

Multi-actor approaches in organic plant breeding

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The organic agricultural sector is continuously growing in whole Europe, without the use of chemical inputs sustainable food is cultivated. Through the minimal use of external inputs specific conditions are necessary to have a successful business. Plants have to be tolerant against diseases, should be competitive to weed should or allow mechanical weeding, and pests should be prevented in a natural way. The variety selection of a plant has big influence on the abilities. In the Netherlands only little plant breeding is currently taking place and in Germany growing activities can be observed but still is only covering a minor number of crops. In Europe a deficiency of appropriate varieties has been identified by farmers, researchers and associations, requesting now varieties adapted to their farming system. The multi-actor approach could assist to tackle the lack of adapted varieties. This research compares cases from Germany (3) and the Netherlands (1) to establish a conceptual framework how different parties from the food chain work together to stimulate plant breeding.

The organic breeding sector is confronted with multifaceted problems, depending on the plant and local settings such as ecological, economic, social and political conditions. Furthermore, a decisive concern remains as the market for organic seed is minor and financial revenue for commercial breeders is low if break-even is reached at all. That is why in the past only little plant breeding for organic vegetables or cereals has taken place.

Applying qualitative research and in-depth interviews this research leads to a concept of the multi-actor approach. A model is presented which provide a framework to stimulate breeding for small markets, especially organic agriculture. The integration of chain actors in the process of breeding does not only facilitates funding but encourages mutually learn, sharing of experiences and knowledge. This dynamic concept offers possibilities to interact and organize between various parties in complex (organic) breeding initiatives. Key elements are the level of participation, mutual understanding and criteria set by the participants. The principles of innovation systems and participation theory form the theoretical concept for this analyses.

To achieve a successful implementation of the multi-actor approach the motivation of the participants and the selection of the involved actors needs special attention.

Additional to the breeder also farmers, processors and traders are important to integrate into the process. This enhances the exchange of different ideas, expectations and expertise between the participants, and during breeding process this can be taken into account. This research found out that there is a crucial need for a mediator, an innovation broker, who takes care of the organisation and communication and in this way stimulates the teamwork among the actors and the creation of innovation.

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