

Supplementary Materials:

Table S1. Basic statistics for 313 samples with determined SOC concentrations (%) under different soil types and moisture regimes.

Soil typolo- gical unit**	Area in agricultural land		Number of samples	Point density, units/100ha	Soil organic carbon parameters			
	ha	%			Mean	SD	Min	Max
The first classification level								
FL	9716.62	2.85	30	0.31	2.061	1.062	0.963	5.590
GL	71742.39	21.03	58	0.08	4.228	2.964	1.600	9.780
LV	60168.03	17.64	37	0.06	1.675	0.472	0.931	2.910
PZ	829.24	0.24	10	1.21	1.805	0.377	1.250	2.630
AB	856.85	0.25	10	1.17	1.015	0.224	0.807	1.550
LP*	35.748	0.01	-	-	-	-	-	-
HS	10521.81	3.08	15	0.14	19.224	9.389	10.080	41.100
PL	3413.28	1.00	18	0.53	1.546	0.613	0.992	3.250
RG	1610.55	0.47	20	1.24	0.788	0.237	0.328	1.010
CM	169323.28	49.63	85	0.05	1.950	0.584	0.761	3.320
AR	12962.61	3.80	30	0.23	1.515	0.554	0.524	2.900
The second classification level								
FL-eu	5921.43	1.71	10	0.17	1.523	0.385	0.963	1.980
FL-eu.gl	5921.43	0.69	8	0.14	1.985	0.616	1.240	3.210
FL-sa*	7.23	0.00	-	-	-	-	-	-
FL-ca	936.94	0.27	10	1.07	2.016	0.729	1.070	3.420
FL-ca.gl*	186.50	0.05	-	-	-	-	-	-
FL-dy*	92.81	0.03	-	-	-	-	-	-
FL-dy.gl*	74.08	0.02	-	-	-	-	-	-
FL-mo	115.53	0.03	2	1.73	5.285	0.431	4.980	5.590
GL-eu	8492.84	2.46	9	0.11	2.162	0.527	1.650	3.130
GL-sa	278.61	0.08	9	3.23	8.511	4.581	2.560	15.300
GL-ca	42758.79	12.36	13	0.03	2.892	0.954	1.600	4.970
GL-dy	127.26	0.04	10	7.86	2.878	0.792	1.730	4.000
GL-mo	20084.38	5.81	17	0.08	5.161	1.430	3.280	7.870
LV-gl	33576.55	9.71	16	0.05	1.997	0.459	1.110	2.910
LV-st*	37.39	0.01	-	-	-	-	-	-
LV-ca	18369.04	5.31	10	0.05	1.587	0.287	1.160	2.100
LV-ha	8185.05	2.37	10	0.12	1.229	0.211	0.931	1.550
PZ-gl	829.24	0.24	10	1.21	1.805	0.377	1250	2.630
AB-eu	793.64	0.23	10	1.26	1.015	0.224	0.807	1.550
AB-st*	4.28	0.00	-	-	-	-	-	-
AB-dy*	58.94	0.02	-	-	-	-	-	-
LP-ca*	35.75	0.01	-	-	-	-	-	-
HS-fi*	221.47	0.06	-	-	-	-	-	-
HS-he	766.60	0.22	7	0.91	17.633	6.830	12.810	31.600
HS-sa	9534.25	2.76	8	0.08	20.814	11.766	10.080	41.100
PL-eu	1254.89	0.36	10	0.80	1.218	0.215	0.992	1.610
PL-eu.gl	1995.89	0.58	7	0.35	2.051	0.711	1.160	3.250
PL-dy	93.30	0.03	1	1.07	1.290	-	1.290	1.290
PL-dy.gl*	49.17	0.01	-	-	-	-	-	-
PL-mo*	20.02	0.01	-	-	-	-	-	-
RG-eu	1021.11	0.29	10	0.98	0.776	0.269	0.328	1.010

RG-eu.gl*	0.20	0.00	-	-	-	-	-	-
RG-ca	589.23	0.17	10	1.70	0.810	0.225	0.566	1.010
CM-eu	392.75	0.11	12	3.06	1.303	0.434	0.853	2.240
CM-gl	146166.98	42.27	61	0.04	2.150	0.489	1.190	3.320
CM-ca	23036.24	6.66	12	0.05	1.521	0.508	0.761	2.200
AR-gl	7889.55	2.28	10	0.13	1.901	0.292	1.410	2.280
AR-ca	1677.25	0.48	10	0.60	1.289	0.358	0.900	1.870
AR-ha	7810.70	2.26	10	0.13	1.256	0.540	0.524	2.280
Moisture regime classes								
AU	37102.65	10.73	78	0.52	1.378	0.508	0.524	3.420
AU (e1)	1898.85	0.55	3	0.16	1.020	0.136	0.889	1.160
AU (e2)	2182.66	0.63	2	0.09	0.859	0.139	0.761	0.957
AU (e3)	1612.35	0.47	20	1.24	0.788	0.655	0.328	1.328
AU (g0-1)	27443.10	7.93	18	0.07	1.643	0.360	0.867	2.200
SH (g4)	13988.08	4.04	30	0.21	1.928	0.603	0.710	3.250
SH (g5)	2006.25	0.58	2	0.10	2.735	0.672	2.260	3.210
SH (g8)	177227.06	51.24	81	0.05	2.060	0.487	0.780	3.320
SH (G)	51378.89	14.86	30	0.06	2.393	0.805	0.779	4.000
SH (Gfo)	20219.94	5.85	19	0.09	5.174	1.352	3.280	7.870
SH (Ghi)	285.84	0.08	9	3.15	8.511	1.352	2.560	15.300
H	10522.32	3.04	15	0.14	17.469	10.337	4.900	41.100

* Soil typological units for which data were not provided were not studied because of their very small areas.

** Soil indices according to the WRB 2022 system [5]: FL Fluvisols, GL—Gleysols, LV—Luvisols, PZ—Podzols, AB—Albeluvisols (Retisols), LP—Leptosols, HS—Histosols, PL—Planosols, RG—Regosols, CM—Cambisols, AR—Arenosols, eu—eutric, gl—gleyic, sa—sapric, ca—calcic, dy—dystric, mo—mollic, st—stagnic, ha—haplic. Indices of moisture regime types: AU—automorphic, SH—semi-hydromorphic, H—hydromorphic, e1—weakly eroded, e2—moderately eroded, e3—severely eroded, g0-1—gleyic (100-200cm), g4—gleyic (50-100cm), g8—gleyic (0-50cm), g5—reduce gleyic, G—gley, Ghi—histic gley, Gfo—folic gley.