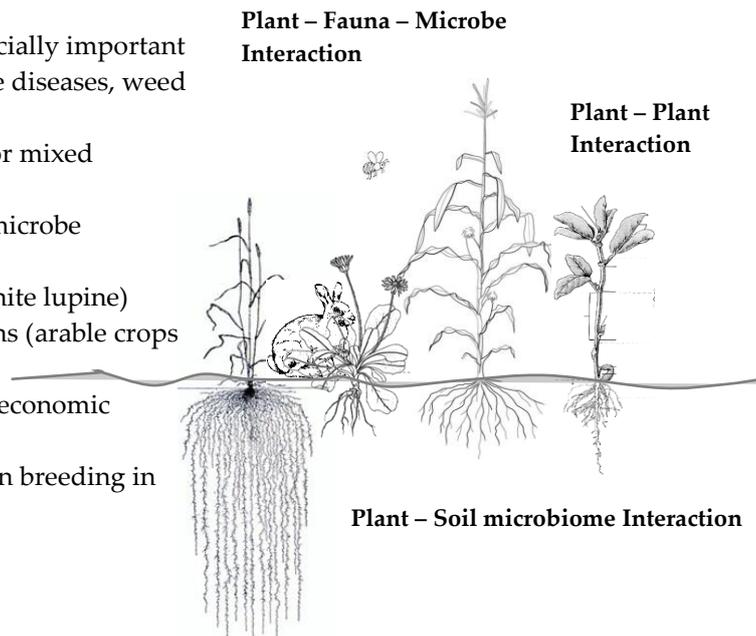


The concept of organic breeding is based on strengthening the resilience of the system. The focus of the Research Institute of Organic Agriculture (FiBL) Switzerland is therefore not only on the improvement of individual genes, but rather on breeding varieties in and for complex organic systems. To this end, FiBL uses concepts such as biodiversity, participatory and system breeding as well as progressive strategies in the area of appreciation and value creation. FiBL implements these strategies through the following research priorities:

- Scientific, methodical and organisational support for organic breeders & information on breeding and organic seeds
- Breeding research of traits that are especially important in organic farming (seed- and soil-borne diseases, weed suppression, nutrient efficiency)
- Basic research in the field of breeding for mixed cropping systems (pea-barley)
- Basic research in the field of plant-soil microbe interaction (pea - soil fatigue)
- Prebreeding of new neglected crops (white lupine)
- Cultivar testing under organic conditions (arable crops vegetables, fruit)
- Support for market introduction (socio-economic analyses)
- GMO-free breeding (participatory cotton breeding in India)
- Promotion of seed sovereignty



FiBL strengthens competencies for organic breeding in Europe and is very actively involved in the organisation of expert groups for the promotion of organic breeding (Bioverita, European Consortium for Organic plant breeding (ECO-PB), Ifoam Seed Platform). Furthermore, FiBL participates in several European research consortia on the subject of breeding (LIVSEED, DIVERSIFOOD, BRESOV, ReMIX, HealthyMinorCereals).

Links to projects

<http://www.fibl.org/en/themes/plant-breeding.html>
www.liveseed.eu
www.eco-pb.org
www.greencotton.org
www.diversifood.eu

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For 15 years, FiBL, together with organic breeder groups, has been defining about every 3 years the criteria according to which the existing bulls for artificial insemination (AI) can be recommended to organic farms by being awarded the "cloverleaf label".

FiBL has developed an "estimation tool for site-specific breeding of dairy cattle", with which the suitability of dairy cattle breeding for the specific farm can be assessed during consultation. Site-specific breeding means that the animals are able to live well from the feed that grows on their farm and are adapted to the environment in size and constitution. The estimation tool consists of two Excel questionnaires on the farm and on the herd and results in an automatic report. This report is used throughout Switzerland for lessons on organic farming at agricultural schools. In the project "Biozucht Graubünden", 99 organic farms were assessed and evaluated in 2009 / 2010. It was found that farms where the suitability of livestock breeding was rated as good had shorter calving intervals, less veterinary treatments and longer useful life. *Spengler Neff, A. et al. 2012. Assessment of site related breeding of dairy cattle on organic farms in a Swiss mountain region. In: 2nd Organic Animal Husbandry Conference, Hamburg, 12–14 September 2012, pp. 360–3644.*

In a comparison of cows on organic farms descending from artificial insemination bulls with organic cows descending from natural services bulls, the cows from natural services had shorter calving intervals and lower cell counts. *Spengler Neff, A. and Ivemeyer, S. 2016. Differences between dairy cows descending from artificial insemination bulls vs. dairy cows descending from natural service bulls on organic farms in Switzerland. Livestock Science 185, 30–33.*

In the Core Organic project "Organicdairyhealth", FiBL evaluates differences between indigenous dairy cattle breeds and commercial breeds on organic farms in the countries, Germany, Austria, Poland, Sweden and Switzerland. *Bieber, A. et al. 2016. Comparison of native and commercial dairy cattle breeds on organic farms in five European countries. In: Strandberg, E. et al. (Eds), Book of Abstracts of the 67th Annual Meeting of the European Federation of Animal Science, Belfast, 29 August – 2 September 2016, 307pp.*

The EU project "GENTORE" is currently working on the phenotyping of feeding and rumination behaviour traits in connection with feed changes on pastures. The behaviour is digitally measured with the help of "Rumiwatch-nosebands".

Together with Bio Suisse and Swissgenetics, FiBL is soon to launch a project to raise breeding bulls from organic farms that minimise the use of concentrates and antibiotics. The aim is to increase the range of AI-bulls that are particularly suitable for organic farms.

Links

www.fibl.org

www.eco-ab.org

www.biorindviehzucht.ch

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