



Phule Anuradha: New drought tolerant *Rabi* sorghum variety for shallow soil

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Abstract : A new *Rabi* sorghum [*Sorghum bicolor* (L.) Moench] variety Phule Anuradha identified as drought tolerant because of its superior physiological traits under receding soil moisture condition during *Rabi* season on shallow soil type of Maharashtra. An experiment was conducted to screen sixteen genotypes for drought tolerance under receding soil moisture condition during *Rabi* season on shallow type of soil. The grain yield was positively correlated with photosynthesis rate, stomatal resistance, photo-synthetically active radiation, relative water content of leaves (RLWC), leaf area index (LAI), biomass at harvest, grain number per panicle, test weight, ear head exertion, stay green at physiological maturity, per day production of grain with fodder and fodder yield and negatively correlated with leaf temperature difference (°C), chlorophyll stability index (CSI), stomatal conductance, transpiration rate and stomata frequency under drought stress. Grain yield decreased in all the genotypes as the crop was subjected to progressive drought stress under receding soil moisture situation. Among the genotypes studied Phule Anuradha performed well under drought stress conditions maintaining leaf area, leaf relative water content, biomass at harvest, test weight, ear head exertion(%), leaf temperature, chlorophyll stability index and stomatal frequency.

Key Words : Sorghum, RLWC, CSI, Photosynthesis, Transpiration, Stomatal conductance, Resistance, Stomatal frequency, Correlation

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