

## ***Interactive comment on “BVOC emissions from English oak (*Quercus robur*) and European beech (*Fagus sylvatica*) along a latitudinal gradient” by Ylva Persson et al.***

**Anonymous Referee #2**

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The paper by Ylva Persson et al focus on BVOC emissions from clones of two different tree species located in the international phenological gardens. This experimental design is good as it removes some of the uncertainties in relation to this kind of studies: the effect of natural variation among species due to genetic variation. This allows the authors to focus on the effect of climate and meteorology.

The topic is indeed relevant for Biogeosciences by contribution with new observations of BVOCs. The study design is systematic, easy to reproduce and the conclusions are clear. The main weakness is that the study is based on a relatively small observational data set.

The text is well written and the results are discussed in a balanced way with sufficient

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credit the recent relevant work.

I have only minor comments or suggestions to this study as seen below:

The authors compare BVOC emissions from populations of same genetic structure but at different climatic locations. Generally speaking, then comparisons of such data set would often include a test of significance. Would a test for significance be appropriate in this particular case?

Fig 1 is a bit difficult to read. It would be better if the country borders were drawn on top of the coloured grids

Could some of the figures be more efficiently presented in a table. Figures like Fig 2,3,7 appear to be highly related to Table 3. If this is possible, then it would make the results more quantitative and at the same time save space.

It is unclear to me, why the BVOC component Sabiene is not measured at some of the trees in Taastrup and Grafrath 1 (e.g. Fig 9). Is there a particular reason to this. Secondly, is findings in relation to the BVOC component Sabiene an important finding that suggest that large variations are found at the individual tree level? Thus suggesting that BVOCs from several trees must be measured before conclusions can be drawn?

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