

Review of Biogeosciences Discussions paper by Pinho et al.

General points:

A fully referenced and carefully presented paper with some sentence construction requiring alteration.

A more general point is that the paper considers only changes to vegetation and in particular lichens and this is modelled as an ecosystem impact but since most biodiversity is in fact invertebrate biodiversity considering the whole ecosystem the impact might indeed produce a different result .

Detailed comments:

Page 11140: Abstract:

Line 5. (concentrations). Few studies of Mediterranean ecosystems have

Line 9. woodlands. We have considered

Line 10. sensitive communities to

Sentence Line 12-15 needs complete re-writing

Line 15. barn). Modelling

Line 18. deposition showed the

Line 19. ecosystems. Modelling

Line 20. concentration showed the critical level to be below

Line 24. The assumption that lichens indicate the effects of n pollution applies to vegetation only as no studies have been done for invertebrates (but note the papers by Wallis de Vries and van Swaay; van Duinen; Feest and Spanos on butterflies in particular van Duinen postulates that n deposition induces a nutritional imbalance leading to starvation)

Page 11140 et seq. Introduction:

11141: Line 4. escapes into

Line 6. alterations to plant biodiversity (note the title of Bobbink's paper!)

11142: line 2: maquis vegetation

Line3: Other studies on the

Line 13: observed effects are

Line 14: 2011). N-addition

11143: Line 2 and throughout: question should it be nitrophytic or nitrophilic?

Line 10: note that the faster growth rates of bryophytes means that they respond more quickly to n inputs. Also note that macrofungi are also very sensitive to n-deposition (Koyode and Wu) and that VDI (German engineers!) have also produced standardised sampling method and how does this compare?

Line 19: previous work that

Line 20: 2009). Here we

Line 21: CLEs, utilising one-year

Line 24: Should this be **Materials and Methods?**

Page 11144: Line 11: should there be standard height above the ground? VDI have one I believe!

Line 15: and their frequency (Asta et .,

Page 11145: Line 9: station (a military site: BA6 etc.

Line 10: EEA, 2007) assuming a constant (and is this the correct thing to do?

Line 19: environment, even the more

Page 11146: Line 2: site and we

Line 8: of extensive of intensive cattle husbandry

Line 14: in these models and

Line 23: The evidence that trees filter out the n is strong.

Page 11147: Line 20: The extent of impact

Page 11149: Line 7: ecosystems excepting California

Line 11: maquis with a one

Line 15: are much clearer

Line 25: We are given yearly data but no variation values (standard deviation?). Is it possible that the variation might be high and the impact shown is a response to the highest values rather than the mean?

Page 11150: lines 9-12: I like these points.

Page 11152: Lines 3-4: hyphenation is wrong LDV-oligo or LDV_{oligo} not hyphenated.

References correct (well done).

Page 11159: Table 1. groups following eutrophication ? nitrophylic again

