

CONVEGNO
FINALE



Lo studio dei suoli e la Carta della rappresentatività dei siti sperimentali

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Mercoledì 27 novembre 2019 – Ore 9:30

Sala Laura Benini della Fondazione per l'Agricoltura F.Ili Navarra, Malborghetto di Boara (FE)



Soil the foundation of nutrition

Role of 18 nutrients necessary for plant growth and human health

Soil degradation leads to the loss of soil micro and macronutrients

Nutrient-poor soils are unable to produce healthy food with all the necessary nutrients for a healthy person

Over 2 billion people suffer from micronutrient deficiencies

Sustainable soil management for healthy soils, healthy food and healthy people

Healthy soils for a healthy life

Food and Agriculture Organization of the United Nations
With the financial support of the Russian Federation

Soil macronutrients: N, P, K, Ca, Si, Mg, S, Cu, Zn, Mn

Soil micronutrients: B, Mo, Na, Fe, H, C, O

Plant Growth Roles: Promote plant growth, Involved in photosynthesis, Increase disease resistance, Reduce plant height and growth, Increase water-use efficiency, Stimulate microbial activity, Promote root formation and growth, Involved in carbohydrate metabolism and translocation of starches, Transmits reproduction, Aid translocation of photosynthetic products from leaves to developing organs, Act as an enzyme, Puff formation, Aids in maturity, Puff quality, Cell turgor, Seed formation, Seed quality, Enhances maturity of small grains, Aids in enzyme functionality and activation of "found" genes, Responsible for nitrogen activity, Promotes enzyme activity and increases the availability of P and Ca.

Human Health Roles: Plays a key role in brain and muscle function, Contributes to perception of taste, Needed for immune system health, Key component of protein, Essential for muscle and nerve activity, Important in immune system health, blood clotting and pressure regulation, A component of proteins, DNA, RNA and blood, The main digestive enzymes, Maintains acid-base balance, Essential for fetal development and functioning of reproductive system, Key component of enzymes, Helps deliver oxygen to the cells, Important for healthy bones, A complete set of enzymes, DNA, RNA, proteins and all enzymes immune system health, A complete set of enzymes and co-factors for metabolism.

Soil Management Practices: Reduce erosion, Ensure crop rotation, Keep soil surface covered, Minimize tillage, Increase soil organic matter content.



Terre dell'Emilia-Romagna

The infographic includes a central map of Emilia-Romagna with a color-coded legend. Surrounding the map are several small landscape photographs showing fields, hills, and water bodies. Text blocks provide information about the region's soil types and agricultural characteristics.

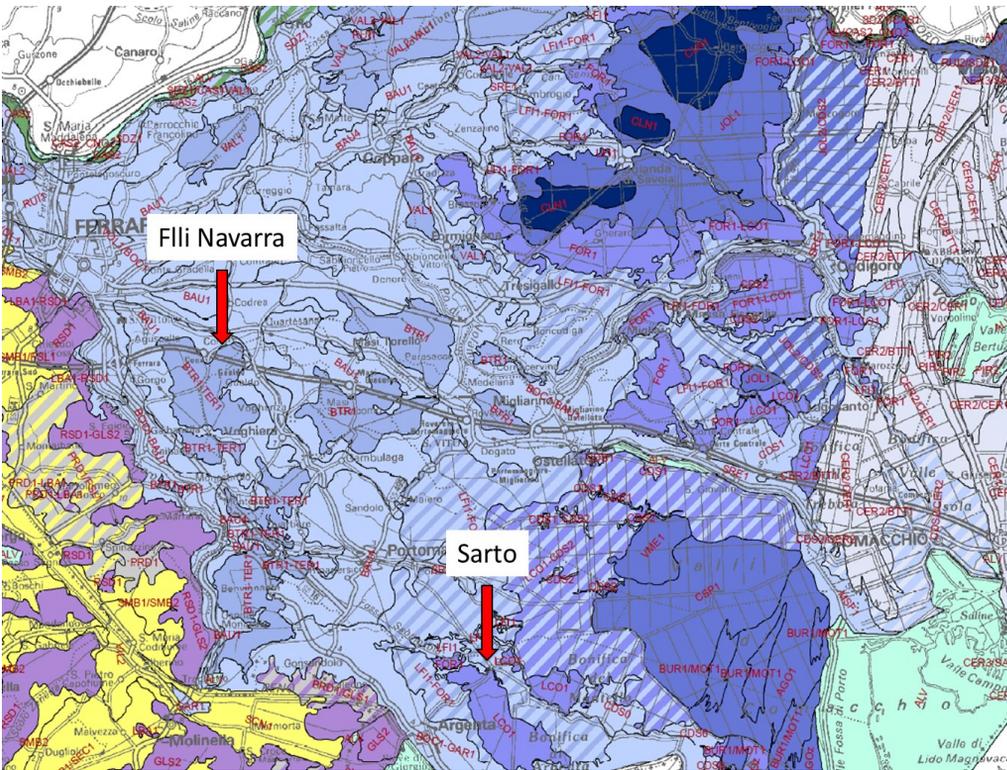


Obiettivi studio dei suoli

1. Selezionare all'interno delle aziende partner appezzamenti rappresentativi per gestione e tipo di suolo

Criteria scelta dei siti

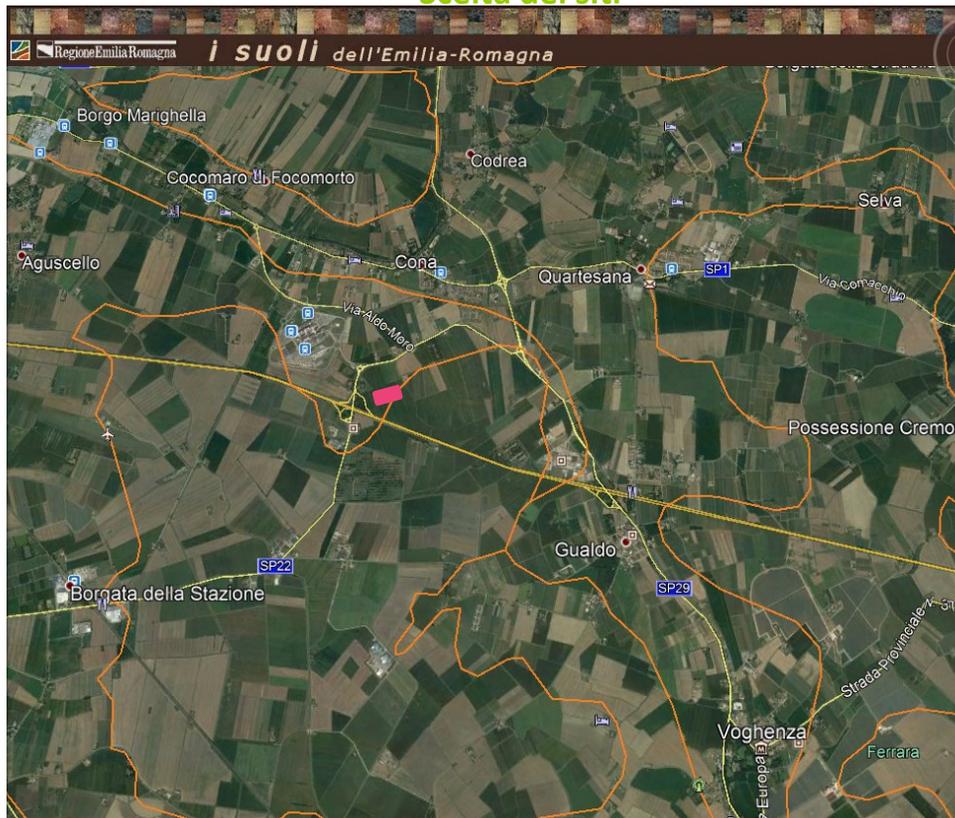
- piano colturale
 - accessibilità
 - rappresentatività rispetto alle UTS del ferrarese
 - minor variabilità pedologica riscontrata in campo
2. Studiare la variabilità pedologica tramite osservazioni con trivella olandese
 3. Studiare i caratteri del suolo tramite apertura di profili e analisi chimica e collegarli alle UTS regionali
 4. Realizzare la carta della rappresentatività dei siti sperimentali



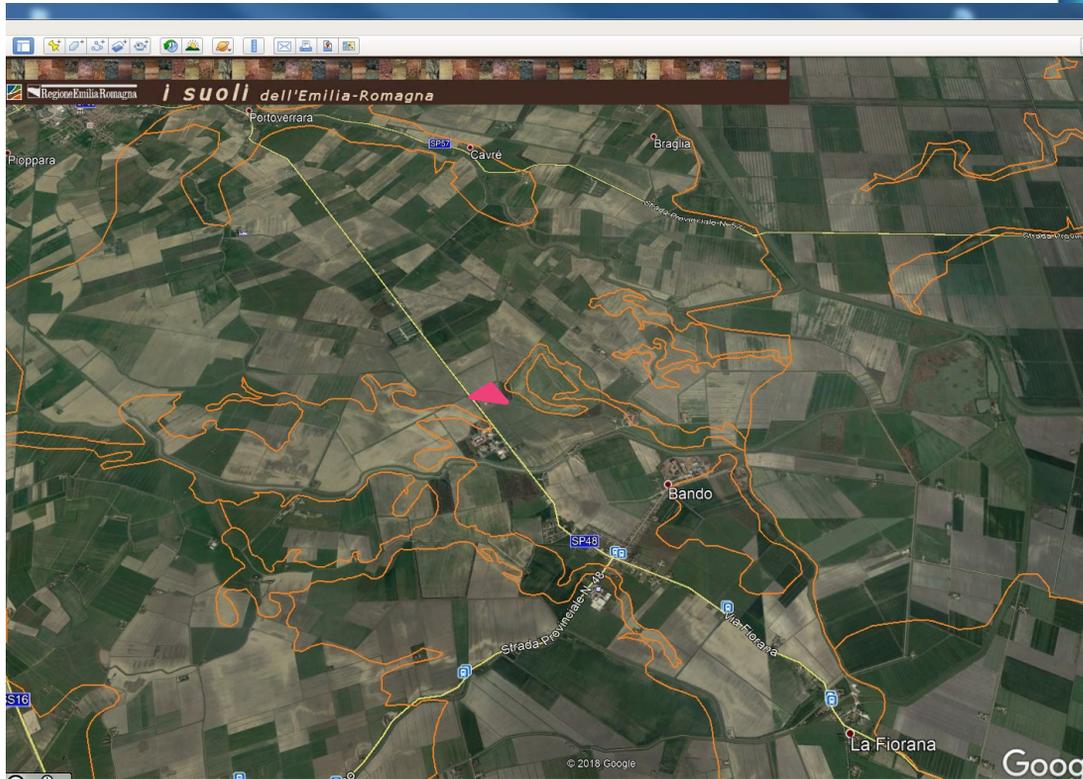
Azienda Agricola Fratelli Navarra: zona di transizione tra dossi e valli (rami principali del Fiume Po attivi in passato)

Azienda Agricola Graziano Sarto: zona di transizione tra piana deltizia esterna (elementi morfologicamente rilevati) e piana deltizia interna (terreni morfologicamente depressi in passato paludosi)

Scelta dei siti



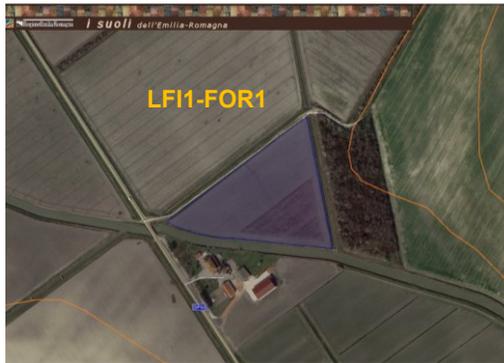
Scelta dei siti



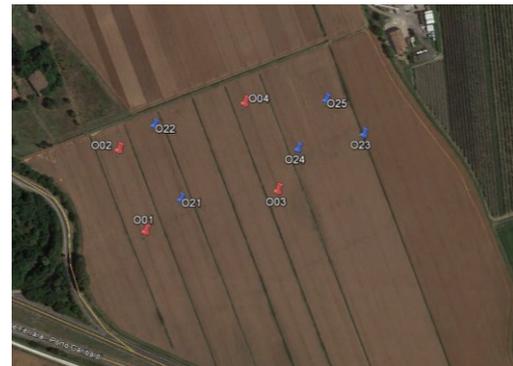
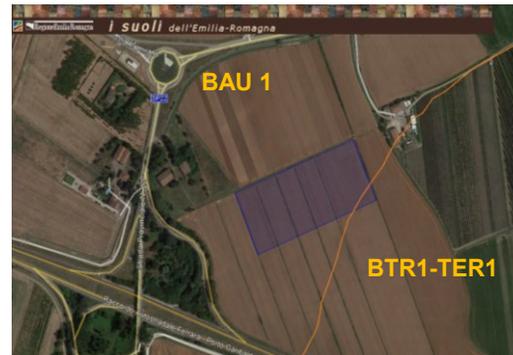
Studio variabilità pedologica interna ai siti



Azienda Agricola Graziano Sarto



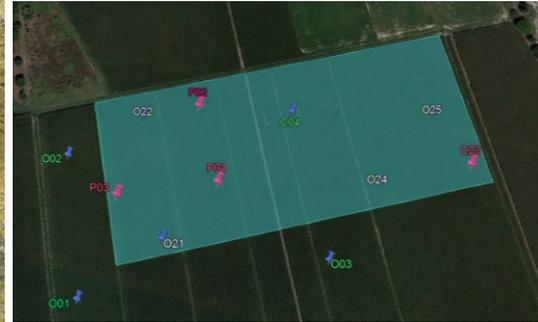
Azienda Agricola Fratelli Navarra



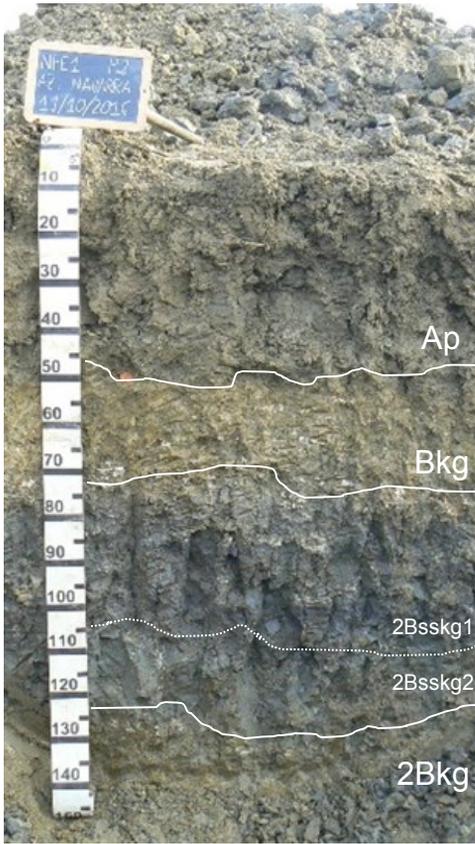
Studio variabilità pedologica interna ai siti



Studio caratteri dei suoli Azienda Navarra

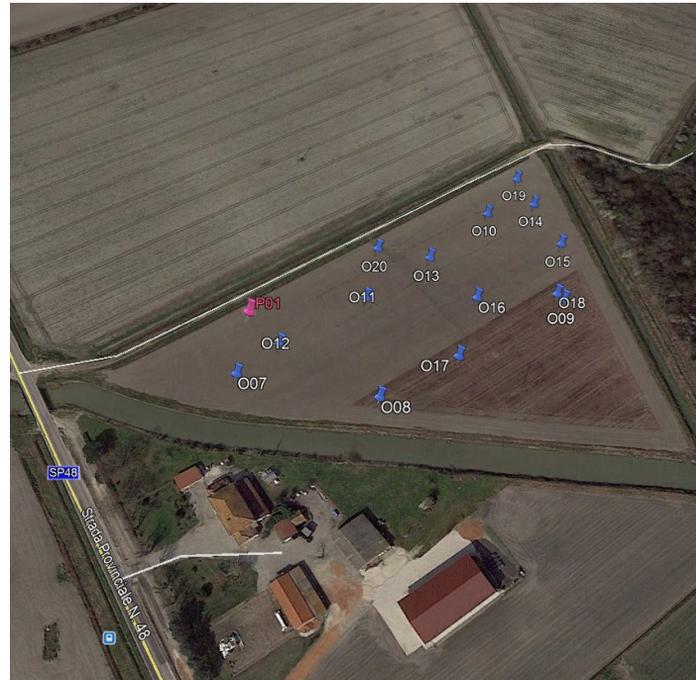


Studio caratteri dei suoli Azienda Navarra

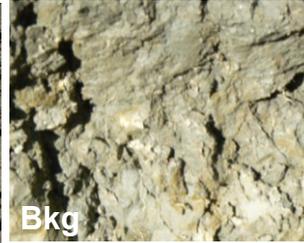
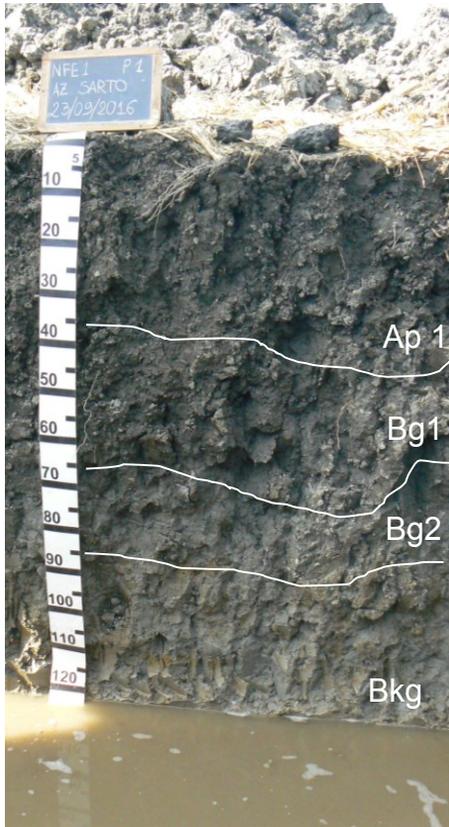


Strato campionato:	Profondità cm:	Sabbia %	Limo %	Argilla %	pH	Calcare totale %	Calcare attivo	SO % AE	SO%
Ap1	0-15	11	54	35	7,69	10	3,9	2,2	1,9
Ap1	15-30	9	57	34	7,72	8	5,1	2,7	2,2
Ap2	30-45	6	60	34	7,54	9	5,1	2,1	1,7
Bgk1	45-70	11	55	34	7,85	15	7,4	0,4	0,5
2 Bsskg1	70-105	11	46	43	7,87	2	0,5	2,2	1,9
2 Bsskg2	105-130	6	49	45	7,86	3	1,1	0,8	0,6
2 Bgk	130-150	11	55	34	7,94	11	4,9	0,7	0,5

Studio caratteri dei suoli Azienda SARTO



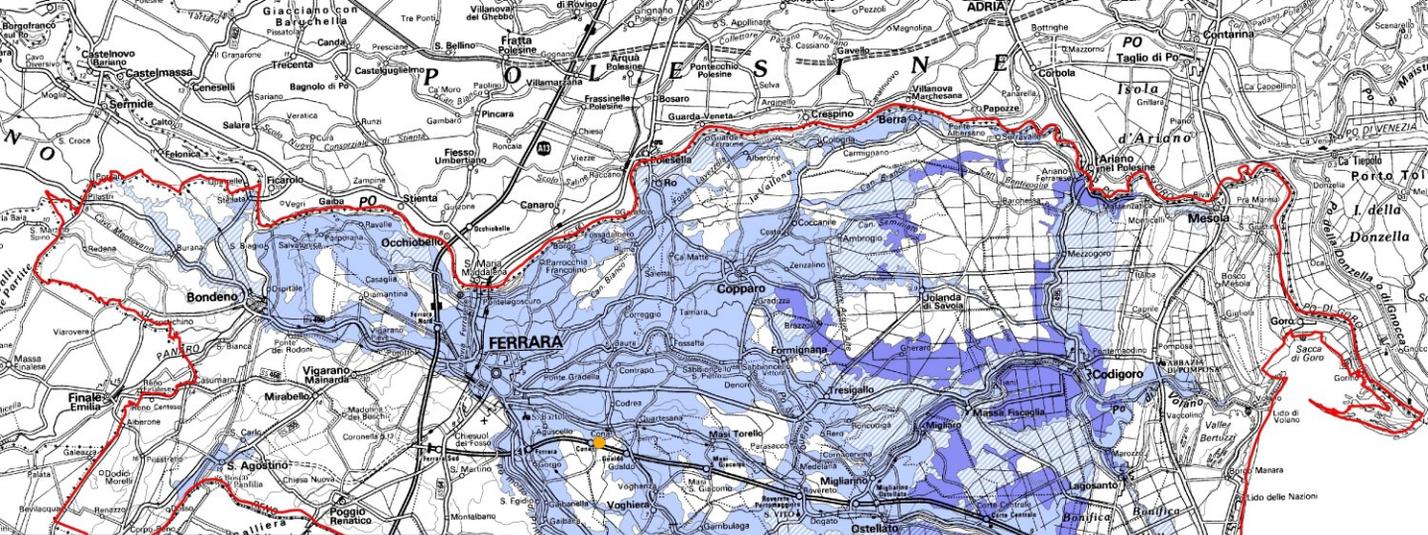
Studio caratteri dei suoli Azienda SARTO



Strato campionato:	Profondità cm:	Sabbia %	Limo %	Argilla %	pH	Calcare totale %	Calcare attivo	SO AE	SO WB
Ap1	0-15	14	52	34	7,71	4	1,1	4,3	3,8
Ap1	15-40	9	57	34	7,78	4	1,3	4,5	3,6
Bg1	40-70	7	49	44	7,93	4	1,3	3,9	3
Bg2	70-85	9	49	42	7,72	4	1,5	1,4	1,4
BgK	85-120	9	47	44	8	12	7,1	0,9	1,2

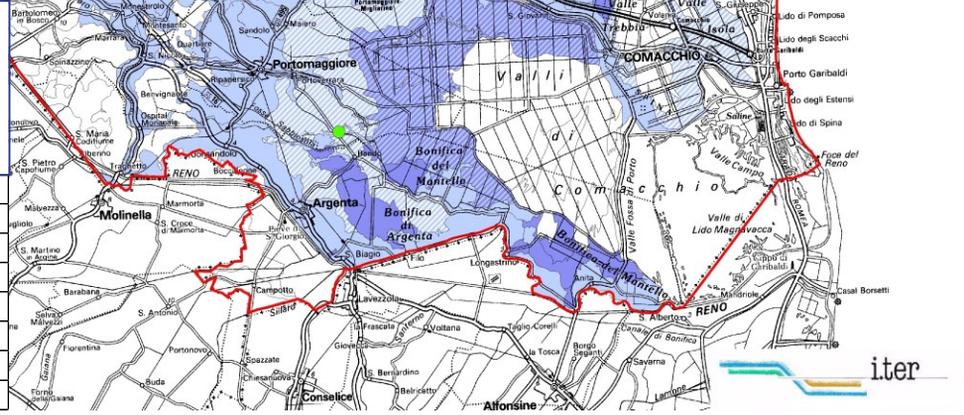
Confronto con altri partner





Carta della rappresentatività dei siti sperimentali
(estendibilità delle Terre argillose con orizzonti torbosi della pianura delizia e Terre dei dossi abbandonati della pianura delizia)

	Sito Fondazione Per l'Agricoltura Fratelli Navarra
	Sito Azienda Agricola Graziano Sarto
	Terre argillose con orizzonti torbosi della pianura delizia
	Terre dei dossi abbandonati della pianura delizia
	Terre argillose con orizzonti torbosi della pianura delizia associate ad altre Terre
	Terre dei dossi abbandonati della pianura delizia associate ad altre Terre
	Altre Terre
	Confine provinciale





I risultati del progetto Nitrati Ferrara

Grazie per l'attenzione!

<https://www.fondazionevarra.it/index.php/chi-siamo/iniziativa-gruppo-nitrati-ferrara>