

Correlation Studies Between Yield Attributes and Physiological Traits in Rice under Heat Stress

S Ravi Teja, P Venkata Ramana Rao, N Veronica and I Sudhir Kumar

Department of Genetics and Plant Breeding, Agricultural College, Bapatla, A. P.

ABSTRACT

The present research was aimed to analyse the response of 49 rice genotypes under high temperature stress. The objective of this research was to develop a screening approach by correlating yield attributes and physiological traits to yield under heat stress conditions during *Kharif* 2021. Data on physiological traits was utilised to create associations with rice yield. Temperatures observed during the crop growing season and was found that maximum mean monthly temperature is 35.3 °C and minimum monthly temperature is 27.9 °C under heat stress circumstances. Rice yield under stress significantly correlated with physiological traits such as chlorophyll a (0.384**), chlorophyll b (0.648**), total chlorophyll (0.576**) and cell membrane thermo-stability (0.253*). Furthermore, heat tolerant genotypes have significantly higher spikelet fertility. According to the findings of this study, these physiological traits like chlorophyll content, cell membrane thermostability etc., might be employed in the selection of thermo-tolerant rice genotypes.