INFLUENCE OF THERMAL ENVIRONMENT ON PHENOLOGY, GROWTH, YIELD AND DEVELOPMENT OF MUSTARD (BRASSICA JUNCEA L.) VARIETIES

R.K. Kashyap¹, S.K. Chandrawanshi³*, Pandhurang Bobade², S.R. Patel¹, J.L. Chourdhary¹ and Deepak K. Kaushik¹

¹ Department of Agrometeorology, College of Agriculture, Indira Gandhi
Krishi Vishwavidhyalaya Raipur (C. G.)

² RMD College of Agriculture & Research Station, Ambikapur (IGKV) (C.G.)

³ Agricultural Meteorological Cell, Department of Agricultural Engineering,
N.M College of Agriculture, Navsari Agricultural University, Navsari (GJ)
Email: sandeepagromert@gmail.com

Received-13.08.2017, Revised-25.08.2017

Abstract: Among various important growth characters of these Mustard varieties, plant height was greatly influenced under different thermal environments. Maximum plant height was observed in variety Varuna E1 (29th November) and minimum height was recorded in E3 (19th December). First date of sowing had more duration from sowing to maturity as compared to delayed sowing. This shortening of duration was due to thermal stress at later sowing dates. From phenological development point of view, the thermal insensitivity of all the varieties was assessed based on the TSI and it was found that Vardan, Kranti and Varuna Mustard varieties were tolerant to thermal stress. Different Mustard varieties show non significant results under different thermal environments but the seed yield (kg/ha) showed significant results under different thermal regimes.

Keywords: Thermal environment, Phenology, Development, Brassica juncea

REFERENCES

Anonymous (2005). Status Report XVIII Meeting of ICAR regional Committee No.V, Venue: CIFA Bhubaneswar (Orissa). 21-22 July 2005.

Kar, G. and Chakravarty, N.V.K. (1999). Thermal growth rate, heat and radiation utilization efficiency of *Brassica* under semi-arid environment. *Journal of Agrometeorology*, 1(1): 41-49.

Kumar, R., Negi, P.S., Singh, C.M. and Mankotia, B.S. (1996). Performance of gobhi sarson (*Brassica napus* sub sp. *Oleifera* var. *napus*) under various planting dates and row spacing in Himachal Pradesh. *Indian Journal of Agronomy*, 41(1): 98-100.

Saran, G. and Giri, Gajendra (1987). Influence of dates of sowing on *Brassica* species under semi-arid rainfed conditions of north-west India. *Journal of Agricultural Science*, Cambridge, 108: 561-566.

Sastri (2001). Thermal sensitivity of analysis, Annual Progress Report 2001 pp. 11.

Sharma, M.L., Bharadwaj, G.S. and Chauhan, Y.S. (1992). Response of mustard (*Brassica juncea*) cultivars to sowing dates under irrigated conditions. *Indian Journal of Agronomy*, 37: 837-839.

Thakur, K.S. and Singh, C.M. (1998). Performance of *Brassica* species under different dates of sowing in mid-hills of Himachal Pradesh. *Indian Journal of Agronomy*, 43(3): 464-468.

*Corresponding Author