Reviewer 2

Open Review

(x) I would not like to sign my review report

( ) I would like to sign my review report

English language and style

( ) Extensive editing of English language and style required

( ) Moderate English changes required

(x) English language and style are fine/minor spell check required

( ) I don't feel qualified to judge about the English language and style

<table>
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<tr>
<th>Yes</th>
<th>Can be improved</th>
<th>Must be improved</th>
<th>Not applicable</th>
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Does the introduction provide sufficient background and include all relevant references? (x) ( ) ( ) ( )

Is the research design appropriate? (x) ( ) ( ) ( )

Are the methods adequately described? ( ) (x) ( ) ( )

Are the results clearly presented? (x) ( ) ( ) ( )

Are the conclusions supported by the results? (x) ( ) ( ) ( )

Comments and Suggestions for Authors

Reviewer #1 has a number of substantial comments that need to be addressed. As regards their and my comments, I ask for the following clarifications in the manuscript:

**Point 1:** The Abstract reads better but needs to include the fact that much of the response to N additions in understory plants were driven by decreased light availability (indirectly measured via changes in pine litterfall and bole growth).

**Respond 1:** We add the result in Abstract as “In contrast, N addition significantly increased the average girth growth rates and litterfall productivity of overstory trees by 18.28% and 36.71%, respectively.” (L34-36).

**Point 2:** When did the N treatments cease? In 2013 (as described in Dong et al. 2015) or in 2015 when the measurements for this study were taken? Please include this information in the manuscript.

**Respond 2:** In our study site, fertilization of N treatments have be developed since 2011. Soils were sampled twice in 2013 (two years after experiment) including July and November described in Dong et al. 2015. In our study, soils were sampled in August 2015 (the fourth year after experiment treatment). In addition, the soils for original properties were sampled before experiment of N addition in 2011.
Point 3: Please cite the Dong et al. (2015) paper in the manuscript as a source of information on the treatments effects on soil properties. The pH effect was slight as were the other changes, but readers may want to investigate this further on their own.

Respond 3: We cited the results of soil properties in Discussion (L280-282). We concerned that soil pH significantly decreased with N addition in Dong et al. (2015). In our study, we listed the data of pH for original soil. In both studies, soil P (available P in this study and total P in Dong et al. 2015) did not change due to N addition, and this is our key result to support our conclusion. Dong W Y, Zhang X Y, Liu X Y, et al. Responses of soil microbial communities and enzyme activities to nitrogen and phosphorus additions in Chinese fir plantations of subtropical China[J]. Biogeosciences, 2015, 12(18): 5537-5546.

Point 4: It is still unclear how bole growth was measured. It now says a homemade device and a manufactured vernier caliper. What is the homemade device? I think the homemade device was a band of metal or plastic called a dendrometer, but this is not clear.

Respond 4: Now, we change to self-made dendrometer (including a sheet steel, a wire spring two steel nails and a digital caliper, see Chen et al. 2015).