

Biodynamic alternatives to CMS hybrids

Problems

The use of cell-fusion derived CMS hybrids violate the principles of organic agriculture, and calls for alternatives.

Solutions

Developing alternatives

The replacement of classical, inbreeding based hybrids of kohlrabi by pollen-sterile CMS hybrids led Friedemann Ebner to start working on the crop. Through letting early hybrids and early, open-pollinated varieties blossom together, he developed an open pollinated variety for commercial cultivation, comparable to the hybrid varieties in terms of rapid growth and high yield. Enrico is a white, flat-round variety with compact foliage, and has found a firm place among the wholesale growers and exporters in Italy.

Fridolin, the second new variety of kohlrabi, was developed by Julian Jacobs. For him, taste is an important selection criterion. He has been part of a group of breeders researching on methods to support plant development, and is interested in the impact plant health could have on human well-being.

He deployed a combination of treatment methods like seed bath, tones and eurythmy. The breeding line treated thus showed the highest quality in the biocrystallization tests. Fridolin is noticeable for its robustness, as well as its uniform, well-formed and healthy stem tubers.

In 2019, after two years of DUS testing, the German Federal Plant Variety Office approved the two new varieties of kohlrabi.



Kohlrabi Enrico and Fridolin. (Photo: Kultursaat e.V.)

Further information

1. [Enrico](#) and [Fridolin](#) at Bingenheimer Saatgut
2. [Aus der Arbeit von Kultursaat. Zwei neue Kohlrabi-Sorten mit Charakter](#) (German)
3. [Neu aus unserer Züchtung](#), Kultursaat Einblicke 2019 (German)
4. [BÖLW \(2018\): Position paper on organic plant breeding](#) (German)
5. [Current list of Kultursaat varieties](#)
6. [Kultursaat e.V.](#)

Authors: Michael Fleck, Dorothee Pfirrmann and Omkar Gopalakrishnan (Kultursaat e.V.)

Contact: kontakt@kultursaat.org

Publisher: ÖMKi Hungarian Research Institute of Organic Agriculture

Date: May 2020

LIVESEED: Boosting organic seed and plant breeding across Europe. LIVESEED is based on the concept that cultivars adapted to organic systems are key for realising the full potential of organic agriculture in Europe. Research project 2017-2021.

Social Media: Facebook [[LIVESEED](#)] & Twitter [[@LIVESEEDeu](#)]

