

Interactive comment on “Viticulture microzoning: a functional approach aiming to grape and wine qualities” by A. Bonfante et al.

Anonymous Referee #3

Received and published: 16 January 2015

General comments: I find that the overall context of the research suitable for this journal. The methods are generally satisfactory and the paper is generally well organized. However, the use of the English language should be improved. Furthermore, there are some issues that need to be addressed before accepting the manuscript for publication. Below are some comments and remarks:

Other remarks:

- A list of abbreviations should be considered.
- Title does not really translate the developed work.
- Discussion: needs a deeper insight, with references to previous studies.

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Page 1206:

-The words ‘study area’ are repeated several times.

“The vineyard studied was. . .placed along a slope of 90m length with 11% of gradient.”

-Are the vineyard facing south, east or west? Please clarify.

“The “green manure” management is applied.” -Please give some more information about this management.

“The long-term (2003–2013) mean daily temperature at the study area was 14.7 (± 0.9) °C . . .” -Do you mean annual mean of daily values?

-Is it not available Climate Normals (30 years) for the experimental site?

-It would be informative to add the growing season (April–October) mean values for comparison with next paragraph (though the 2011–2013 meteorological data belongs to the results section).

Page 1207:

-“DTM” and “DSM” are defined only in page 1213.

Page 1208:

-Similarly for ‘DEM’.

Page 1209:

“The data were recorded on a GPS-supplied data-logger. . .(accuracy 3 m). . .”. -Please relate this accuracy with the study objectives and other measurements.

Page 1212:

-ET₀: refers to reference evapotranspiration.

Page 1213:

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-Please give some more details about estimation of 'Leaf Area Index'.

Page 1214:

"2.7 Crop measurements" -What was the experimental design?

"In particular, of the 27 plants monitored, 12 were used to collect the grapes at harvest and 15 for sampling scalar grapes." -Considering the defined study area, it looks to me a small number of monitored vines.

Page 1217:

"...six soil profiles and 25 augers were localized to include major variability..." -Please clarify the methodology adopted. How many samples were collected from 'Cambic Calcisol' and 'Eutric Cambisol'?

Page 1220:

"3.4 Vineyard records (crop/must measurements)" -Most of these data may be included in Table 2.

-Some statistical analysis is needed in Table 2 (between 'CAM' and 'CAL'). And about differences among years?

-Please add some considerations about the differences between ECa maps (Figure 3) and fHZs (Figure 5).

-Please add some considerations about the CWSI applicability to different grapevine varieties. Though with similar LAI and root depths, diverse crop responses can be found among varieties.

Interactive comment on SOIL Discuss., 1, 1203, 2014.