

Response to the Letter to the Editor

Our paper intends to highlight the fact that much agricultural research reflects average responses and uniform situations, thus disregarding valuable information from variable responses and neglecting most situations in practical farming. We are not the only or the first ones to realise this, as can be concluded from the literature cited in the paper: the (selective) review indicates that there is a general increase in awareness of the significance of variation in agro-ecosystems. Awareness, however, is not enough. Variation is a multi-dimensional, scale-specific, extremely complex phenomenon: a systematic approach of variation based on a sound concept is therefore required. Such a concept, 'agrodiversity' as we call it, is agronomically relevant, because managing variation may help to increase yield in environments with large and variable abiotic or biotic stresses, may increase yield stability and improve resource-use efficiency, and thus improve sustainability.

Until now, the usual approach in agricultural technology development has been neglecting variation in both high and low external input agriculture. The situation, however, is fundamentally different in the two systems, although in both cases variation needs to be taken into account. The road to improved management of variation is different too. This suggests different research priorities, which we identified.

The major bone of contention is to what extent the approach of the 'best agro-ecological means' runs counter to the aim of the 'best technical means'. We argue that proper management of variation in agro-ecosystems will result in 'best technical means'. In many instances matching variation to the variation in biotic and abiotic environment allows the crop to make optimal use of the combination of inputs in such a way that not only yield is optimal, but also the resource-use efficiency is optimal. This is true for both high potential areas (precision farming) as well as for more marginal lands. In other words, the issue is to fertilize the crop rather than the soil and in this sense the best agro-ecological means approach comes close to the best technical means approach. The concept of agro-diversity in fact allows us to include variation in the concept of 'best technical means', making the latter wider and better applicable.

In no way, this can be seen as a political statement.

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