

Overall, the authors addressed all major reviewer comments and improved the manuscript clarity and content in general. However, a few points could still be improved before acceptance of the manuscript.

-In the Abstract (Line 11) and in the conclusion (Line 451) the authors propose that since the majority of SOC_{new} was found in the bulk soil, then most of the planted soil should be considered as the rhizosphere. I think this can be a bit misleading because even though the rhizosphere is considered the area of soil influenced by plant roots, it is not solely defined by the presence of root-derived C inputs, but also has to do with physical factors related to root proximity. For instance, factors regarding oxygen depletion, changes in water content, as well as microbial interactions help define the term as well. I think this statement should be modified to reflect how the influence of the root-derived carbon inputs extends beyond the narrow area generally defined as the rhizosphere rather than redefining rhizosphere.

-Later, in Line 376 the authors make the same statement as in Lines 11 and 451, but here they mention that root processes inherent to the rhizosphere are not constrained to the vicinity of roots which is more accurately phrased. Here the authors could be more specific about which processes are being considered, as again rhizosphere processes encompass more than just C inputs so redefining rhizosphere soil based only on these results still seems like an overstatement.

-In Line 12 it is not clear what mid-term refers to, as SOC_{new} was found to persist longer than roots for 3 out of the 4 sampling dates (including both the earliest and latest sampling points but not the second sampling). Line 64 also mentions the term. Maybe define mid-term more clearly as it is also used in the C storage implications section.

-Starting in Line 57: the sentence is long and has two instances of “:” so it should be split.

-Line 66 and Line 370: It should be “While” not “Whether”

-Line 73: Chang to OM

-The main headings of the Discussion could better reflect the 3 objectives mentioned in the Introduction rather than mimic the results headings

-Sentence in line 351 could be phrased more clearly as it is an important result. Also, the use of “on the other side” is not common, use instead “on the other hand” throughout the text.

-The point made on Line 363 about the mechanisms related to the priming effect is not clear, what is meant by “such differences in OM stability”?

- There are several grammar and spelling errors throughout that should be corrected. Please revise.