Introducing underutilised crops and varieties into value chains: constraints and chances for organic farms in a case study for Germany.

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Abstract

This study discusses the role of organic farms in increasing crop diversity by introducing underutilised crops into value chains. We focus on constraints and coping strategies that are relevant to organic farms. We used a case study approach and semi-structured interviews to study the case of German organic farmers growing underutilised crops in the German context. The main constraints identified were climatic conditions, insufficient demand, and access to information relevant to the underutilised crops. Discussed coping strategies included flexible timing of farming activities, soil improvement, better consumer communication, and connection to specialised networks for access to information. Although the constraints to introducing new crops and varieties may not be unique to organic farms, it can be discussed if some of the coping strategies may offer better chances to organic sector.

Introduction and objectives

The diversity of crop species and varieties in Europe has declined in recent decades. In the search for alternative development paths, we need to recognise that underutilised crops and varieties have the potential to increase biodiversity in value chains and improve ecological resilience and human nutrition (Knez et al., 2023). In this context, the role of organic farms can be reconsidered. On the one hand, organic farms often rely on high crop diversity as a part of the production system (Barbieri et al., 2017), which may make them better prepared and more open to integrate underutilised crops compared to conventional farms. On the other hand, there are various constraints that hinder the introduction of these crops into production.

The main objectives of this study are: 1) to explore the perceived constraints of organic farmers to introducing underutilised crops and varieties into value chains through a case study focusing on selected crops in Germany[4]; 2) to discuss the strategies used by farmers to overcome these constraints.

Methods

Qualitative, semi-structured interviews were used as the data collection approach within this study. German organic farmers growing lentils, buckwheat, and eggplant – the

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underutilised crops in the German context – were interviewed in December 2022 and January 2023. Altogether 13 interviews were conducted. The choice of crops was pre-conditioned by the bigger project design and aimed at investigating exemplary value chains representing underutilised legumes, grains and fruity vegetables.

We followed a case study approach and used thematic analysis (Braun and Clarke, 2006) focusing on perceived constraints in various aspects related to crop diversity and specifically to the selected crops. In addition, we differentiated the interview data on possible strategies to overcome the perceived constraints in order to discuss policy options to support high crop diversity.

Results and discussion

The interview results show that climatic conditions were rated as the most important constraint for almost all the selected underutilised crops. Insufficient demand and lack of knowledge about cultivation techniques were rated as very important by the interviewed farmers.

The climatic constraints were addressed by ensuring greater flexibility in the timing of farming activities in response to changing weather conditions, by improving soil quality, and, in the case of vegetables, by implementing shading and more efficient irrigation techniques. The problem of insufficient demand and high competition in the market was addressed primarily by raising consumer awareness and improving consumer communication. The focus is on strengthening general awareness of seasonal and regional consumption, the benefits of so far underutilised crops and their potential to diversify nutrition with new recipes and adjusted cooking habits. Small-scale trials and identifying and contacting specialised networks were the approaches used by the interviewed farmers to address the lack of information on cultivation techniques.

Conclusions

Although the constraints to introducing new crops and varieties may not be unique to organic farms, it can be discussed if some of the coping strategies may offer better chances to organic sector. For instance, organic farmers already rely on a comparatively broad diversity of crops to make optimal use of their crop rotations. They also have a strong focus on improving soil quality, which is an important factor for resilience against the climatic changes. Additionally, organic producers in Germany have a niche at the market with a more expensive differentiated product and often are well-connected to consumers via direct sales and multiple specialised shops. The need for crop diversification inherent in the organic farming system, together with the motivation to adapt the crop portfolio to respond to climatic challenges, can be the driving forces to bring more crop diversity into organic farming and related value chains.

References

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