Some promising heterotic cross combinations for grain yield and the yield contributing traits in post rainy Sorghum

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Among the 54 hybrids produced by crossing three male sterile lines with 18 testers in line x tester design, hybrid AKRMS-68-1A x AKSV-219R exhibited highest standard heterosis (30.11%) over the check CSH-19R for grain yield along with significant positive standard heterosis for other trait like thousand seed weight. On second position, hybrid AKRMS-66-2A x Rb local 3 recorded significant useful heterosis (28.22%) over the check CSH-19R for grain yield. It also showed significant positive standard heterosis for the component character number of grains per panicle. Another hybrid AKRMS-80-1A x Rb-369-1 ranked third for the standard heterosis and this cross combination exhibited significant positive standard heterosis for other characters like number of grains per panicle and fodder yield per plant. The cross AKRMS-80-1A x Rb-400 ranked fourth and exhibited significant and positive standard heterosis for grain yield per plant (26.89%) and also for the component character i.e. fodder yield per plant. On fifth position, hybrid AKRMS-66-2A x Rb-413-1 recorded significant positive useful heterosis (26.48%) over the check CSH-19R. This cross also exhibited desirable significant standard heterosis for the component characters like days to maturity, number of grains per panicle and fodder yield per plant. This cross was found to be best suitable for developing high yielding and early maturing rabi sorghum hybrid as it has exhibited positive significant heterosis for grain yield per plant along with negative significant heterosis for days to maturity. This cross can be directly used in breeding for earliness in rabi sorghum. Breeding for early rabi sorghum varieties and hybrids assumes great significance in view of the crop grown under rained condition. It would help to overcome the terminal moisture stress.

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