

Phosphorus-acquisition strategies of canola, wheat and barley in soil amended with sewage sludges

C. Nobile, D. Houben, E. Michel, S. Firmin, H. Lambers, E. Kandeler, M-P. Faucon

Table S1: Variables contributing to the two principal components (PC) of the principal components analysis. Contributions are printed in percentage and the sign is the sign of the coordinates.

	PC1	PC2
Shoot P concentration	-66	0
Shoot biomass	-8	-50
Shoot Mn concentration	64	6
SRL ^a	42	-21
Carboxylate exudates ^b	16	-46
AMF intensity ^c	64	2
pH ^d	-17	4
Acid phosphatase activity ^e	-40	-8
Alkaline phosphatase activity ^e	0	-6

^aSpecific root length

^bSum of citrate, fumarate, malate, maleate, malonate released by roots on the day of harvest

^cIntensity of root colonization by arbuscular mycorrhizal fungi

^dpH in the rhizosphere soil

^eActivity of the enzyme in the rhizosphere soil

Table S2: Metallic trace elements in sludges (Aqua regia extraction: EN 13650; Elements determination: EN ISO 11885). CS: composted sludge; HS: heated sludge; HCS: heated composted sludge.

Unit, dry mass		CS	HS	HCS
Cr		54.2	61.7	38.6
Cu		217	781.2	378
Ni		24.3	26.2	21.0
Zn	mg kg ⁻¹	483	1773.3	965
Cd		1.9	3.4	2.4
Pb		53.8	138	85.8
Hg		0.2	1.711	0.9

Figure S1: Amounts of carboxylate released by wheat, canola and barley grown for three months in a calcsol fertilized with mineral phosphorus (P) (Min), or with sewage sludge (CS: composted sludge, HCS: heated composted sludge, or HS: heated sludge). Error bars are standard errors ($n = 4$). NA is not available. Different letters indicate significant difference among crops at the 0.05 level; ns is not significant.

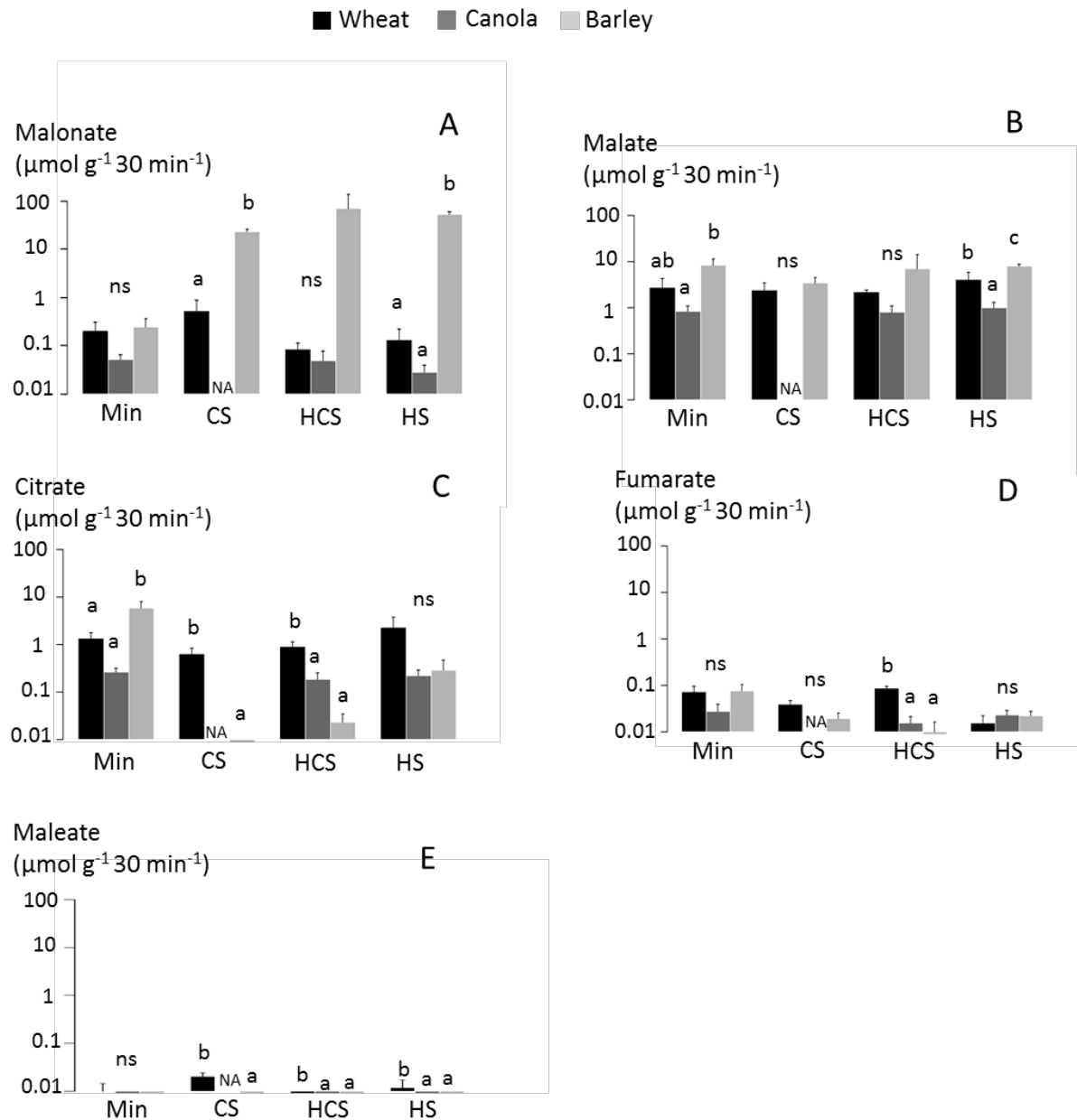


Figure S2: Traits involved in phosphorus (P) acquisition for wheat, canola and barley after three months of growth in greenhouse on a calcisol fertilized with mineral P (Min), or sewage sludge (CS: composted sludge, HCS: heated composted sludge, or HS: heated sludge). Error bars are standard errors ($n = 4$). Different small and big letters indicate significant difference at the 0.05 level among fertilization treatments and among crops, respectively; ns and NS is not significant.

