



Helping enhanced soil functions and adaptation to climate change
by sustainable conservation agriculture techniques

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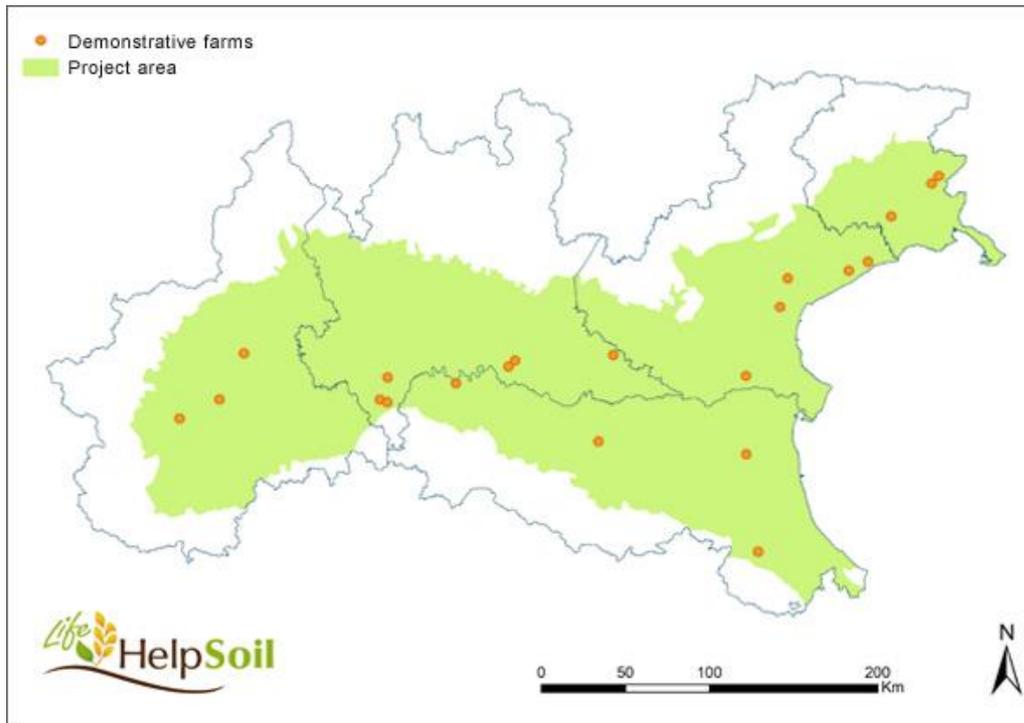
ERSAF - Regional Agency for Agriculture and Forests of Lombardy (Italy)

WORKSHOP ON “CLIMATE ACTION IN AGRICULTURE AND FORESTRY”

Brussels, 1 June 2017



Life HelpSoil - Helping soil functions and adaptation to climate change by sustainable conservation agriculture techniques



- 5 Administrative Regions involved (the whole Po plain)
- 20 demonstrative farms
- **Conservation Agriculture vs Conventional Agriculture**
- Monitoring of agronomic and environmental indicators

Life HelpSoil project area and location of demonstrative farms

coordinating beneficiary



Regione Lombardia

associate beneficiary



ENTE REGIONALE PER I SERVIZI ALL'AGRICOLTURA E ALLE FORESTE



REGIONE AUTONOMA FRIULI VENEZIA GIULIA



REGIONE EMILIA-ROMAGNA



REGIONE PIEMONTE



REGIONE VENETO AGRICOLTURA



REGIONE DEL VENETO



CRPA

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with the contribution of the European Commission



Soil management practices compared

CONSERVATION AGRICULTURE (CA)

- **Intensified and diversified Crop Rotations**
(more species, intercropping, ...)
- **Permanent soil cover**
(crop residues management, cover crops)
- **No-tillage**
(direct seeding, minimum tillage)



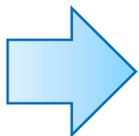
CONVENTIONAL AGRICULTURE (CV)

- **Poor Crop Rotations**
(2-3 crops)
- **No management of crop residues, no use of cover crops and intercropping**
- **Plough + secondary tillage to prepare seed bed**



With Conservation Agriculture (CA)...

- **SOC sequestration rate till to 0.4 t/ha/year (NO TILL + COVER CROPS)**
SOC decrease under CV practices
[ARMOSA model, University of Milan - ERSAF]
- **Higher SOC content**
- **Lower Carbon footprint (LCA methodology)**
- **Fossil fuel consumption reduced by 41 % on average**

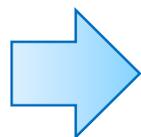


TOWARDS A NET ZERO-NEGATIVE EMISSIONS AGRICULTURE



With Conservation Agriculture (CA)...

- **Improved soil erosion control in sloping land**
- **Reduced losses of N compounds (cover crops)**
- **Enhanced AGRO-BIODIVERSITY:**
 - **improved crop rotations (more species cultivated)**
 - **land cover with living plants up to 90 % over the year**
 - **increased abundance of earthworms and microarthropods (QBS/ar index)**
- **Higher efficiency in the use of water and technical inputs**



MORE SUSTAINABLE AND RESILIENT FARMING SYSTEMS



CONTRIBUTION OF CONSERVATION AGRICULTURE TO CLIMATE ACTION

HELPSOIL – OUTCOME AND LESSON LEARNT

- Support for FARMERS PROGRESS ON CLIMATE-SMART PRODUCTION METHODS (open issues: needs of subsidies, technical assistance, improved skills, good examples, sharing experiences)
- Support for the IMPLEMENTATION OF CLIMATE COMMITMENTS AND RURAL DEVELOPMENT PLANS (Guidelines → PSR 2014-2020)



- ENHANCING RESILIENCE TO CLIMATE CHANGE IMPACT WHILE MAINTAINING CROP YIELDS IN THE LONG TERM (produce more with less – towards a low-zero-negative carbon agriculture)
- SHIFTING FROM “AGRICULTURE BUSINESS AS USUAL” TO “AGRICULTURE SUSTAINABLE AS USUAL” (more incisive policy action)



Thanks for attention!



www.lifehelpsoil.eu

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