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### **Morphological and molecular characterization of the female and male genotypes of Spine Gourd (*Momordica dioica* Roxb.) using RAPDs**

Hameedunnisa Begum, G. Narshimulu, M. T. Reddy, R. V. S. K. Reddy, M. Vijaya, J. D. Babu, B. P. Reddy, P. K. Devi and S. R. Pandravada  
Dr. Y. S. R. Horticultural University, India

The production, productivity and quality of spine gourd (*Momordica dioica* Roxb.) is highly variable across the Indian state of Andhra Pradesh, owing to the utilization of locally available wild plantings because of the non-availability of planting material of the improved cultivar(s). Through an exploration survey covering North-coastal region of the state, 36 female and 9 male lines were collected. The genotypes were evaluated in a randomized block design with 2 replications on trellis system at spacing of 2.5 x 1.0m. The morphological characterization revealed considerable variability among the 36 male and 9 female accessions. Of these, 9 promising female lines and 9 male lines were identified. Of the 40 RAPD primers (OPAE, H, and F) validated only 24 RAPDs amplified and produced 1047 distinct bands. The number of bands ranged from 2 to 11 with an average of 3.7 per primer. The polymorphic information content ranged between 0.72 (OPF-8) and 0.99 (OPA-18) with an average of 0.88. The highly polymorphic RAPDs like OPA-7, OPF-2, OPF-4, OPF-11, OPAE-17 and OPAE-18 could be highly useful in discriminating the genotypes under study. The Jaccard's similarity co-efficient ranged between 0.28 and 0.75. This indicates the existence of a wide range of genetic diversity to the tune of 25 to 72% among the accessions under study. The dendrogram generated based on unweighted pair group method with arithmetic average showed 6 major groups of accessions, wherein male and female accessions could not follow clear cut separation. RAPD markers have proven useful in assessing genetic diversity of spine gourd.

#### **Biography**

Hameedunnisa Begum obtained her Ph.D. in 1989 from G. B. Pant University of Agriculture and Technology, Pantnagar, Uttar Pradesh, India. She has 20 years of research experience in fruits and vegetables. She has published more than 20 research articles in reputed journals.

ahaa62@yahoo.co.in