











Soil microorganisms under different SICS

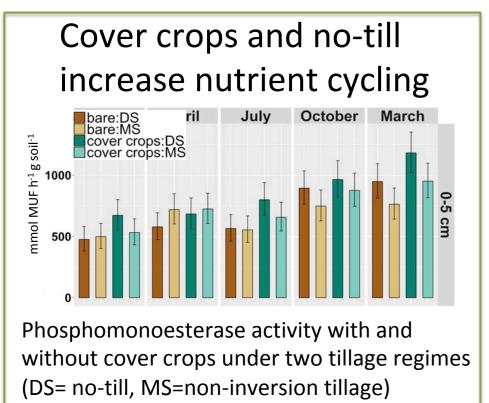
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Available data

Cover crops and tillage

Field & on-site experiments

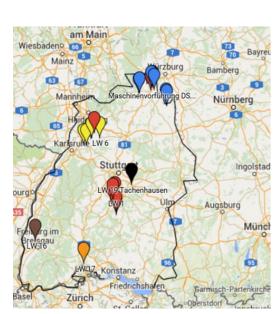
2015-2016: Full dataset (soil biological and agronomical variables)



Additional field experiment:

Cover crop effects in the rhizosphere of mustard, phacelia and buckwheat

On-site stakeholder experiments: 18 sites (without replicates): Agronomical and socioeconomical data

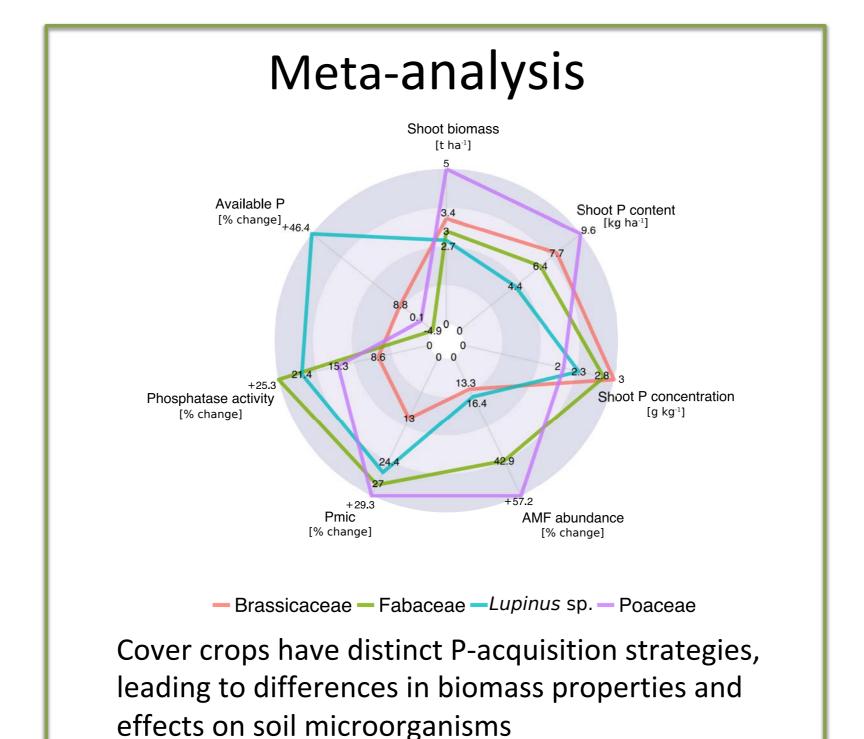


Selected SICS

- Conservation tillage
- Cover crops
- Glyphosate-free management

no-till with cover crops SICS 2015-2020 no-till without cover crops conservation tillage with cover crops conservation tillage without cover crops conservation tillage without glyphosate (no cover crops) conservation tillage without glyphosate (with cover crops)

Product of stakeholder workshops: New SICS 2018-2020



Ongoing experiments

Cover crops and glyphosate

On-site: 5 Stakeholders included 2 different glyphosate-free systems

Additional field experiment:

- Glyphosate (yes/no)
- Cover crops (yes/no)

(summer cover crop mixture, a field experiment with winter cover crops will follow in autumn)

2	3	4	1
1	4	2	3
3	2	1	4
2	1	4	3

Treatments:

- 1: with cover crops, no glyphosate
- 2: with cover crops, with glyphosate
- 3: bare fallow, no glyphosate (hand weeding)
- 4: bare fallow, with glyphosate

Analyses:

Soil microbial community structure: PLFA/NLFA, 16S-qPCR (focus on mycorrhiza)

Soil microbial activity:

Functional genes, enzymatic activity (phosphorus mineralization)

WP2

Review: "Soil improving cropping systems for loss of soil biodiversity"

Meta-analysis: "Hidden miners: soil-plant-microbe interactions for phosphorus mobilization with cover crops"

WP3

Stakeholder panel: 1) Topic of interest

glyphosate!

→ Field experiment about glyphosate x cover crop interaction 2) Increase visibility of

farmers using SICS

WP4

On-farm sites: sociocultural/ socioeconomical data

Field experiments: indicators of crop and soil quality

WP5

Results of Long-term and ongoing experiments

WP7

Interviews (including the vice-minister of agriculture of Baden-Württemberg)

WP8

Elaboration of signs at study sites to inform about tested SICS?

The **SOILCARE** project is a 5 year project aimed at identifying and evaluating promising soil improving cropping systems and agronomic techniques increasing profitability and sustainability across scales in Europe.

The SOILCARE project consortium consist of 28 partner institutes from 10 European countries The SOILCARE project is coordinated by ALTERRA, Wageningen UR, The Netherlands.

• Starting date: March 1st 2016. • Ending date: February 28th 2020. • EU contract number: 677407

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