

عنوان مقاله:

Optimizing Rice (*Oryza sativa* L.) Irrigation to Introduce the Optimum Genotype for Grain Yield and Quality Promotion

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خلاصه مقاله:

Utilizing new irrigation techniques to introduce cultivars into paddy fields experiencing water scarcity is one way to combat water shortage and increase water productivity. To this end, this experiment was conducted as a strip plot in a randomized complete block design with three independent replications over two years (2016 and 2017) at the Rice Research Institute of Iran, Amol, Iran. Ten rice genotypes (V1 to V10) were subjected to three types of irrigation systems, including conventional Flood Irrigation (FI) and Alternate Wetting and Drying (AWD) at 10 (AWD10) and 20 (AWD20) cm below the soil surface. These results demonstrate that AWD10 and AWD20 methods reduced water consumption by 20 and 17%, respectively, compared to the conventional methods. This decreased water usage resulted in 1.4 and 0.2% yield losses compared to the conventional flood irrigation system. Moreover, milling recovery in flood irrigation (68.7%) was lower than AWD10 and AWD20 methods (69.6 and 69.8%, respectively). In conclusion, Neda, Shiroodi, and 8611 rice genotypes showed a better response to AWD irrigation, and may be considered as suitable genotypes for increasing water productivity in paddy fields.

کلمات کلیدی:

Irrigation management, Photosynthetic characteristics, Rice grain yield

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