The Asian Journal of Horticulture; Vol. 5 No. 2; (December, 2010) : 428-430

Received : June, 2010; Accepted : November, 2010

Research Paper

Correlation and path analysis studies in purple fruited brinjal

KALPANA DAHATONDE, **V.N. DOD**, P.K. NAGRE **AND** A.P. WAG

See end of the article for authors' affiliations

Correspondence to :

V.N. DOD
Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, AKOLA (M.S.) INDIA

ABSTRACT

Correlation and path analysis in 20 genotypes of purple fruited brinjal indicated that fruit yield per plant was closely associated with diameter of fruit, number of fruits per plant and, average fruit weight. Path analysis revealed positive direct effect on fruit yield per plant through average fruit weight and number of fruits per plant. Hence, these characters may be given consideration while making selection for improvement of brinjal.

Dahatonde, Kalpana, Dod, V.N., Nagre, P.K. and Wag, A.P. (2010). Correlation and path analysis studies in purple fruited brinjal, *Asian J. Hort.*, **5** (2) : 428-430.

Key words : Brinjal, Correlation, Path analysis

Brinjal (*Solanum melongena* L.) having a primary centre of origin in India has accumulated wide range of variation for most of the characters and thus provides the breeders an opportunity for evolving a type of plant architecture that will boost fruit quality and productivity.

Fruit yield per plant is complex and is jointly and individually contributed by many other traits. Selection for fruit yield per plant is more effective when it is based on components characters which are highly heritable and positively correlated. When more number of variables is considered in correlation. The association becomes more complex and less obvious .The path analysis is useful under such circumstances. This gives clear picture of direct and indirect effects of the various traits on fruit yield of plant. Relationship with yield of nine characters in brinjal was studies and reported in this text.

MATERIALS AND METHODS

The experiment was conducted at farm of Main Garden, Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola during 2009-2010 with twenty genotypes of purple fruited brinjal. Experiment was laid out in Randomized Block Design (RBD) with three replications. Brinjal seed of 20 genotypes were sown in raised beds and all possible care was taken to obtain healthy and uniform seedlings. These were transplanted at a distance 60 x 60cm in Aug.2009. All the treatments received uniform application of fertilizers, irrigation, and plant protection measures. The observation recorded on five randomly selected plants per replication for each genotype on fifteen important characters. For each genotype correlation coefficient was computed by using the formula of Johnson *et al.* (1955) and path coefficient by Deway and Lu (1959).

RESULTS AND DISCUSSION

The phenotypic and genotypic correlation coefficient between different pairs of characters presented in Table 1 revealed higher estimates of genotypic correlation coefficient than phenotypic association between various characters .The character fruit yield per plant showed positive and significant association with diameter of fruit and number of fruits per plants. Similar results were reported by Singh and Singh (1981) and Kushwah and Bandhyopadhya (2005).

The character fruit yield per plant showed positive and significant association with diameter of fruit and number of fruits per plant. Similar results were reported by Singh and Singh (1981) and Kushwah and Bandhyopadhya (2005). Fruit yield per plant had also positive and significant correlation with diameter of fruit and number of fruits per plant at both phenotypic and genotypic level. Similar results were reported by Singh