

Supplementary tables

Tracing the sources and spatial distribution of organic carbon in subsoils using a multi-biomarker approach.

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Supplementary table S1. Solvent-extractable lipid concentrations (mean $\pm$ SE) of *n*-alkanes and *n*-fatty acids released from the beech leaf (n=3) and root (n=3) material from the study area.

Solvent-extractable lipids				
	Leaves		Roots	
	[μg g ⁻¹ OC]		[μg g ⁻¹ OC]	
<i>n</i> -alkanes				
Eicosan (<i>n</i> -C ₂₀)	n.d.		0.2 ±	0.1
Heneicosan (<i>n</i> -C ₂₁)	0.6 ±	0.0	0.4 ±	0.1
Docosan (<i>n</i> -C ₂₂)	0.5 ±	0.0	0.5 ±	0.1
Tricosan (<i>n</i> -C ₂₃)	2.2 ±	0.0	0.7 ±	0.2
Tetracosan (<i>n</i> -C ₂₄)	2.6 ±	0.3	1.0 ±	0.2
Pentacosan (<i>n</i> -C ₂₅)	15.2 ±	0.2	2.0 ±	0.5
Hexacosan (<i>n</i> -C ₂₆)	5.6 ±	0.4	2.2 ±	0.6
Heptacosan (<i>n</i> -C ₂₇)	302.3 ±	6.2	8.4 ±	3.6
Octacosan (<i>n</i> -C ₂₈)	2.2 ±	0.1	2.0 ±	0.5
Nonacosan (<i>n</i> -C ₂₉)	13.6 ±	0.6	2.5 ±	0.7
Triacontan (<i>n</i> -C ₃₀)	0.2 ±	0.0	1.1 ±	0.4
Hentriacontan (<i>n</i> -C ₃₁)	1.2 ±	0.1	1.8 ±	0.6
Dotriacontan (<i>n</i> -C ₃₂)	0.1 ±	0.0	0.4 ±	0.1
Tritriacontan (<i>n</i> -C ₃₃)	0.1 ±	0.0	0.5 ±	0.2
Sum <i>n</i> -alkanes	346.4 ±	8.0	23.8 ±	8.0
CPI _{alk}	30.3 ±	1.6	2.2 ±	0.5
<i>n</i> -fatty acids				
Nonanoic acid (<i>n</i> -C _{9:0})	3.5 ±	1.9	n.d.	
Decanoic acid (<i>n</i> -C _{10:0})	2.0 ±	0.7	n.d.	
Undecanoic acid (<i>n</i> -C _{11:0})	0.9 ±	0.3	n.d.	
Dodecanoic acid (<i>n</i> -C _{12:0})	8.8 ±	1.6	1.1 ±	0.7
Tridecanoic acid (<i>n</i> -C _{13:0})	1.6 ±	0.1	0.2 ±	0.1
Tetradecanoic acid (<i>n</i> -C _{14:0})	44.1 ±	3.3	7.5 ±	2.0
Pentadecanoic acid (<i>n</i> -C _{15:0})	21.5 ±	1.0	6.2 ±	1.9
Hexadecenoic acid (<i>n</i> -C _{16:1})	91.0 ±	8.5	10.5 ±	3.1
Hexadecanoic acid (<i>n</i> -C _{16:0})	458.1 ±	33.3	171.3 ±	41.5
Heptadecanoic acid (<i>n</i> -C _{17:0})	18.7 ±	1.5	11.0 ±	2.4
Octatridecenoic acid (<i>n</i> -C _{18:3})	560.3 ±	19.5	93.8 ±	26.9
Octadodecenoic acid (<i>n</i> -C _{18:2})	304.1 ±	20.9	70.3 ±	18.8
Octadecenoic acid (<i>n</i> -C _{18:1})	46.2 ±	4.4	10.7 ±	2.6
Octadecanoic acid (<i>n</i> -C _{18:0})	172.6 ±	11.2	57.3 ±	18.1
Nonadecanoic acid (<i>n</i> -C _{19:0})	11.6 ±	1.0	3.1 ±	0.7
Ecosanoic acid (<i>n</i> -C _{20:0})	258.4 ±	22.2	13.8 ±	6.0
Heneicosanoic acid (<i>n</i> -C _{21:0})	84.4 ±	6.3	9.1 ±	2.4
Docosenoic acid (<i>n</i> -C _{22:1})	69.7 ±	17.3	3.1 ±	0.2
Docosanoic acid (<i>n</i> -C _{22:0})	831.0 ±	68.8	36.4 ±	15.2
Tricosanoic acid (<i>n</i> -C _{23:0})	123.8 ±	7.5	12.0 ±	3.8
Tetracosanoic acid (<i>n</i> -C _{24:0})	404.4 ±	28.9	16.9 ±	7.1
Pentacosanoic acid (<i>n</i> -C _{25:0})	85.7 ±	5.3	4.5 ±	1.7
Hexacosanoic acid (<i>n</i> -C _{26:0})	338.1 ±	24.3	5.9 ±	3.2
Heptacosanoic acid (<i>n</i> -C _{27:0})	131.2 ±	6.5	2.5 ±	1.3
Octacosanoic acid (<i>n</i> -C _{28:0})	1240.0 ±	65.9	15.1 ±	10.4
Nonacosanoic acid (<i>n</i> -C _{29:0})	33.0 ±	1.4	2.3 ±	1.0
Tricontanoic acid (<i>n</i> -C _{30:0})	59.1 ±	3.8	1.7 ±	0.4
Hentriacontanoic acid (<i>n</i> -C _{31:0})	1.7 ±	0.2	0.5 ±	0.0
Dotriacontanoic acid (<i>n</i> -C _{32:0})	5.1 ±	1.1	2.1 ±	0.7
Sum <i>n</i> -fatty acids	5410.8 ±	368.8	568.6 ±	172.4
CPI _{FA}	7.4 ±	0.1	6.2 ±	0.4

Supplementary table S2. Hydrolysable lipid concentrations (mean $\pm$ SE) of alkanolic acids released from the beech leaf (n=3) and root (n=3) material from the study area. Specific cutin monomers are marked with a dashed frame, specific suberin monomers are bold-framed, and non-specific monomers (part of cutin and suberin) are gray-shaded.

Hydrolysable lipids					
		Leaves		Roots	
		[µg g ⁻¹ OC]		[µg g ⁻¹ OC]	
n-alkanoic acids					
	Tetradecanoic acid (<i>n</i> -C _{14:0})	20.3 ±	4.6	n.d.	
	Hexadecanoic acid (<i>n</i> -C _{16:0})	121.9 ±	27.8	104.8 ±	35.1
	Octadecenoic acid (<i>n</i> -C _{18:1})	3.9 ±	0.8	5.6 ±	2.0
	Octadecenoic acid (<i>n</i> -C _{18:2})	4.5 ±	2.0	463.0 ±	295.4
	Octadecanoic acid (<i>n</i> -C _{18:0})	26.5 ±	3.4	24.8 ±	7.5
	Eicosanoic acid (<i>n</i> -C _{20:0})	12.0 ±	2.4	n.d.	
	Docosanoic acid (<i>n</i> -C _{22:0})	39.7 ±	10.3	n.d.	
	Tetracosanoic acid (<i>n</i> -C _{24:0})	31.0 ±	6.0	n.d.	
	<i>Sum n-Carboxylic acids</i>	259.9 ±	57.3	598.1 ±	340.0
ω-hydroxy alkanolic acids					
	ω-Hydroxyhexadecanoic (ω-C _{16:0})	310.5 ±	66.5	1607.1 ±	944.2
	ω-Hydroxyoctadecenoic acid (ω-C _{18:1})	n.d.		141.3 ±	92.2
	ω-Hydroxyeicosanoic acid (ω-C _{20:0})	n.d.		1389.9 ±	777.6
	ω-Hydroxydocosanoic acid (ω-C _{22:0})	n.d.		2727.0 ±	1513.3
	ω-Hydroxytetracosanoic acid (ω-C _{24:0})	n.d.		77.0 ±	35.5
	<i>Sum ω-hydroxy alkanolic acids</i>	310.5 ±	66.5	5942.2 ±	3362.8
α,ω-alkanedioic acids					
	α,ω-Heptadioic acid (C ₇ DA)	n.d.		14.7 ±	3.5
	α,ω-Octadioic acid (C ₈ DA)	42.8 ±	6.9	44.2 ±	12.3
	α,ω-Nonadioic acid (C ₉ DA)	106.6 ±	17.7	65.2 ±	17.3
	α,ω-Decanedioic acid (C ₁₀ DA)	17.1 ±	1.7	n.d.	
	α,ω-Undecanedioic acid (C ₁₁ DA)	10.1 ±	0.7	7.8 ±	1.7
	α,ω-Dodecanedioic acid (C ₁₂ DA)	94.6 ±	24.4	591.8 ±	369.1
	α,ω-Hexadecanedioic acid (C ₁₆ DA)	61.5 ±	20.2	559.0 ±	290.9
	α,ω-Octadecanedioic acid (C ₁₈ DA)	n.d.		91.4 ±	53.5
	<i>Sum α,ω-alkanedioic acids</i>	332.7 ±	71.6	1374.1 ±	748.4
mid-chain substituted hydroxy and epoxy alkanolic acids					
	x,ω-Dihydroxyhexadecanoic acid (x,ω-OHC ₁₆)	95.9 ±	41.8	n.d.	
	9,10,18-Trihydroxyoctadecanoic acid (9,10,18-OHC ₁₈)	26.5 ±	9.8	28.8 ±	3.8
	<i>Sum mid-chain substituted hydroxy alkanolic acids</i>	122.3 ±	51.6	28.8 ±	3.8
	<i>Sum of extracted aliphatic acids</i>	1025.5 ±	180.5	7943.2 ±	4455.0