

Supplementary Materials

Table S1. Additional chemical information on growing media and fertilizers. Values were obtained from composite samples (i.e., with no replicate).

	Growing Media			Fertilizers		
	Peat	Coir	Composted Bark	F1	F2	Horn
Elemental composition ^a (g kg ⁻¹ DM)						
K	0.16	3.15	1.49	42.14	45.47	1.94
Al	0.51	1.68	1.61	0.52	1.41	0.47
Ca	2.4	8.33	13.17	36.81	35.25	57.9
Fe	0.47	1.40	3.48	0.69	1.11	0.35
Mg	1.91	2.79	0.63	3.65	12.25	0.99
Mn	0.01	0.02	0.05	0.03	0.09	0.01
Na	0.35	1.76	0.41	6.85	6.84	2.37
Zn	0.01	0.01	0.02	0.06	0.07	0.09
Biochemical fractions ^b (% DM)						
polysaccharide	46	53	58	39	47	7
protein	5	5	3	49	21	83
lignin	31	41	35	2	26	0
aliphatic	18	3	4	10	6	10
carbonyl	0	0	0	0	0	0
ashes	0	0	0	0	0	0
Exchangeable cations ^c (cmol + kg ⁻¹)						
Ca ²⁺	18.31	63.66	46.79			
K ⁺	0.18	28.43	2.47			
Mg ²⁺	11.05	39.37	4.83			
Na ⁺	1.26	14.87	0.68			
Saturation rate (%)	64.77	291.84	100.08			

^a determined by ICP-OES [1] after dissolution in hydrofluoric and perchloric acid solution [2];

^b determined by ¹³C NMR based on the model of Nelson and Baldock (2005) [3];

^c determined in ammonium acetate solution [4].

References

1. AFNOR Qualité de L'eau—Dosage D'éléments Choisis par Spectroscopie D'émission Optique avec Plasma Induit par Haute Fréquence (ICP-OES). NF EN ISO 11885. T90-136. 2009. Available online: <https://www.boutique.afnor.org/normes> (accessed on 10 March 2018).
2. AFNOR Qualité du Sol—Mise en Solution Pour la Détermination des Teneurs Élémentaires Totales—Partie 1: Mise en Solution par L'acide Fluorhydrique et L'acide Perchlorique. NF ISO 14869-1. X31-428-1. 2001. Available online: <https://www.boutique.afnor.org/normes> (accessed on 10 March 2018).
3. Nelson, P.N.; Baldock, J.A. Estimating the molecular composition of a diverse range of natural organic materials from solid-state ¹³C NMR and elemental analyses. *Biogeochemistry* 2005, 72, 1–34, doi:10.1007/s10533-004-0076-3.
4. AFNOR Qualité des Sols—Détermination des Cations Ca⁺⁺, Mg⁺⁺, K⁺, Na⁺ Extractibles par L'acétate D'ammonium—Méthode par Agitation. NF X31-108. 2002. Available online: <https://www.boutique.afnor.org/normes> (accessed on 10 March 2018).

Table S2. Chemical properties on growing media on volume basis. A property with no sd value was measured on a composite sample (i.e., with no replicate).

	Growing Media		
	Peat	Coir	Composted bark
Elemental composition (mg L ⁻¹ DM)			
C	36,243 ± 351	28,231 ± 809	83,030 ± 111
N	695 ± 7	361 ± 6	1064 ± 55
P	13	19	137
S	177	59	144
K	11	196	276
Al	36	105	298
Ca	169	519	2430
Fe	33	87	643
Mg	134	174	117
Mn	0.7	1.4	9.3
Na	24	110	76
Zn	0.4	0.8	3.8
CEC (cmol ⁺ L ⁻¹ DM)	3.34	3.41	9.25
Exchangeable cations (cmol + L ⁻¹ DM)			
Ca ²⁺	1.29	3.96	8.64
K ⁺	0.01	1.77	0.46
Mg ²⁺	0.78	2.45	0.89
Na ⁺	0.09	0.93	0.13

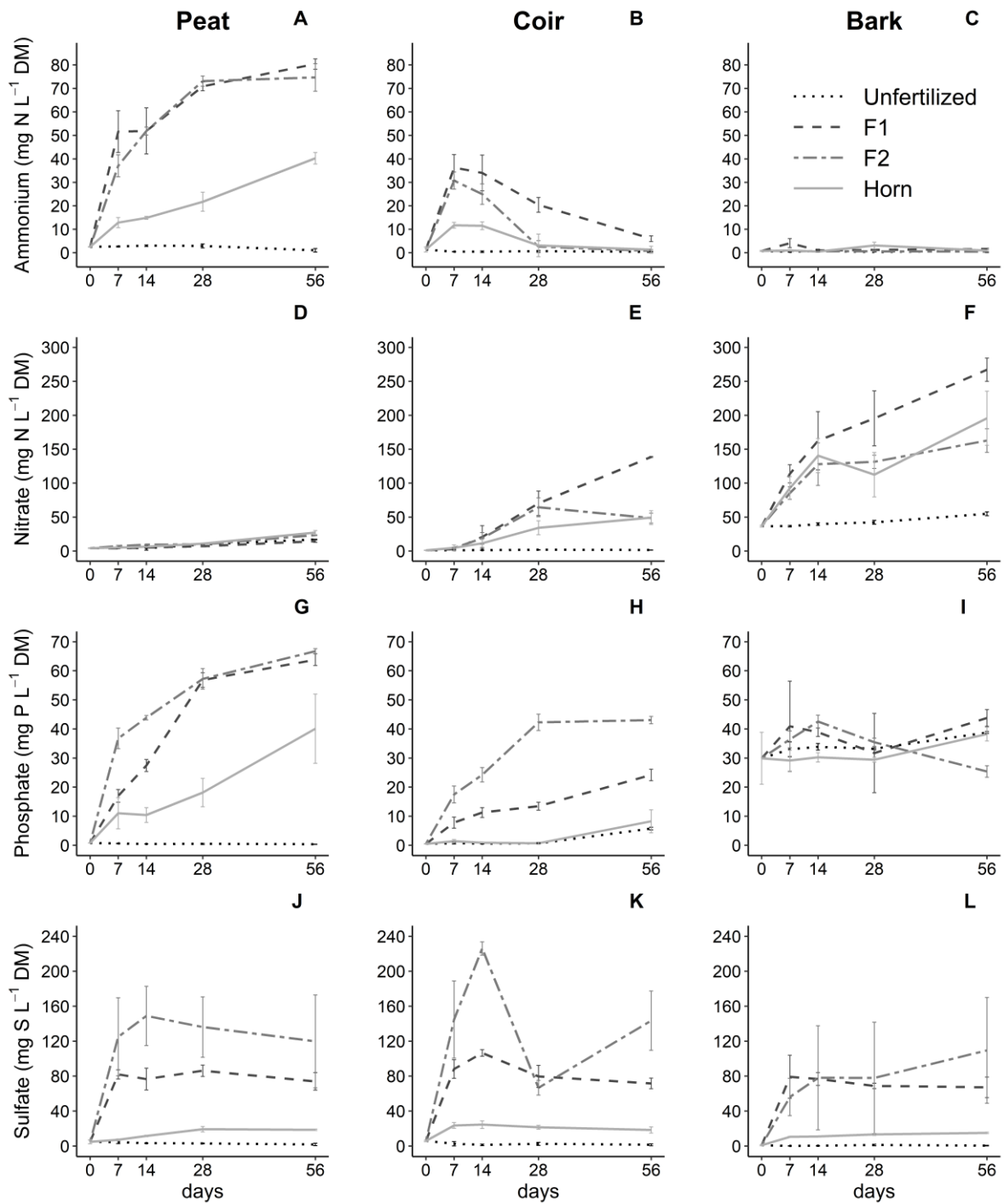


Figure S1. Effect of growing media and fertilizer types on ammonium (A–C), nitrate (D–F), phosphate (G–I) and sulfate (J–L) availabilities over time as expressed on a volume basis (mg N, P, or S per L DM). Values are means and error bars are standard deviations ($n = 3$). Columns refer to GM types (peat, coir, and bark, respectively), and rows refer to nutrient content (ammonium, nitrate, phosphate, and sulfate content). Each graph depicts differences between fertilizer types: unfertilized (control without fertilizer depicted by dotted lines); F1, F2: plant-based fertilizers (dashed and dotted-dashed lines, respectively) and horn (gray lines).

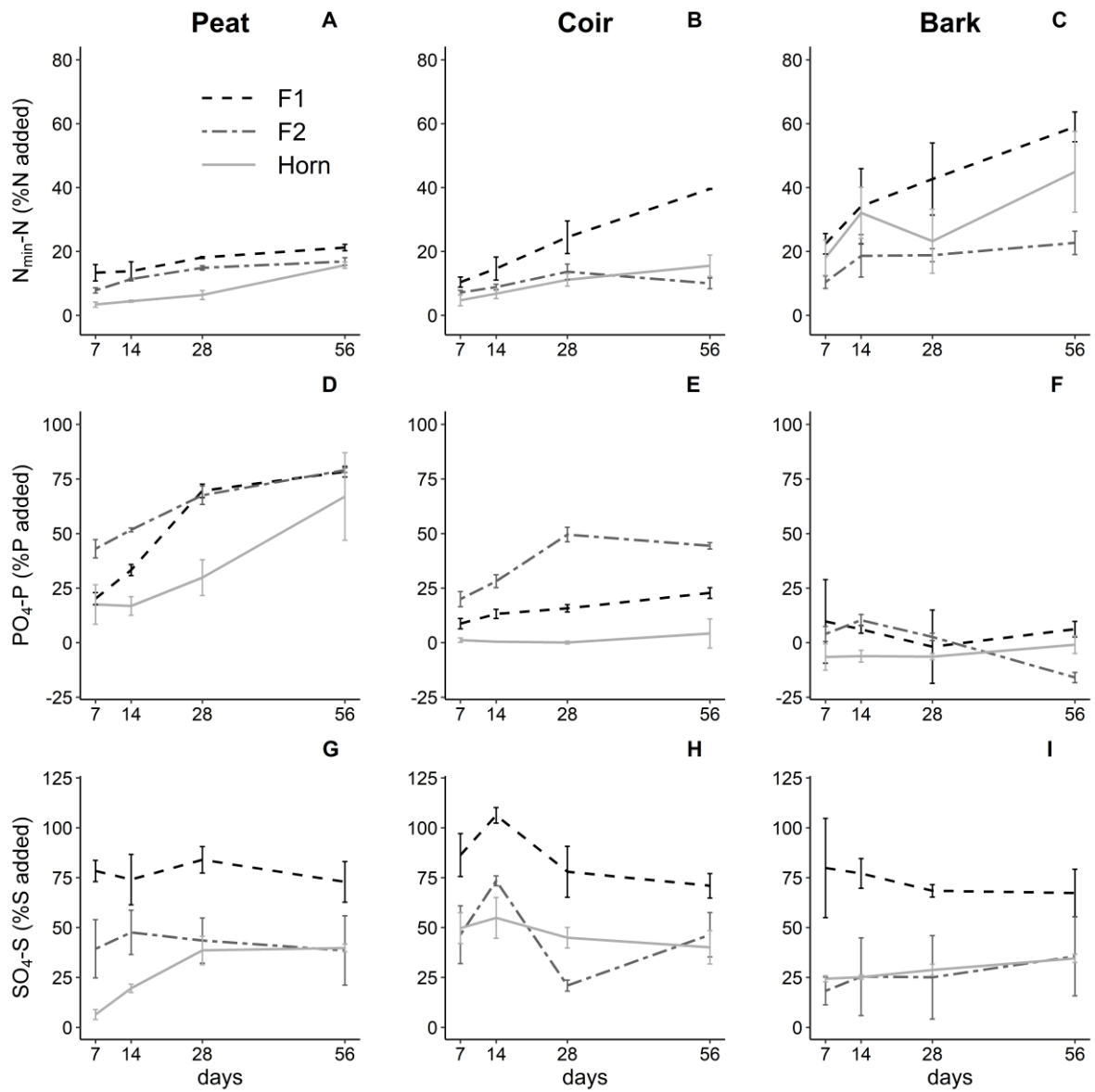


Figure S2. Effect of growing media and fertilizer types over time on nitrogen (A–C), phosphorus (D–F), and sulfur (G–I) availabilities as expressed as a percentage of respective supply (% N, P, S added). Values are means and error bars standard deviations ($n = 3$). Columns refer to GM types (peat, coir, and bark, respectively), and rows refer to nutrient content (mineral nitrogen, as the sum of nitrate and ammonium, phosphate, and sulfate content). Each graph depicts differences between fertilizer types: Unfertilized (control without fertilizer depicted by dotted lines); F1, F2: plant-based fertilizers (dashed and dotted-dashed lines, respectively) and horn (gray lines).

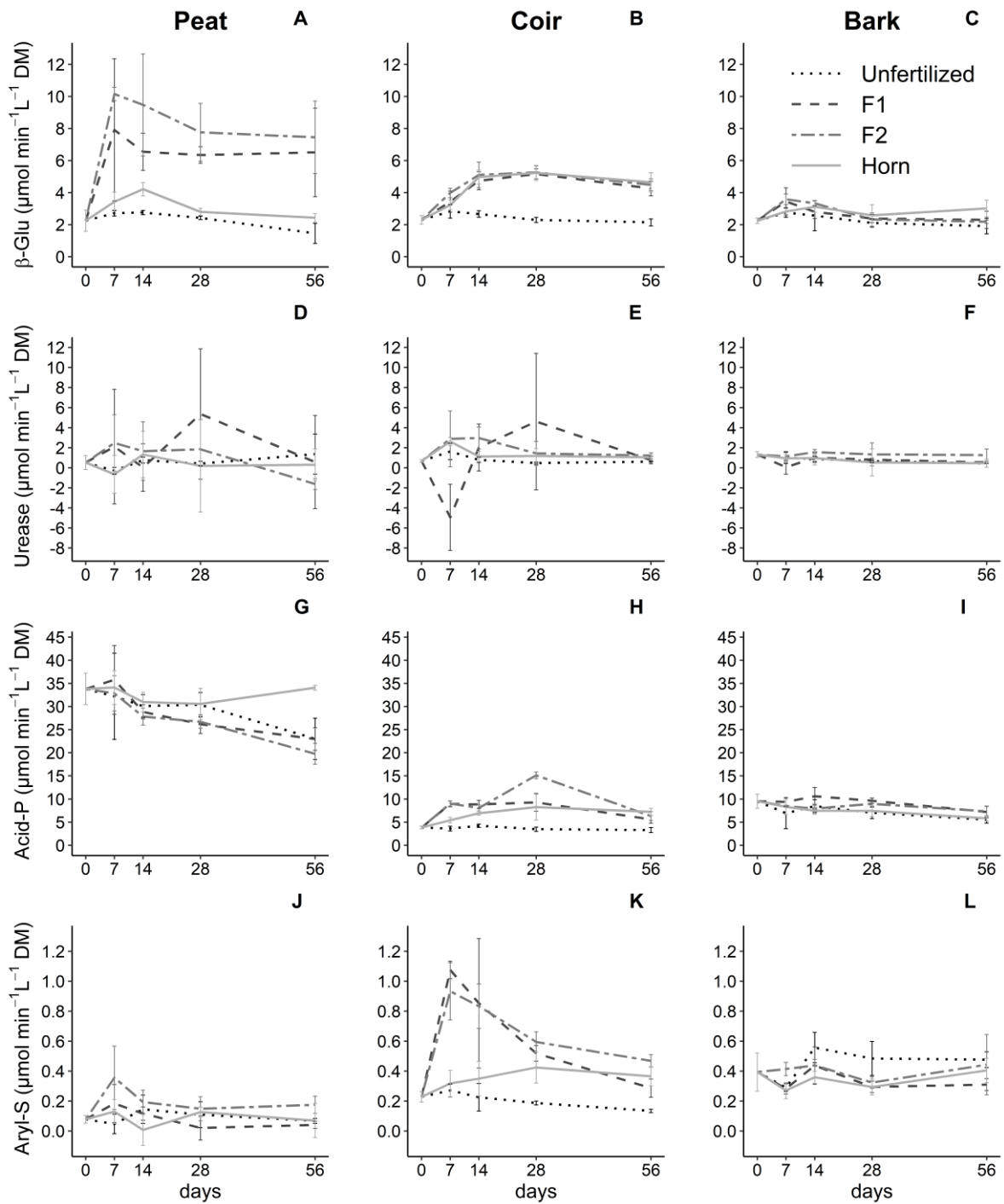


Figure S3. Effect of growing media and fertilizer types on enzyme 1.4- β -glucosidase (β -Glu, A-C), urease (D-F), acid phosphatase (Acid-P, G-I), and arylsulfatase (Aryl-S, J-L) activities, over time, as expressed on volume basis ($\mu\text{mol min}^{-1} \text{L}^{-1} \text{DM}$). Values are means and error bars standard deviations ($n = 3$). Columns refer to GM types (peat, coir, and bark, respectively) and rows refer to each enzyme. Each picture depicts differences in fertilizer type: Unfertilized (control without fertilizer depicted by dotted lines); F1, F2: plant-based fertilizers (dashed and dotted-dashed lines, respectively) and horn (gray lines).