

Supplementary Materials

Table S1. Design of the field trial.

Series with FYM			Series without FYM		
Block (repeat)	Plot number	Mineral fertilisation (SM – Tab. 2)	Block (repeat)	Plot number	Mineral fertilisation (SM – Tab. 2)
I	1	3	I	48	4
	2	7		47	6
	3	4		46	3
	4	1		45	5
	5	8		44	1
	6	2		43	2
	7	6		42	8
	8	5		41	7
II	9	4	II	40	5
	10	6		39	8
	11	7		38	6
	12	1		37	3
	13	8		36	7
	14	2		35	2
	15	3		34	4
	16	5		33	1
III	17	1	III	32	8
	18	7		31	5
	19	8		30	7
	20	2		29	4
	21	4		28	1
	22	6		27	5
	23	3		26	2
	24	5		25	6

Table S2. Mineral fertilisation regime.

No	Variant	Sugar beet				Spring barley		Maize		Spring wheat*				
		N				P		K		Mg				
		Dose [kg ha ⁻¹]												
1	N ₀ P ₀ K ₀	<u>0</u>	0	0	0*	<u>0*</u>	0	<u>0</u>	0	0	0*	<u>0</u>	0*	0
2	N ₁ P ₁ K ₁	<u>60</u>	30	60	40*	<u>34.9*</u>	26.2	<u>66.4</u>	33.2	49.8	24.9*	<u>0</u>	0*	0
3	N ₂ P ₁ K ₁	<u>120</u>	60	120	80*	<u>34.9*</u>	26.2	<u>66.4</u>	33.2	49.8	24.9*	<u>0</u>	0*	0
4	N ₃ P ₁ K ₁	<u>180</u>	90	180	120*	<u>34.9*</u>	26.2	<u>66.4</u>	33.2	49.8	24.9*	<u>0</u>	0*	0
5	N ₂ P ₁ K ₂	<u>120</u>	60	120	80*	<u>34.9*</u>	26.2	<u>132.8</u>	66.4	99.7	49.8*	<u>0</u>	0*	0
6	N ₂ P ₁ K ₃	<u>120</u>	60	120	80*	<u>34.9*</u>	26.2	<u>199.3</u>	99.7	149.7	74.7*	<u>0</u>	0*	0
7	N ₂ P ₁ K ₂ Mg	<u>120</u>	60	120	80*	<u>34.9*</u>	26.2	<u>132.8</u>	66.4	99.7	49.8*	<u>48.2</u>	18.1*	24.1
8	N ₂ P ₁ K ₂ MgCa	<u>120</u>	60	120	80*	<u>34.9*</u>	26.2	<u>132.8</u>	66.4	99.7	49.8*	<u>48.2</u>	18.1*	24.1

Table S3. Mean and standard deviation of PAHs 16 content in $\mu\text{g kg}^{-1}$ depending on soil horizon
0-30cm and 30-60 cm in long-term fertilizer experiment

PAHs	Soil horizons			
	0-30 cm		30-60 cm	
	mean	$\pm\text{SD}$	men	$\pm\text{SD}$
Naphtalene	0.53	± 0.60	0.63	± 1.24
Acenaphthylene	3.95	± 8.59	1.00	± 1.58
Acenaphthene	1.70	± 4.72	0.46	± 0.55
Fluorene	0.20	± 0.49	0.16	± 0.09
Phenanthrene	15.55	± 19.91	4.75	± 6.74
Anthracene	1.42	± 2.88	0.82	± 1.44
Fluoranthene	12.72	± 14.44	28.16	± 26.87
Pyrene	9.77	± 16.65	17.40	± 19.89
Benz(a)anthracene	16.62	± 24.22	7.98	± 14.81
Chrysene	7.63	± 7.55	14.8	± 21.18
Benzo(b)fluoranthene	37.61	± 34.62	13.20	± 16.80
Benzo(k)fluoranthene	7.14	± 13.30	11.23	± 16.15
Benzo(a)pyrene	23.78	± 29.21	0.73	± 1.35
Ideno(1,2,3-cd)pyrene	8.81	± 7.31	2.28	± 4.23
Dibenzo(a,h)anthracene	29.63	± 25.54	19.77	± 24.11
Benzo(g,h,i)perylene	20.97	± 27.01	4.65	± 9.04
Sum of 16 PAHs	198.04	± 103.43	128.02	± 89.60
Sum of 2-rings	0.53	± 0.60	0.63	± 1.24
Sum of 3-rings	4.56	± 5.56	1.44	± 1.46
Sum of 4-rings	10.04	± 10.38	20.12	± 19.10
Sum of 5-rings	22.95	± 14.49	10.58	± 8.83
Sum of 6-rings	14.90	± 15.02	3.46	± 5.37