Journal of Agricultural Engineering and Food Technology
p-ISSN: 2350-0085; e-ISSN: 2350-0263; Volume 4, Issue 2; April-June, 2017, pp. 119-119

http://www.krishisanskriti.org/Publication.html

Correlation Studies and Path Analysis in Biparental and F_3 Progenies of Brinjal (*Solanum melongena* L.).

Aanchal Chauhan[1], K.S.Chandel[2] and Smita Kumari[3]

Department of Vegetable Science and Floriculture, Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya, Palampur-176062, Himachal Pradesh, India

Abstract—*Present studies were conducted at the Vegetable Research Farm of Department of Vegetable Science and Floriculture, CSKHPKV, Palampur (H.P) during Kharif season 2012 and 2013. The objective of this study was to determine the nature and magnitude of association between yield and yield contributing characters and their direct, indirect effects on marketable fruit yield per plant in brinjal (Solanum melongena L.). Biparental progenies were developed by using North Carolina Design I as suggested by Comstock and Robinson (1948 and 1952) in F_2 generations of an inter-varietal cross using two contrasting varieties viz; Arka Keshav × Bhola Nath.. 48 biparental and 60 F_3 progenies were evaluated for identifying their efficiency with respect to 16 yield and quality traits viz. days to 50% flowering, days to first picking, number of marketable fruits per plant, fruit length, fruit diameter, average fruit diameter, plant height, number of branches per plant, fruit weight, pedicel length, total soluble solid, bacterial wilt incidence, dry matter content, iron content, phenol content, marketable yield per plant. The association studies revealed that marketable fruit yield was positively and significantly correlated with fruits per plant, plant height and fruit weight in BIP's and F_3 progenies. The four quality attributes viz., dry matter, total soluble solids, iron content and phenol content appeared to be independent of each other as correlation among them were found to be non-significant. Path analysis indicated that fruit weight had a maximum direct effect with marketable fruit yield. Indirect effects of fruit weight on marketable fruit yield via other characters viz., number of marketable fruits per plant, plant height and fruit length were also of higher magnitude. Thus, predicting the true relationship of fruit weight with marketable fruit yield. As such, selection based on fruit weight would prove fruitful and rewarding for obtaining high fruit yield.*