



Correlation and Path Analysis of Morpho-physiological Traits with Yield of Soybean (*Glycine max* L. Merrill) Genotypes under Variable Photoperiods

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Abstract: An experiment was conducted with fifteen soybean genotypes grown under longer (early June) and shorter (early July) photoperiods. The correlation analysis showed significant positive relationships between most of the traits with seed yield. Path coefficient analysis revealed that under longer photoperiod the maximum direct effect was observed in crop growth rate at 45-60 days after sowing with seed yield ($r=1.649$). Similarly, maximum value of direct relationship was observed between transpiration rate at flowering and seed yield ($r=1.884$) under shorter photoperiod. The present study explored the importance of morpho-physiological traits viz., leaf area index at vegetative, leaf area index at flowering, specific leaf weight at vegetative, crop growth rate at 30-45 DAS, relative growth rate at 30-45 DAS and 45-60 DAS, net photosynthetic rate at vegetative and flowering stage, for the selection of superior genotypes in soybean.

Key Words: Soybean, Correlation coefficient, Path coefficient analysis, Photoperiod, Seed yield
