Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs DEA

Agroscope Reckenholz-Tänikon Research Station ART
Media Relations

FiBL

Research Institute of Organic Agriculture

Press release

Date: 14.08.2006

Europe's oldest long-term trial in organic arable farming set to continue

Long-term farming trials are under great financial pressure. Hence the focus of research is increasingly shifting towards short-term schemes. But the Agroscope Reckenholz-Tänikon Research Station ART and the Research Institute of Organic Agriculture FiBL are bucking the trend. The internationally renowned long-term DOK trial in Therwil (Basel District, Switzerland) permits comparative study of organic and non-organic cropping systems, and will continue. It is a key trial site for essential research on sustainable agricultural production.

The directors of the Agroscope Reckenholz-Tänikon Research Station ART and the Research Institute of Organic Agriculture (FiBL) have decided to jointly continue the long-term trial on organic arable farming in Therwil (Basel District, Switzerland). For Urs Niggli of FiBL and Paul Steffen of ART, the deciding factors were that this is the oldest system comparison trial of its kind in Europe and that it can still yield many valuable results on the ecological processes in organic farming systems.

Organic arable farming put to the test for 28 years

For over 28 years, biodynamic (D), bioorganic (O) and non-organic("konventionell" K) production of arable crops such as wheat, potatoes, maize, and grass-clover leys have been compared at the same site with an experimental design in line with farming practice. Initially the aim was to clarify whether organic arable farming is feasible at all given natural pressures from weeds and diseases and whether it would produce sufficient yields. The results showed that good, high-quality yields can indeed be achieved.

During the past ten years, the focus has been on the issues surrounding sustainable farming. A fertile soil is the basis of all agricultural production. Various research teams are therefore trying to understand the ecological processes taking place in the soil, at the soil surface, and above the soil within the model systems of the DOC trial. It is thanks to the long-term nature of the trial that it has been possible to observe the

impact of the different production methods on different parameters of the soil. The results have shown, for example, that the organically managed plots contain 25% more soil micro-organisms and have higher long-term soil fertility than the non-organic plots. This is due to the quantity and type of organic fertilization and the acidity of the soil. The organic plots also exhibit greater species diversity. The results have been published in Science (2002).

Treasure trove of data for the future

A huge database has been established by researchers throughout all these years. They will continue to provide answers to questions relating to the dynamics of soil fertility and climate change. How do the different production methods impact on the humus content of the trial plots? Do production methods influence plant health? New research techniques may also yield indications as to how production methods impact on the quality of the food produced. There is keen interest, both nationally and internationally, in using the DOK trial to answer additional questions.

As a result of this intensive research within the DOK trial, Switzerland not only leads in the consumption of organic produce but is also a global leader in research on the principles of organic farming.

Contact/Questions:

Andreas Fliessbach, FiBL Research Institute of Organic Farming,
+41 (0)62 865 72 25, andreas.fliessbach@fibl.org
David Dubois, Agroscope Reckenholz-Tänikon Research Station ART,
+41 (0)44 377 72 20, david.dubois@art.admin.ch

Selected publications on the DOK trial:

- Mäder P., Fliessbach A., Dubois D., Gunst L., Jossi W., Widmer F., Oberson A., Frossard E., Oehl F., Wiemken A., Gattinger A., Niggli U., 2006: The DOK experiment (Switzerland) in ISOFAR Long-term Field experiments in organic farming, Verlag Dr. Köster, Berlin; p 41-58.
- Mäder P., Fliessbach A., Dubois D., Gunst L., Fried P., Niggli U., 2002. Soil fertility and Biodiversity in organic farming; Science p 1694-1697.
- Dubois D., Gunst L., Fried P.M., Stauffer W., Spiess E., Mäder P., Alföldi T., Fliessbach A., Frei R., Niggli U., 1999: DOK-Versuch: Ertragsentwicklung und Energieeffizienz. Agrarforschung 6: 71-74.