Prospects for rice in 2050

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Abstract

A key to achieve the goals put forward in the UN's 2030 Agenda for Sustainable Development, it will need transformative change to our agrifood systems. We must mount to the global challenge to achieve food security in a sustainable manner in the context of climate change, population growth, urbanization, and depletion of natural resources. Rice is one of the major staple cereal crops that has contributed, is contributing, and will still contribute to the global food security. To date, rice yield has held pace with increasing demands, due to advances in both fundamental and biological studies, as well as genomic and molecular breeding practices. However, future rice production depends largely on the planting of resilient cultivars that can acclimate and adapt to changing environmental conditions. This Special Issue highlight with reviews and original research articles the exciting and growing field of rice-environment interactions that could benefit future rice breeding. We also outline open questions and propose future directions of 2050 rice research, calling for more attentions to develop environment resilient rice especially hybrid rice, upland rice and perennial rice.

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