

Research Article

Alternate Wetting and Drying Irrigation: A Strategic Approach to Increase Water Productivity and Managing of Sheath Blight Disease in Rice

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Abstract

The traditional practice of continuous flooding irrigation in rice cultivation has resulted in excessive groundwater exploitation and low water productivity of crop. This study aimed to evaluate the impact of two irrigation techniques, alternate wetting and drying (AWD) and continuous flooding (CF) on the development of sheath blight disease (*Rhizoctonia solani* Kuhn) and water productivity of poplar rice cultivar PR 121 during the *kharif* seasons 2021 and 2022. Irrigating the rice fields two days after percolation of ponded water as follow AWD technique was identified the optimal irrigation practice for saving irrigation water and managing of sheath blight disease in rice crop. The AWD technique of irrigation was significantly reduced the disease severity (32.3%), number of irrigations (21.3%) and volume of irrigation water (20.3%), while increasing water productivity (29.9%) and grain yield (1.26%) as compared to the traditional continuous flooding system in rice cultivation.

Key words: Irrigation, severity, sheath blight, water productivity, yield

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