Correlation and path coefficient analysis for yield and quality traits in blackgram (*Vigna mungo* L.)

N Jaya sri, J Sateesh Babu, N Hari Satyanarayana and M Ravi Babu
Department of Genetics and Plant Breeding, Acharya N G Ranga Agricultural University, Agricultural College, Bapatla-522101, Andhra Pradesh, India

ABSTRACT

The investigation was carriedout with 54 black gram genotypes using an Alpha Lattice design with three replications at the Regional Agricultural Research Station, Lam, Guntur, during rabi 2023-24. The observations were notedown days to 50% flowering, days to maturity, plant height, primary branches, clusters per plant, pods per plant, 100-seed weight, and seed yield. The ualified traits riceProtein, carbohydrate, methionine, tryptophan, and lysine contents were also estimated. The results revealed higher genotypic than phenotypic correlations, implying true associations among the charcters. Significant positive genotypic associations with seed yield were observed with days to 50% flowering, days to maturity, plant height, branches per plant, clusters per plant, pods per plant, and test weight. Path analysis revealed strong direct effects on seed yield from pods per plant and days to maturity. The study concluded that traits like plant height, branches per plant, clusters per plant, pods per plant, and test weight, showing significant positive correlations with seed yield, are crucial for improving blackgram yield. Pods per plant, in particular, demonstrated a strong relationship with seed yield, making it a key trait for selection.

Key Words: *Blackgram,Correlation, Path analysis and Quality traits*