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Effect of open pan evaporation based irrigation scheduling on growth and yield of wheat

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A swater for irrigation is a scare resource, its optimization is fundamental to water resource use. It permits better utilization of all other production factors and thus leads to increased yields per unit area and time. Wheat is one of the most important cereal crops and staple food of nearly 35 percent of the world population. Irrigation scheduling is the systematic method by which producer can decide on when to irrigate and how much water to apply. In climatological approaches, irrigation is scheduled on IW/CPE ratio. In IW/CPE approach, known amount of irrigation water is applied when cumulative pan evaporation reaches predetermined level. The experiment was conducted in randomized block design with irrigation scheduling on climatological approach i.e. on IW/CPE ratios of IW/CPE=0.6, IW/CPE=0.8, IW/CPE=1.0, IW/CPE=1.2 and control treatment with six irrigation scheduling at IW/CPE=1.2(I₄). Favourable soil moisture was maintained in the irrigation scheduling treatments of IW/CPE=1.2(I₄) and IW/CPE=1.0(I₃) throughout the growing period and it was always maintained in allowable depletion regime. However, soil moisture was inadequate in irrigation scheduling at IW/CPE=1.2(I₄). Highest water use, followed by I₂, I₃, I₄. Irrigation scheduling at IW/CPE=1.2(I₄) recorded significantly highest grain yield of wheat and grain yield recorded in treatment I₃ (IW/CPE=1.0) was significantly higher than that in treatment I₅ (Control) with saving of water of 7 %.

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