

Morphological Characterization of Capsicum Species Conserved in Plant Genetic Resources Centre

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Capsicum, which belongs to the family Solanaceae is widely grown field crop in Sri Lanka. There are more than 600 accessions of capsicum conserved at Plant Genetic Resources Centre (PGRC), Gannoruwa. This study was conducted to evaluate the characters of locally collected chilli germplasm and to study the genetic diversity among the germplasm based on the morphological characters. Fifty-four germinated capsicum accessions from PGRC were used for the morphological characterization. Data were collected according to the descriptor, which was developed by PGRC, Gannoruwa. Cluster analysis was carried out to group these accessions according to the morphological traits. There were four major clusters and second major cluster has three sub-clusters. Due to similar phenotypic characters all the capsicum Chinese species came under one cluster and except six accessions of *Capsicum frutescence*, all other *Capsicum frutescence* accessions were clustered in one group. Except three *Capsicum annuum* accessions, others were assembled to one group. Considering qualitative characters, leaf shape, plant growth habit, branching habit, fruit shape, mature fruit colour and intermediate fruit colour highly contrast among three species. Fruit weight, length and fruiting and flowering time period like quantitative characters show the significant difference among accessions. According to the study, there was considerable diversity within and between capsicum accessions conserved at PGRC and can be utilized for chilli crop improvement.

Keywords: Capsicum species, Morphological characterization, Cluster analysis, Chilli germplasm, Diversity