Exported Abstract record(s)

Molecular analysis of cultivar diversity among chilli in northern Karnataka, India using RAPD markers. Devarajan Thangadurai; Vinay Naik; Jeyabalan Sangeetha; Abhishek Mundaragi; Ravichandra Hospet ; University of Agronomic Sciences and Veterinary Medicine of Bucharest , Bucharest , Romania , Scientific Papers - Series B, Horticulture , 2019 , Vol. 63 , No. 1 , pp. 663-669

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Ten chilli cultivars were used for the molecular characterization through RAPD technique, viz., Capsicum Elephant Trunk, Vijay, CG4, Byadgi Kaddi, Triloka, Capsicum Sarpan Nag-10, Byadgi Dabbi, Sitara, Ajay and Guntur. Among the twenty primers, OPA06 produced maximum number of polymorphic bands that indicated a high level of polymorphism as against the primer OPA04 which generated the least number of polymorphic bands. Band size ranging from 110 to 400 bp of PCR amplified products were considered and scored for primers. The reproducibility of the banding pattern in chilli cultivars was confirmed by three replicated reactions with the same primer. Intra genotype similarity indices were higher as they ranged from 86.67 to 100.00%. The highest intra genotype similarity indices were observed in Capsicum Elephant Trunk, CG4, Capsicum Sarpan Nag-10, Guntur, Ajay, Triloka and Byadgi Kaddi (100.00%), whereas the lowest intra genotype similarity indices were found in Byadgi Dabbi (92.43%). The highest similarity value disclosed lower genetic variability within the individuals which was more homogenous than those of Byadgi Dabbi in which similarity indices value was found to be the lowest. The values of the pairwise comparison of Nei's (1972) genetic distance among ten chilli varieties and genotypes computed from combined data from the twenty primers ranged from 0.0488-0.7490. The genetic distance value between variety Guntur and Vijay F1 hybrid was highest (0.749) with lowest genetic identity (0.472) among the other pairwise variety and genotype. The genetic distance between variety Byadgi, Kaddi and CG4 chilli was the lowest (0.048) with the highest genetic identity (0.952). From the difference between the highest and the lowest genetic distance value, there were wide variations among ten chilli varieties and genotypes. High genetic variability within varieties and significant difference between varieties indicate rich genetic material of a species. This study indicated that the variety Guntur and Vijay F1 Hybrid showed the highest genetic variation, while the lowest genetic variation was observed between variety Byadgi kaddi and CG4, the two latter cultivars can be used as parental source for breeding line to improve chilli varieties.