RESEARCH ARTICLE

Combining ability analysis for drought related traits in maize (*Zea mays* L.)

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SUMMARY

Experiments were carried out to identify best lines for GCA effects and best hybrids for and SCA effects and high heterosis for three drought tolerant traits *viz.*, SPAD chlorophyll meter reading (SCMR), specific leaf area (SLA) and proline content and grain yield. Twelve lines and three testers were crossed to develop 36 hybrids which have been raised along with their parents in Zonal Agricultural Research Station, V.C. Farm, Mandya under Randomized Complete Block Design with two replications. Seven lines *viz.*, 1410-1, 2422, 262-55, 634-2, NAI-137-2, MAI-105 and SKV-50 have shown desirable GCA effect for SCMR, SLA and grain yield, on the other hand tester HKI-164-4-1-3 exhibited desirable GCA effect for SCMR and proline content. Two cross combinations *viz.*, MAI-105 x CML411 and SKV-50 x HKI-164-4-1-3 were found to be promising as these revealed significant positive SCA effects for yield and two important features of drought tolerance *viz.,* SCMR and proline content.

Key Words : Combining ability, SCMR, SLA, Proline content, GCA, SCA

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