

## EFFECT OF NITROGEN AND POTASSIUM FERTIGATION SCHEDULES IN RABI SUNFLOWER ON PLANT GROWTH PARAMETERS

K. Preethika Reddy\*, M. Uma Devi, V. Ramulu and M. Madhavi

Water Technology Centre, Professor Jayashankar Telangana State Agricultural University  
Rajendranagar, Hyderabad 500 030  
Email: preethikareddy13193@gmail.com

Received-06.04.2021, Revised-19.04.2021, Accepted-28.04.2021

**Abstract:** A field experiment was conducted at Water Technology Centre, College farm, Rajendranagar, Hyderabad with sunflower (variety DRSH-1) during *rabi* 2017-18 in a randomized block design with three replications and the treatments were nine with combinations of N (75 kg ha<sup>-1</sup>) and K (30 kg ha<sup>-1</sup>) fertilizers applied by fertigation through ventury at different intervals *viz.*, 3 days and 4 days. Drip irrigation was scheduled once in 2 days at 0.8 E pan. Fertigation was imposed at 16 DAS to 88 DAS and completed in 19 and 10 splits in 4 and 8 days interval respectively. The source of N and K fertilizers was urea and potassium sulphate respectively. The soil was sandy clay loam in texture, alkaline in reaction, non saline, low in available nitrogen, medium in available phosphorus and potassium. The amount of total irrigation water applied was 3188 m<sup>3</sup> and 4666 m<sup>3</sup> in drip irrigation and furrow irrigation treatments, respectively. The N and K fertigation (75-30 kg N-K<sub>2</sub>O ha<sup>-1</sup>) at 4 days interval has recorded relatively higher plant growth parameters like number of leaves plant<sup>-1</sup> (25.5), plant height (208 cm), SPAD Chlorophyll Meter Reading (55.7), leaf area index (3.5) and dry matter (158.1 g m<sup>-2</sup>) which were on par with N and K at 8 days interval.

**Keywords:** Sun flower, N &K Fertigation schedule, Growth parameters, SPAD, LAI

### REFERENCES

- Aminifard, M.H.; Aroiee, H.; Ameri, A. and Fatemi, H.** (2012). Effect of plant density and nitrogen fertilizer on growth, yield and fruit quality of sweet pepper (*Capsicum annuum* L.). *Asian Journal of Agricultural Research*, 7(6): 859-866.
- Bachchhav, S.M.** (2005). Role of fertigation in improving fertilizer use efficiency. *Fertilizer Marketing News*, 36: 1-9.
- DRMR, Vision.** (2030). Directorate of Rapeseed-Mustard Research, Bharatpur, Rajasthan
- Gupta, A. J.; Ahmed, N.; Bhat, F. N. and Chattoo, M. A.** (2010). Production of hybrid tomato for higher income under drip irrigation and fertigation in Kashmir valley. *Indian Journal of Horticulture*, 67(1): 127-131.
- Kadasiddappa, M.; Praveen Rao, V.; Yella Reddy, K.; Ramulu, V.; Uma Devi, M.; Narender Reddy, S. and Mallappa, B.V.** (2015). Effect of drip and surface furrow irrigation on growth, yield and water use efficiency of sunflower. *An International Journal*, 10(7): 3872-3875.
- Reddy and Reddy** (2003). Principles of Agronomy. Kalyani Publication, New Delhi, India. pp. 319-320.
- Sanju, H.R.** (2013). Effect of precision water and nutrient management with different sources and levels of fertilizer on yield of groundnut. *M.Sc Thesis*. University of Agricultural Sciences, GKVK, Bangalore, India.
- Soni, J.K.; Raja, N.A. and Vimal, K.** (2017). Study of comparative performance of drip, micro sprinkler fertigation system and surface irrigation in groundnut (*Arachis hypogaea* L.). *Environment and Ecology*, 35(3): 050-2055.

\*Corresponding Author