnology.

Biography

P L Saroj is serving as the Director of the Directorate of Cashew Research, Puttur, Karnataka and also as the Project Coordinator, All India Coordinated Research Project on Cashew with 14 centers functioning under various state agricultural universities and ICAR institutes located in the cashew growing states of the country. He is involved in research, teaching, extension, coordination and management for the last 23 years, and standardized various production technologies in the field of Horticulture. He has published more than 100 research publications and his book 'Advances in Arid Horticulture' has been widely appreciated. For more information see http://www.cashew.res.in/images/biodata/pl%20saroj.pdf

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