

Carotenoids are tetraterpenoids which are natural pigments responsible for colours mainly in fruits and vegetables. A relatively large DNA fragment of 5.2 kb carotenoid biosynthesis cassette was inserted using an optimized CRISPR/Cas9-based method generating marker-free high carotenoid-enriched rice (Dong et al., 2020). This approach has also developed a β -carotene-enriched banana with the accumulation of β -carotene content up to 6-fold (~24 ug/g) by targeting the fifth exon of the lycopene epsilon-cyclase (LCY ϵ) (Kaur et al., 2020). CRISPR/Cas-mediated genome editing has been reported for enhancing carotenoid accumulation in many plants.