



vegetable



alfalfa



winter barley



buckwheat

Figure S1: Presentation of typical crops grown on an organic farm.



Onion



Potatoes



Pumpkins



Winter barley



Vegetable field cultivated with rotational harrow

Figure S2: Presentation of typical crops grown on an integrated farm.



Field 1: Winter wheat, Eutric Cambisol



Field 2: alfalfa, Eutric Cambisol



Field 10: Winter barley, Calcaric Fluvisol



Field 8: grass-clover mix, Calcaric Fluvisol



Figure S3: Spade test of selected fields on organic farm performed on 2. June 2020.



Field 10: onion, Eutric Cambisol



Field 13: potatoes, Eutric Cambisol



Field 16: pumpkins, Calcaric Fluvisol



Field 19: winter barley/vettabale, Calcaric Fluvisol



Figure S4: Spade test of selected fields on integrated farm performed on 2. June 2020.

Table S1: Results of scores of visual indicators for visual soil assessment (VSA)

Sampling No.	Farm type	Soil type	Field No.	Texture	Structure	Porosity	Colour	Anaerobic	Earthworms	Root Depth	Ponding	Crust/cover	Erosion
VSA 1	ORG	Cambi	1	2	1	2	1	2	2	0.5	2	2	2
VSA 1	ORG	Cambi	2	1	2	2	2	2	0	0.5	2	2	2
VSA 1	ORG	Cambi	3	2	2	1	1	2	0	0.5	2	2	2
VSA 1	ORG	Cambi	4	2	2	2	2	2	0.5	0.5	2	2	2
VSA 1	ORG	Cambi	5	2	2	2	2	2	0.5	0.5	2	2	2
VSA 1	ORG	Fluvi	6	2	1	2	2	2	0.5	0.5	2	2	2
VSA 1	ORG	Fluvi	7	2	2	2	1	2	0.5	0.5	2	2	2
VSA 1	ORG	Fluvi	8	2	1	1	2	2	0	0.5	2	1	2
VSA 1	ORG	Fluvi	9	2	1	2	2	2	0	0.5	2	2	2
VSA 1	ORG	Fluvi	10	1	1	1	1	2	0.5	0.5	2	2	2
VSA 1	INT	Cambi	11	1	2	2	2	2	1	0.5	2	1	2
VSA 1	INT	Cambi	12	1	2	2	2	2	0	0.5	2	2	2
VSA 1	INT	Cambi	13	1	2	2	1	2	0	0.5	2	1	2
VSA 1	INT	Cambi	14	1	2	2	1	2	0	0.5	2	2	2
VSA 1	INT	Cambi	15	1	1	2	2	2	0	0.5	2	0	2
VSA 1	INT	Fluvi	16	2	2	1	2	2	0.5	0.5	2	0	2
VSA 1	INT	Fluvi	17	2	2	2	1	2	0	0.5	2	2	2
VSA 1	INT	Fluvi	18	1	1	2	1	2	0	0.5	2	0	2
VSA 1	INT	Fluvi	19	1	1	1	2	2	0	0.5	2	2	2
VSA 1	INT	Fluvi	20	1	1	2	1	2	0	0.5	2	1	2
VSA 2	ORG	Cambi	1	2	1	2	1	2	0	0.5	2	2	2
VSA 2	ORG	Cambi	2	1	2	2	2	2	0	0.5	2	2	2
VSA 2	ORG	Cambi	3	2	2	2	1	2	0	0.5	2	2	2
VSA 2	ORG	Cambi	4	2	2	2	2	2	0	0.5	2	0	2
VSA 2	ORG	Cambi	5	2	2	2	2	2	0.5	0.5	2	2	2
VSA 2	ORG	Fluvi	6	2	1	2	2	2	0	0.5	2	2	2
VSA 2	ORG	Fluvi	7	2	1	2	1	2	0.5	0.5	2	2	2
VSA 2	ORG	Fluvi	8	2	1	1	2	2	0	0.5	2	0	2
VSA 2	ORG	Fluvi	9	2	1	1	2	2	0.5	0.5	2	0	2
VSA 2	ORG	Fluvi	10	1	1	1	1	2	1	0.5	2	2	2
VSA 2	INT	Cambi	11	1	1	2	2	2	0	0.5	2	1	2
VSA 2	INT	Cambi	12	1	2	2	2	2	0	0.5	2	2	2
VSA 2	INT	Cambi	13	1	2	2	1	2	0	0.5	2	2	2
VSA 2	INT	Cambi	14	1	2	2	1	2	0.5	0.5	2	2	2
VSA 2	INT	Cambi	15	1	1	2	2	2	0	0.5	2	0	2
VSA 2	INT	Fluvi	16	2	1	2	2	2	0	0.5	2	2	2
VSA 2	INT	Fluvi	17	2	1	2	1	2	1	0.5	2	2	2
VSA 2	INT	Fluvi	18	1	2	2	1	2	0	0.5	2	1	2
VSA 2	INT	Fluvi	19	1	2	2	2	2	0	0.5	2	1	2
VSA 2	INT	Fluvi	20	1	2	2	1	2	0	0.5	2	2	2
VSA 3	ORG	Cambi	1	2	1	2	1	2	0.5	0.5	2	0	2
VSA 3	ORG	Cambi	2	1	2	2	2	2	0	0.5	2	2	2
VSA 3	ORG	Cambi	3	2	2	2	1	2	1	0.5	2	2	2
VSA 3	ORG	Cambi	4	2	2	2	2	2	2	0.5	2	2	2
VSA 3	ORG	Cambi	5	2	2	2	2	2	2	0.5	2	2	2
VSA 3	ORG	Fluvi	6	2	2	2	2	2	0	0.5	2	2	2
VSA 3	ORG	Fluvi	7	2	1	2	1	2	2	0.5	2	2	2
VSA 3	ORG	Fluvi	8	2	1	1	2	2	0.5	0.5	2	0	2
VSA 3	ORG	Fluvi	9	2	1	1	2	2	0	0.5	2	1	2
VSA 3	ORG	Fluvi	10	1	2	2	1	2	0.5	0.5	2	1	2
VSA 3	INT	Cambi	11	1	2	2	2	2	2	0.5	2	2	2
VSA 3	INT	Cambi	12	1	1	2	2	2	1	0.5	2	0	2
VSA 3	INT	Cambi	13	1	2	1	1	2	0	0.5	2	2	2
VSA 3	INT	Cambi	14	1	2	2	1	2	0	0.5	2	0	2
VSA 3	INT	Cambi	15	1	1	2	2	2	0	0.5	2	2	2
VSA 3	INT	Fluvi	16	2	2	2	2	2	2	0.5	2	2	2
VSA 3	INT	Fluvi	17	2	2	2	1	2	0	0.5	2	2	2
VSA 3	INT	Fluvi	18	1	2	2	1	2	0	0.5	2	2	2
VSA 3	INT	Fluvi	19	1	2	2	2	2	0	0.5	2	2	2
VSA 3	INT	Fluvi	20	1	2	2	1	2	0.5	0.5	2	2	2

Shepherd, T. G.; Stagnari, F.; Pisante, M.; Benites, J. Annual crops. Visual soil assessment - Field guides. Available online: <http://www.fao.org/3/i0007e/i0007e00.htm>; Visual scores (VS): 0 = poor conditions; 1 = moderate conditions; 2 = good condition; ORG – organic farm; INT – integrated farm; Cambi – Eutric Cambisol, Fluvi – Calcaric Fluvisol; VSA 1 2. June 2017, VSA 2 – 25. July 2017; VSA 3 – 9. September 2017

Table S2: Analysis of Variance for soil organic matter (SOM) - Type III Sums of Squares

<i>Source</i>	<i>Sum of Squares</i>	<i>Df</i>	<i>Mean Square</i>	<i>F-Ratio</i>	<i>P-Value</i>
MAIN EFFECTS					
A:Management	7,1415	1	7,1415	10,64	0,0019
B:Soil Type	19,8375	1	19,8375	29,56	0,0000
RESIDUAL	38,2575	57	0,671184		
TOTAL (CORRECTED)	65,2365	59			

All F-ratios are based on the residual mean square error.

The StatAdvisor

The ANOVA table decomposes the variability of SOM into contributions due to various factors. Since Type III sums of squares (the default) have been chosen, the contribution of each factor is measured having removed the effects of all other factors. The P-values test the statistical significance of each of the factors. Since 2 P-values are less than 0,05, these factors have a statistically significant effect on SOM at the 95,0% confidence level.