

Crop production systems at a junction – We need a new institutional research design and infrastructure

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1. Hypothesis: Most challenges in global crop production are complex because they require adjustments in several, regionally adapted dimensions: rotations, tillage systems, plant nutrition, crop protection. Furthermore, often making use of natural resilience factors will be part of the solution. Hence, interdisciplinary cooperation of individual, highly specialized approaches is required to develop knowledge, products and strategies that allow to maintain productivity and sustainability in crop production.

2. Hypothesis: Mobilization of natural resilience factors requires a good understanding of site-specific conditions (climate, soils, slope, pest pressure). Hence, respective research and development project need to be de-centralized, and they must make use of the know-how of growers and advisors. It is not very likely that it will be possible to generate successful one-size-fits-all solutions. On the other hand, technical and product innovations might be suitable across different agro-ecological conditions. Hence, international exchange and communication is needed to identify potential synergies.

3. Hypothesis: Knowledge, derived from designing and testing locally adapted cropping strategies which are not tied to commercial products (machines or other inputs) will be a public good. Even for scientists it might be hard to make visible their individual contribution which is a prerequisite for scientific success in the prevailing research landscape. Private actors will not find it attractive to invest in research on public goods.

Our conclusion: We need new institutional settings and funding opportunities to generate the necessary innovations. Publicly funded researchers, agribusiness companies, and advisory companies and growers need to work together. The prevailing incentive system for agricultural researchers has to be revisited in order to make applied crop production system research attractive for (young) scientists.