

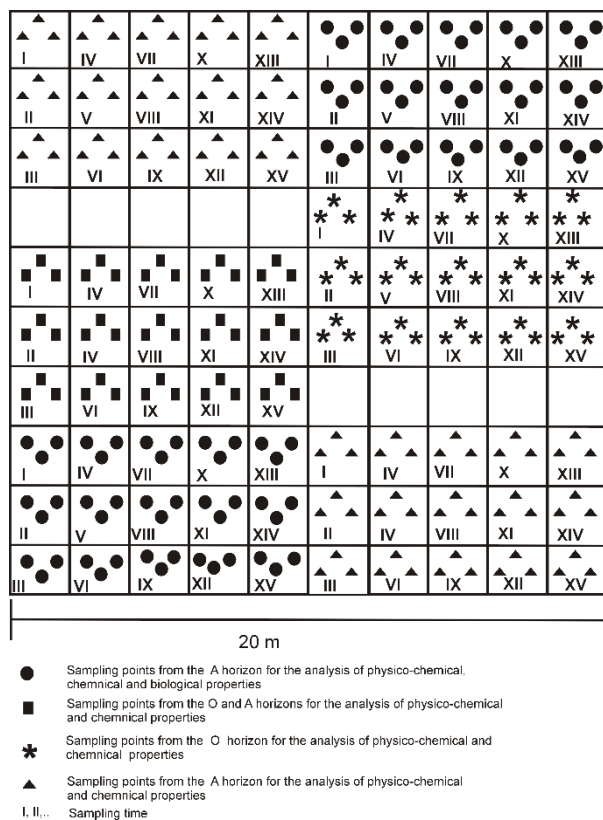


Figure S1. Scheme of the research plot soil sampling

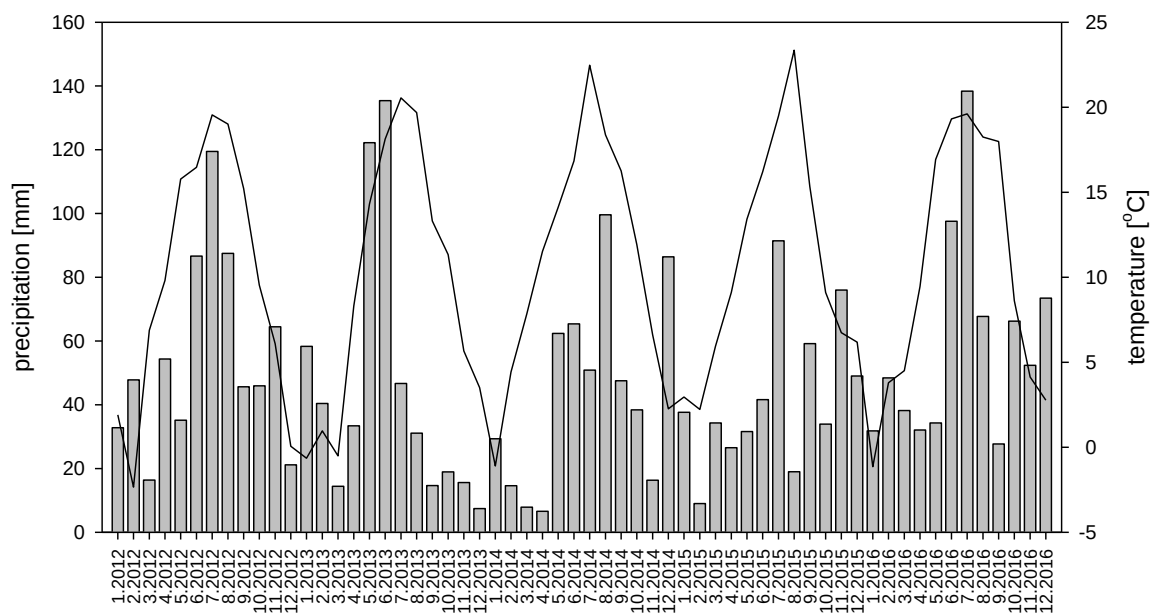
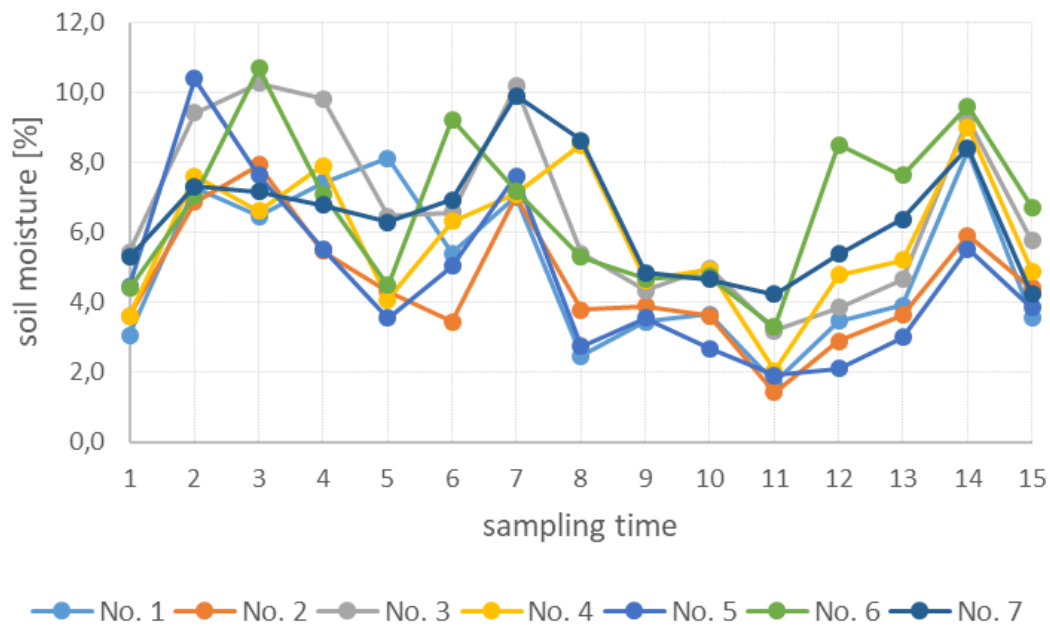


Figure S2. Sum of precipitation and average annual temperature of the study period in Tuczn research field [63]



Sampling time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
date	05.12	07.12	10.12	05.13	07.13	09.13	05.14	08.14	10.14	05.15	08.15	10.15	05.16	07.16	09.16

Figure S3. Soil moisture (average) fluctuations on particular research plots during study years

Table S1. Person correlation analysis between organic carbon content in A and O horizons and physicochemical and biochemical soil properties (n = 196).

	OC in O horizon	OC in A horizon	pH of O horizon	pH of A horizon	exchangeable Al ³⁺	soil moisture	soil temeprature	Dehydrogenases activity	Stand age
OC in O horizon	-	0.12	-0.47*	-0.15*	0.20*	-0.13**	0.08	-0.22*	0.37*
OC in A horizon	0.12	-	-0.19*	-0.49*	0.14**	0.10	-0.07	0.00	0.13**
pH of O horizon	-0.47*	-0.19*	-	0.08	-0.19*	0.00	-0.12**	0.10	-0.31*
pH of A horizon	-0.15*	-0.49*	0.08	-	-0.22*	-0.10	0.09	0.07	-0.19*
exchangeable Al ³⁺	0.20*	0.14**	-0.19*	-0.22*	-	0.11	-0.16*	-0.01	0.28*
soil moisture	-0.13 **	0.10	0.00	-0.10	0.11	-	0.03	0.46*	0.05
soil temeprature	0.08	-0.07	-0.12**	0.09	-0.16*	0.03	-	-0.19*	0.06
Dehydrogenases activity	-0.22*	0.00	0.10	0.07	-0.01	0.46*	-0.19*	-	0.13
Stand age	0.37*	0.13**	-0.31*	-0.19*	0.28*	0.05	0.06	0.13**	-

Notes: *: $p < 0.05$. **: $p < 0.01$.

Table S2. The principal component analysis of soil properties.

Soil characteristics	F1	F2	F3	F4
OC in O horizon	0.173	0.091	0.066	0.008
OC in A horizon	0.112	0.057	0.236	0.086
pH of O horizon	0.222	0.014	0.017	0.007
pH of A horizon	0.197	0.031	0.178	0.046
exchangeable Al ³⁺	0.130	0.011	0.049	0.222
soil moisture	0.001	0.347	0.062	0.068
soil temepature	0.0001	0.062	0.131	0.553
Dehydrogenases activity	0.009	0.380	0.092	0.004
Stand age	0.157	0.005	0.213	0.067
Variance contribution rate (%)	25.006	18.420	13.081	11.972
Accumulated Variance Contribution Rate (%)	25.006	43.426	56.507	68.479