

Heterobeltiosis and inbreeding depression for grain yield and its components in sorghum [*Sorghum bicolor* (L.) Moench]

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SUMMARY

Heterosis over better parent was maximum for grain yield per plant and also depends on plant height, length of panicle, number of whorls per panicle, number of primaries per panicle, 1000 grain weight, biological yield per plant and harvest index. Cross SPV 1329 x ICSV 272 had maximum heterobeltiosis in both the environments (95.38% in E_1 and 94.74% in E_2). Crosses SU 248 x ICSV 298, SPV 1329 x ICSV 272 and SU 248 x ICSV 272 had maximum grain yield per plant along with higher biological yield per plant thus indicated suitability for dual purpose hybrids. These crosses had highest the heterobeltiotic effects for grain yield per plant, number of primaries per panicle, 100 grain weight, biological yield per plant and harvest index. Most of the high heterotic crosses showed high inbreeding depression for all most all the traits. Heterosis with inbreeding depression for grain yield may be an out come of the expression of heterosis for yield components studied depending in such a manner that such crossed can be exploited only through hybrid breeding instead of selecting for transgressive segregants.

Key Words : Sorghum, Heterosis, Heterobeltiosis, Inbreeding depression, Grain yield, Yield components

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