

Accessory publication

Perchlorate in an urban lawn environment

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Table A1. Ion concentrations of soil water and grass influenced by no fertilizer

ND, not determined; BDL, below the detection limit

Date	Site	ClO ₄ ⁻	N-NO ₃ ⁻	Cl	ClO ₄ ⁻	N-NO ₃ ⁻	Cl
		μg L ⁻¹	mg L ⁻¹	mg L ⁻¹	μg kg ⁻¹	mg kg ⁻¹	mg kg ⁻¹
		Soil water			Grass		
1 June 2006	East Hampton	ND	0.26	9.98	ND	ND	ND
6 July 2006	East Hampton	0.5	ND	5.140	45	37	15 566
2 Aug. 2006	East Hampton	<0.1	ND	21.40	ND	ND	ND
7 Sept. 2006	East Hampton	<0.1	0.49	31.50	BDL	30	14 596
4 Oct. 2006	East Hampton	<0.1	0.19	34.20	BDL	23	20 806
2 Nov. 2006	East Hampton	<0.1	0.93	29.20	BDL	6	7 869
6 Dec. 2006	East Hampton	<0.1	0.96	21.80	BDL	11	12 036
5 Jan. 2007	East Hampton	<0.1	3.73	18.70	BDL	16	15 998
1 June 2006	Stony Brook	0.1	0.24	1.47	162	45	10 292
6 July 2006	Stony Brook	ND	ND	ND	113	29	10 701
2 Aug. 2006	Stony Brook	0.66	0.12	3.62	418	27	7 794
5 Sept. 2006	Stony Brook	1.26	3.74	3.49	276	162	6 468
4 Oct. 2006	Stony Brook	1.29	2.31	3.31	360	674	ND
3 Nov. 2006	Stony Brook	0.70	2.45	3.96	232	822	15 362
7 Dec. 2006	Stony Brook	0.25	1.80	4.39	BDL	225	14 349
5 Jan. 2007	Stony Brook	<0.1	2.40	5.09	76	265	ND

Table A2. Ion concentrations of soil water and grass influenced by chemical fertilizer

ND, not determined; BDL, below detection limit

Date	Site	ClO ₄ ⁻	N-NO ₃ ⁻	Cl	ClO ₄ ⁻	N-NO ₃ ⁻	Cl
		µg L ⁻¹	mg L ⁻¹	mg L ⁻¹	µg kg ⁻¹	mg kg ⁻¹	mg kg ⁻¹
		Soil water			Grass		
6 Jan. 2006	Hauppauge	0.15	12.90	3.60	95	1352	6053
7 June 2006	Hauppauge	0.14	23.94	4.36	694	24	4539
8 Feb. 2006	Hauppauge	ND	ND	ND	471	26	4315
9 July 2006	Hauppauge	2.39	23.80	4.71	109	6890	5633
10 Apr. 2006	Hauppauge	2.1	18.99	5.62	330	264	7410
11 Feb. 2006	Hauppauge	1.61	18.40	3.87	160	1806	9874
12 June 2006	Hauppauge	0.68	75.60	2.91	248	1042	19724
1 May 2007	Hauppauge	0.53	64.50	2.65	60	480	11238
6 Jan. 2006	Huntington	ND	10.20	1.03	ND	ND	ND
7 June 2006	Huntington	0.92	7.64	2.81	106	18	7396
8 Feb. 2006	Huntington	2.29	15.27	2.95	ND	ND	ND
9 July 2006	Huntington	2.99	18.00	7.13	84	59	11604
10 Apr. 2006	Huntington	2.53	17.94	11.20	206	350	23869
11 Feb. 2006	Huntington	2.08	23.40	8.04	123	478	16424
12 June 2006	Huntington	1.78	ND	6.54	BDL	17	16141
1 May 2007	Huntington	0.71	17.81	3.71	BDL	21	13209
6 Jan. 2006	Stony Brook	<0.1	2.6	7.41	36	2595	17744
7 June 2006	Stony Brook	0.24	0.00	2.37	373	20	9016
8 Feb. 2006	Stony Brook	ND	ND	ND	90	388	5989
9 May 2006	Stony Brook	0.52	0.30	21.10	134	358	5309
10 Apr. 2006	Stony Brook	0.58	0.14	18.50	180	691	11733
11 Mar. 2006	Stony Brook	0.92	0.06	27.60	BDL	288	17468
12 July 2006	Stony Brook	0.42	0.73	31.70	BDL	3548	14839
1 May 2007	Stony Brook	ND	ND	ND	BDL	584	7570

Table A3. Ion concentrations of soil water and grass influenced by organic fertilizer

ND, not determined

Date	Site	ClO ₄ ⁻	N-NO ₃ ⁻	Cl	ClO ₄ ⁻	N-NO ₃ ⁻	Cl
		µg L ⁻¹	mg L ⁻¹	mg L ⁻¹	µg kg ⁻¹	mg kg ⁻¹	mg kg ⁻¹
		Soil water			Grass		
6 Jan. 2006	Hauppauge	113.00	ND	3.46	3229	25	6551
7 June 2006	Hauppauge	76.25	5.85	4.88	4914	201	10920
8 Feb. 2006	Hauppauge	48.53	4.23	4.60	4074	17	10357
9 July 2006	Hauppauge	54.5	7.83	7.27	10618	4152	10326
10 Apr. 2006	Hauppauge	45.35	8.95	6.33	7963	1829	19953
11 Feb. 2006	Hauppauge	31.50	28.30	9.34	3500	122	12429
12 June 2006	Hauppauge	30.70	26.10	11.60	820	41	11057
1 May 2007	Hauppauge	15.00	17.57	6.44	3653	969	11623
7 June 2006	Huntington	68.5	5.98	3.48	1759	46	7904
9 July 2006	Huntington	254.5	7.69	11.10	8129	994	9261
10 Apr. 2006	Huntington	ND	ND	ND	6104	1537	14553
11 Feb. 2006	Huntington	ND	ND	ND	2796	1171	12395
12 June 2006	Huntington	ND	ND	ND	939	389	13253
1 May 2007	Huntington	ND	ND	ND	386	88	11227
6 Jan. 2006	Oakdale	0.77	0.03	14.67	6040	23	6315
7 June 2006	Oakdale	13.48	0.02	10.90	405	17	8569
8 Feb. 2006	Oakdale	151.75	0.03	8.64	1522	24	9055
9 July 2006	Oakdale	109.75	0.00	10.10	1193	1558	10233
9 July 2006	Oakdale	157.25	0.02	10.00	619	22	23304
10 Apr. 2006	Oakdale	53.00	0.06	12.50	1699	15	ND
12 June 2006	Oakdale	6.85	0.58	3.88	285	20	18213
1 May 2007	Oakdale	16.00	7.52	16.60	172	45	8561

Table A4. Chemical data for soil cores

Cores collected on 2 and 3 November 2006. ND, not determined; NA, bulk density not available

Depth cm	ClO ₄ ⁻ μg kg ⁻¹	N-NO ₃ ⁻ mg kg ⁻¹	Cl mg kg ⁻¹	Soil moisture (field) %	Sand >63μm %	Clay and silt <63μm %	Soil porosity %
Oakdale							
5	11.39	48.62	63.20	24.4	83.3	16.2	50
10	0.51	0.54	23.14	2.0	82.2	16.7	39
20	6.12	1.82	9.00	0.9	74.3	16.1	34
25	5.89	0.24	5.01	0.6	62.5	8.7	NA
35	0.75	0.63	5.60	0.9	66.7	17.0	NA
35	0.51	ND	ND	11.1	27.7	5.1	NA
40	2.53	0.32	49.76	8.0	70.2	17.1	NA
55	1.74	1.53	17.12	13.3	64.9	16.7	NA
60	2.34	0.41	42.95	9.9	28.1	5.0	NA
90	5.63	0.26	94.11	11.3	79.0	15.0	NA
95	2.37	0.14	30.50	0.9	83.3	16.2	NA
Hauppauge							
5	13.60	12.21	28.18	46.7	97.6	2.0	68
10	3.21	3.38	12.49	17.5	25.5	32.9	48
30	3.94	6.55	14.39	22.6	32.8	53.0	71
40	2.54	2.32	7.72	28.1	43.9	46.2	NA
45	3.52	3.12	9.48	14.2	39.2	34.7	NA
50	3.17	2.44	10.45	13.1	45.8	28.8	NA
61	2.49	1.81	8.23	10.2	50.5	39.4	NA
73	9.26	4.71	17.28	14.4	36.6	43.8	NA
78	4.85	2.19	10.07	15.5	43.6	44.7	NA
85	6.60	1.82	26.31	15.5	37.7	54.5	NA
91	4.20	1.71	19.52	15.5	31.3	41.1	NA