

Cucurbit crops have many major horticultural crops with high nutritional and economic values. Gene transformation and gene editing has made great progress in these crops. As a result, the manuscript is of great importance. Overall, the manuscript is well written and fluent. However, some issues need to be solved before publication.

1. In Table 2, functions of some genes should be changed. Regulation of male and female fertility and ovule development--Csa3M850670; Fruit elongation--Csa2G337260; Fruit neck length--Csa2G285890

Re: We appreciate your valuable opinions. We note that some gene function or phenotype descriptions given in Table 2 are not appropriate or scientific. Therefore, we have revised and unified the description. We've changed "Reduced male and female fertility with malformed pollen and suppressed ovule development--Csa3M850670" to "Reduced male and female fertility and ovule development--Csa3M850670", "Suppressed the elongation of the fruit--Csa2G337260" to "Fruit elongation--Csa2G337260", "Regulated fruit neck length--Csa2G285890" to "Fruit wart--Csa2G285890" and "The length of fruit neck--Csa4G038760, Csa2G379350" to "Fruit neck length--Csa4G038760, Csa2G379350".

2. In discussion 4.1, the authors focus on screening germplasms with high transformation rates. In my opinion, construction of transformation systems free of genotypes in Cucurbit crops is also a promising direction, since this attempt has been achieved in cotton and other crops.

Re: We believe this is an excellent suggestion. It is undoubtedly a promising direction to construct a genotype-free transformation system in cucurbit crops. However, in view of the fact that the regeneration mode of cucurbit crops is different from that of cotton and the current research results show that various species can be transformed, there is no widely adaptable germplasm, and the transformation efficiency is relatively backward. For such species with low genetic transformation efficiency, screening excellent receptor germplasm and optimizing the most suitable transformation system are the most effective and direct ways to improve the plant transformation efficiency. We have made some changes in 4.1. Of course, for future molecular breeding, it is the goal of all researchers to establish a transformation system free from the limitation by genotype.

3. In addition to the presentation in the discussion part, the manuscript could give more prospects that may be applied in transformation or gene editing in Cucurbit crops, such as transgene without foreign gene and so on.

Re: Thanks for your suggestion. In addition to the transgenes without foreign genes, we have also added possible application prospects. See line 363-373 for detailed modifications.

4. The application fields of transformation and gene editing in Cucurbit crops in the future may also be highlighted in the discussion part.

Re: We have re-written part 4 based on your suggestion. We've added the content concerning further development of gene editing technologies in cucurbit crops in 4.2, such as the use of CRISPR/Cas9 technology for spatial or temporal genomic changes, and rapid identification of gene functions. See line 397-406 for detailed modifications.

5. The reference styles should be uniform throughout the manuscript. For example, in some cases, the authors give the full name of the journal, whereas in other places the abbreviated names were displayed.

Re: We appreciate your advice and agree with your assessment. Accordingly, throughout the manuscript, we have given the full name of the journal and revised the reference styles uniformly.

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