

Interactive
Comment

Interactive comment on “Modelling and quantifying the effect of heterogeneity in soil physical conditions on fungal growth” by R. Pajor et al.

Anonymous Referee #1

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I congratulate the authors for this nice article in a topic that soil science is trying to advance our knowledge about how and why microorganisms have a huge impact at micro scales. I would like that the authors improve this manuscript answering these questions and including it, if possible, into the text:

“You are describing something at such little scale, at what scale the soil management should be applied then?”

“At the introduction, page 3480, line 27 you wrote “The main aim of this work effect of the internal structure of soil on fungal growth dynamics and colonization efficiency in 3D”. At the conclusions you mention that the nutritional and structural factors

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should be separated, aren't they in some way correlated? Why did you put the two simulations of limited and unlimited growth conditions?

— You have a cube of 300x300x300 voxels. From there you choose 8 subsamples of 128x128x128. Then your subsamples are overlapping in some volume. Did you had this in account when applied the statistical analysis?

— When you define Pore space connectivity (page 3482, line 21) how many neighbors has each voxel ?

— Please, could you improve figure 6 (page 3501). The scales are quite different in both cases and it is not clear for me what you want to highlight with it.

— Please, check if the reference year is the right one at page 3494, line 26. It doesn't correspond with the text.

Interactive comment on Biogeosciences Discuss., 7, 3477, 2010.

BGD

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