

***Interactive comment on “Variability of aboveground litter inputs alters soil physicochemical and biological processes: a meta-analysis of litterfall-manipulation experiments” by S. Xu et al.***

**Anonymous Referee #1**

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This manuscript has a noble goal – to synthesize existing data on litter additions and removals. They do carefully explain that primary productivity can change with all sorts of changes – climate, management, ozone, etc., and thus the resulting effects on soil C storage and dynamics are of critical importance to biogeochemists.

That being said, this manuscript falls short of its goal. I do not know all the literature in this field, but they definitely missed some of the most critical papers and a lot of the critical interesting concepts. They synthesize data, but in doing so, they lump data from experiments that have been in place for absolutely random numbers of years. They cite

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studies that show that after 11 years there was no change in soil C – but they lump data from several decades to several years. They briefly discuss priming, but of the recent presentations I have seen, priming might really be the one interesting point of this story - at AGU, several papers showed that with litter additions, soil C declined for a number of years and increased only after a long time. For this reason alone, I don't think that you can readily lump experiments that have been going on for a random number of years. There are data on enzymes, critical C processes, and soil chemistry – but all of this is missing in this synthesis.

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Interactive comment on Biogeosciences Discuss., 10, 5245, 2013.