



RESEARCH ARTICLE :

Heterosis for grain yield and its parameters in *Kharif* sorghum [*Sorghum bicolor* (L.) Moench] hybrids

■ A.W. MORE, H.V. KALPANDE AND R.R. DHUTMAL

ARTICLE CHRONICLE :

Received :

10.07.2017;

Accepted :

23.07.2017

SUMMARY : The present investigation was to estimate heterosis for grain yield and grain mould resistance parameters in 24 *Kharif* sorghum [*Sorghum bicolor* (L.) Moench] hybrids. Six male sterile lines and four testers were crossed in line x tester mating design to obtain 24 hybrids during *Rabi* 2012 and these crosses along with parents and two checks PVK 801 and CSH 25 were evaluated for eight grain yield and mould parameters in RBD design during *Kharif* 2013. The analysis of variance for line x tester design indicated significant differences due to the parents and crosses and the significant variances due to parents vs crosses indicated occurrence of substantial heterotic response for all the traits under study. Range of heterosis for grain yield ranged from -8.24 to 70.30, 11.95 to 122.36 and 0.99 to 100.60 over betterparent and standard checks PVK 801 and CSH 25, respectively. Significantly high heterobeltiosis and standard heterosis over both the checks was observed in crosses 372 A x C 43, DNA 10 x KR 196, IMS 12 x KR 196 and PMS 98 A x KR 199 for grain yield while in crosses DNA 10 x C43, DNA 10 x SUS 8-4, 372 A x C 43 and PMS 98A x C43 for fodder yield. Almost all the crosses based on IMS 12 and AKMS 85 A showed negative heterosis for days to 50 per cent flowering suggesting use of these lines to breed short duration hybrids. Significantly high heterosis in desirable direction for grain mould attributes viz., field grade score and threshed grade score exhibited by cross combinations AKMS 85 x KR-196, PMS 98A x C43, AKMS 85 x C-43, AKMS 85 x SUS-8-4 and DNA 10 x KR-196. from present investigation it was evident that the crosses PMS 98A x C43, DNA 10 x KR 196, DNA 10 x KR 199 MS 372 x C43 and PMS 8A x KR199 exhibiting significantly high heterosis, high per se performance for grain yield along with grain mold score in desirable direction may be exploited for commercial cultivation.

KEY WORDS :

Heterosis, *Kharif* sorghum, Grain mould, Grain yield

How to cite this article : More, A.W., Kalpande, H.V. and Dhutmal, R.R.(2017). Heterosis for grain yield and its parameters in *Kharif* sorghum [*Sorghum bicolor* (L.) Moench] hybrids. *Agric. Update*, 12(TECHSEAR-2) : 355-359; DOI: 10.15740/HAS/AU/12.TECHSEAR(2)2017/355-359.

Author for correspondence :

A.W. MORE

Sorghum Research
Station (VNMKV),
PARBHANI (M.S.) INDIA
Email: ambikamore@
rediffmail.com

See end of the article for
authors' affiliations