

# Long-term Field Experiments as Important Source of Knowledge – Goals of the BonaRes - Centre

<sup>1,2</sup>Meike Grosse & <sup>1,2</sup>Wilfried Hierold

(1) Leibniz Centre for Agricultural Landscape Research, Müncheberg, Germany (2) BonaRes – Centre for Soil Research; contact: [meike.grosse@zalf.de](mailto:meike.grosse@zalf.de)

## Background

**BonaRes** is short for “Soil as a sustainable resource for the bioeconomy“. It is funded by the German Federal Ministry of Education and Research (BMBF) under the umbrella of the National Research Strategy BioEconomy 2030. It is one task of the BonaRes – Centre to collect data and metadata of agricultural long-term field experiments (**LTFE**) in Germany.

**LTFE ...**

- ... are essential research infrastructures for agricultural and soil sciences.
- ... are a source of knowledge about the soil and soil functions.
- ... offer the possibility to identify long-term effects of agricultural measures.

The aim of BonaRes is to bundle the knowledge and make it available for a sustainable use and management of soils.

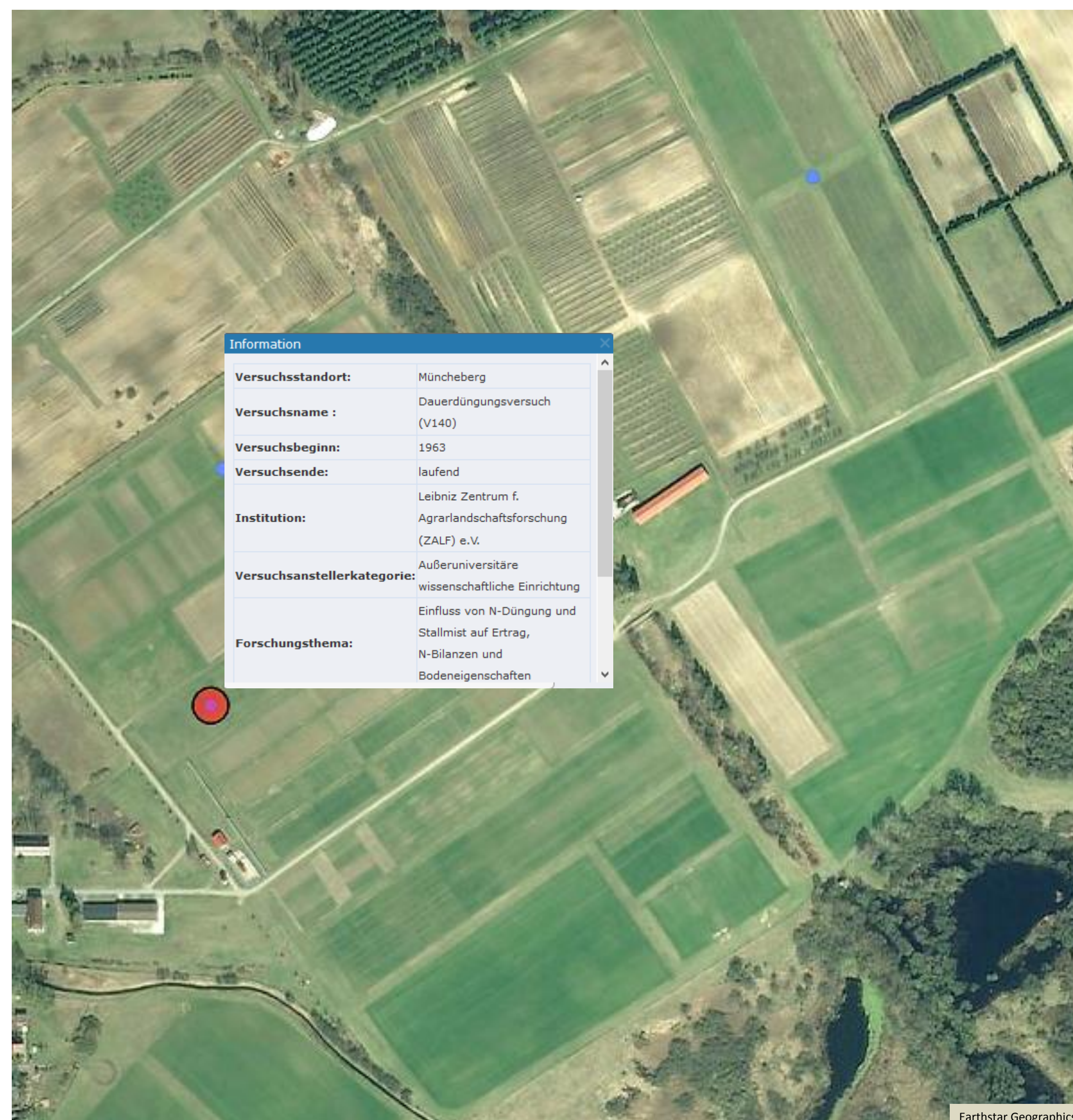


Fig. 1: Detailed information pops up by clicking on a single LTFE (here the V140 of ZALF, Muencheberg) (<https://b-web-e.bonares.de/uebersichtskarteDFV/>)



Fig. 2: Online-Map showing long-term field experiments in Germany (<https://b-web-e.bonares.de/uebersichtskarteDFV/>)

## Material and Methods

Special interest is given to LTFE with a minimum duration of twenty years. Information was compiled through an extensive literature research. The sources were:

- scientific papers,
- field reports,
- websites and personal communications.

The information is shown in an interactive web map (Fig. 1 and 2). For details on metadata visualization see the poster of Zoarder et al. (2017): Overview of Long-Term Field Experiments in Germany – Metadata Visualization).

## Results of the literature research

- 150 LTFE in Germany have been identified up to now. 108 of these LTFE are ongoing, 42 are finished.
- 67 trials are between the age of 20 and 49 years, 42 are between 50 and 99 years old. Three trials run since more than 100 years.
- The landuses range from arable field crops (140 trials) to grassland (8 trials) and vegetables (2 trials).
- Most trials, especially the old ones, deal with themes of fertilization (95 trials). Younger trials deal e.g. with tillage or plant protection.
- The majority of trials is held by universities (79 trials).
- Most trials are implemented with conventional agriculture (128 trials) (Fig. 3).

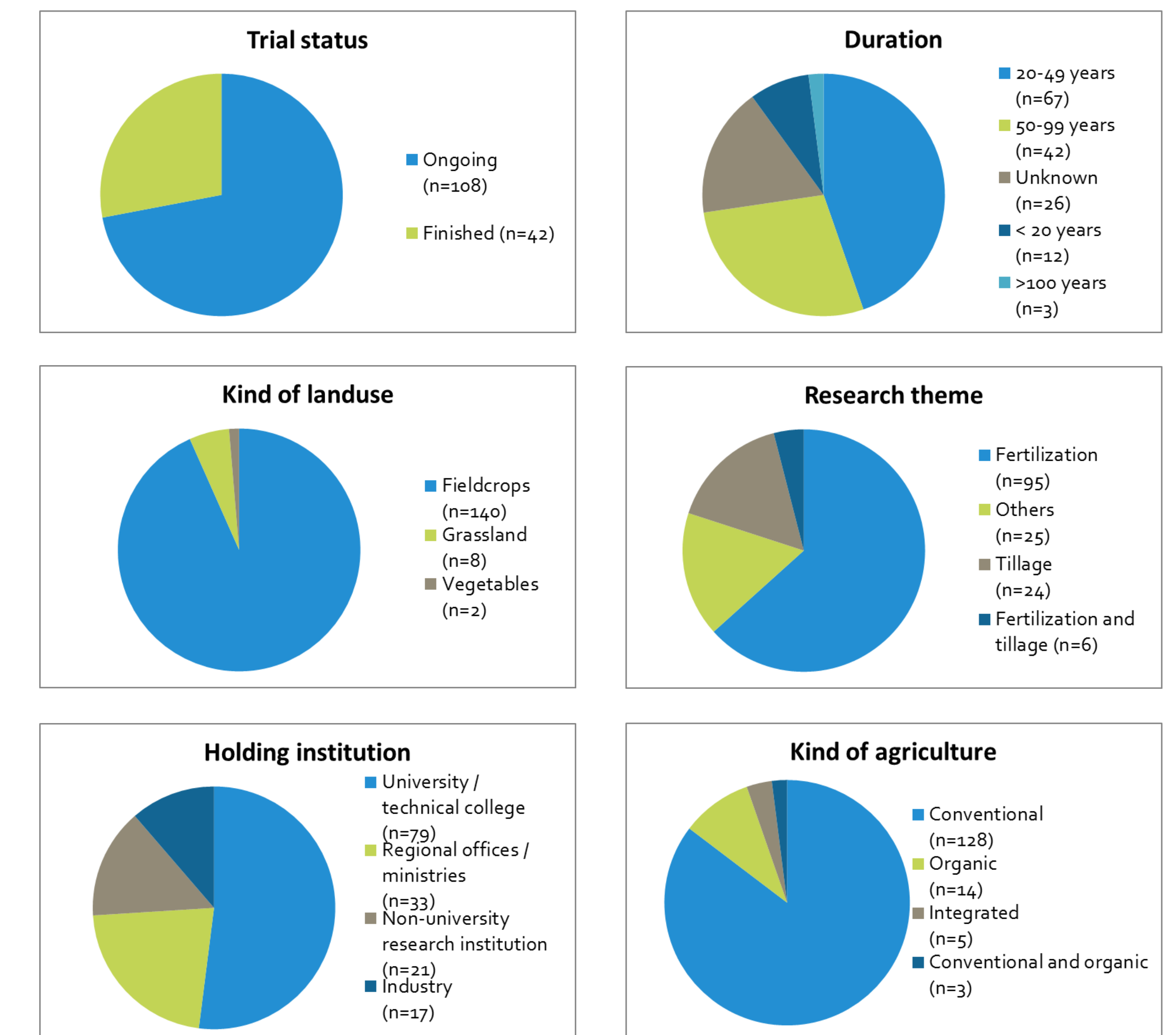


Fig. 3: Results of the literature research on long-term field experiments in Germany (n = 150)

## Outlook

The research on LTFE is ongoing and the web map shall be extended:

- more LTFE shall be included
- information shall be completed (information about LTFE is welcome, please send it to [grosse@zalf.de](mailto:grosse@zalf.de)).

The improved visibility shall lead to an enhanced usability and in return help to maintain the LTFE.