



Evaluation of sorghum genotypes for physiological characters under different soils

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Abstract : Sixteen *Rabi* sorghum genotypes including four checks were evaluated for physiological characterization under medium and shallow soils at Sorghum Improvement Project, MPKV, Rahuri during *Rabi* seasons viz., 2008-09- 2009-10 and 2010-11 in Randomized Block Design with three replications. Results indicated the presence of larger amount of variability among *Rabi* sorghum genotypes for morpho-physiological and yield contributing characters. Therefore, it was concluded that the variations in grain and fodder yield on medium soil due to different genotypes were statistically significant. The genotype RSV 1037 (2705 kg/ha) produced significantly higher grain yield over the high yielding check Phule Chitra (2374 kg/ha). The grain yield was positively correlated with biomass at harvest, harvest index (HI %), stomatal resistance, PAR, grain no./panicle, 1000 grain weight., RLWC %, earhead exertion %, stay green at physiological maturity, per day production of grain and fodder and fodder yield and negatively correlated with leaf temperature difference, CSI and stomatal frequency, stomatal conductance, transpiration and rate of water loss and on shallow soils the variations in grain and fodder yield due to different genotypes were statistically significant. None of the genotypes was found significantly superior over the check Phule Anuradha (1303 kg/ha) for grain yield. The grain yield was positively correlated with LAI, biomass at maturity, stomatal resistance, PAR, harvest index %, grains /panicle, 1000-grain weight., RLWC %, earhead exertion %, stay green at physiological maturity, per day production of grain and fodder yield and negatively correlated with leaf temperature and transpiration rate, CSI, stomatal frequency and stomatal conductance.

Key Words : Different soil, Genotype, Physiological characterization, *Rabi* sorghum

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