Reviewer Report

Title: The haplotype-resolved chromosome pairs of a heterozygous diploid African cassava cultivar reveal novel pan-genome and allele-specific transcriptome features

Version: Revision 1  Date: 1/16/2022

Reviewer name: C Robin Buell

Reviewer Comments to Author:

The revised manuscript is greatly improved; the authors addressed all of my previous concerns.

Abstract Line 3-4: The lack of genetic gain in cassava is due to many factors, not solely the lack of the ability to generate a reference genome due to its heterozygosity. Rephrase.

I think it would be better to use "variable" or "diverged" to refer to ASE rather than inconsistent which implies an experimental problem.

Line 80: Explain how being clonally propagated can increase the number of effective alleles. What is an effective allele? F1 hybrids are heterozygous so how is clonal propagation unique?

Clarify which version of hifiasm was used in Supp table 1 vs Table 2. The metrics for the alternate assembly in Supp Table 1 seem poor.

Line 298 and others: It should be non-mitochondrial not none-mitochondrial

If the pseudochromosomes were assigned randomly to H1 and H2, how can you explain differential GO enrichment in the ASE? What would happen to the enrichment if the pseudochromosomes were reshuffled among the haplotypes?

Methods

Are the methods appropriate to the aims of the study, are they well described, and are necessary controls included? Choose an item.

Conclusions

Are the conclusions adequately supported by the data shown? Choose an item.

Reporting Standards

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Statistics
Are you able to assess all statistics in the manuscript, including the appropriateness of statistical tests used? Choose an item.

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