

Organic farming in comparison

Results from 45 years of the DOK trial

Founded by farmers – carried out by researchers

Farmers and researchers in organic farming took the initiative in 1978 to compare organic and conventional farming and set up the DOK trial for this purpose. It is located in the Leimental region southwest of Basel, on fertile loess soils in the southeast corner of the Upper Rhine Plain. It is now the world's longest-running trial comparing agricultural cultivation systems. With its large database and sample archive, it continues to provide an ideal platform for a wide range of research projects. Dozens of projects have been carried out here over the last 45 years, and thousands of soil and plant samples have been analysed and evaluated. Among other things, this has resulted in 130 publications in scientific journals and specialist journals, as well as numerous doctoral theses and student dissertations. This fact sheet presents and interprets the most important findings from the long-term trial in an easily understandable way.



How is the trial structured?

The cropping systems

The DOK trial compares biodynamic (**D**), bio-organic (**O**) and conventional (**K**) farming systems. These systems simulate farms with arable farming and livestock farming with 1.4 fertilised livestock units (**LU**) per hectare^[1]. The organic systems follow the Demeter and Bio Suisse guidelines. The farmyard manure comes from farms that operate according to the respective systems. The Demeter guidelines require the use of special field and compost preparations and the scheduling of field work in consideration of the cosmic constellation.

Today, the conventional method corresponds to integrated production with an even nutrient balance. This is achieved with the additional use of mineral fertilisers (at a high level if required) and plant pro-

tection according to ecological damage thresholds. Since the beginning of the second crop rotation period (1985), there has also been a purely mineral-fertilized conventional system that represents a livestock-free farm (**M**).

The crop rotation

The seven-year crop rotation with two and a half years of soil rest without ploughing under clover grass is typical for livestock farms in Switzerland. The annual crops are root crops (beetroot, maize, potatoes, cabbage), cereals (wheat, barley) and soybeans as a grain legume. The intercrops grown are used either as green manure or as fodder.