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Efficient Water Use and Nutrition Cycling in Paddy Ecosystem

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Message from the Guest Editors

Conventional rice cultivation requires 2-3 times more of water than for other cereals, accounting for 34-43% of global irrigation water. In addition, the rapid increase in the application of chemical fertilizers over the past century has greatly benefited rice production. However, fertilizer over-application has led to many environmental problems, including excessive reactive nitrogen losses, greenhouse gas emissions, water eutrophication, groundwater pollution, etc. Managing the supply and utilization of nutrients to sustainably increase rice yields while minimizing impacts on other ecosystem services such as clean water and air, biodiversity, and carbon sequestration represents a significant challenge, especially under water-saving paddy ecosystems.

This Special Issue aims to collect novel approaches to measure, model, and efficiently manage irrigated water and nutrient cycling in paddy ecosystems, and the new insights regarding nutrition loss processes and their regulating and controlling mechanisms in paddy ecosystems. This will support the development of sustainable and profitable farming systems.



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Special Issue



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Message from the Editor-in-Chief

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