EVALUATION OF CHILLI (*Capsicum annuum* L.) GENOTYPES FOR POT CULTURE UNDER LOCAL ENVIRONMENTAL CONDITION OF DL2 AGRO ECOLOGICAL REGION

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Abstract

This experiment was conducted during the period June 10, 2004 to November 9, 2004 in the Net-House of the Agronomy farm, Eastern University, Vantharumooli, Chankalady, in Batticaloa district, in order to identify the most suitable Chilli (hot pepper) varieties to grow under pot culture with conditions prevailing in the Eastern region of Sri Lanka.

Six hot pepper (Chilli) varieties namely Arunalu, KA-2, MI-2, PC-1, Wanni miris and Acc#2194 were evaluated along with the studied variety Arunalu. All the varieties were planted in a Complete Randomized Design (CRD) with four replications and were managed under the recommended cultural practices.

The data on Canopy height at 50% flowering, Canopy height at 100% flowering, Canopy height at first harvest, Canopy width at 50% flowering, Canopy width at 100% flowering, Canopy width at first harvest, Days to 50% flowering, Days to 100% flowering, Fruit length, Fruit girth, Fruit weight, Number of fruits per plant and Mature green fruits per plant were collected in this experiment and were statistically analyzed to determine the level of significant. Varieties tested in this study showed significant differences ($P<0.05$) in growth parameters such as Canopy height at 50% flowering, Canopy height at 100% flowering, Canopy height at first harvest, Canopy width at 50% flowering, Days to 50% flowering, Days to 100% flowering, Fruit length, Fruit girth, Fruit weight, Number of fruits per plant and Mature green fruits per plant.

The correlation studies revealed that some characters studied were positively correlated: They were Canopy width at 100% flowering and yield per plant; Number of fruits per

plant and yield per plant; Fruit length and yield per plant; Canopy height at 50% flowering and Canopy height at 100% flowering; Canopy height at 50% flowering and Canopy height at first harvest; Canopy width at 50% flowering and fruit length; canopy width at 50% flowering and canopy width at 100% flowering; Canopy height at 100% flowering and Canopy height at first harvest; Canopy width at 100% flowering and Fruit length; Canopy height at first harvest and Fruit girth; Days to 100% flowering and Fruit girth. Some other characters were negatively correlated: They were canopy width at 100% flowering and days to 50% flowering; Number of fruits per plant and fruit girth.

By and large, it is clearly seen that among the varieties tested a wider variation does exist in several traits of agronomic importance and hence, selection may be positively approached for particular characters of specific measures in order to use in chilli improvement programme, although yield and adaptability are the first and foremost criteria.

Considering the results in general, it can be suggested that varieties KA-2 and Arunalu are the most suitable ones identified to grow under pot culture with conditions prevailing in the Eastern region of Sri Lanka, primarily during the dry season under irrigation. This method of cultivation is more appropriate in location where there is water scarcity and as much identification of suitable varieties is a must.

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