



RESEARCH ARTICLE :

Physiology of drought tolerance in selected *Rabi* sorghum [*Sorghum bicolor* (L.) Moench] genotypes

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SUMMARY : A field experiment entitled “Physiological studies in some selected *Rabi* germplasm of sorghum [*Sorghum bicolor* (L.) Moench]” was conducted to study the germplasm lines for morpho-physiological traits for drought tolerance and to identify germplasm lines with drought adaptations traits at the Sorghum Research Station, Marathwada Agricultural University, Parbhani during *Rabi* season 2006-07. Genotype GP 1 recorded the highest AGR, (1.090 g/day/plant) and RGR (0.011 g/g/day) at in between 90 DAS-harvest stage. Further this genotype also recorded the highest LAI (2.13) and the highest LAD (51.30 day). Whereas, genotype IS 5589 recorded the highest NAR (0.062 g/dm²/day) at 90 DAS-harvest and genotype IS 6368 at 45-60 and -75 days after sowing stage. The genotype GP 1 was superior in terms of grain yield indicating that importance of soil moisture at early growth period *i.e.* at sowing and panicle emergence. High grain (2837 kg/ha⁻¹) and fodder yield (71.01 q/ha) was observed in GP 1 as compared with check M 35-1 (1620 kg/ha). The increase in harvest index was found more in GP 1 (28.54%) because of effective translocation of dry matter from vegetative parts to economic parts.

KEY WORDS :

Physiology, Drought tolerance, *Rabi*, Sorghum

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