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SEED YIELD AND ITS CORRELATION STUDIES IN BELL PEPPER (*Capsicum anmuum* var. grosum L.)

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ABSTRACT

Twenty one genetically diverse genotypes of bell pepper (*Capsicum annuum* L.Var grossum.) were grown during *kharif* 2003, to study the correlation and path coefficient for seed yield and among different horticultural traits. This study indicated that seed yield was significantly and positively correlated with days taken to first flower appearance, days to first picking, and pedicle length. Seed yield was found significantly and negatively correlated with fruit yield. Path analysis studies for seed yield revealed that average pedicle length contributed maximum direct effect towards the seed yield followed by days taken to first flower appearance and days to first picking, and these traits were the strongest forces influencing seed yield in bell pepper.

Key words: Bell pepper, correlation, path coefficient

Bell pepper is highly priced vegetable rich in vitamin A, B and C and also contains good amount of minerals .In Kashmir it is not grown only for the excellent quality fruits for off season market, but due to ideal weather conditions its quality seeds can be produced on large scale, in Kashmir and exported to other parts of country . Seed yield of Bell Pepper in Kashmir is quiet higher than average seed yield. Average seed yield being 50-80Kg/ha (Agarwal, 1980).Thus Kashmir can be seed industry for bell Pepper. Before initiating seed production of bell pepper in Kashmir on large scale, it is desirable to know the magnitude of dependence of component characters on seed yield. Correlation coefficient measures the mutual relationship between a pair of characters. Estimation of correlation coefficient among the yield contributing variables is necessary to understand the direction of selection and to maximize seed yield in shortest period of time. Partitioning of total correlation into direct and indirect effects will provide the actual information on contribution of different component characters towards yield, thus study of path coefficient is utmost important for improvement of polygenically inherited traits through the selection procedure.

MATERIALS AND METHODS

The experiment was laid out in randomized block design with three replications at spacing of 60cmx40cm during *kharif* 2003 at Experiment Farm Division of Olericulture, Sher-e-Kashmir University of Agricultural Sciences and technology of Kashmir. Observations were recorded on eight quantitative and qualitative characters viz., days taken to first flower appearance, days taken to first picking, pedicle length (cm), no of lobes per fruit, Chlorophyll content of fruit (mg/g), Vitamin C (mg/100g), fruit yield (q/ha) and seed yield (Kg/ha)

Genotypic and phenotypic correlation coefficients of various characters with seed yield and among themselves were computed using variance and covariance and were calculated as per formula given by Al-Jibouri *et al*. (1958). Path coefficient analysis were done following methodology suggested by Wright (1921) and using formula given by Dewey and Lu (1959) in order to measure the direct influence of one variable upon the other and to partition the total correlation into direct and indirect effects.

RESULTS AND DISCUSSION

Genotypic and phenotypic correlation coefficients of various characters with seed yield and among themselves were computed. Data on correlation coefficient (Table-1) indicated that seed yield recorded strong positive association with no of days to first flower appearance and no of days to first picking. These results are in accordance with the findings of Chatterjee and Kohli (2004). Seed yield was also positively and significantly correlated both genotypically and phenotypically with pedicle length, indicating varieties bearing fruits with more pedicle length are high seed yielding varieties. Similar