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RESEARCH ARTICLE

Fluctuation of photosynthetic pigment of water-stressed cowpea *Vigna unguiculata* (L.) Walp. varieties

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ABSTRACT

Photosynthetic pigments are responsible for conversion of light energy into a form of chemical energy in the plants. The most important pigment in the light harvesting machinery of the plant is chlorophyll and Carotenoids play an important role in photo-protection of chlorophyll molecules. Cowpea responds to survive under water-deficit conditions via a series of physiological, cellular and molecular processes culminating in stress tolerance. Most cowpea is produced in arid and semi-arid zone. This experiment was conducted in the research field of Department of Biological Sciences, Sam Higginbottom Institute of Agricultural Technology and Sciences, Allahabad. To study the chlorophyll a, chlorophyll b and carotenoid content of three cowpea varieties (UU-0, VU-89 and KK-6) subjected to the different level of watering (daily watering, 2 days interval, 4 days interval and 6 days interval of watering). The experimental materials were arranged in Randomize Complete Block Design. The results indicate that the all photosynthetic pigments such as chlorophyll a, chlorophyll b and carotenoid content maximum in daily watering whereas at 6 days interval of watering observed minimum.

Key words : Cowpea, Water Stress, Chlorophyll, Carotenoid

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