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RESEARCH PAPER

Effect of irrigation and nitrogen levels on consumptive use, water use efficiency, available nutrients and uptake of summer sesame (*Sesamum indicum* L.)

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Abstract : A field experiment was conducted on summer sesame during summer season of 2012 at Agronomy Department Farm, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, to study the effect of irrigation and nitrogen levels on consumptive use, water use efficiency (WUE), available nutrients and uptake of nitrogen in summer sesame. Experimental results revealed that moisture studies, available nutrients like nitrogen, phosphorus and potassium and nitrogen uptake (by grain, stalk and total N uptake) were significantly higher with irrigation scheduling at 1.0 IW/CPE (Irrigation water amount/cumulative pan evaporation) and nitrogen application at 90 kg N ha^{-1}, over rest of the treatments. The nitrogen content in grain, stalk and total were significantly higher with irrigation scheduling at 0.4 IW/CPE which was superior over 0.6 IW/CPE, 0.8 IW/CPE and 1.0 IW/CPE and nitrogen application at 90 kg N ha^{-1} recorded highest nitrogen content in grain, stalk, total and WUE followed by 60 kg N ha^{-1} and 30 kg N ha^{-1}.

Key Words : Irrigation, Sesame, IW/CPE, Available nutrients, N uptake, WUE

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