

Table S1. Coefficient of the equation to estimate aboveground biomass per tree (DW) in g from diameter at 10 cm of height (D₁₀) in the first and second year of growth.

Genotype	1° year		2° year	
	a	b	a	b
P1	0.093	2.358	0.114	2.500
P2	0.009	3.112	0.114	2.345
P3	0.023	2.913	0.114	2.447
R1	0.048	2.652	0.114	2.422
R2	0.494	1.642	0.114	2.486
R3	0.046	2.652	0.114	2.468
S1	0.048	2.618	0.114	2.538
S2	0.038	2.767	0.114	2.521
S3	0.013	3.184	0.114	2.511

Table S2. Survival percentage (Sur), number of sprouts per stump (ns/s) and stem dry biomass yield at the end of first year in Mg per hectare, per genotypes and turnover coppicing.

GENOTYPE	Sur ⁽¹⁾	ns/c		Biom	
P1	100	2,2	CD	0,34	BCD
P2	95	1,3	F	0,21	CD
P3	96	2,3	CD	0,20	D
S1	99	3,4	A	0,26	BCD
S2	100	3,0	B	0,17	D
S3	96	2,7	BC	0,31	BCD
R1	98	1,8	DEF	0,75	A
R2	96	2,0	DE	0,43	BC
R3	94	1,7	EF	0,45	B
Overall mean	97,1	2,26		0,346	
F value	1,13 n.s.	27,8**		10,4**	

⁽¹⁾ data transformed in arcsen $\sqrt{\%}$ to perform ANOVA

n.s. not significant, ** highly significant $p \leq 0,001$

The differences among the values marked by different uppercase letters are significant per $p = 0,01$ (Duncan test).

Table S3. Survival percentage (Sur), number of sprouts per stump (ns/s) and stem dry biomass yield at the end of second year (B1+2) in Mg per hectare, per genotypes and turnover coppicing.

Coppicing	Genus	Genotype	Sur	ns/s	B (1+2)
T1	poplar	P1	100	3,253	3,690
		P2	94	2,240	2,657
		P3	94	2,542	1,428
	willow	S1	100	3,667	1,620

T2	black locust	S2	97	3,281	0,854		
		S3	92	2,576	1,488		
		R1	92	1,519	3,434		
		R2	92	1,705	2,704		
		R3	92	1,569	4,047		
	poplar	P1	100	1,775	2,587		
		P2	98	1,189	1,643		
		P3	95	1,511	1,606		
	willow	S1	100	2,850	2,641		
		S2	100	2,425	1,440		
		S3	100	1,950	2,671		
	black locust	R1	93	1,542	4,922		
		R2	90	1,408	3,290		
		R3	90	1,316	4,153		
Average:							
Coppicing	T1	95	2,483	a	2,436	b	
	T2	96	1,774	b	2,773	a	
Genus	poplar	97	2,085	AB	2,269		
	willow	98	2,791	A	1,786		
	black locust	91	1,510	B	3,758		
Genotype	P1	100	2,514	bc	3,139		
	P2	96	1,714		2,150		
				de			
	P3	95	2,026	cde	1,517		
	S1	100	3,258	a	2,130		
	S2	99	2,853	ab	1,147		
	S3	96	2,263	bcd	2,079		
	R1	92	1,530		4,178		
				e			
	R2	91	1,557		2,997		
				e			
	R3	91	1,443		4,100		
				e			
Overall	mean	95	2,129		2,604		
F value:	Coppicing (Cop)	0,4	n.s	13,3	*	15,1	*
	Genus (Gen)	1,9	n.s	20,8	**	2,0	n.s.
	Gen x Cop	0,3	n.s	3,7	n.s.	1,4	n.s.
	Genotype (Gt)	1,5	n.s	2,7	*	2,9	*
	Gt x Cop	0,5	n.s	0,3	n.s.	0,6	n.s.

(1) data trasformed in arcsen $\sqrt{\%}$ to perform ANOVA

n.s. noT significant, * significant $p \leq 0.05$; ** higly significant $p \leq 0,01$

The differences among the values marked by different uppercase letters are significant per $p = 0,01$ (Duncan test).

Table S4. Mean total trace element concentrations in leaves, stem, and roots of the nine cultivars for both harvesting seasons.

Element	Clone	Leaves			Stem			Roots		
		Annual		Biennial	Annual		Biennial	Annual		Biennial
		1 year	2 year	2 year	1 year	2 year	2 year	1 year	2 year	2 year
mg/kg										
Cu	P1	9.75	10.8	13.4	6.5	8.9	10.85	7	22.6	12.05
	P2	8.07	8.65	10.5	6.68	7.3	8.7	6.07	7.9	7.65
	P3	9.85	9.9	11.9	6.73	8.35	8.4	6.8	16.25	13.15
	S1	12.83	10.6	11.15	8.05	7.65	10.4	6.15	11	11.95
	S2	10.28	17.55	15.5	8.95	8.6	9.45	6.47	11.5	9.65
	S3	10.02	10.3	13.05	7.25	8.45	10.8	5.05	24.85	20.7
	R1	8.18	5.95	5.65	6.93	7.3	8.95	7.98	12.05	18.7
	R2	8.55	7.25	5	10.25	7.9	7.45	9.37	13.15	12.9
	R3	7.65	6.15	7	5.6	9	7.7	9.42	10.65	11.95
Ni	P1	<2.3	7.1	6.25	<2.3	<2.3	<2.3	<2.3	5.35	8.95
	P2	<2.3	6.25	5.25	<2.3	<2.3	<2.3	<2.3	9.1	10.1
	P3	4.03	3.85	4.4	<2.3	<2.3	<2.3	<2.3	13.1	7.6
	S1	5.55	6.25	6.4	<2.3	<2.3	<2.3	<2.3	11.15	11.6
	S2	8.57	8.8	8.4	<2.3	<2.3	<2.3	<2.3	8.65	8.15
	S3	6.43	7.4	9	<2.3	<2.3	3.9	<2.3	16.25	12.55
	R1	3.37	2.65	<2.3	<2.3	<2.3	3.1	5.7	13.4	12.7
	R2	3.4	3	2.65	<2.3	<2.3	<2.3	4.67	16.9	18.3
	R3	3.43	3.4	3.1	<2.3	<2.3	<2.3	6.3	9.85	9.35
Pb	P1	5.05	5.6	5	<4.0	7.7	8.75	4.53	10.35	13.75
	P2	4.77	4.75	<4.0	<4.0	7.75	7.75	<4.0	12.2	14.35
	P3	5.4	7.15	25.1	<4.0	8.25	8.5	4.3	19.6	12.85
	S1	6.58	9.65	9	<4.0	8.4	7.85	<4.0	13.35	14.4
	S2	6.05	6.2	8.4	<4.0	8.1	7.35	4	10.05	9.75
	S3	6.23	5.25	5.55	<4.0	5.95	<4.0	6.77	20.65	15.6
	R1	4.82	<4.0	<4.0	<4.0	11.2	7.05	5.18	16.95	16.75
	R2	4.65	<4.0	<4.0	<4.0	6.2	5.75	5.03	22.9	19.6
	R3	4.78	<4.0	<4.0	<4.0	6.25	7.1	6.2	12.95	14.9
Zn	P1	295	1062	89	76.9	164	168	55.8	89.35	127
	P2	165	682	490	74.7	165	157	43.3	71	65
	P3	404	958	1003	128	238	259	84	153	157
	S1	386	638	610	169	189	270	83.7	161	112
	S2	508	1008	897	204	305	380.6	76	128	168
	S3	265	515	413	143	250	302	77	126	141
	R1	84	42.5	39.9	23.4	27.8	31.5	24.5	36	30.6
	R2	83.2	39.9	38.1	34.9	34	35	27.2	39	44
	R3	75.2	43.6	40.5	24.7	32	31	29.8	31.3	32

Table S5. Average Zn and Cu phytoextracted (calculated as g ha⁻¹) and distribution among aboveground and belowground tissues.

		Zn			Cu		
	g ha ⁻¹	<i>Poplar</i>	<i>Salix</i>	<i>Robinia</i>	<i>Poplar</i>	<i>Salix</i>	<i>Robinia</i>
1° year	Average	69	99	39	4	4	8
Annual	Std Dev	27	10	11	1	1	2
	% in leaves	57	51	49	35	37	26
	% in stem	34	41	37	46	48	52
	% in roots	9	8	13	19	15	22
2° year	Average	802	437	178	42	20	43
Annual	Std Dev	257	67	41	26	6	11
	% in leaves	38	29	30	20	24	19
	% in stem	52	58	50	48	45	53
	% in roots	11	13	20	32	31	28
2° year	Average	553	877	257	28	37	66
Biennial	Std Dev	183	146	37	12	15	21
	% in leaves	21	12	28	13	12	17
	% in stem	68	78	52	66	63	51
	% in roots	11	10	20	22	24	32

Table S6. Ground water analysis, piezometers PV1 and PV2

		CSC							
	D.Lgs.	u.m.	PV1	PV2	PV1	PV2	PV1	PV2	
		152/06							
			1°		2°		3°		
pH			7.1	7.1	6.9	6.6			
As	<10	µg/l	n.d	n.d	0.3	1.1	0.4	n.d	
Cd	<5	µg/l	n.d.	n.d	n.d.	0.2	n.d.	0.1	
Cr VI	<5	µg/l	18.7	n.d	19.5	0.6	22.8	n.d	
Cr tot	<50	µg/l	19.7	n.d	20.2	0.7	27.1	0.3	
Ni	<20	µg/l	1.6	50.7	1.3	74.9	1.0	49.3	
Pb	<10	µg/l	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	
Cu	<1000	µg/l	n.d	n.d	0.3	0.1	n.d	0.3	
Zn	<3000	µg/l	n.d	71	3.1	2.2	0.3	0.8	
Total hydrocarbons	<350	µg/l	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	

Figure S1. Photo of the area before the remediation process and at the end of the first vegetative season.

