

Genetic variability, correlation and path analysis in linseed (*Linum usitatissimum* L.)

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A study was conducted to assess variability in 79 genotypes of linseed. Data were recorded on twelve characters. These genotypes showed considerable variability for all the parameters. Wide range of PCV and GCV were observed for number of capsules per plant, number of seeds per capsule and seed yield per plant. The heritability estimates, were ranging between 30.20 per cent (number of seeds per capsule) to 99.7 per cent (days to maturity). The per cent mean genetic advance was high for number of branches per plant, seed yield per plant, days to flowering and number of capsules per plant. Seed yield per plant was positively and significantly correlated with number of branches per plant, number of capsules per plant and harvest index at both phenotypic and genotypic levels. Genotypic correlation coefficients, were higher than corresponding phenotypic one for most of character combinations. Path coefficient analysis revealed that harvest index exhibited highest positive direct effect on seed yield per plant followed by number of branches per plant. Indirect effects of number of branches per plant and number of capsules per plant via harvest index was positive, but indirect effect was more than that of the direct effect on seed yield.

Key words : Variability, Correlation, Path analysis, Linseed, PVC, GCV

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INTRODUCTION

Linseed belongs to the family Linaceae and genus *Linum*. This genus is native to South West Asia and the Mediterranean region of Europe and is distributed in the tropical and temperate countries of world (Darlington, 1963). It is an unparalleled source for paints, varnishes, oil, cloths, lenolinum and lubricants. In addition, the oil cake is a most valuable feeding cake to both milch and flattering animals. The cake is also used as manure and is a very good source of nitrogen to soil. The main aim of plant breeding programme is to improve the plant traits for agronomic, economic and nutritional values. However, the important quantitative traits are under polygenic control

and display a great variety of genotypes x environment interaction.

The knowledge about nature and extent of variability present in the germplasm collections is important in planning a sound breeding strategy. In addition to this information on various genetic parameters, association between traits will provide a strong insight into control of those traits. The evaluation of germplasm is a pre-requisite to identify the superior sources for various traits and for their efficient utilization. In the present study, an attempt has been made to assess the genetic parameters, such as variability, heritability, genetic advance, character association and path coefficient analysis in 79 accessions of linseed.