

MORPHO-PHYSIOLOGICAL AND BIOCHEMICAL CHARACTERIZATION OF WHEAT UNDER THE WATER DEFICIT CONDITIONS

Prafull Kumar*, Manoj Kumar Yadav, R.S. Sengar, Phushpendra Kumar, Mukesh Kumar and S.K. Singh²

Department of Agriculture Biotechnology, College of Agriculture, Sardar Vallabhai Patel University Of Agriculture & Technology, Modipuram, Meerut (U.P.)

²*Department of Genetics and Plant Breeding, College of Agriculture, Sardar Vallabhai Patel University Of Agriculture & Technology, Modipuram, Meerut (U.P.)*

Email: prafull8412@gmail.com

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Abstract: In present study the 10 wheat genotypes were evaluated for their morphological, physiological and biochemical characters under drought stress. Drought is one of the most important phenomena which limit crop production and yield. Analysis of variance for morpho-physiological and biochemical traits and yield revealed highly significant differences among the entries under irrigated and non irrigated condition. In this study parameter like plant height, leaf length, number of tiller, spike length, spikelets per spike, seeds per spike, chlorophyll content, RWC, MSI and proline content was recorded. Analysis of the data showed that under water stress condition HD 2733 showed highest no. of tiller (4.37), Spikeletes per spike (17.20) and seeds per spike (21.20). While highest chlorophyll content genotype DBW 71 (34.37). RWC and MSI under the stress condition genotype HD 2733 performance better. Proline accumulation is believed to play adaptive roles in plant stress tolerance. Accumulation of proline has been advocated as a parameter of selection for stress tolerance. Therefore, the objective of the present investigation was to find out suitable morpho-physiological and biochemical traits that could be invariably used for the yield improvement of wheat grown under drought stress condition, responses to drought is essential for a holistic perception of plant resistance mechanisms to water-limited conditions. Crops demonstrate biochemical responses to tackle drought stress. All these parameters were found to greatly affect under imposed drought condition. Almost all the parameters were showed decline under imposed drought condition except proline content which is known as a stress tolerant indicator.

Keywords: Wheat, Morpho-physiological character, Proline, Drought Stress

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*Corresponding Author

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