

Heat unit requirement of wheat (*Triticum aestivum* L.) under different thermal and moisture regimes

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ABSTRACT

An experiment was conducted during 2016-17 and 2017-18 at WTC, ICAR-IARI New Delhi on wheat crop sown on three dates (15th November, 30th November and 15th December) with five irrigation treatments. The results indicated that the number of days required for attaining different phenological stages decreased with delay in sowing. For all the phenological stages, crop sown on 15th November consumed higher heat units and consequently resulted in higher yield and heat use efficiency (HUE) than that of other sowing. However, higher pheno-thermal index (PTI) values were observed for the late sown crop i.e. 15th December. Further, among the irrigation treatments, five irrigations throughout the growing period showed increase in days to physiological maturity as well as heat units and HUE for grain and biological yield as compared to other treatments. Five irrigations throughout the growing period increased the grain yield by 69 per cent and biological yield by 46 per cent that that of one irrigation at CRI stage. However, there was no significant difference observed between four and five irrigations levels. The heat units or GDD had highly significant correlation with biological yield ($r=0.91$) as well as with the grain yield ($r=0.85$).

Key words: Phenology, growing degree days, pheno-thermal index and heat use efficiency