

Correlation and path analysis for yield and yield components in black gram [*Vigna mungo* (L.) Hepper]

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SUMMARY

The experimental material consisted of 100 germplasm lines and four checks *viz.*, Uttara, Pant U-31, Shekhar and NDU-1. Experiment was laid out in Augmented design having 10 blocks of 14 plots each, out of 14 plots 10 were used for test genotypes while remaining four were used for checks and each plot consisted of single row of 4 m length, the inter and intra row distance was kept 30 cm and 10 cm, respectively. The observations recorded on 11 quantitative characters *viz.*, days to 50 per cent flowering, days to maturity, plant height (cm), number of primary branches per plant, number of clusters per plant, number of pods per cluster, number of seeds per pod, seed yield per plant (g), 100-seed weight (g), biological yield per plant (g) and harvest index (%). The data recorded on these characters were utilized for simple correlation co-efficient, path co-efficient. A very strong positive association of grain yield per plant was observed with number of clusters per plant, number of pods per cluster, number of seeds per pod, biological yield per plant and harvest index. Thus, the characters showing highly significant positive correlation among yield and its components suggested that selection would be highly effective and efficient in improving these traits, while days to maturity showed negative correlation with grain yield. The path analysis identified biological yield per plant followed by harvest index, as the direct positive contributors towards seed yield. The number of clusters per plant, number of pods per cluster and seeds per pod via biological yield per plant contributed indirectly towards grain yield. But biological yield per plant contributed substantial negative indirect effect on it via harvest index and also harvest index contributed substantial negative indirect effect on it via biological yield per plant. The remaining estimates of the indirect effect in the present study too low to be negligible important.

Key Words : Correlation, Path analysis, Urdbean, Germplasm

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