CONTRIBUTION OF FUNCTIONAL STAY GREEN CAPACITY FOR IMPROVING DROUGHT TOLERANCE IN RICE UNDER SOIL MOISTURE DEFICIT CONDITION

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ABSTRACT

BAUTISTA, EDUARLITO F., Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz Ecija, Philippines, **CONTRIBUTION OF FUNCTIONAL STAY GREEN CAPACITY FOR IMPROVING DROUGHT TOLERANCE IN RICE UNDER SOIL MOISTURE DEFICIT CONDITION.**

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Generally, study aimed to determine the overall contribution of functional stay green capacity in increasing the dry matter production and yield of drought tolerant rice under soil moisture deficit condition. Three varieties (IR64, NSIC Rc9, and Kutsiyam) were grown under two treatments such as continuously waterlogged (CWL) and post heading drought (PHR). At flowering stage half of each varieties was separated in CWL which was maintained at 55% and while in PHR was maintained at 12% soil moisture condition.

Based on the results of the study the three varieties showed have high stay green capacity under both the CWL and PHD conditions. Kutsiyam had the highest stay green capacity while the IR64 and NSIC Rc9 have medium stay green capacity. The production of higher grain weight was a function of higher WU and higher WUE brought about by relatively higher TRL and possibly photosynthetic rate. Furthermore, higher WU as a function of bigger root system based on TRL under PHD is also needed. Thus, key traits under post heading drought conditions must be a combination of greater root system brought about by higher constitutive development and/or plasticity during periods of drought stress and a functional stay green character.

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