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Interactive comment on “Influence of long-term mineral fertilization on metal contents and properties of soil samples taken from different locations in Hesse, Germany” by S. Czarnecki and R.-A. Düring

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I will leave the majority of the comments on this paper to others, but there is a point I wanted to comment on.

This manuscript mentions connections between soil metal contents and human health in both the Introduction and Conclusions. This is good, because the fundamental reason for our interest in the heavy metal content of soils is the potential for negative impacts on both human and ecosystem health. However, the authors do not provide

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any discussion of the metals/human health issue in the Discussion portion of their manuscript, and this is a weakness in the manuscript. Several countries have developed guidelines for the levels of various metals they have decided are “acceptable” in soil. See Morgan (2013) table 3.4 for an example of this; Morgan has summarized the guidelines for a half-dozen different countries. How do the levels of each of the metals tracked in this study compare to the guidelines established by Germany? Did any of the metals tracked in your study have values higher than the established German guidelines? If so, what might that mean in terms of human health concerns? Morgan (2013) in table 3.3 and Brevik (2013) in table 2.3 provide information on some of the health concerns of various heavy metals, there are also several other references that could be used in addition or instead. Strengthening the human health connections in this manuscript would improve the overall article. I suggest adding at least a paragraph to the Discussion section that addresses this issue, with appropriate references (they need not be either of the references I mentioned here, there are many that would work).

Brevik, E.C.: Soils and human health – an overview, in *Soils and human health*, edited by Brevik, E.C., and Burgess, L.C., Boca Raton, FL, USA, CRC Press, 29-56, 2013.

Morgan, R.: Soil, heavy metals, and human health, in *Soils and human health*, edited by Brevik, E.C., and Burgess, L.C., Boca Raton, FL, USA, CRC Press, 59-82, 2013.

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