Storage, pools, and chemical composition of soil organic matter surplus due to tillage intensity drop

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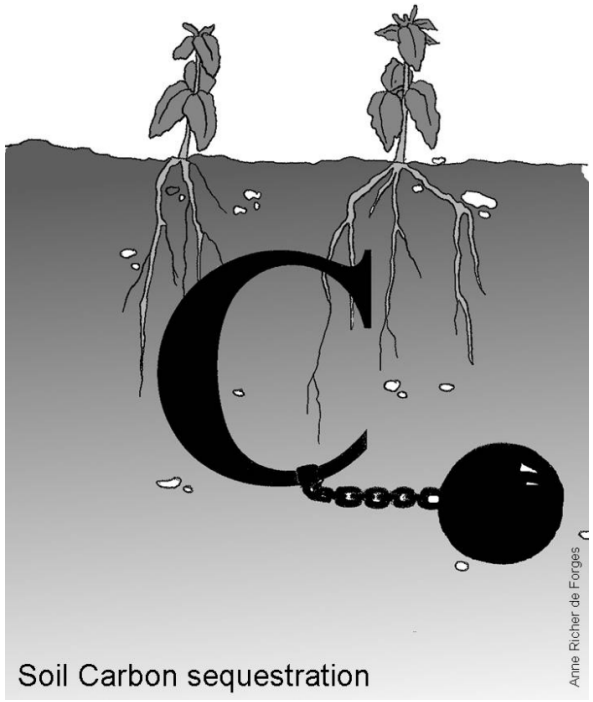
SOC gain replacing the released C

soil organic matter surplus due to tillage intensity drop

OC pools in the soil



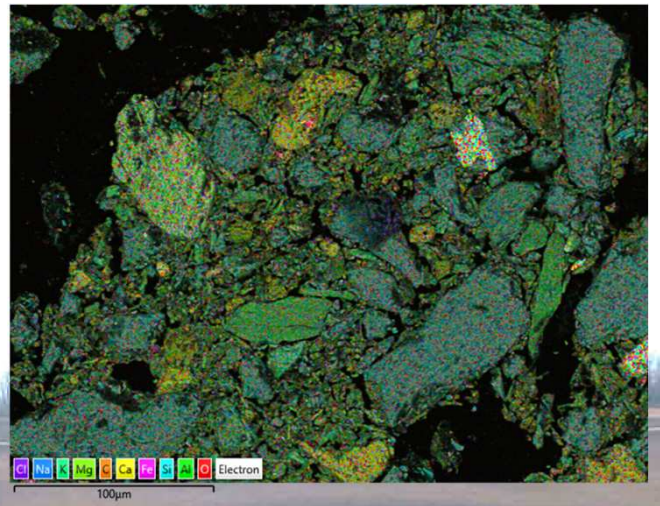
Mobility

Mineral phase associated SOC

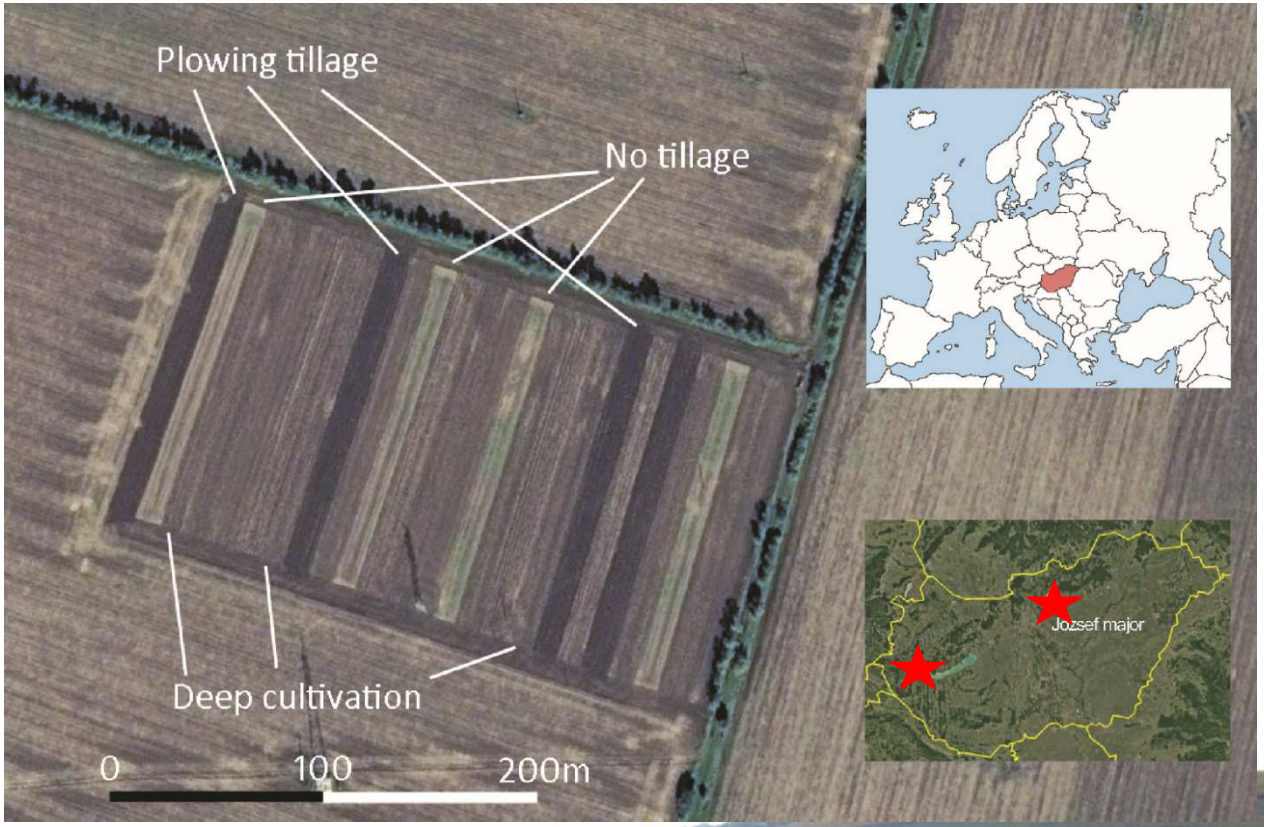
Aggregate associated SOC

Particulate oranic carbon

Residence time

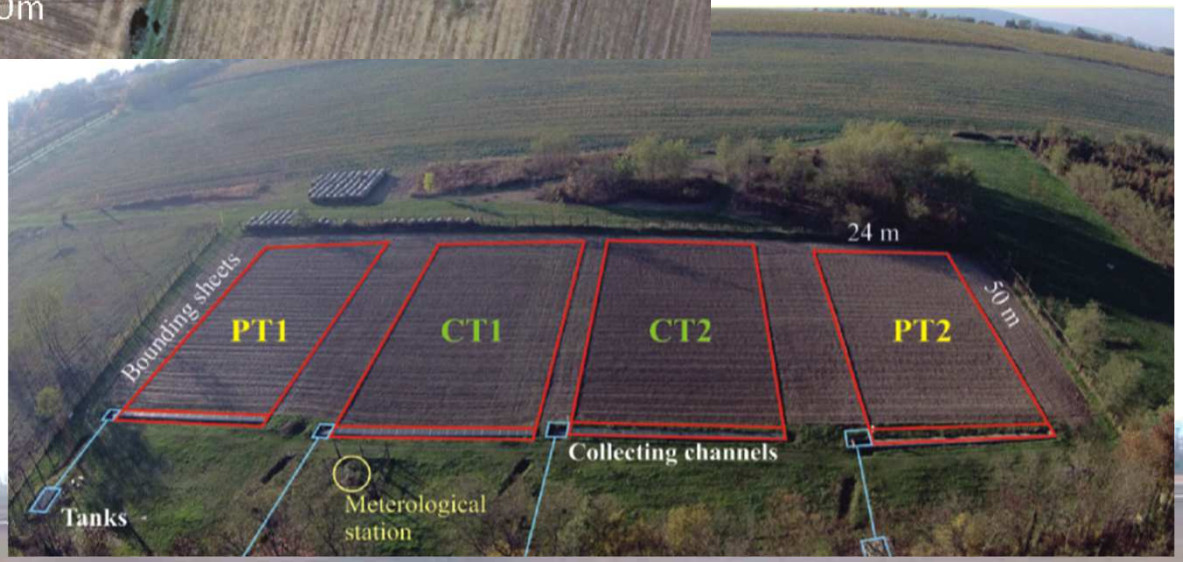


soil organic matter surplus due to tillage intensity drop



Chernozem
Carbonates
2003-

Luvisol
Acidic
2003-



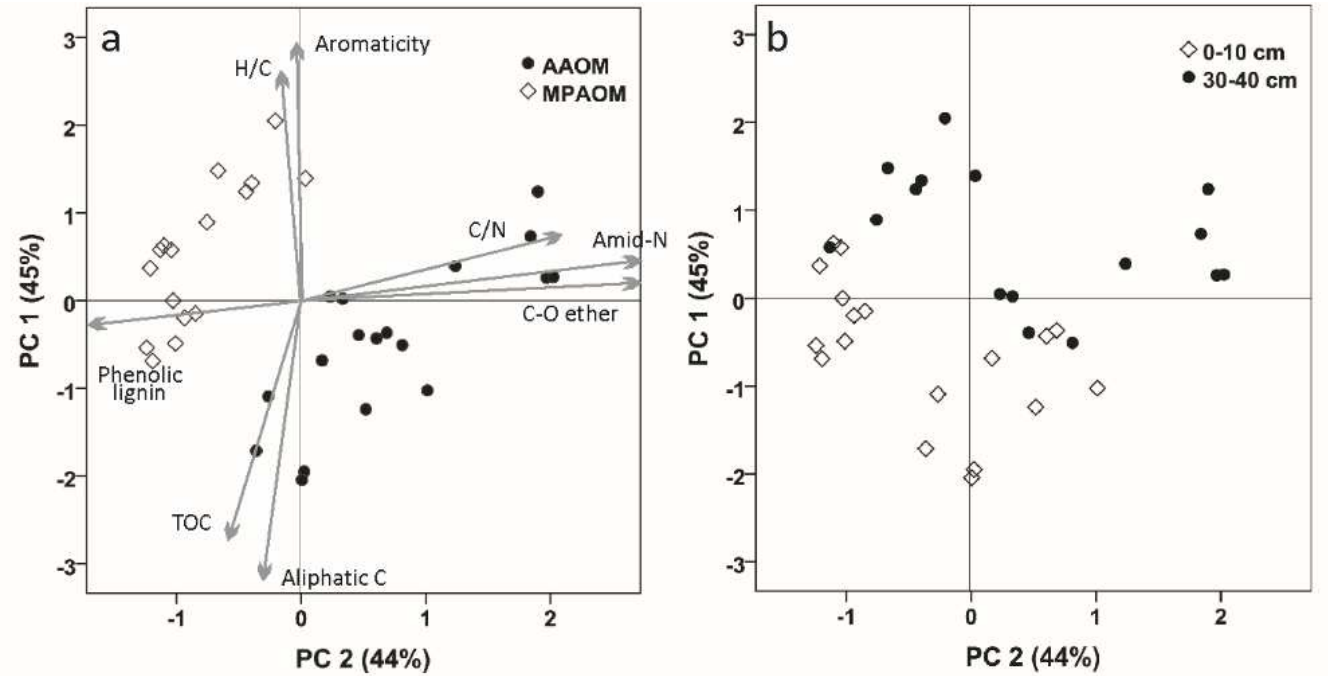
Methods

- Sampling 0-10 cm; 30-40 cm
- Fractionation to identify SOC pools
- CHNS Elemental analizer
- FTIR spectroscopy (SOM composition)

Results

SOM increased in the topsoil but not in the subsoil (19 years) BOTH SITES

Both stable and labile pools increased BOTH SITES



Aromatic surplus was stabilized by the fine fraction CALCARIC

No difference among the tillage systems

Results (acidic)

Aromatic component of the surplus was stabilized by the aggregates

	Luvisol		Chernozem
●Clay content	25	vs.	43%
●SOC content	1.4	vs.	2.3 mg/100g
●WSA	51	vs.	70%
●Mineral composition			
●Microbiom			

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Thank you

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