



Canopy temperature (CT), stress degree days (SDD) as influenced by treatments and varieties in soybean

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Abstract : The experiment was laid out in Split Plot Design with three replications and two factors viz., date of sowing D₁ (MW-27), D₂ (MW-28), D₃ (MW-29) and D₄ (MW-30) and cultivars V₁ (MAUS-47), V₂ (MAUS-71), V₃ (MAUS-81), V₄ (MAUS-158), V₅ (JS-9305) and V₆ (JS-335) to find out the optimum sowing time for soybean genotypes. Experiment was carried out at research farm of Department of Agricultural Meteorology, Parbhani. The canopy temperature designates the plant water stress. If the canopy temperature of soybean crop is greater, then soil moisture stress occurred in the field. Canopy temperature is one of the most reliable indicators of the crop water stress due to its direct relation with the plant water status. The highest mean canopy temperature (32.0°C) and (32.1°C) were observed in D₄ (MW-30) date of sowing and genotype V₁ (MAUS-47), respectively whereas stage P₁₀ (maturity stage) indicated the highest mean canopy temperature 32.4°C. The lowest mean canopy temperature (30.9°C) and (30.7°C) were recorded in D₁ (MW-27) date of sowing and genotype V₄ (MAUS-158), respectively. Whereas stage P₁ (emergence stage) indicated the lowest mean canopy temperature i.e. 30.30°C. The variety growth characters like emergence and final plant count, plant height, number of functional leaves, number of branches, number of pods, mean leaf area, leaf area index, dry matter, weight of pods per plant, weight of grain per plant, 1000 seed weight (test weight), grain yield, straw yield and biological yield were observed maximum in D₁ (MW-27) date of sowing and in cultivar V₄ (MAUS-158). Whereas, minimum observed in D₄ (MW-30) date of sowing and cultivar V₁ (MAUS-47).

Key Words : Canopy temperature, Stress degree days, Varieties, Soybean

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