

555. Tomar, H.P.S., Dadhwal, K.S. and Singh, H.P. 1995. Effect of irrigation, nitrogen and phosphorus on physiological stages of spring sunflower. *Indian J. Soil Conserv.*, 23(1):84-85.

Results of a field experiment conducted during 1992-93 at Baraut (Meerut) to study the effect of irrigation, nitrogen and phosphorus levels on physiological stages of spring sunflower (*Helianthus annuus* L.) are discussed. Irrigation applied at 0.8 IW/CPE ratio exhibited significantly more number of days for bud formation, commencement of flowering, peak flowering and maturity of crop as compared to 0.4 IW/CPE ratio during both the years of the study. However, irrigation applied at 0.8 IW/CPE ratio with regard to these stated characters except starting of flowering and maturity, irrigation applied at 0.4 and

0.6 IW/CPE ratio did not differ significantly with regard to number of days required for bud formation but commencing flowering, peak flowering and maturity were found significantly affected. Nitrogen application (80 and 120 kg/ha) increased the number of days taken to bud formation commencing flowering and peak flowering significantly over 40 kg N/ha. Application of 80 kg P/ha took significantly more number of days for commencing flowering and peak flowering as compared to without P. It is inferred that more frequent irrigations and higher doses of N and P delay the physiological stages in