

## ***Interactive comment on “A sub-canopy structure for simulating oil palm in the Community Land Model: phenology, allocation and yield” by Y. Fan et al.***

### **Anonymous Referee #2**

Received and published: 3 August 2015

The topic of the ms is timely and important since oil palm plantation is a major land conversion driver in forests of SE Asia. However, there are a few critical issues of this ms. First, I agree with reviewer #1 that the ms is way too wordy and can be reduced at least 30-40% without losing any information. For example, Introduction is extremely long with a lot of unnecessary information such as the strengths of the new model. In addition, it's perfectly fine to provide details of the model to make it easier for experts to replicate your methods (although I don't think it's possible). However, the authors should at least make some efforts to make the ms readable for not just themselves. Description of the model is full of jargons and is much disorganized. Second, I am not sure why the validation was to compare LAI and annual yields. Are these the outcome

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of a CLM or CESM? Third, the major one, if the validation is not satisfactory and difficult to capture the large site-to-site variation as the authors stated in P4573L11-12 and Figure 8, I don't really see the point of getting this paper published.

Specific comments:

P4547L20-21: This is very subjective. To me, it should be something like 0% to call it perfectly.

P4549L1-2: ... and at fine time steps (e.g. half-hourly). A ref. is needed.

P4550L19-20: ... even for oil-palm-like plantations (e.g. coconut, date palm etc.). If you didn't validate it, you should not state this.

P4551L20 (and other places): Don't use "incl.". This is not conventional.

P4558L17: What is mxlivenp? It is explained in Table 1 but not the main text.

P4559L22: C:N ratios? The numbers are way too small in Table 2.

P4561L20: It's unclear how you derive NPP<sub>mon</sub> since it extremely challenging to estimate monthly tree NPP?

P4564L23: What are the sizes of the sites?

Figure 8b: A simple scatterplot field measures vs. simulated LAI would work.

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Interactive comment on Geosci. Model Dev. Discuss., 8, 4545, 2015.

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