

Effect of Changing Climate on Soil Moisture, Phenology and Yield in Pigeon Pea Crop

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Abstract—The experiment under three diverse genotypes and weather condition was laid out with two-factorial completely random block design (RCBD) with five sowing dates (i.e. 25th, 26th, 27th, 28th and 29th MW) and three genotypes (viz. BDN-711, BSMR-736 and BSMR-853) on experimental farm of Dept. of Agricultural Meteorology, VNMKV, Parbhani, (Mah) to evaluating the yield and phenological response of pigeon pea (*Cajanus cajan* (L) Millisp) in relation to soil moisture during the kharif season of 2015-16. The soil moisture % at three different layers of soil (15 cm, 30 cm, and 45 cm depth) was taken by gravimetric method and statistically correlation was worked out by computerised software program SPSS 22.0. The mean soil moisture at different layers was observed significantly highest in 27th MW sowing at all the layers except at 15 cm, it was highest in 29th MW sowing and in BDN-711 genotype. And significantly highly positive correlation was observed at 15 cm depth at branching to floral bud initiation, floral bud initiation to 50 % flowering, 50 % flowering to 50 % pod formation and 50 % pod formation to physiological maturity; the similar trend showed in 30 cm depth except it was non significant at floral bud initiation to 50 % flowering. The significantly positive correlation at 45 cm depth was observed at floral bud initiation to 50 % flowering. While, amongst sowing dates and genotypes, 27th MW sowing and BDN-711 genotype recorded significantly highest seed yield (417.66 kg ha⁻¹ and 414.33 kg ha⁻¹).