

SOIL Discuss., author comment AC2
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Reply on RC2

Bartosz Bartkowski et al.

Author comment on "Application of the governance disruptions framework to German agricultural soil policy" by Bartosz Bartkowski et al., SOIL Discuss.,
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Thanks for the constructive comments!

Regarding the point on concepts and language: while revising the manuscript, we will pay attention to reducing jargon and better explaining concepts (and using more examples), including the Tinbergen rule.

Regarding the point on organic fertilization: any fertilizer, organic or synthetic, is problematic when applied in too large doses (as exemplified by the spatial co-occurrence of meat production clusters and nitrogen contaminated water bodies in North-Western Germany or the Netherlands). We will add a brief explanation on that.

As for our "weak" conclusions, they partly reflect the existence of many knowledge gaps and few practical experiences to build upon. Still, we will try to make the recommendations stronger. The suggested triad of monitoring, behavioural change and communication is a useful starting point and very helpful, thank you. Especially, monitoring also include the one major point addressed by the other reviewer, namely data availability.

We will happily strengthen the importance of behavioural change, which we consider very important (but apparently haven't conveyed this perception sufficiently). We also agree that our interpretation of the GDF may somewhat underscore the importance of communication and knowledge transfer (it cannot be easily integrated in any of the four dimensions of the framework in an explicit way, though implicitly, it definitely plays a role in each of them, particularly target adequacy [communicating what is required/wanted], object adequacy [communicating trade-offs across policy domains and drivers] and behavioural adequacy [communication as essential "instrument" of behavioural change]). We won't be able to substantially amend this in the already pretty long manuscript, but we will pick up your points 2 and 3 by adding to the discussion of behavioural adequacy insights from related contexts (broader AECM uptake research in Germany), showing that the complexity of programmes and lack of transparent information about competencies and other administrative modalities of those programmes can significantly hinder uptake.

Regarding the adaptation of the GDF to the realities of soil legislation processes, we concur that this could be helpful – our paper's aim has been to demonstrate how the GDF

in its "complex" form can be applied, and simplifying it for specific purposes would be a next step. We will add this to the conclusion section.

Regarding Table 3: the "scoring" of cover crops is based on the review by Chapman et al (2018) and reflects an aggregation of results from different studies (some of which showed effects on CS, but only few). Regarding herbicides, we will add effects based on the reviews by Rose et al (2016) and Gunstone et al (2021).

The other two minor issues (SDG indicators and "other motivational factors") will be addressed accordingly when we revise.

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