



**Genome Editing Technologies for Crop Improvement** pp 161–175

## Expanding the Scope of Base Editing in Crops Using

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### Abstract

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Genome editing technologies hold tremendous possibilities towards crop improvement and food security for the future. Among others, base editors have developed as novel editing platforms that facilitates specific base modification minus the introduction of double stranded break or homologous recombination. Base editors typically consisted of non-functional CRISPR–Cas9 motif (Cas9 variants) fused with cytosine (CBEs) or adenosine deaminase (ABEs) protein. While the combinations of cytosine and adenine base editors can produce the four possible base transitions, the necessity of a specific protospacer adjacent motif (PAM) sequence restrict the number of genomic locations that could be altered by CBEs and ABEs. The recent surge in the