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Evaluation of cashew germplasm under Odisha condition

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Cashew (*Anacardium occidentale* L.), an introduced crop to India was grown initially for soil conservation and afforestation purpose. Only during the middle part of the 20th century its commercial potential was identified after which the crop has never looked back. India is the first country in the world to exploit the international trade for cashew kernels. Presently, India is the largest processor, consumer and explorer of cashew kernel in the world occupying an area of 9.91 lakh hectare with a production of 6.92 lakh MT having productivity of 749 kg⁻¹. The state Odisha, being one of the richest sources of diversity in cashew in the country, grown in an area of 1.58 lakh hectare with an annual nut production of 97,000 MT and productivity of 683 kg ha⁻¹. Low productivity of cashew in Odisha is primarily due to planting of cashew varieties with low yield potential and presence of senile plantations. Hence there is an urgent need for crop improvement in cashew. In this context, collection, conservation, evaluation and utilization of cashew germplasm play a key role. Cashew germplasm having desirable yield attributing traits such as bold nut type (≥ 7.0 g), high shelling ($\geq 28\%$), high yield potential (≥ 2.0 ton. ha⁻¹) and cluster bearing type can be utilized in cashew breeding program for further improvement of the crop. The present field trial was conducted at Cashew Research Station, Orissa University of Agriculture and Technology, Bhubaneswar, Odisha during 2003 onwards. Twenty five collected germplasm of 2003 planting were evaluated by adopting Randomized Block Design with two replications. The data recorded during 2011-12 and 2012-13 revealed significant variations for vegetative as well as yield attributing traits among the different germplasm. Cashew germplasm with dwarf plant habit, exhibiting their suitability for high density planting were H 68, H 303, H 367, M15/4, H 1598 and H 1600 (2.42 to 3.83m). Maximum nuts panicle-1 (more than 4) was recorded in germplasm such as V2, V4, M44/3, BPP10/19, BPP 3/28, H 1598 and H 68. In the present study the germplasm such as H 1610, VTH 30/4, H 2/16, H 1608, NRCC-1, Kankadi, H 255, H 320, H 303, H 367, H 68, M15/4, RP-3 and BPP 3/28 recorded more than 7.0 g nut weight. Similarly, high shelling percentage is a desirable trait in cashew. The germplasm having shelling percentage more than 30.0 identified were V1, V2, V4, VTH 59/2, M44/3, H 320, H 68, BPP 10/19, BPP 3/28 and BPT 40. Identified germplasm having more than 3kg nuts plant-1 were H1610, V4, VTH 59.2, H2/16, H 1608, NRCC -1 H 255, H 320, H 303, BPP 10/19 and BPP 3/28. In future these germplasm can be exploited for crop improvement program in cashew as per breeding objective.

Biography

Kabita Sethi has completed her M.Sc. (Ag) in Horticulture from Orissa University of Agriculture and Technology, Bhubaneswar, Odisha, India. Presently, she is working as Scientist in AICRP on Cashew since 2010. She has published more than 10 papers in reputed journals till date.

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Studies on the effect of integrated nutrient management practices on dry matter production and nutrient uptake of palak (*Beta vulgaris* var. *Bengalensis* Hort.)

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A study on palak (*Beta vulgaris* var. *bengalensis* Hort.) was carried out during Rabi season of 2010-2011 at college farm of Horticulture College and Research Institute, Venkataramannagudem, West Godavari district, Andhra Pradesh, to determine the "Studies on the effect of integrated nutrient management practices on dry matter production and nutrient uptake of palak" (*Beta vulgaris* var. *bengalensis* Hort.) and indicated that the highest dry matter production (5395 kg ha⁻¹) and nutrient uptake of nitrogen, phosphorus and potassium (102.81, 18.06 and 98.667 kg ha⁻¹) was recorded with the application of 100% RDF through inorganic (80:40:50 kg of NPK ha⁻¹) and which was on par with the dosage of 75% RDF through inorganic fertilizers + 25% recommended dose of nitrogen through poultry manure and 75% RDF through inorganic fertilizers + 25% recommended dose of nitrogen through vermicompost.

Biography

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