



**INFLUENCE OF FARMING
SYSTEMS ON AREA
HETEROGENEITY OF TOTAL
ORGANIC CARBON CONTENT**

Jiří Heczko, Anton Zaujec
Department of Pedology and Geology

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Introduction

- The aim of paper was study the influence of different farming systems on area heterogeneity of total organic carbon content in longtime field trial on Haplic-Luvisols.
- 1990 - 1998 organic and conventional farming systems
- 1999 - ecological and integrated farming systems

Material and Methods

- Slovak Agricultural University Research Station Dolná Malanta
- Haplic Luvisol clay-loamy soil
- Soil samples were taken in spring 1997 and 2009 from top layer 0-0.2 m.
- We measured total organic carbon content (TOC %)



Material and Methods

Two farming systems and variants

Ecological farming system

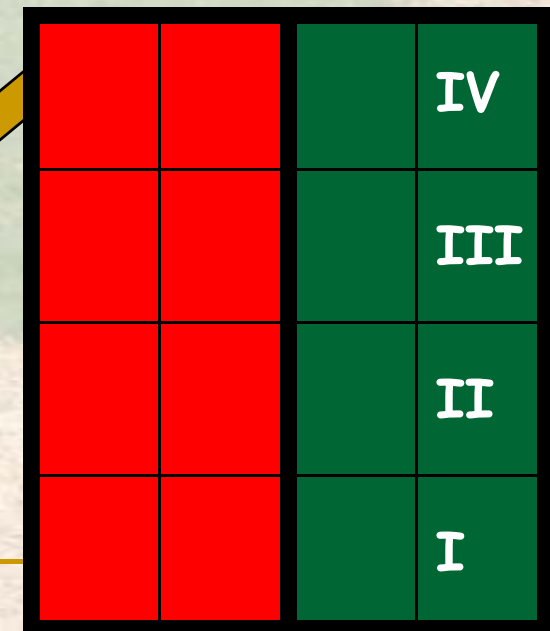
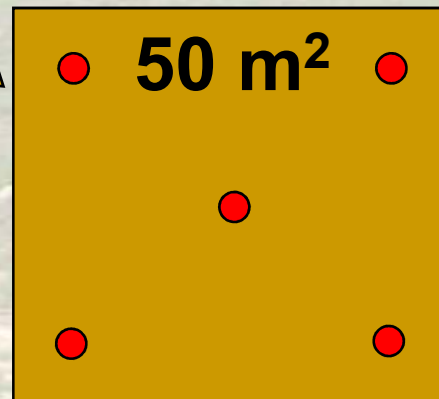
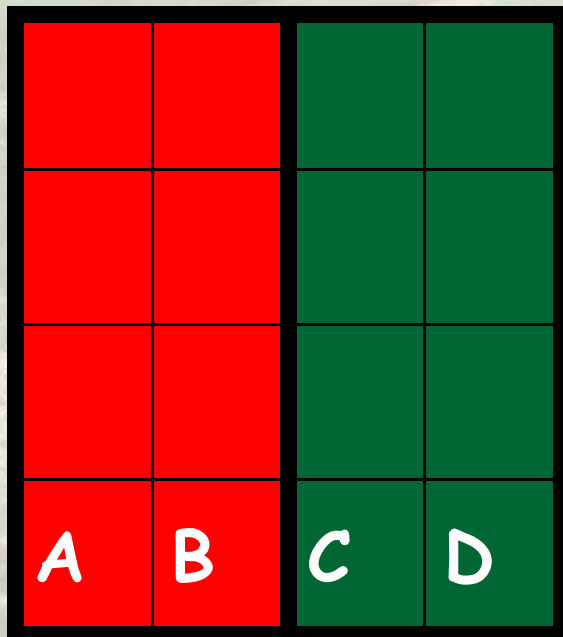
Integrated farming system

Fertilized

Unfertilized

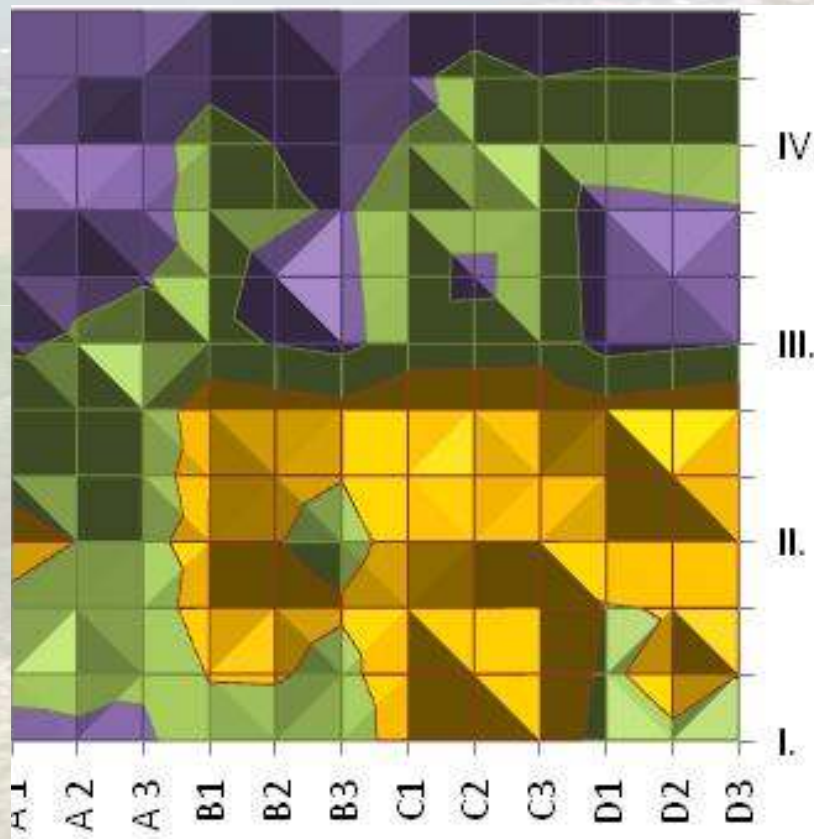
Fertilized

Unfertilized



Results - Ecological farming system

E5. SOC % - 2009



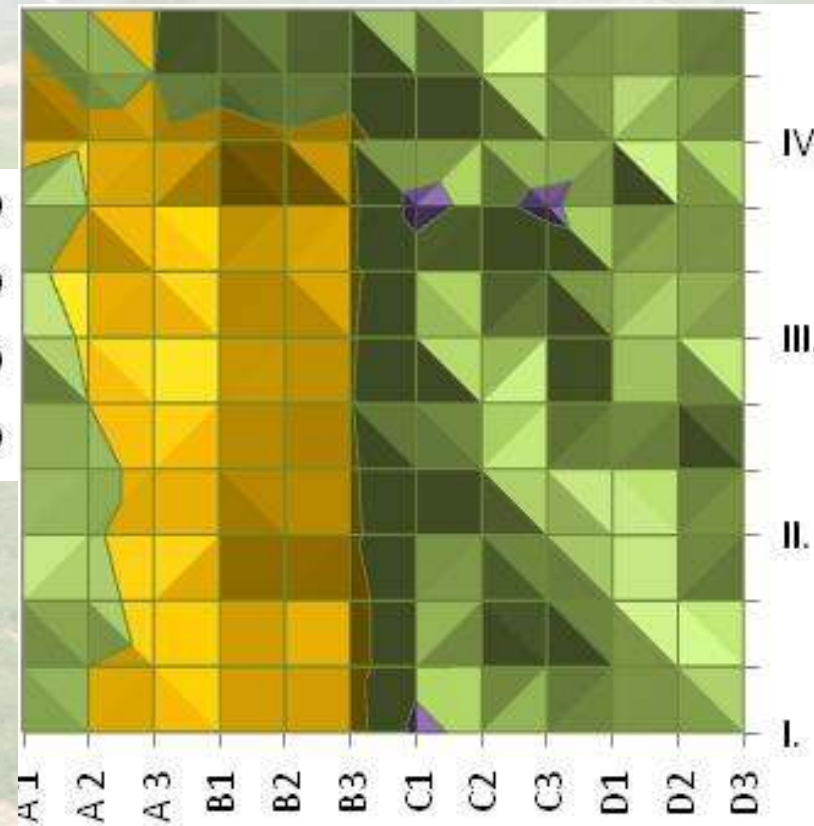
Fertilized

Unfertilized

30.10.2009

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E5. SOC % - 1997



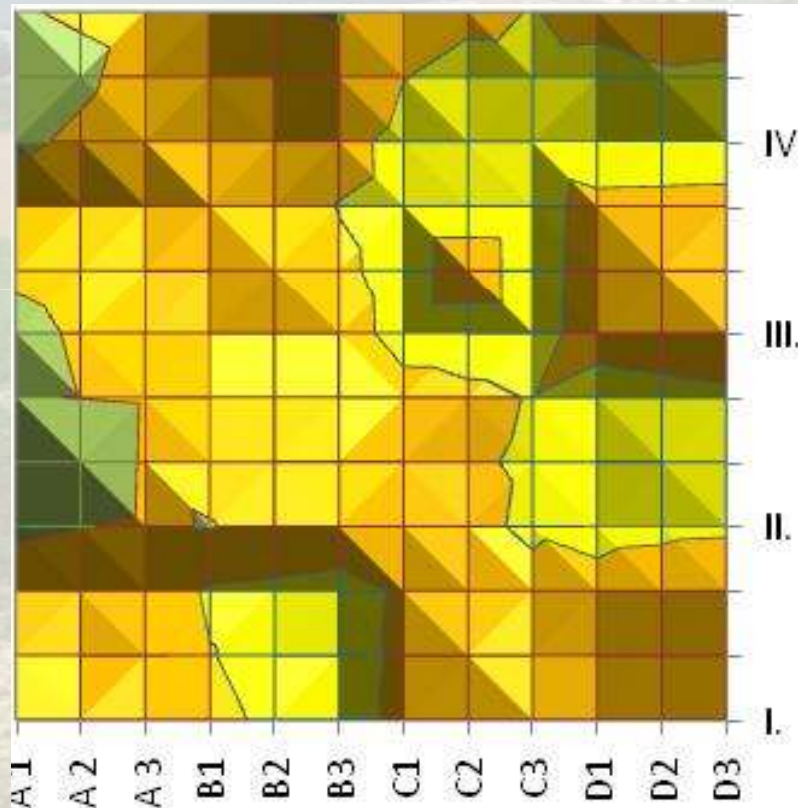
Fertilized

Unfertilized

5

Results – Integrated farming system

I5. SOC % - 2009

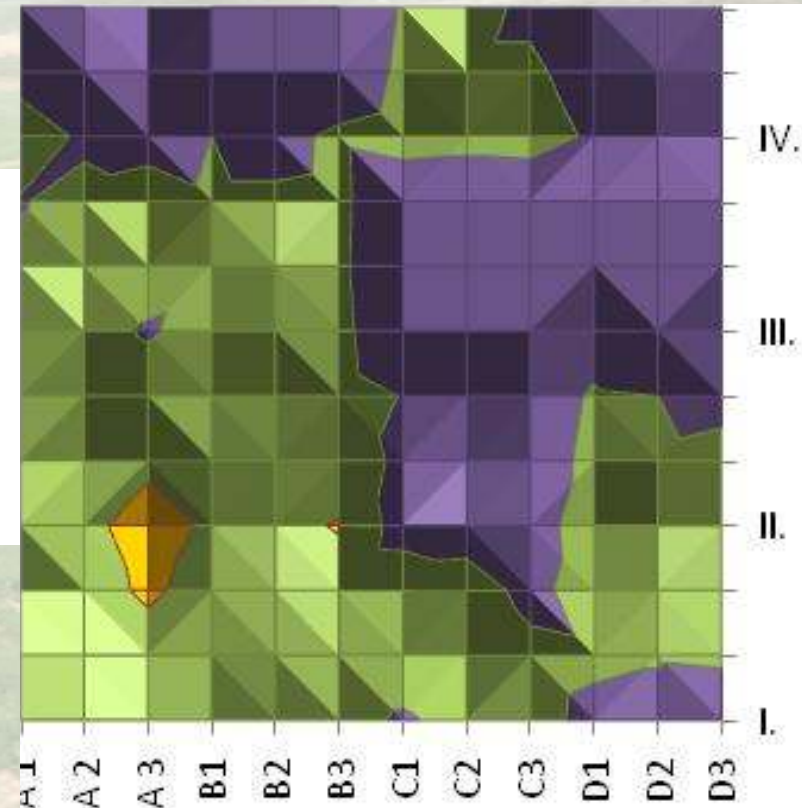


Fertilized

30.10.2009

Unfertilized

I5. SOC % - 1997



Fertilized

Unfertilized

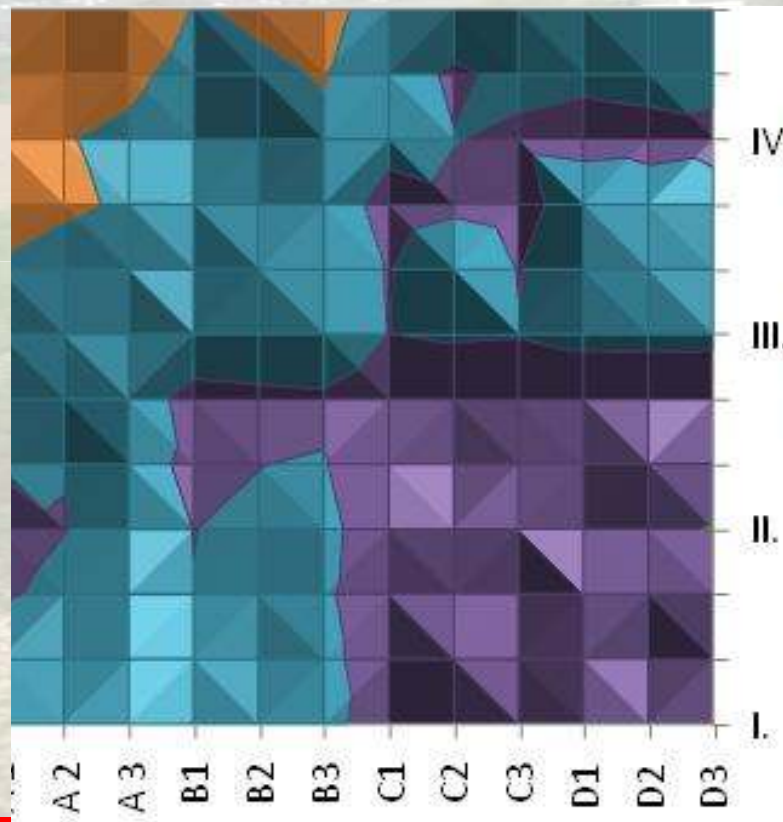
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Results

$$\Delta \text{SOC}\% = \text{SOC} (2009) - \text{SOC} (1997)$$

E5. $\Delta \text{SOC}\%$



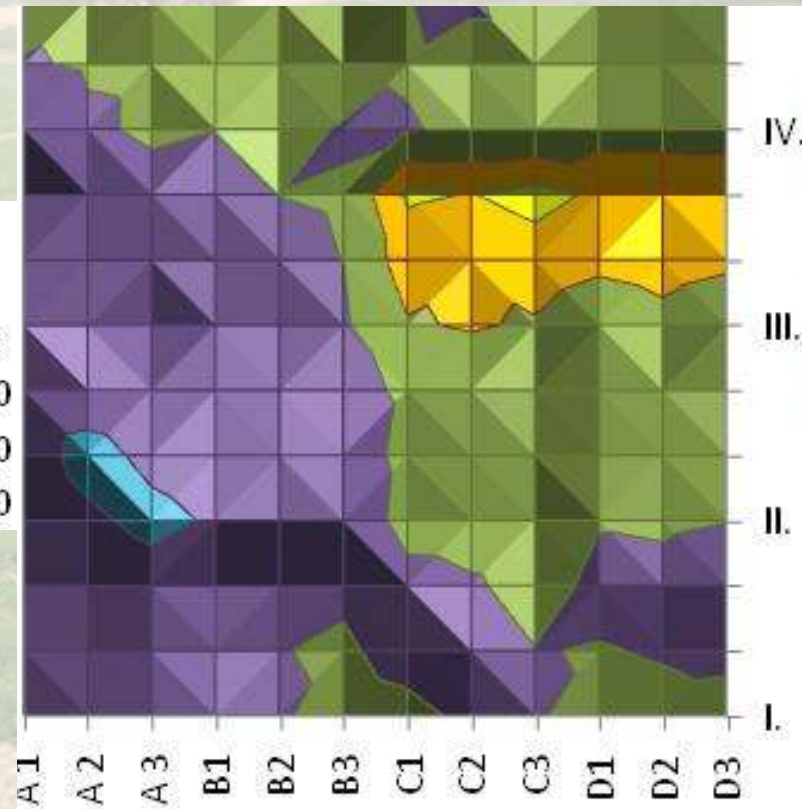
Fertilized

Unfertilized

30.10.2009

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I5. $\Delta \text{SOC}\%$



Fertilized

Unfertilized

7

Results – Base Statics

	E5 SOC 2009		E5 SOC 1997		I5 SOC 2009		I5 SOC 1997	
	Fertilized	Unfertilized	Fertilized	Unfertilized	Fertilized	Unfertilized	Fertilized	Unfertilized
Average	1,46	1,28	1,18	1,40	1,08	0,92	1,45	1,64
±	0,04	0,04	0,01	0,01	0,02	0,01	0,04	0,05
1 quartile	1,25	1,08	1,15	1,35	1,00	0,85	1,30	1,47
Median	1,41	1,25	1,18	1,42	1,08	0,93	1,41	1,56
3 quartile	1,62	1,49	1,21	1,45	1,18	0,96	1,48	1,66
Modus	0,00	0,00	1,17	1,44	0,00	0,00	1,41	1,53
St. deviation	0,27	0,24	0,06	0,08	0,13	0,07	0,24	0,32
Variance	0,07	0,06	0,00	0,01	0,02	0,00	0,06	0,10
Min	0,99	0,94	1,05	1,20	0,79	0,77	1,10	1,27
Max	2,01	1,74	1,32	1,58	1,34	1,08	2,14	2,52
Count	40	40	40	40	40	40	40	40

Conclusion

We can state, from our results, that in presented longterm trial was **ecological farming system** more **sustainable and stabile** for point of view of total organic carbon content than **integrated farming system.**

Thank you for your attention

Dobrú chut'
Dobrou chut'
Szmacznego
Good appetite
Jó étvágyat
:-)

