Table S1. Isotopic and elemental data (median, minimum and maximum values, 25th and 75th percentiles) for tobacco samples from different areas.

Param e ter	italy - Umbria N=20						tta Iv	- Veneto N	= 10				Spain N=4				c	Greece N=7					Bulgaria N=4		
	Median	Manimum	Mila xim um	25 th	75 th	Median	Manimum	Mi a xim um	25 th	75 ^{ch}	Median	Man im um	Mila xim um	25 ^{ch}	75 th	Median	Minimum	Mila xim um	25 th	7.5 ^{ch}	Median	Minimum	Mi a xim um	25 th	75 th
đ²H% με.V-SMOW	-89	-102	-78	-94	-83	-108	-116	-98	-112	-103	-93	-97	-88	-97	-89	-104	-115	-53	-112	-96	-106	-119	-105	-113	-10
0 °C %+ us N-P 08	-26.5 2.0			-27 D		-28.3 1.3		-25.8 ↓.5	-28.6 0.8	-27.2 3.5	-26.6			-27.2 3.1	-25.7 5.5	-27.2 3.5		-26.0 6.6	-27.9 1.9	-26.7 4.9	-26.7 3.8	-27.2 2.9	-26.3 6.9	-27.1 3.1	-26. 5.
AIR 24 +24 M ² 15 Volum 2-V.24 +24 O ²⁴ 15	27.3			26.8		24.3		27.1	23.2	25.3	30.2			28.3	32.6	27.3		32.8	26.2	29.1	24.7	22.4	25.8	23.1	25.
o S ¼ us.V-C o⊤	1.1					6.4		8.6	19	7.3	6.0			4.7	7.8	5.1		6.6	19	6.5	4.6			3.7	5.
Li m q/kq				8.1	18.2	2.4		11.8	1.2	5.4	7.6			5.6	11.0	15.8		20.0	7.1	19.6	20.7	8.3	98.4	11.9	62.
Be tq/kq						6.4		19.5	4.0	9.0	24.3			21.1	27.1	8.1		37.2	5.4	10.1	11.8		18.8	5.8	18.
8 mq/kq Na ma/ka						34.1 85		48.0 129	28.3 68	46.0 114	61.6 308			56.9 205	66.↓ ↓18	35.2		50.2 465	23.2	37.7 114	56.8 80	32.6 50	66.9 160	40.6 63	66 I
Ma a/ka						3.4		5.1	2.6	4.0	4.4			3.1	5.7	4.6		7.1	4.1	7.1	5.8			4.5	6.
Alma/ka					198	217		587	141	312	381			305	394	321		1482	210	382	387	226		254	19
Panka Kanka				1.7 15.2		1.7		2.1 28.0	1.3	2.0 24.0	26.4			2.2	3.0 31.4	14.6		2.1 16.9	1.3	2.0 16.5	1.5		1.6 16.5	7.1	13. 13.
Cag/kg					31.3	31.9		44.2	25.0	38.3	22.6			16.1	25.5	24.5		31.6	15.9	27.9	32.9			27.4	46.
V mg/kg	0.18	0.10	1.22	0.14	0.37	0.36	0.17	1.14	0.25	0.66	0.38	0.21	0.43	0.29	0.41	0.70	0.27	4.82	84.0	0.97	0.94	0.53	1.17	88.0	1.1
Crmg/kg Mima/ka			2.00 88.3		13.6	0.97 23.1		3.17 73.2	0.77 16.8	1.74 33.2	90.4			0.45 65.3	0.89 1↓9.6	2.88		8.45 65.1	1.85 2↓D	8.00 54.1	1.42 71.5		1.95 73.7	1.31 62.7	1.7
Fe m g/kg				79	163	165		529	124	263	217			172	223	299		1150	206	381	319		430	246	39
Camq/kq				0.11		0.13		0.25	0.10	0.25	0.14			0.13	0.16	0.3		0.85	0.31	0.46	0.30			0.26	0.3
Nimq/kq				0.62 6.4		0.56 3.8		1.33	0.43	1.11 8.1	0.41			0.32 2.1	1.6	5.09		7.42	3.65 4.8	6.53 10.2	2.29	0.91 10.4	4.29 16.0	0.92 11.4	3.9
Cimq∧kq Zimq∧kq						5.3		16.3	3.2 3.8	10.0	3.1 16.5			11.2	20.1	16.2		21.5	10.6	19.0	16.1	13.9	23.6	14.6	20.
Ga (q/kq				22.1	55.9	58.4		199.5	38.0	86.1	117.9			96.9	129.1	891		¥55.9	55.2	119.1	107.3		147.1	79.1	139.
Ge ∎q/kq						5.2		15.1	3.8	8.5	8.0			6.5	8.2	8.6		31.7	5.9	9.3	10.3		12.0	8.1	113
As Iq/kq Se Ia/ka						146.5		327.2 46.4	112.4 17.4	262.0 32.6	334.6 13.7			215.2 10.5	473.8 14.6	56.3 32.5		183.6 166.3	49.5 15.3	108.3 45.5	106.4 72.1	82.2 21.6	144.3 157.8	85.3 46.5	134.7 115.7
Rb ma/ka						1.5		4.5	1.0	2.6	7.2			5.4	8.2	11.8		21.7	8.9	15.5	7.9		21.6	6.5	14.5
Srma/ka	80.7					51.8		110.9	37.2	80.2	77.3			75.6	88.6	56.8		138.3	50.3	60.5	15↓□	97.2		116.5	2013
Y ta/ka				43 0.32		140		583 2.38	83 1.05	292 1.79	254 0.87			222 0.52	1.04	0.44		1021	159 0.27	370 0.77	266 0.51	142 0.09		153 0.23	37 0.7
Mama/ka Pd ta/ka			12.8			10.7		2.30	8.1	16.6	6.0			4.9	7.3	13.1		1.63 18.7	92	14.6	159		0.79 26.0	9.1	23.
Ag tg/kg				6.3		10.0		19.2	1.1	16.6	14.9			9.0	19.4	12.1		16.6	8.8	15.8	32.3		40.7	22.5	39.
Cdmg/kg					0.47	0.52		1.52	0.39	0.87	0.25			0.22	0.34	0.60		0.94	0.46	0.70	0.76		1.24	0.40	1.1
litq/kq Sitq/kq			1.18 146.3		0.62 66.↓	100.8		1.78 193.6	0.50 78.2	1.02 133.0	0.98 86.7			0.67 68.7	1.24	0.63 85.7		2.79 271.2	0.48 35.9	1.70	0.96 85.1	0.69 53.0	2.62 162.5	0.81 66.5	1.8 126.
Sb (q/kq				323	564	27.2		511	242	310	238			224	272	362		¥63	246	401	686		996	336	95
Te ∎q/kq			1.73			0.87		1.52	0.67	1.20	0.91	0.43		0.64	1.06	0.83		1.74	0.63	1.13	1.93		3.04	1.54	2.6
Cs tq/kq Bamq/kq				16 D 2↓8		33.4 28.5		129.2 96.3	23.1 21.6	67.0 42.2	18.4 18.4			70.1 16.8	97.4 27.6	37 £		326.0 29.6	32.6 15.3	151.5 28.0	48.9		79.0 53.1	59.3 38.8	742 520
La (q/kq						225		954	132	483	628			570	747	297		1391	192	460	474		696	252	69
Ce ∎q/kq	177	88	911		352	417	227	181↓	241	971	1181	1024	1663	1088	1437	536		2653	318	925	765			158	110
Prig/kg				16.3		52.1		210.7	30.7	108.1	135.0			125.9	172.0	66.6		311.3	43.7	103.1	89.7	53.7	135.0	56.7	127.
Nd ta/ka Sm ta/ka					168 32.3	191 37.6		823 160.3	113 22.5	407 79.0	522 101.5			478 88.1	66↓ 128.1	256 50.6		1218 246.5	166 33.6	393 76.7	63.4	195 38.0	519 101.↓	208 40.8	48 92
Et ta/ka						9.3		28.5	6.1	15.6	12.3			10.4	13.8	13.1		57.7	9.4	17.4	16.9		25.4	12.7	231
Gd (a/ka						36.2		149.0	20.7	74.5	85.1	74.0		79.0	101.9	50.0		236.6	33.6	78.6	63.3		96.9	39.9	90:
Dy 1g/kg Ha 1g/kg						25.6		106.8 18.2	1∔.5 2.5	49.0 8.7	7.1			40.0 6.4	52.5 8.0	35.8 6.3		176.7 31.9	25.i	55.4 10.4	↓1.5 7.5		61.7 10.6	25.0 4.4	58. 10.
Er ta/ka						12.1		52.6	6.6	26.4	18.1			16.0	20.7	18.2		94.0	12.5	31.5	22.1		30.6	12.4	30
Tm la/ka	0.54	0.27	3.06	0.36	0.93	1.23	0.53	5.42	0.69	2.87	1.65	1.32	1.99	1.46	1.85	1.80	0.69	6.11	1.31	3.23	2.13	1.11	3.20	1.23	3.0
Ybiq/kq Reiq/kq				3.1		9 D 2 G		43.3 4.9	5.4 1.8	25.3 3.4	11.7			9.9	13.2	14.2		77.9 4.0	9.6 0.3	27.6 2.3	17.2		25.0 263.↓	9.6 1.2	133
Hq tq/kq				20.9		43.1		64.8	30.6	50.0	30.8			21.6	3↓.1	16.5		23.2	14.5	17.8	29.7	27.4	37.6	28.0	34:
Titq/kq	3.7	2.3	10.2	2.9	5.7	6.1	3.1	10.5	4.6	7.2	18.0	10.7	31.6	12.9	26.3	12.1	6.7	30.4	9.7	18.3	12.2	7.0	25.2	9.3	19.
Pb (q/kq						293		839	224	579	386			276	160	185		628	127	235	866		1368	474	123
Bliq/kq Tiiq/kq						5.7 65.8		8.5 256.1	↓.6 39.1	6.6 106.5	5.2 236.1	2.8		3.9 15↓.6	5.5 357.7	77.1		6.4 323.0	12 489	3.5 119.9	97.9		9.6 136.2	3.4 64.7	132
U i q/kq						13.4		35.6	9.1	19.8	40.0			29.9	55.8	11.6		64.2	7.7	21.0	13.5			8.6	20.

Table S1 continued.

Parameter							_	Poland N=3					Africa N=3			Argentina N=1	Brazil N=1	USA N⊨1	India N⊨2	China N=2	Asia N=
Parameter	Median	Minimum	Maximum	dmum 25 th 75 th	Median	Minimum	Maximum	25 th	75 th	Median	Minimum	Maximum	25 th	75 ²				Median	Median		
δ ² H ‰ vs.\-/ SMOW	-111	-111	-108	-111	-108	-112	-136	-92	- 136	-92	- 104	- 108	-71	- 106	-71	-95	-88	-99	-86	-114	
δ ^{ra} C ‰vs.∨PDB	-27.5	-27.6	-26.4	-27.6	-26.4	-27.5	-28.0	-25.6	-28.0	-25.6	-27.9	-28.2	-27.0	-28.2	-27.0	-26.8	-27.6	-27.6	-26.7	-27.8	-27
δ ¹⁵ N ‰ vs.AR	1.9	1.0		1.0		4.5			2.2	9.3	0.2	-1.2		-1.2	0.7	2.6	1.0	1.1	2.4	-0.2	
18 0 % vs.\/ SMOW	24.6	24.4		24.4		20.3			19.6	23.6	20.4	20.1	25.6	20.1	25.6	22.2	22.9	23.0	24.8	16.8	2
δ ²⁴ S ‰vs.∨ CDT	4.1 15.1	3.7		3.7		2.7 0.8			2.1 0.7	3.0	3.4 6.3	3.3	8.0 11.1	3.3 2.9	8.0 11.1	6.3 107.6	6.3 5.6	9.8	6.6 15.8	5.2 6.8	4
Li mg/kg Be ug/kg	21.5	8.5 9.2		8.5 9.2		19.2			15.1	1.5 32.3	34.5	20.9	43.1	20.9	43.1	21.2	30.5	9.8	15.2	35.0	2
B ma/ka	47.5	40.8		40.8		32.6			17.2	37.8	23.5	22.4	27.2	22.4	27.2	65.3	15.9	35.4	51.2	22.2	2
Na mg/kg	24	18		16		36			34	48	39	16	43	16	43	92.2	117.8	69.4	183.1	37.2	36
Mag/ka	1.8 159	1.5		1.5 100	1.8 176	2.9 715			2.2 375	4.2 982	4.1 478	3.6 294		3.6 294	4.8 745	4.8 417.9	9.4 736.5	6.7 378.7	5.6 414.2	4.5 669.0	
Al mg/kg Pla/ka	2.2	100 2.1	176 2.3	2.1	2.3	2.2			1.7	4.7	2.2	1.7	2.7	1.7	2.7	1.7	1.5	1.5	1.9	1.3	60
KgAkg	21.1	18.4		18.4		19.0			13.2	19.2	32.4	27.8		27.8	42.7	23.1	29.1	25.1	17.5	31.2	1
Ga g/kg	21.3	18.4		16.4		34.7			28.9	41.2	17.0	16.3	18.1	16.3	18.1	23.3	26.2	20.4	21.5	22.1	4
∨ma/ka Coma/ka	0.26	0.17	0.30	0.17	0.30	1.31			0.79	1.80	0.48	0.19	0.94	0.19	0.94	0.85	0.92	0.49	0.90	1.37	1
Gr mg/kg Mn mg/kg	0.57 592.6	0.44 425.5		0.44 425.5		3.21 66.8			2.95 47.8	6.00 171.3	1.13 301.6	0.81 162.1	2.03 310.8	0.81 162.1	2.03 310.8	1,00 81.8	0.98 227.8	1.09 85.3	1.70 235.6	1.44 330.3	10
Fe ma/ka	194	130	202	130	202	519			359	644	212	90	454	90	454	312.1	409.3	188.4	420.6	487.9	59
Ga mg/kg	0.78	0.77	1.39	0.77	1.39	0.35	0.33	0.37	0.33	0.37	0.73	0.65	0.94	0.65	0.94	0.25	0.30	0.26	1.17	1.00	0
N mg/kg	4.34	1.68	6.38	1.68	6.38	1.48			0.97	1.75	1.35	1.29	1.88	1.29	1.88	1.12	0.62	0.69	3.05	1.40	1
Gu mg/kg	17.4	13.0		13.0	19.7	3.3			2.9	5.8	6.2	4.9	9.7	4.9	9.7	4.9	3.4	7.5	6.7	5.7	_
Zh ma/ka Ga ug/kg	30.9 41.9	24.9 32.4		24.9 32.4	46.4 45.8	12.8 216.0			9.4 138.5	56.5 328.5	17.4 113.0	9.0 68.1	25.3 194.3	9.0 68.1	25.3 194.3	5.4 112.9	18.0 177.5	26.3 102.7	11.3 110.3	36.1 177.7	15
Ge ug/kg	5.0	3.7	5.0	3.7	5.0	25.0			22.0	28.3	10.5	8.4	17.1	8.4	17.1	8.5	11.9	8.1	9.7	15.8	- 1
As ua/ka	93.3	65.7	93.4	65.7	93.4	209.0		212.0	178.9	212.0	59.3	39.7	77.9	39.7	77.9	198.0	113.9	126.1	68.3	404.1	10
Se ug/kg	24.5	19.8		19.8	34.5	57.4			32.5	61.3	19.2	15.7	35.8	15.7	35.8	29.2	15.2	28.6	71.5	59.2	4
Rb mg/kg	4.5 74.2	4.2 72.5		4.2		6.3 99.3			5.0 90.2	6.5 126.3	42.9 196.7	18.7 77.6	45.0 203.7	18.7 77.6	45.0 203.7	5.3 164.2	26.0 137.2	10.5 51.9	9.4 129.3	10.2 69.9	29
Sr ma/ka Y ug/kg	360	292		72.5 292	595	639	9u.2 453		453	1064	693	668	203.7	668	203.7	258.1	414.2	678.5	518.4	836.8	46
Ma mg/kg	0.23	0.14		0.14	0.34	0.99			0.98	2.14	0.38	0.36	0.61	0.36	0.81	0.87	0.26	0.37	0.44	0.32	0
Pd ug/kg	22.4	15.3		15.3	40.2	36.1	32.3		32.3	37.4	4.9	4.4	5.0	4.4	5.0	7.9	25.6	20.0	9.2	139.1	
Aa ua/ka	51.1	21.5		21.5	63.4	13.1			9.2	20.0	15.3	11.1	20.4	11.1	20.4	7.7	10.3	8.6	22.3	17.7	1
Gd mg/kg In ua/ka	1.15 0.41	0.79 0.24		0.79 0.24	2.10 0.68	1.75	1.40		1.40 1.39	1.77 2.31	0.17 0.41	0.15 0.13	0.21 0.59	0.15 0.13	0.21 0.59	0.38 0.51	1.21 0.86	1.05 0.47	0.43 3.78	8.26 4.05	0
Sn ua/ka	55.9	37.9	80.9	37.9	60.9	147.7	122.2		122.2	179.7	21.1	18.6	29.3	18.6	29.3	32.2	50.3	45.3	27.2	106.8	3
Sb ug/kg	424	280	444	280	444	497	327		327	1137	1114	587	1375	587	1375	802.4	371.1	640.3	968.1	1222.2	60
Te ug/kg	1.33	0.94	1.52	0.94		2.21	1.80		1.80	2.61	1.38	0.85	2.05	0.85	2.05	1.32	1.65	1.11	1.47	2.38	1
Cs ug/kg	20.0	13.6	20.2	13.6	20.2	96.2			57.7	120.7	98.5	61.9	137.7	61.9	137.7	118.2	139.4	47.9 49.7	42.9 55.5	133.8 44.1	8
Ba mg/kg La ug/kg	58.8 856	38.0 645		38.0 645	66.2 1014	37.1 1362	27.8 1087	43.5 2376	27.8 1087	43.5 2376	145.5 3391	121.8 2518	147.5 5485	121.8 2518	147.5 5485	69.0 489.9	106.6 1515.1	2935.6	1087.0	2172.0	83
Ge ua/ka	965	626	1140	626	1140	2561	1634		1634	4813	2687	2585	3086	2585	3086	1002.7	2343.2	3142.5	1441.0	2707.0	162
Pr ua/ka	97.4	69.5	127.4	69.5	127.4	292.9	196.7	557.3	198.7	557.3	428.6	324.3	828.4	324.3	828.4	112.3	197.2	331.6	161.6	280.1	16
NB ug/kg	364	253		253	486	1099	721		721	1953	1540	1207	3088	1207	3066	423.6	718.8	1211.2	606.5	1083.4	81
Smug/kg	60.1 17.0	40.9 14.5	81.4 22.6	40.9 14.5	81.4	204.2	125.9 24.0	361.7 48.8	125.9	361.7 48.8	206.6 50.4	158.7 49.7	462.1 103.3	158.7 49.7	462.1 103.3	81.2 21.5	113.5 29.8	153.2 37.2	104.3 25.7	161.9 42.3	11
Eu ua/ka Gd ug/kg	70.3	51.3		51.3	22.6 99.0	31.7 182.7	120.9		24.0 120.9	323.1	199.0	163.1	478.5	163.1	478.5	75.2	115.5	188.4	110.9	182.1	11
Dy ug/kg	39.2	29.6		29.6	58.3	111.4			65.9	182.5	B.00	87.2	247.3	87.2	247.3	47.2	62.8	78.3	69.0	96.5	
Ha ug/kg	7.5	5.2		5.2		18.8		30.7	11.1	30.7	16.2	15.6	48.1	15.6	46.1	8.0	10.9	14.0	12.6	17.9	
Er ug/kg	19.9	14.0		14.0		55.2		87.8	32.1	87.8	45.2	43.3		43.3	119.8	21.9	30.1	37.4	34.7	48.9	
Tm ug/kg	1.80 12.6	1.23		1.23 8.0	2.43 15.5	5.47 44.8			2.97 23.7	5.82 69.6	4.26 29.7	3.74 28.2		3.74 28.2	10.10 64.7	2.03 16.1	2.67 21.0	3.12 21.3	3.32 25.3	4.27 31.2	3
Ya ug/ka Re ua/ka	2.6	8.u 1.8		8.u 1.8	2.8	1.2			0.5	4.8	0.3	0.2	1.7	0.2	1.7	8.4	1.8	1.5	3.8	8.5	- 3
Ha ug/ka	30.3	24.1	231.4	24.1	231.4	46.2	43.0	48.5	43.0	48.5	17.0	12.7	18.0	12.7	18.0	12.3	19.5	19.1	15.3	54.8	1
TI ug/kg	9.9	8.3		8.3		20.8			17.7	20.9	46.9	38.1	121.5	38.1	121.5	18.5	133.3	41.9	25.9	84.2	2
Pb ua/ka	367	351	633	351	633	1170	1002		1002	1307	245	241	359	241	359	320.4	370.5	359.5	233.4	1468.2	35
Biug/kg Thug/kg	2.3 49.8	1.8 27.6		1.8 27.6		8.7 336.3			7.8 160.5	9.5 603.1	1.8 158.2	1.3 121.4	3.5 416.4	1.3 121.4	3.5 416.4	3.2 133.7	5.9 170.2	3.0 102.6	1.8 167.3	35.5 124.5	17
UugAg	4.3	27.0		27.0		52.5			22.6	68.7	15.8	10.5		10.5	37.4	18.8	28.2	21.4	14.1	23.5	1/2

Figure S1. Distribution of isotopic values (expressed in δ %) and elemental composition (expressed in g or mg or μ g/kg, depending on the element).

