

Research Article

Impact of sowing windows and varieties on canopy temperature (CT), stress degree days (SDD) in soybean

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SUMMARY

The experiment was laid out in split plot design with three replications and two factors *viz.*, date of sowing D_1 (MW-27), D_2 (MW-28), D_3 (MW-29) and D_4 (MW-30) and cultivars V_1 (MAUS-47), V_2 (MAUS-71), V_3 (MAUS-81), V_4 (MAUS-158), V_5 (JS-9305) and V_6 (JS-335) to find out the optimum sowing time for soybean genotypes. Experiment was carried out on 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 D_4 (MW-30) date of sowing and genotype V_1 (MAUS-47), respectively whereas stage P_{10} (maturity stage) indicate the highest mean canopy temperature 32.4°C. The lowest mean canopy temperature (30.9°C) and (30.7°C) recorded in D_1 (MW-27) date of sowing and genotype V_4 (MAUS-158), respectively. Whereas stage P_1 (emergence stage) indicated the lowest mean canopy temperature *i.e.* 30.30°C. The variety growth character like emergence and final plant count, plant height, number of functional leaves, number of branches, number of pods, mean 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 was maximum observed in D_1 (MW-27) date of sowing and cultivar V_4 (MAUS-158). Whereas, minimum observed in D_4 (MW-30) date of sowing and cultivar V_1 (MAUS-47).

Key Words : Sowing windows, Canopy temperature, Stress degree days, Soybean

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