ABSTRACT

Key words: Variability, Correlation, Path analysis and castor

A trial was conducted to assess variability, correlation and path analysis for seed yield and its attributes with a set of 64 genotypes of castor (*Ricinus communis* L.) at Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh during *Kharif* 2016-17. The characters studied were 12 quantitative characters *viz.*, days to 50% flowering of main raceme, days to maturity of main raceme, number of nodes up to main raceme, plant height up to main raceme, total length of main raceme, effective length of main raceme, number of capsules on main raceme, number of effective branches per plant, seed yield per plant, 100-seed weight, oil content and shelling out turn.

The analysis of variance revealed highly significant differences among the mean square due to genotypes for all the twelve characters studied. A wide range of variation was observed for important yield components. High genotypic and phenotypic coefficient of variations, high heritability coupled with high genetic advance as per cent of mean was observed for all the characters except number of nodes up to main raceme and number of effective branches per plant.

Seed yield per plant had significant and positive correlation with total length of main raceme, effective length of main raceme, number of capsules on main raceme and oil content. While days to maturity of main raceme had significant and desirable correlation with seed yield per plant.
Days to 50% flowering of main raceme, number of nodes up to main raceme, number of capsules on main raceme, 100-seed weight, oil content and shelling out turn exhibited positive and high direct effects on seed yield per plant while number of effective branches per plant exerted positive but moderate direct effect towards seed yield per plant at genotypic level.

Number of effective branches per plant, effective length of main raceme, number of capsules on main raceme, plant height up to main raceme and oil content exhibited positive and high direct effects on seed yield per plant while total length of main raceme, 100-seed weight, shelling out turn and days to maturity of main raceme exerted positive and moderate direct effects towards seed yield per plant at phenotypic level.

On the basis of all the studies, it can be concluded that due to weightage should be given to total length of main raceme, effective length of main raceme, number of capsules on main raceme, 100- seed weight, oil content while imposing selection for genetic improvement of seed yield in castor.