

Alternative ways of European participatory organic
fruit breeding projects

apfel:gut



ÖÖN

Öko-Obstbau Norddeutschland
Versuchs- und Beratungsring e.V.



apfel:gut e.V.

Förderverein zur Entwicklung und
Durchführung ökologischer Obstzüchtung

InnOBreed



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Öko-Obstbau Norddeutschland e.V. (ÖON)

The Öko-Obstbau Norddeutschland e.V. (ÖON) is a farmers' organization dedicated to providing advisory services and conducting applied research in professional organic farming. It serves the four northern states of Germany and is situated at the ESTEBURG Fruit Growing Center in Jork, alongside other institutions focusing on integrated production and public plant protection services. The research division addresses key challenges in organic pome fruit production, including disease and pest regulation, biodiversity enhancement, as well as plant breeding and variety testing.

The primary objective of the organization is to develop best practices and practical solutions for organic farmers, facilitating their implementation through the advisory section. ÖON maintains strong connections with partner institutions in organic fruit cultivation and is an integral part of the FÖKO-Network, which is the umbrella organization for organic fruit cultivation in Germany.

In the realm of breeding, ÖON collaborates closely and engages in joint projects with apfel:gut e.V. – Association for the Development and Implementation of Organic Fruit Breeding. In this capacity, Niklas Oeser as scientific assistant and project employee, is in charge of breeding responsibilities, managing multiple breeding gardens in Northern Germany.



Members of apfel:gut e.V. on the general
Assembly 2023



Niklas Oeser, scientific
assistant and project
employee (ÖON)

apfel:gut - Organic breeding through a collaborative approach

ÖON is pleased to present apfel:gut as a featured case study within the partner association. apfel:gut specializes in the organic on-farm breeding of pome fruits through a collaborative approach. The active members of the organization, consisting of a diverse group of practitioners, advisors, breeders, and researchers within the organic fruit growing sector, actively engage in breeding activities under conditions with minimal to no pesticide application.

Central to this approach is the strategic inclusion of old and underutilized varieties/genetics in the crossbreeding process, aimed at expanding the genetic diversity of new varieties. The goal is to develop varieties specifically tailored for organic farming systems, exhibiting high resilience against fungal infections and abiotic stresses. This approach ultimately results in varieties that require fewer external inputs, aligning with the principles of sustainable and organic agriculture.

In 2011, apfel:gut was initiated as a project based on a bottom-up principle. It originated from a FÖKO working group led by a small consortium comprising organic growers and advisors. The collective decision emerged to bring the breeding process back into farms.

apfel:gut effectively illustrates the value of collaborative approaches on organic breeding, engaging a variety of actors such as practitioners, advisors, breeders and researchers.

As a non-profit organization, apfel:gut employs a decentralized model. In 2023, there was a total of 11 breeding sites distributed throughout Germany. This setup facilitates the observation of breeding materials (clones) under diverse climatic conditions across the country. Embracing a participatory approach, various stakeholders actively engage in the breeding process. This can be for instance to organize collective fruit tastings with marketers, consumers, and other relevant actors.



Inde Sattler from apfel:gut e.V. screening young seedlings at her site in Hollingstedt.



InnOBreed collaboration

One of the main objectives of InnOBreed is to build and strengthen a network of fruit breeders within Europe in the organic sector. As a trailblazer in dedicated organic fruit breeding in Europe, apfel:gut aims to fortify connections with other stakeholders who are willing to further develop and implement the definition for organic fruit breeding and to share experiences, results and possibly even materials.

This collaborative approach also contributes to a more comprehensive understanding of damage patterns and facilitates the enhancement and development of efficient screening methods. Currently, a significant portion of the evaluation work in the field is conducted manually. InnOBreed may help to find innovative solutions at both the hardware and software levels to enhance efficiency during evaluations and subsequent data analysis.

To provide a concrete example, the apple canker is a major disease in German pome fruit. However, there is still a lack of consensus among many breeders regarding the optimal screening or scoring approach for this fungus to obtain reliable results on the sensitivity of specific genotypes. The joint work in InnOBreed may help to develop such a method on the midterm for future breeding work.

ÖON and apfel:gut are keen to contribute with their accumulated knowledge on practical breeding work, inheritance experience and their technical and social approaches to InnOBreed and its project partners. The participatory approach of involving all actors from the producer to the consumer level may show opportunities to other actors in terms of social impact.

You can find more information here:

apfel:gut: www.apfel-gut.org

ÖON: www.oeon.de

DÖPZ: www.dv-oekopz.org

FÖKO: www.foeko.de

German definition of organic farming breeding: https://www.dv-oekopz.org/downloads/Definition_of_organic_plantbreeding_012023.pdf

For further information, contact Niklas Oeser: niklas.oeser@esteburg.de



Participatory Approach: Exchange with NOVAFRUITS Members at a Meeting in Hollingstedt in August 2023