



Exploring the benefits of increased resource efficiency for farmers – The Ruozzi Farm

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ENRD Seminar
Opportunities and future perspectives for Resource
Efficiency in Rural Areas

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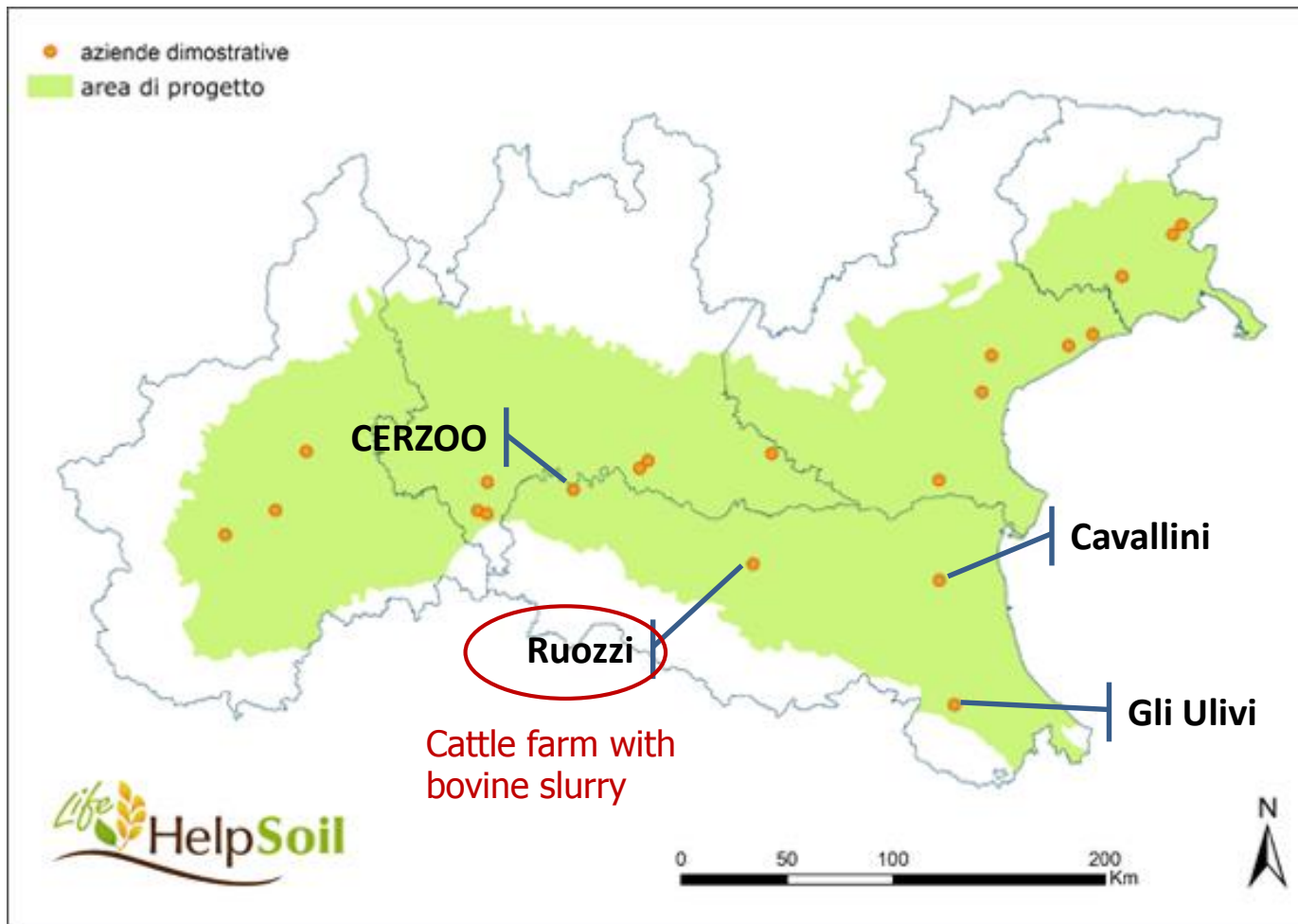


Why Conservation Agriculture – Benefits for farmers

- Decreasing the power required to work the land, avoiding worn out of the most commonly used equipment in these operations (plow, hoe), implies economic benefits in not having to replace degraded equipment. Simplifying the fleet means less investment;
- Traditional agricultural practices in the region involve the distribution of slurry onto fields pre-ploughing (sometimes up to 8 months before crop seeding), with poor efficiency as a fertiliser. Conservation agriculture aims to increase efficiency in the uptake of nitrogen (up to 60-70%);
- Reduction in the use of fuel for the equipment, with economic savings;
- Once completed the transition period, higher yields for certain types of crops;
- Lower production costs.

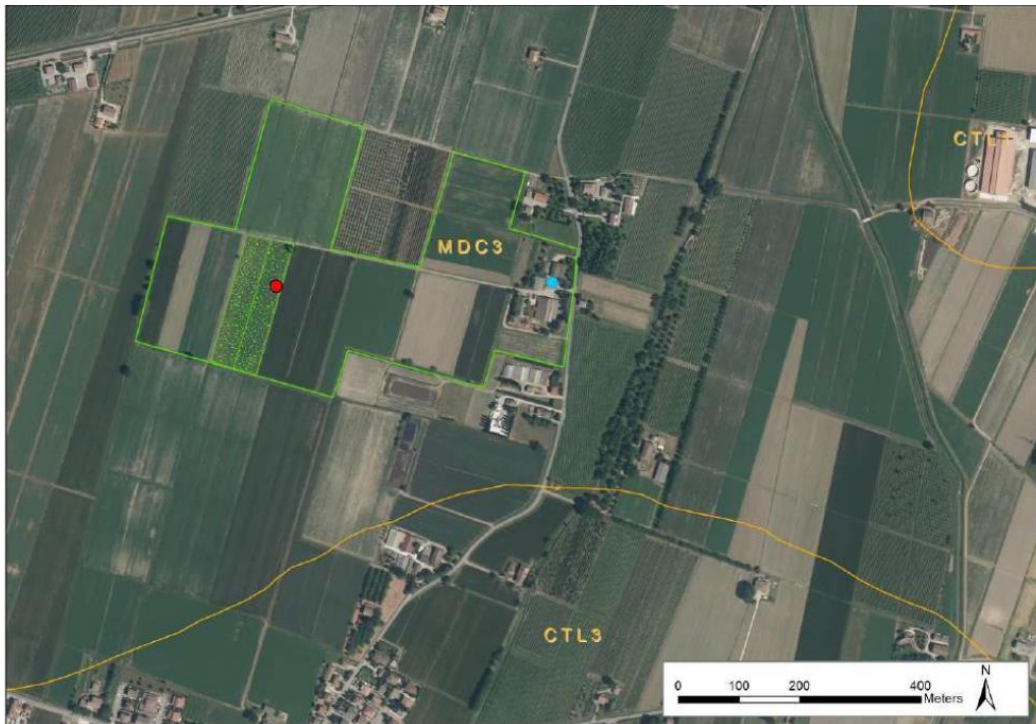


LIFE HelpSoil – Farms within Emilia-Romagna (Italy)



LIFE HelpSoil – Ruozzi Ornello e Fabrizio Farm (1)

Cultivation	Livestock-fodder-grain
Farm area	20 ha, of which 16 ha dedicated to farming
Rotations	Herb, wheat, corn, soy and other forage
Breed raised	Mainly Italian Frisona



LIFE HelpSoil – Ruozzi Ornello e Fabrizio Farm (2)

Starting with herb during the 4° rotation year (Autumn 2013):

- Conversion to conservation agriculture / no-till, with shallow distribution of slurry into the soil and use of cover crops;

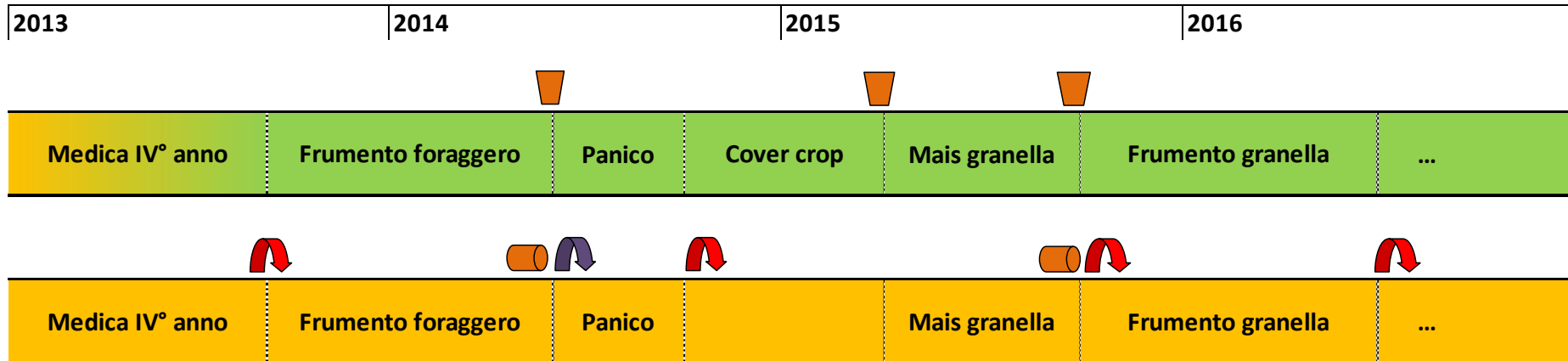
In comparison with:

- Conventional farming, with superficial distribution of slurry on land followed by plowing and secondary land management.



Clay-lime soil, moderately calcareous, with organic matter equivalent to 2.5%

LIFE HelpSoil – Ruozzi Ornello e Fabrizio Farm (3)



 gestione conservativa, tutte semine su sodo

 gestione convenzionale, con lavorazione terreno

 applicazione liquami a basso calpestamento, rasoterra a bande

 applicazione liquami con carobotte e piatto deviatore

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LIFE HelpSoil – Ruozzi Ornello e Fabrizio Farm (7)

Vitreous maize (harvested on 2 September 2015)

	Grains t.q. (t/ha)	Humidity (%)	Starch (% s.s.)	Proteins (% s.s.)	Investment (plant/m ²)
Conventional	9,9	11,5	61,5	9,0	8,6
Conservative Seeder 1	6,9	12,1	62,0	8,5	7,3
Conservative Seeder 2	8,6	14,6	62,1	8,5	10,4

LIFE HelpSoil – Ruozzi Ornello e Fabrizio Farm (8)

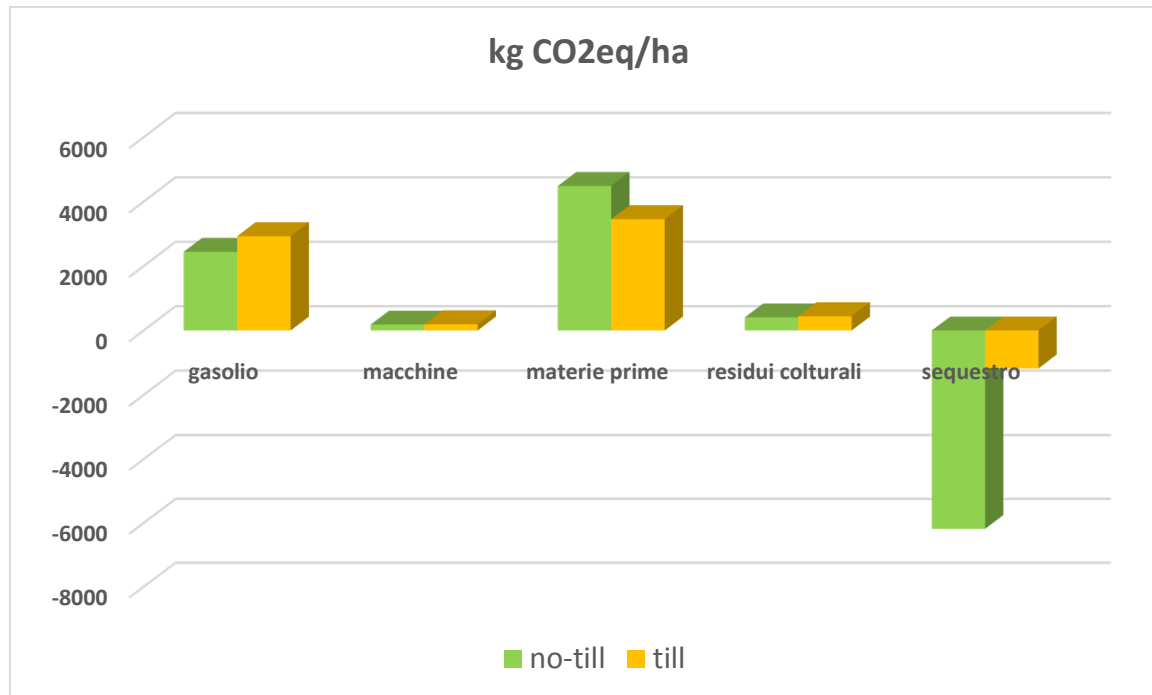
Wheat (harvested on 24 June 2016)

Farming practice	Yields (Grains) (t/ha 13% UR)	Yields (Straw) (t s.s./ha)	Proteins (% s.s.)	Starch (% s.s.)
Conventional	7,8	6,0	12,9	77,0
Conservative	8,3	6,3	14,0	75,6

LIFE HelpSoil – Ruozzi Ornello e Fabrizio Farm (9)

Carbon Footprint

Farming practice	kg CO2eq/ha	kg CO2eq/kg SS	fuel L/ha
Conservative / No-till	1336	0,055	780
Conventional / Till	5837	0,214	934



If we were not to consider the effect of carbon sequestration into soil, the carbon footprint of the two practices would look comparatively similar (raw materials compensating for diesel).

Ruozzi Ornello e Fabrizio Farm – Year 2017

- All crops were sown using conservation / no-tillage techniques;
- In the HelpSoil extent of land, alfalfa was sown closing the rotation with this cultivation technique.



Thursday 15 June 2017

Final Conference

«Let the soil live to improve tomorrow's agriculture»

www.lifehelpsoil.eu

Thanks for your attention

Con il contributo
dello strumento
finanziario LIFE
della Comunità Europea



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Cofinanziatore



Beneficiari associati



Coordinatore del progetto

