Soil Science Annual

Effects of soil management practices on the abundance, biomass and diversity of soil macrofauna in the province of Berkane, North East region of Morocco

Table S1

The total number (ind.m^2) of individuals of soil macrofauna community collected in the sugar beet fields under the two agricultural systems (n=15 for each farming practice).

	Organic		Conventional	
	TSBF	**Barber**	**TSBF**	**Barber**
Insecta				
Calosoma sycophanta (Linnaeus, 1758)	0	8	0	0
Paranchus albipes (Fabricius, 1792)	4	4	0	0
Abacetus (Astigis) salzmanni (Germar, 1824)	0	4	4	0
Hippodamia variegata (Goeze, 1777)	4	8	0	4
Coccinella septempunctata Linnaeus, 1758	4	0	0	0
Sericotrupes niger (Marsham, 1802)	16	0	0	0
Silpha olivieri Bedel, 1887	12	0	4	0
Agriotes Eschscholtz, 1829	4	0	0	0
Cassida vittata Villiers, 1789	20	16	8	4
Pycnoscelus surinamensis (Linnaeus, 1758)	0	4	0	4
Polistes dominula (Christ, 1791)	0	8	0	4
Andrena Fabricius, 1775	0	12	0	0
Heteracris annulosa Walker, 1870	12	0	4	0
Aiolopus strepens (Latreille, 1804)	0	0	0	4
Gryllus bimaculatus De Geer, 1773	8	0	4	0
Lepisma saccharinum Linnaeus, 1758	24	4	12	12
Gastropoda				
Leonia mammillaris (Lamarck, 1822)	4	4	0	0
Otala lactea (O.F. Müller, 1774)	16	0	0	4
Eobania vermiculata (O.F. Müller, 1774)	8	0	4	0
Subulina octona (Bruguière, 1789)	48	0	16	8
Diplopoda				
Blaniulus guttulatus (Fabricius, 1798)	28	4	16	0
Paradoxosomatidae sp.	8	4	0	4
Oligochaeta				
Aporrectodea rosea (Savigny, 1826)	56	0	32	0
Lumbricus terrestris Linnaeus, 1758	60	0	28	0
Aporrectodea caliginosa (Savigny, 1826)	84	0	27	0
Isopoda				
Armadillo officinalis Duméril, 1816	152	4	52	4
Porcellio laevis Latreille, 1804	108	8	20	12

Table S2: Habitats variables (mean ± SE) under two soil agricultural systems (n=15 for each farming practice). The mean value of variables was calculated from the average of values from all site's simples (n=15 of each farming practice). The different number shown in bold are significantly different at $P < 0.05$. pH: potential of hydrogen. OM: organic matter. CEC: cation exchange capacity. CE: electrical conductivity. Sgwc: soil gravimetric water content. Lgwc: Litter gravimetric water content.

Habitats variables	**Farming system (mean ± standard error)**		
	Organic	**Conventional**	***p*-value**
pH	7.13 ± 0.02	6.18 ± 0.24	**0.001**
Potassium	0.84 ± 0.05	0.55 ± 0.06	**0.001**
Phosphorus	67.50 ± 5.14	64.01 ± 6.46	0.675
Sodium	0.61 ± 0.06	0.67 ± 0.05	0.484
OM	2.07 ± 0.33	1.53 ± 0.14	0.151
CE	0.48 ± 0.06	0.35 ± 0.04	0.092
CEC	22.44 ± 2.03	18.89 ± 1.26	0.148
Weed biomass	36.74 ± 1.05	17.02 ± 1.92	**0.000**
Litter mass	18.32 ± 1.34	12.72 ± 1.64	**0.014**
Lgwc	27.05 ± 2.69	16.43 ± 2.23	**0.005**
Sgwc	5.12 ± 0.536	6.20 ± 0.89	0.307

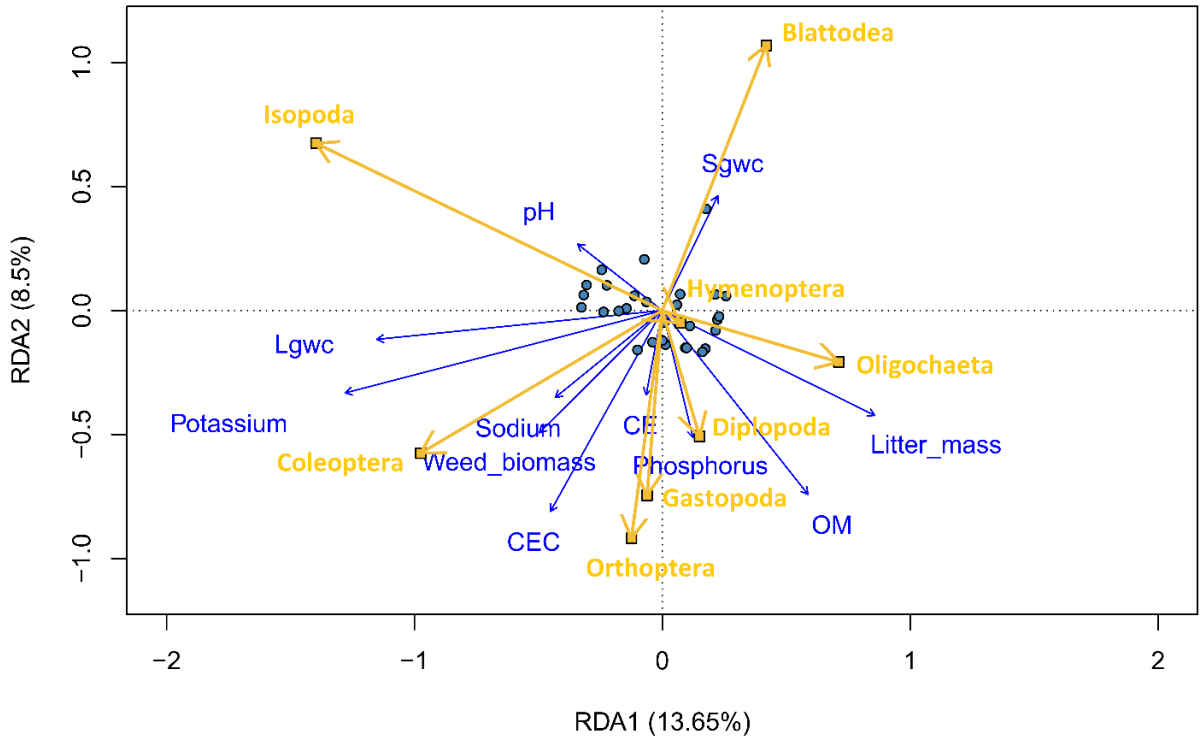

Fig. S1

Results of redundancy analysis (RDA) of soil macroinvertebrates in association with litter and soil properties across the sugar beet in two agricultural systems. The blue dots represent a soil sample. pH: potential of hydrogen. OM: organic matter. CEC: cation exchange capacity. CE: electrical conductivity. Sgwc: soil gravimetric water content. Lgwc: Litter gravimetric water content.