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Effect of organic manures and amendments on quality and post harvest studies of banana cv. grand naine

D Malathi, P Gomathinayagam, C R Ananda Kumar, and S Gurumurthy
Tamil Nadu Agricultural University, India

The investigation was carried out under aerobic condition using the line x testers mating design and studied for yield and its components traits. The objective of this study was carried out to identify the best combining parents and their hybrids suitable for aerobic cultivation. All the thirty hybrids, along with parents of five lines and six testers were sown in non-puddled and non flooded aerobic soil in randomized block design with three replications. Among the hybrids, ADT 47 x Nootripathu recorded significant standard heterosis for ten traits days to 50 per cent flowering, plant height, panicle length, number of grains per panicle, spikelet fertility, root length, root dry weight, root:shoot ratio, chlorophyll stability index, and grain yield per plant; the hybrid ASD 16 x N 22 which showed significant standard heterosis for nine traits productive tillers per plant, panicle length, number of grains per panicle, spikelet fertility, 100 grain weight, root : shoot ratio, chlorophyll stability index, relative water content and grain yield per plant and the hybrid ADT 36 x Nootripathu registered significant standard heterosis for nine traits days to 50 per cent flowering, panicle length, number of grains per panicle, spikelet fertility, root length, root dry weight, chlorophyll stability index, relative water content and grain yield per plant. Out of thirty hybrids, three hybrids viz., ADT 47 x Nootripathu, ASD 16 x N 22 and ADT 36 x Nootripathu advocated for commercial exploitation since grain yield with its contributing characters manifested significantly for standard heterosis under aerobic condition. Therefore these hybrids as well as parents could serve as basic materials for developing high yielding hybrids suitable for water limited conditions.

maluagri03@gmail.com

Screening for tolerance to sterility mosaic disease in ratoon pigeon pea (*Cajanus cajan* L.) - An innovative approach

Shourabh Joshi[1], T Revathi[1], D Vijaya Sagar Reddy[1], Y Vijay[1], K N Yamini[1], M Suresh[1], G Anuradha[1], C V Sameer Kumar[2], Mamta Sharma[2], Rachit K Saxena[2] and Rajeev K Varshney[2]
[1]Acharya N. G. Ranga Agricultural University, India
[2]International Crops Research Institute for Semi Arid Tropics (ICRISAT), India

Pigeonpea [*Cajanus cajan* (L.) Millsp] is one of the important grain legumes and is known for rich source of protein. Globally pigeon pea is cultivated on 4.68 M ha. India is the primary pigeon pea growing country in the world, cultivated in an area 3.53 M ha with a production of 2.51 M tons. Sterility mosaic disease (SMD), considered as the "green plague of pigeon pea" in the Indian subcontinent is caused by a distinct virus, named as pigeon pea sterility mosaic virus (PPSMV). In the present study, attempts were made towards sterility mosaic disease screening on 189 F6 RILs developed from cross involving a susceptible parent ICP-8863 and a resistant parent ICPL-20097. Screening was attempted by both leaf stapling technique in the green house at the Institute of Biotechnology, Hyderabad and by the inoculum spreading method on a isolated field at Agricultural Research Station, Tandur during *Kharif* 2012. However, due to heavy rains after inoculation, the disease incidence was not at a satisfactory level. In order to make up for the loss of an entire season, a new approach was attempted i.e. to screen SMD on the ratoon crop. Towards this, the crop was ratooned at maturity stage and fresh ly appeared leaves were inoculated by both leaf stapling and spreading method after 25 days of ratooning at both the locations. Good incidence of disease was observed and the levels of disease resistance/susceptibility among the RILs were comparable at both the locations. To reconfirm the screening results on ratoon crop with that on the regular crop, screening was carried out again during *Kharif* 2013. It was observed that the RILs expressed similar disease reaction as expected. This is the first of its kind report which demonstrates that when main crop fails for disease screening, it is possible to successfully attempt the same on the ratoon crop to obtain similar results and can save time.

Biography

Shourabh Joshi has completed his M.Sc. at the age of 24 years from UAS-Banglore and pursuing Ph.D. at Institute of Biotechnology, ANGRAU, Rajendranagar, Hyderabad, Andhra Pradesh. He has received various scholarships throughout his educational carrier as CSIR-UGC, DBT-JNU-JRF, NTS and received prestigious awards like 'Bhamashah Award'. He has attended more than half a dozen conferences and also an active writer of popular articles in Agrobios. He has published research papers in reputed journals.

shourabhforbt@gmail.com