

Comment on soil-2021-129

Anonymous Referee #2

Referee comment on "The effect of tillage depth and traffic management on soil properties and root development during two growth stages of winter wheat (*Triticum aestivum* L.)" by David Hobson et al., SOIL Discuss., <https://doi.org/10.5194/soil-2021-129-RC2>, 2022

Dear Editor and authors,

The manuscript addresses the influence of tillage and traffic management on soil properties and root development. It has a good level of detail and it fits nicely with the topic of the journal. The overall structure of the paper is good, however, there are some concepts that need to be more clearly defined.

Abstract: I think it should be better stated which factor is more important management wise and its consequences.

Introduction: The purpose of the paper needs to be rephrased as it's not clear they are assessing the influence of trafficking. The cultivation and traffic management description should be moved to methodology.

M&M: In my opinion, it would be important to add a description of the tillage history of the site. The traffic regimes need to be better defined specifying or justifying how the combination of deep tillage without trafficking is possible. It appears the concept of controlled traffic farming (CTF) is not mentioned again throughout the paper. Regarding the Soil Moisture Deficit Model, what are the inputs of the model? only weather parameters?. Why did the authors choose to transform all the data to be normally distributed instead of using a non-parametric test?

Results: In general, figures need substantial revision. Legends should indicate the meaning of the treatments as in figure 8 and the same format (sequence of treatments) should be kept throughout. Also, the description of the results seems confusing at times.

Discussion: The discussion is too long and also it's a bit redundant as it includes some data that should go to results or be removed. I think it could be useful to split it into tillage or traffic management effects.

Conclusions: they should state better what the recommendations are from an agronomic point of view and also the reflection of whether it would be really possible to leave traffic-free zones and what the advantage would be instead of establishing Low-pressure tyre zones?

Hope it helps.

Kind Regards