CORRELATIONS AND PATH COEFFICIENT ANALYSIS OF SEED YIELD COMPONENTS IN SUNFLOWER (Helianthus annuus L.)

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ABSTRACT

The purpose of this research was to determine simple correlations between seed yield/plant and some of yield components and the direct and indirect effects of 5 components on yield in newly improved sunflower lines, testers and their experimental hybrids. The research was conducted at the Research and Training Centre of the University of Uludag, Faculty of Agriculture, Department of Agronomy in 2000 and 2001. First year, 25 experimental hybrids were obtained from manual crosses. Second year, CMS, RHA and experimental hybrids were grown in randomised complete blocks design with three replications.

Correlation studies involving 35 genotypes (5 RHA, 5 CMS and 25 experimental hybrids) showed that seed yield/plant was significantly and positively different in terms of number of seeds/head ($r = + 0.819^{**}$), plant height ($r = + 0.755^{**}$), diameter of heads ($r= + 0.750^{**}$), 1000 seed weight ($r= + 0.598^{**}$) and number of leaves/plant ($r= + 0.302^{**}$). Path coefficient analysis indicated that number of seeds/head (0.8105 and at 91.94%), followed by 1000 seed weight (0.5742 and at 89.4%) were the most important traits for seed yield/plant.

Key words: sunflower, correlation and path coefficient analysis