



EGUsphere, referee comment RC2
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Comment on egusphere-2022-884

Anonymous Referee #2

Referee comment on "Potassium limitation of forest productivity – Part 2: CASTANEA-MAESPA-K shows a reduction in photosynthesis rather than a stoichiometric limitation of tissue formation" by Ivan Cornut et al., EGU sphere,
<https://doi.org/10.5194/egusphere-2022-884-RC2>, 2022

Here I review the 2nd part of the work submitted by Cornut et al., focusing on simulating growth limitation induced by K deficiency. Overall, I find this manuscript well-written. I have one comment regarding the model structure. Here, the authors indicated that the model structure accounts for additional processes relating to K allocation, remobilization and turnover. I do not understand why the model structure is different in this paper as compared to the model structure of the first paper. I know two papers have different focus, but it would be valuable to justify the reason as to why the authors decided to omit processes described here in the first paper. Particularly, does it mean that the results of the two papers are not directly comparable even if they were used to simulate processes for the same site? Apart from this comment, I think the manuscript is generally well presented.

Specific comments:

L64: no hypothesis on sink limitation was previously introduced yet. It would be great to

make it explicit. And, it would be useful to describe what you meant by parsimony principle.

L 91 – 93: Why these modules on carbon allocation and K effect on organ growth not important in the first manuscript? In particular, why the model structure of the two papers different? Does it mean the results of the two papers are not directly comparable, even if simulated for the same site?

L199: incorrect spelling, should be "flexible".

Figure 1: The color scheme makes it hard to see the difference between +K and oK treatment, especially for the dots. Can the authors please revise them to more distinguishable colors?

Figure 4b: Why litter K content starts so high and declines over time?

Equation 8: Btrunk should be biomass, not in unit of g C m⁻², right?

Equation 12: Knpp in the unit of gK m⁻²? Shouldn't it be in the unit of gK m⁻² d⁻¹? But if this is the case, what's the correct unit for Kavailable in equation 14?

