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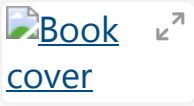

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Genome Editing Is Revolutionizing Crop Improvement

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Abstract

The ever-increasing human population together with emerging environmental cues from climate change demand for novel innovations in plant breeding and agriculture. Targeted genome editing technologies especially the CRISPR/Cas systems have revolutionized basic research and crop breeding by enabling precise targeted modification of an organism's genome. Lately, genome editing has been widely utilized in myriads of plant species to evaluate gene functions and improve valued agronomic traits including pathogen resistance, abiotic tolerance, yield and quality. In this chapter, we provide a brief overview of genome editing technologies with a special focus on CRISPR/Cas systems. In addition, we discuss about novel innovations in CRISPR-based