

Soil Improving Cropping System:

Combined effect of conservation agriculture and deep rooting cover crop (tillage radish) on maize performance in NE Italy

Case study:

9 – Italy, Veneto Region

Project partner:

19 - UNIPD



Principal soil threats:

- Soil organic matter loss
- Soil compaction

Study site:

Agronomic managements:

- conventional tillage (CV) vs conservation agriculture (CA)

3 soil covering types:

- tillage radish (TR) vs winter wheat (WW) vs bare soil (BS)

Main crop: maize

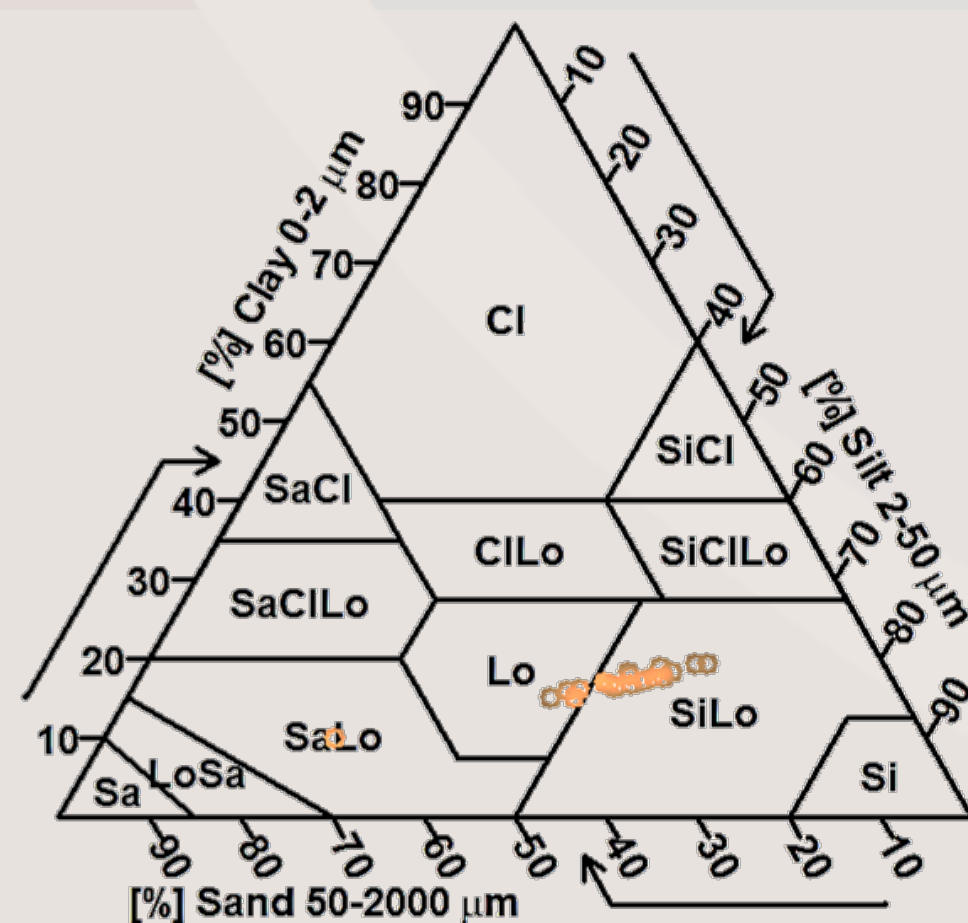
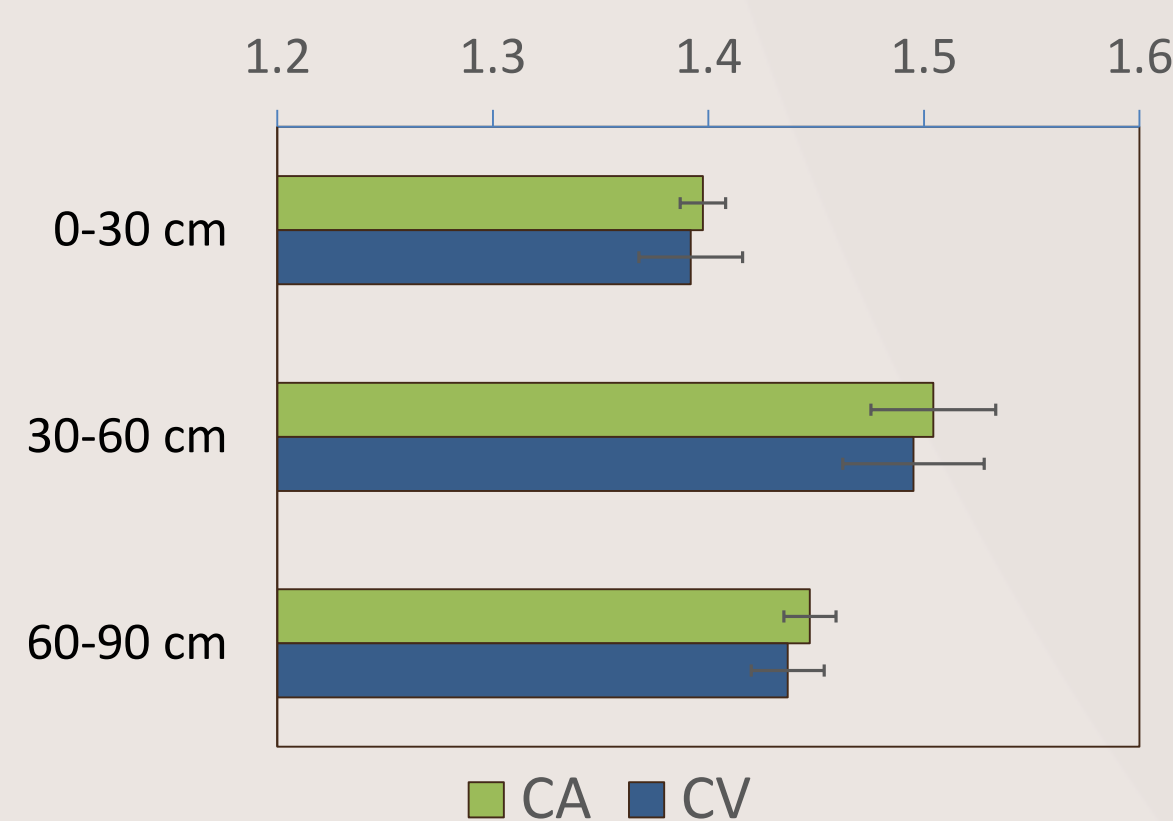
- 2 replicates (rep. 1, rep. 2)



Preliminary results

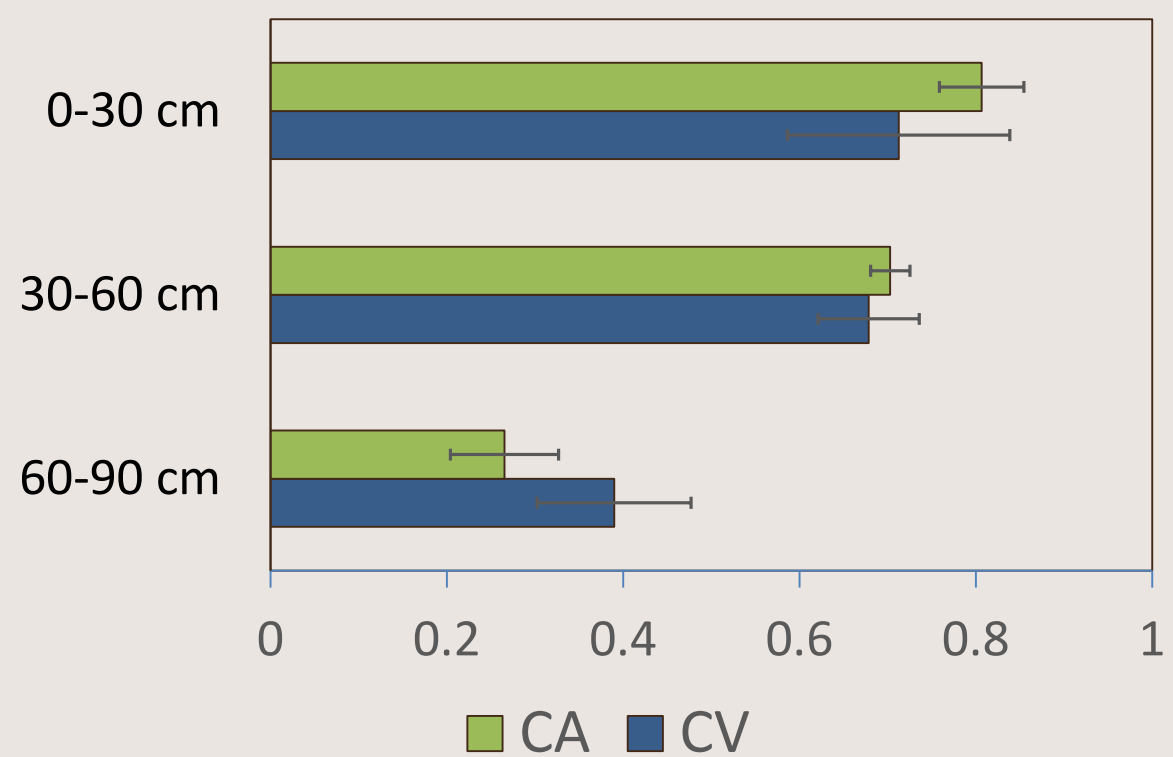
Physical and chemical soil properties

Bulk density (g/cm³)



Texture (0-30 cm)

Soil organic carbon (%)



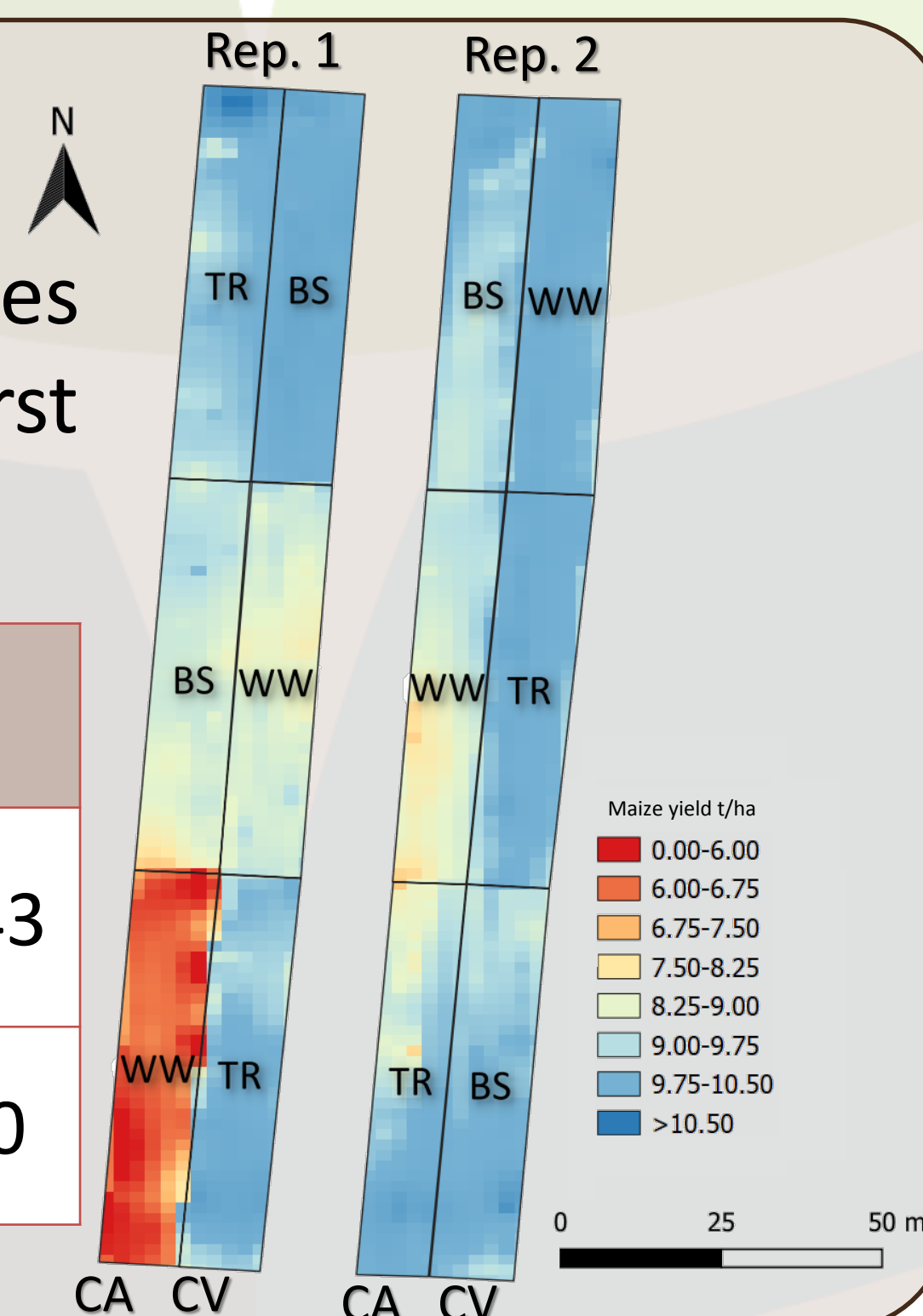
- Silty-loam soil
- High bulk density values
- Hardpan in the 30-60 cm layer
- Low soil organic carbon content

Yield 2018

No significant differences were detected in the first year.

Maize Yield (t/ha)

Conventional tillage	11.01 ± 0.43
Conservation agriculture	9.08 ± 0.80



Stakeholder meeting

08/02/2019

Is tillage radish a sustainable solution to soil threats in our study site?



Agronomic and economic limits to tillage radish intercrop implementation

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 18 European countries. The SOILCARE project is coordinated by ALTEIRA, Wageningen UR, The Netherlands.

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

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