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Biogeosciences Discussions

Interactive comment on "Modeling microbial exchanges between forms of soil nitrogen in contrasting ecosystems" *by* M. Pansu et al.

B. Nicolardot

b.nicolardot@agrosupdijon.fr

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This paper presents an application of the MOMOS model to simulate the pathway of C and N cycles in 6 different ecosystems. It represents a significant piece of work to understand N behavior in such systems. Two main hypothesis are made: i) the first one considers a constant C:N ratio for microbial biomass, ii) the second one takes into account a C:N ratio varying between a minima and a maximal values. Simulations performed using both hypothesis shows quite high values for biomass C:N ratio. Literature shows that C:N of microbes may vary with the availability of resources and particularly with the C:N ratio of decomposing materials. (See review in Nicolardot et al. 1986, Soil Biology and Biochemistry 18, 263-273). High C:N ratio were generally recorded for fungal biomass or material, C:N ratio of bacterial material are lower. Do you have any

indication or information about the composition of microbial biomass in these 6 ecosystems (numeration, DNA analysis. . .) which may support the high values simulated in your work?

Interactive comment on Biogeosciences Discuss., 10, 5749, 2013.