

Interactive comment on “Knowledge needs, available actions and future challenges in agricultural soils” by G. Key et al.

G. Key et al.

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Dear Saskia,

Thank you for your comments, especially as they highlight that we had not specified when the review was carried out. Here I respond to the larger issue of literature inclusion first, and then will respond to the other comments in order. The changes are marked in the attached manuscript.

While I appreciate that it would be good to have the most up-to-date literature for the review, the project and review were carried out in 2012, over a short timeframe, and the Delphi Assessment was carried out in 2013, hence the journals only being scanned up to 2012. I agree with your comment that the journal Land degradation and development is within the scope of this paper. However, at the time, we consulted with soil research

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experts as to which journals to prioritise (page four line 26). As stated on page 12 line 36, we received suggestions for literature from the Expert Panel that was not captured by the review. The suggestions of the expert panel were not included as the review had been completed, and the amount suggested would have warranted another review. We outline this shortcoming on page 13 line four for the limitations of the paper, but also point out that despite this, a lot can be achieved over a short timeframe. Dates for when the review and assessment were carried out are now included in the methods section (page five line 15).

In answer to your request for additional results in the abstract, the beneficial practices found from the review are already mentioned in the abstract, on page one, line 36. I don't feel that it would be useful to repeat them within the abstract. On page two line 29, I have replaced the phrase “are being eroded” with “are deteriorating” as requested. I am more than happy to link to other papers being submitted for the special issue, and have cited the Keesstra et al paper in the manuscript where suggested (page two line 34).

Your fifth comment (page three) where you request more information on the benefits of better soil management, is largely answered in the previous paragraph where we state some of the problems occurring in the face of deteriorating soil health, and additions would likely result in repetition in this section. Thank you for the literature suggestions, but here we are trying to highlight that there are many unknowns to current practices on soil health and fertility.

In response to your comment on page five, we consulted farmers and land managers, and followed their recommendations. I have added a sentence to this effect (line 13). As explicitly mentioned in the Table 1 title on page six line 33, the practices have been grouped into indicative categories. These categories are then shown in the ‘Category’ column in the table itself. “Number of papers” has been added to the ‘Y’ axis in Figure 1.

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In response to your comment on page 11 of the manuscript, if I have understood you correctly, finding out the number of places where soil management practices based on non-scientific knowledge are occurring, is beyond the scope of this paper. On page 12, line 21, we clearly state that our findings suggest that we do not yet have a full understanding of the consequences of practices on soil health. From line 21 onwards, we discuss the trade-offs of the practices, and on line 37 of the same page, we suggest that gleaning knowledge from practitioners is key to enhancing soil health. I have added a sentence (page 13 line three) to say "In addition, their knowledge would perhaps provide a wider range of practices for researchers to explore, widening the tools available to enhance soil health". In response to your final comment, we felt that it was more appropriate to address each limitation in turn, to show that we recognise them, but then to show where the limitations could lead to future opportunities in this area.

Overall I feel that we have clearly explained our methods and why we used them, and also that we were very upfront with the limitations of this paper and how the method can be improved in the future. The aim of this paper was not to review all the literature available on this subject, but to investigate whether the Delphi method could be used as a tool to help make decisions about practices affecting soil health, and we hope that the review will be used as a starting point for future reviews and assessments in this area.

Best wishes,

Georgina

Please also note the supplement to this comment:

<http://www.soil-discuss.net/soil-2016-17/soil-2016-17-AC4-supplement.pdf>

Interactive comment on SOIL Discuss., doi:10.5194/soil-2016-17, 2016.