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Divergence studies in Upland cotton (Gossypium hirsutum L.)

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Cotton (Gossypium spp.) popularly called "White Gold" is the most important renewable natural fibre crop of global importance. Plant breeding is the utilization of crop variability for economic ends. Diversity studies helps in quantification of genetic variability which could be exploited by the breeders for genetic upgrading of cotton genotypes with improved fibre quality and quantity besides helping in selection of better parents for hybridization programme. In this context the present study assumes importance. An experiment was conducted to analyze the genetic diversity among 40 genotypes for 21 morpho-physiological characters in upland cotton during kharif 2010 at Agricultural College Farm, Bapatla, Andhra Pradesh. Hierarchial cluster analysis revealed that among the seven clusters, cluster II was the largest containing 11 genotypes followed by cluster I with 8 genotypes. In principal component analysis first eight principal components with eigen value more than one contributed 87.35 per cent towards the total variability with PC1 contributing maximum towards variability (24.28%). The mutual relationships among the eight clusters using Mahalanobis D^2 statistic revealed highest intra cluster distance in cluster V and inter cluster distance between clusters IV and VI. So, the genotypes TCH-1218, NA-1584, GSHY-01/1338 and CSH-17 identified by above multivariate analysis can be exploited for getting good recombinants in future breeding programmes.

Biography

T.Haritha, completed my M.Sc (Agriculture) from Agricultural College, Bapatla of Acharya N.G. Ranga Agricultural University (ANGRAU). Now I am doing my Ph.D. in Genetics and Plant Breeding in the same University.

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