Some promising lines and testers for grain yield and yield components in rabi sorghum under drought condition

Vinod U Sonalkar, R B Ghorade, V V Kalpande, Pallavi Band, S A Bhongle and Neeta Barabde
Dr. Panjabrao Deshmukh Krishi Vidyapeeth, India

The experimental material consisted of five lines and twelve testers and sixty hybrids developed by crossing five lines with twelve testers by line x tester fashion. The experiment was conducted during rabi 2006-07 at the sorghum research unit, Dr.PDKV, Akola (MS) under water stress condition with an objective to identify the promising lines and testers for grain yield in rabi sorghum under drought condition. The estimates of general combining ability effects indicated that out of five lines, the line MS 104 A was good general combiner for grain yield per plant (0.93*) along with six yield component like plant height, panicle breadth, panicle length, panicle weight, seed setting percent, and thousand seed weight. Among the testers, AKSV 13 R was good general combiner for grain yield per plant (2.22**) along with six drought tolerance traits viz., plant height, days to fifty percent flowering, panicle breadth, panicle weight, seed setting percent, and thousand seed weight. This is the only parent which had exhibited negative significant gca for days to fifty percent flowering along with grain yield per plant which hold promise in developing early maturing and high yielding hybrids in rabi sorghum. Another tester M 35-1 showed desirable gca for grain yield per plant (3.61**) along with five yield components viz panicle breadth, panicle length, panicle weight, seed setting percent, and thousand seed weight. Another tester Ringni was also good general combiner for gain yield per plant(3.39**) along with four yield components like panicle length, panicle weight, seed setting percent and thousand seed weight. Another tester SPV 504 has also transmitted desirable genes for grain yield per plant (2.07**) along with four yield components like leaf plant height, panicle weight, seed setting percent and thousand seed weight. Tester Parbhani Moti was also good general combiner for grain yield per plant (1.62*) as well as for seed setting percent and thousand seed weight. Tester CSV 216 R (2.61**) was also observed to be good general combiner for grain yield per plant. Thus there in need to exploit all these six testers and one line for future breeding programme to develop high yielding hybrids in rabi sorghum

vinodsonalkarpdkv@gmail.com