

Supplement of SOIL Discuss., 2, 1309–1344, 2015
<http://www.soil-discuss.net/2/1309/2015/>
doi:10.5194/soild-2-1309-2015-supplement
© Author(s) 2015. CC Attribution 3.0 License.



Supplement of

Interactions between organisms and parent materials of a constructed Technosol shape its hydrostructural properties

M. Deeb et al.

Correspondence to: M. Deeb (mahadeeb.y@gmail.com)

The copyright of individual parts of the supplement might differ from the CC-BY 3.0 licence.

Table S1 Average mass of 1 liter of mixture of green waste compost (GWC) and excavated deep horizon for the different proportion of GWC, and average water mass (g) used for moistening every mixture at 80% of the water storage capacity according to its compost content (n = 16).

GWC %	0%	10%	20%	30%	40%	50%
Average soil mass	1291	1263	1178	1114	1040	972
Average water mass	279	294	305	328	345	351

Table S2 mean and standard error for all the treatments (C control, E earthworm, P plant, EP earth and plant), GWC: percentage of green waste compost in the mixtures (V/V), e_0 : void ratio at non-swelling micropores (oven-dry) state, v_L : moisture ratio at macropore saturation, v_M : moisture ratio at micropore saturation, v_N : the moisture ratio at the shrinkage limit, K_{bs} : slope of the basic phase, K_{re} : slope of the residual phase, K_N : parameter related to shrinkage curve shape between the residual and basic phases, K_L : parameter related to shrinkage curve shape between the structural and interpedal phases, and the void ratio at the end of the shrinkage period (e_0). The hydro-structural parameter K_{ip} representing the slope of the interpedal phase, the k_M parameter related to the shape of the soil shrinkage curves and K_{re} the slope of the residual phase were constant for all mixtures ($K_{ip} = 1$), ($k_M = -53$) and ($K_{re} = 0$).

Treatments	GWC	e_0	v_L	v_M	v_N	K_{bs}	K_{st}	K_N	K_L
C	0%	0.91±0.02	0.83±0.00	0.66±0.00	0.48±0.00	0.46±0.01	0.08±0.01	0.24±0.03	3.57±0.17
C	10%	0.91±0.05	0.94±0.04	0.71±0.03	0.51±0.02	0.46±0.01	0.02±0.01	0.31±0.03	1.26±0.19
C	20%	1.08±0.02	1.01±0.01	0.73±0.01	0.52±0.01	0.34±0.03	0.06±0.02	0.70±0.06	2.86±0.32
C	30%	1.14±0.05	1.06±0.02	0.77±0.02	0.52±0.01	0.61±0.01	0.15±0.06	0.21±0.01	0.43±0.02
C	40%	1.29±0.02	1.36±0.02	0.99±0.01	0.34±0.02	0.24±0.01	0.10±0.02	0.28±0.00	3.25±0.13
C	50%	1.29±0.05	1.32±0.03	1.04±0.02	0.28±0.01	0.25±0.02	0.02±0.01	0.25±0.03	2.00±0.00
E	0%	0.98±0.02	0.95±0.02	0.73±0.01	0.46±0.01	0.41±0.00	0.02±0.00	0.22±0.01	1.31±0.00
E	10%	1.10±0.02	0.97±0.01	0.74±0.01	0.48±0.01	0.40±0.00	0.07±0.01	0.24±0.01	2.75±0.13
E	20%	1.14±0.05	1.05±0.01	0.72±0.00	0.47±0.01	0.37±0.02	0.13±0.02	0.38±0.04	0.88±0.36
E	30%	1.29±0.02	1.14±0.02	0.79±0.01	0.47±0.01	0.35±0.00	0.17±0.00	0.20±0.00	1.42±0.05
E	40%	1.28±0.04	1.26±0.04	1.06±0.03	0.42±0.02	0.27±0.00	0.13±0.05	0.13±0.01	1.25±0.13
E	50%	1.30±0.03	1.35±0.03	1.16±0.02	0.38±0.01	0.26±0.01	0.08±0.04	0.20±0.01	1.62±0.24
P	0%	0.94±0.02	0.93±0.01	0.75±0.01	0.51±0.01	0.41±0.02	0.05±0.02	0.26±0.02	1.15±0.14
P	10%	1.00±0.05	1.00±0.03	0.76±0.01	0.51±0.01	0.42±0.03	0.11±0.02	0.22±0.00	1.25±0.13
P	20%	1.15±0.02	1.05±0.02	0.73±0.00	0.45±0.01	0.31±0.04	0.18±0.01	0.48±0.06	0.55±0.14
P	30%	1.24±0.05	1.23±0.01	0.84±0.01	0.46±0.01	0.32±0.01	0.16±0.01	0.20±0.00	1.11±0.16
P	40%	1.29±0.01	1.38±0.01	0.96±0.01	0.48±0.01	0.38±0.02	0.13±0.00	0.12±0.01	1.00±0.00
P	50%	1.60±0.06	1.48±0.02	1.02±0.01	0.31±0.01	0.26±0.01	0.14±0.01	0.20±0.00	2.00±0.20
EP	0%	1.16±0.03	0.96±0.00	0.69±0.00	0.42±0.02	0.41±0.02	0.13±0.03	0.26±0.01	1.05±0.11
EP	10%	1.41±0.11	0.97±0.01	0.76±0.01	0.40±0.02	0.39±0.04	0.00±0.00	0.56±0.14	1.18±0.32
EP	20%	1.13±0.03	1.07±0.02	0.81±0.00	0.47±0.01	0.33±0.01	0.12±0.01	0.71±0.06	1.00±0.00
EP	30%	1.14±0.04	1.16±0.01	0.84±0.01	0.44±0.01	0.25±0.01	0.10±0.02	0.70±0.00	1.30±0.21
EP	40%	1.59±0.08	1.38±0.03	0.93±0.01	0.44±0.03	0.43±0.03	0.11±0.01	0.24±0.03	0.88±0.02
EP	50%	1.91±0.04	1.70±0.05	0.98±0.03	0.30±0.01	0.36±0.04	0.15±0.02	0.31±0.05	1.10±0.05