

## Character association and path analysis in sorghum [*Sorghum bicolor* (L.) Moench]

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### ABSTRACT

The present investigation was conducted to determine correlation between yield and yield contributing components and to assess the direct and indirect effects of yield components on yield. The experimental material comprised of sixty four genotypes of sorghum collected by *in situ* selection from Vidarbha region. The present investigation revealed that the only character 1000 seed weight showed highly significant association with grain yield per plant at both genotypic and phenotypic level. This indicates that strong association of this trait with grain yield per plant could be fruitfully exploited for enhancing the yield potential in sorghum. Among the yield components themselves, days to 50% flowering showed highly significant positive association with days to maturity, plant height, dry fodder weight per plant and number of leaves per plant. The character number of internodes per plant exhibited very strong positive correlation with number of leaves per plant and stem girth while number of leaves showed moderately significant positive association with stem girth. The character days to 50% flowering exhibited positive direct effect of very high magnitude on grain yield per plant followed by earhead length and 1000 seed weight, while number of leaves per plant and number of primaries per whorl. It can be concluded that the character days to 50% flowering had very high direct positive effect on grain yield per plant, also this character had maximum positive indirect effect via number of internodes per plant. While most of the characters had their positive and direct effect on grain yield per plant via days to 50% flowering and days to maturity. Hence, days to 50% flowering, number of internodes per plant and days to maturity are the promising characters for selection.

Key words : Sorghum germplasm lines, Correlation and path coefficient analysis

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