

## ***Interactive comment on “Targeting the soil quality and soil health concepts when aiming for the United Nations Sustainable Development Goals and the EU Green Deal” by Antonello Bonfante et al.***

**Anonymous Referee #2**

Received and published: 29 July 2020

I commend the authors for their efforts to clarify and parameterize the concepts of soil quality and soil health. The framework presented in this manuscript to define these and a number of related terms is quite clear. In addition, the methods proposed to parameterize these terms are straightforward and considerably cleaner than many other methods that have been previously proposed, relying mainly on existing data, and requiring far fewer parameters and measurements than other soil quality and soil health "systems".

The manuscript is well-written, with only a few minor grammatical errors, noted below.

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I am, however, surprised that soil P6, a loamy sand, has a higher  $Y_w$  for the undisturbed condition (and all other conditions represented) than soils P4 and P5, which are sandy loams. Plant available water should be lower in a soil with loamy sand texture than one with sandy loam texture, which would suggest an overall lower yield for the loamy sand soil, all other things being equal. In my experience here in Minnesota, unless irrigated, loamy sand soils commonly have lower yields than sandy loam soils. Are these the correct data for soil P6?

Specific comments:

l. 377: remove period between quality and concepts

l. 378-379: I suggest changing the phrase: "...that is determined by many other factors disciplines than soil." to "...that is determined by many factors other than the soil (i.e., insect invasions, plant disease, other factors)."

l. 384-386. I suggest rewriting this point as: Effects of climate change for the Italian soils being considered showed such a significant and large reduction of  $Y_w$  for all degraded and non-degraded scenarios considered that agriculture may not be economically viable by the end of the 21st century if irrigation is not feasible.

l. 386: 21st century, rather than 21thcentury

l. 391-393: Point 7 is identical to point 5. One of these two points should be deleted.

l. 398: dr. should be capitalized to Dr.

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Interactive comment on SOIL Discuss., https://doi.org/10.5194/soil-2020-28, 2020.

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