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APPENDICES

Appendix I: Table II Metals concentrations of soil solution samples at first sampling period (grain fill stage period)

Date	July 11th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	7.9674	55.0109	9.0813	98.6055
1.2	8.8725	58.7609	10.1849	93.0300
1.3	10.2722	56.4639	10.1350	73.9725
2.1	8.3622	54.1477	12.4401	68.8905
2.2	3.6288	63.9102	11.6835	63.5250
2.3	7.0098	58.2553	10.7172	39.6060
3.1	8.9481	67.7929	9.3423	N/A
3.2	9.0773	56.9322	8.4934	87.4125
3.3	1.7651	L/D	L/D	248.6400
4.1	1.5677	69.6423	14.3948	89.0505
4.2	2.1683	72.5148	11.3208	75.0540
4.3	1.9551	58.4519	10.2169	135.7650
5.1	1.5477	58.6393	9.2727	138.4950
5.2	2.9390	58.7122	8.0754	87.2445
5.3	2.0591	60.8044	10.3513	79.0440
6.1	4.7828	52.1277	6.3934	69.1635
6.2	2.5284	53.7739	8.8937	88.8405
6.3	3.6456	51.3805	6.7796	96.6945
7.1	1.9866	55.4054	7.9065	133.4550
7.2	0.5475	55.2638	9.0429	102.1965
7.3	1.8596	51.0626	7.6943	168.2100
8.1	2.6177	57.7695	10.5780	609.5250
8.2	1.6160	50.7976	11.1771	127.9950
8.3	2.2040	53.9841	11.0596	160.9650

Date	July 12th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.5322	28.8090	4.7203	102.2490
1.2	1.3083	55.2720	9.7120	166.6350
1.3	1.3010	54.2402	10.0148	105.7350
2.1	1.0805	52.7986	12.1468	86.6250
2.2	0.6158	61.5901	11.3278	139.8600
2.3	0.9459	55.1263	10.1531	103.3935
3.1	1.2485	66.7604	10.0277	141.3300
3.2	1.1802	55.4544	8.4468	112.3500
3.3	1.0941	L/D	L/D	N/A
4.1	3.2498	66.7110	14.0036	197.0850
4.2	0.4114	70.2762	11.4921	65.0370
4.3	0.7733	57.2353	10.4295	153.5100
5.1	0.8136	57.8477	9.6998	164.2200
5.2	1.1960	58.9818	8.4222	85.5435
5.3	0.7919	63.1264	10.6146	315.4200
6.1	1.5194	52.6831	6.4634	N/A
6.2	9.0941	54.4817	9.1398	339.7800
6.3	1.2894	51.5154	6.9429	143.3250
7.1	0.8945	55.4738	8.0108	198.1350
7.2	0.3630	54.8038	9.1832	279.6150
7.3	0.7520	50.5725	7.8202	125.8950
8.1	1.0263	57.1062	10.5828	278.9850
8.2	0.3984	25.6407	5.5880	185.2200
8.3	0.7254	54.0352	11.2590	161.8050

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	July 13th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.4973	57.4121	9.3878	141.9600
1.2	0.9394	57.9710	9.6899	165.5850
1.3	1.0062	57.2993	10.3873	271.3200
2.1	0.8217	54.8920	12.6083	139.3350
2.2	0.5577	63.4870	11.4222	642.1800
2.3	0.8244	64.0886	11.2034	N/A
3.1	0.9171	68.2589	10.2833	162.6450
3.2	0.9545	57.1683	8.5206	156.2400
3.3	1.2096	L/D	-0.3892	628.9500
4.1	0.2773	69.1829	14.0324	108.7800
4.2	0.4742	74.6885	11.4522	83.2860
4.3	0.6673	59.6161	10.5287	76.5765
5.1	0.7414	60.6319	9.8592	182.4900
5.2	1.0563	61.6125	8.6613	134.5050
5.3	0.5835	64.4432	10.8123	83.8950
6.1	1.2747	53.8030	6.6708	155.6100
6.2	0.8156	57.2073	9.3736	146.3700
6.3	1.2327	54.0229	7.2567	121.2750
7.1	0.8111	58.3024	8.3235	184.0650
7.2	0.3193	57.6077	9.4029	90.5100
7.3	0.7431	52.5766	8.1558	207.3750
8.1	1.0002	59.7403	10.6528	48.2685
8.2	0.6992	52.8676	11.4202	133.7700
8.3	0.7471	55.6321	11.4835	469.4550

Date	July 14th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.2499	53.7053	9.3816	N/A
1.2	0.6959	55.7193	9.5174	126.1050
1.3	0.8061	54.2648	9.9213	70.2660
2.1	0.5478	53.2996	12.2242	90.0060
2.2	0.1959	62.1485	11.2449	N/A
2.3	0.5044	58.5141	10.7591	76.8285
3.1	0.7976	66.3712	10.0224	48.9090
3.2	0.7439	55.3591	8.2346	79.4115
3.3	2.1714	L/D	L/D	2957.8500
4.1	L/D	67.2363	13.7151	31.8360
4.2	0.0953	72.3326	11.4011	99.4245
4.3	0.4186	58.2677	10.3892	121.3800
5.1	0.5191	58.8293	9.6675	90.2265
5.2	0.8947	59.3655	8.4009	120.6450
5.3	0.3524	63.3795	10.6594	83.7690
6.1	1.1193	53.1228	6.5214	71.9565
6.2	0.5931	55.2214	9.1529	101.1885
6.3	1.1802	53.3702	7.1014	90.9615
7.1	0.5839	54.8835	8.0421	78.4455
7.2	0.0076	54.7846	8.9822	118.6500
7.3	0.4558	50.4999	7.9280	94.8045
8.1	0.7219	57.9689	10.5259	86.0790
8.2	0.4481	50.9310	11.0495	171.7800
8.3	0.5255	53.2045	10.9370	N/A

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	July 15th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.2840	51.8550	9.2123	95.8335
1.2	0.7880	55.0891	9.5061	114.3450
1.3	0.8065	29.7358	9.4874	N/A
2.1	0.5726	51.5172	11.9969	N/A
2.2	0.2220	63.0585	11.1367	84.9660
2.3	0.4978	57.8322	10.4436	72.1350
3.1	0.8915	60.1842	9.7799	N/A
3.2	0.7995	53.9460	8.1693	210.1050
3.3	0.2751	L/D	L/D	598.0800
4.1	L/D	65.1278	12.9895	111.1950
4.2	0.1215	71.1435	11.2070	57.6030
4.3	0.3968	39.1387	6.8423	78.4455
5.1	0.6634	54.4976	9.2403	54.1170
5.2	0.8405	41.7581	7.9494	70.2345
5.3	0.3614	62.8280	10.2566	71.9670
6.1	1.0369	52.3329	6.2729	116.2350
6.2	0.5496	54.5570	8.8971	114.5550
6.3	1.0377	51.9601	6.8232	141.4350
7.1	0.5348	18.6102	5.6509	106.8900
7.2	0.0003	28.8833	8.4914	94.1010
7.3	0.3858	15.2557	4.0450	105.5250
8.1	0.4526	57.6305	10.4723	271.3410
8.2	0.4267	49.0377	10.6807	72.1980
8.3	0.5056	51.9851	10.5828	114.7650

Date	July 16th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.3063	33.9618	9.0147	83.6430
1.2	0.6616	18.1737	7.9774	56.5215
1.3	0.5781	11.1695	6.9851	112.3500
2.1	0.4669	49.4581	11.4755	77.6370
2.2	0.2848	60.9347	10.8795	73.4475
2.3	0.4382	55.4550	10.2173	73.6155
3.1	0.5786	26.3607	8.2683	119.2800
3.2	0.8159	28.6308	7.0868	105.2100
3.3	2.4182	L/D	L/D	N/A
4.1	0.0419	62.8153	12.4526	112.3500
4.2	0.1960	67.3058	10.8210	101.8080
4.3	0.2535	55.6291	9.9668	59.7555
5.1	0.1801	3.5980	5.0352	889.5600
5.2	0.2002	28.6939	6.4934	62.1705
5.3	0.0921	45.6600	9.8132	90.6465
6.1	0.2031	51.4064	6.2381	96.0120
6.2	0.1504	53.6822	8.7800	107.9400
6.3	0.1810	51.0104	6.8128	89.4705
7.1	0.0859	L/D	1.5354	86.7720
7.2	0.1258	4.8066	7.3232	203.0070
7.3	0.2520	L/D	1.1476	78.1620
8.1	0.3536	L/D	9.9105	67.0425
8.2	0.1631	49.9233	10.8117	120.9600
8.3	0.3404	51.8493	10.6417	76.3140

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	July 17th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.2885	18.1418	5.7501	64.4385
1.2	0.4154	0.5171	4.5249	185.2200
1.3	0.0805	L/D	2.3835	372.9600
2.1	0.2300	46.5128	11.8946	261.6495
2.2	0.1534	58.1462	10.5824	99.8760
2.3	0.3305	53.9881	9.8376	74.3820
3.1	0.0501	L/D	1.0821	41.4015
3.2	0.3089	L/D	2.7807	68.2605
3.3	N/A	N/A	N/A	N/A
4.1	L/D	62.2988	12.4240	41.4015
4.2	L/D	31.3673	6.8327	73.2585
4.3	0.3078	54.3513	10.0457	42.9975
5.1	N/A	N/A	N/A	N/A
5.2	0.2254	L/D	1.1293	59.1570
5.3	0.4658	11.9007	4.4627	62.4750
6.1	0.8141	50.5908	6.1877	74.1405
6.2	0.4560	52.7454	8.6617	75.9360
6.3	0.8201	50.4871	6.8116	53.3820
7.1	0.0440	L/D	L/D	N/A
7.2	N/A	N/A	N/A	N/A
7.3	0.0926	L/D	L/D	N/A
8.1	0.5280	54.1957	9.9688	39.3540
8.2	0.3468	48.9025	10.6309	92.7465
8.3	0.3917	51.1444	10.3966	113.8200

Date	July 18th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.2525	L/D	10.6436	220.5420
1.2	0.3897	L/D	L/D	N/A
1.3	N/A	N/A	N/A	N/A
2.1	0.3887	49.8017	11.8291	52.4055
2.2	0.1612	60.7082	10.9028	44.9190
2.3	0.3386	55.7456	10.2000	32.2770
3.1	N/A	N/A	N/A	N/A
3.2	0.0167	L/D	L/D	N/A
3.3	N/A	N/A	N/A	N/A
4.1	L/D	64.2098	12.9207	31.1745
4.2	0.0316	66.6972	11.0015	61.3620
4.3	0.2532	54.2102	9.9493	33.8730
5.1	N/A	N/A	N/A	N/A
5.2	L/D	L/D	L/D	221.0145
5.3	0.1608	L/D	0.6368	N/A
6.1	0.9411	50.6609	6.2041	67.9770
6.2	0.4468	53.0111	8.7531	73.6260
6.3	0.8547	51.2049	6.8839	84.6510
7.1	0.1306	L/D	L/D	N/A
7.2	L/D	L/D	L/D	224.6580
7.3	N/A	N/A	N/A	N/A
8.1	0.4970	55.3795	10.0512	50.3790
8.2	0.3053	49.4668	10.8305	71.1060
8.3	0.3499	52.4727	10.7398	78.8550

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	July 19th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.2433	L/D	L/D	53.3190
1.2	N/A	N/A	N/A	N/A
1.3	N/A	N/A	N/A	N/A
2.1	0.4754	49.8449	11.1129	248.1150
2.2	0.1875	62.7422	10.3929	98.9100
2.3	0.7830	56.0673	9.9021	52.7625
3.1	N/A	N/A	N/A	N/A
3.2	0.8876	L/D	L/D	104.2020
3.3	N/A	N/A	N/A	N/A
4.1	0.0859	66.3878	12.2940	89.1450
4.2	0.6157	71.7899	10.6741	108.2550
4.3	0.3516	57.5368	9.7385	127.8900
5.1	N/A	N/A	N/A	N/A
5.2	N/A	N/A	N/A	N/A
5.3	0.5040	L/D	L/D	N/A
6.1	0.7267	52.5546	5.9453	231.8400
6.2	0.4487	55.0711	8.4652	261.0300
6.3	0.7823	52.7200	6.5806	123.1650
7.1	N/A	N/A	N/A	N/A
7.2	N/A	N/A	N/A	N/A
7.3	N/A	N/A	N/A	N/A
8.1	0.5606	59.1130	9.7708	130.5150
8.2	0.3219	50.9347	10.4054	140.0700
8.3	0.4203	54.9145	10.4455	101.7135

Date	July 20th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.1377	L/D	2.6295	368.3400
1.2	0.0913	L/D	0.8418	379.5750
1.3	0.0965	L/D	1.1311	N/A
2.1	0.3212	49.7486	10.8116	112.6650
2.2	0.1891	61.2255	10.1132	227.8500
2.3	0.2352	56.8997	9.5838	343.9800
3.1	0.1389	L/D	3.4402	1207.5000
3.2	0.1381	L/D	0.0356	468.9300
3.3	2.0118	L/D	L/D	542.7450
4.1	0.1305	66.9094	12.2951	139.1250
4.2	0.1304	69.7916	10.3760	204.4350
4.3	0.3164	55.4152	9.3996	159.7050
5.1	0.1157	L/D	L/D	315.9450
5.2	0.1325	L/D	L/D	378.1050
5.3	0.1479	L/D	2.2386	433.5450
6.1	0.4355	51.0328	5.7887	239.1900
6.2	0.3577	53.9432	8.2681	146.8950
6.3	0.4279	51.5770	6.4160	116.3400
7.1	0.1388	L/D	L/D	466.4100
7.2	0.0590	L/D	L/D	328.5450
7.3	0.1197	L/D	0.0851	364.4550
8.1	0.2920	51.3639	8.7212	214.3050
8.2	0.2216	50.3818	10.1189	118.2300
8.3	0.4303	52.9528	10.0251	268.8000

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	July 21st, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.0384	0.1880	6.5070	325.3950
1.2	0.1883	L/D	5.3778	307.2300
1.3	0.1402	L/D	7.7888	682.7100
2.1	0.2103	50.6935	10.9986	88.9770
2.2	0.1089	62.4584	10.3346	107.9400
2.3	0.3418	57.8974	9.6733	60.7950
3.1	0.1535	0.0381	6.3913	384.3000
3.2	0.1381	L/D	5.2321	N/A
3.3	1.7441	L/D	1.7713	658.4550
4.1	0.0289	66.1095	12.1289	76.4925
4.2	0.0811	64.6821	10.5188	549.3600
4.3	0.1714	55.1804	9.3722	54.9675
5.1	0.2937	L/D	2.1795	275.5200
5.2	0.5280	L/D	4.0961	428.1900
5.3	0.2060	0.9571	5.4173	414.1200
6.1	0.4111	51.3820	5.7577	92.2425
6.2	0.2414	53.7352	8.2318	84.8505
6.3	0.4100	51.9546	6.4297	79.8315
7.1	0.2195	L/D	3.0537	274.7850
7.2	0.1784	L/D	4.0081	248.4300
7.3	0.1021	L/D	3.9640	327.3900
8.1	0.2035	53.8449	8.7308	N/A
8.2	0.1962	50.6329	10.1158	77.7945
8.3	0.2789	52.2023	9.8768	135.1350

Date	July 22nd, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.1782	3.4689	8.5954	325.5000
1.2	0.1794	1.3440	7.6854	198.8700
1.3	2.8056	2.0220	11.5713	525.3150
2.1	0.4555	50.3347	10.8898	82.9290
2.2	0.3000	61.4479	10.1317	105.7350
2.3	0.4206	56.9918	9.5816	111.8250
3.1	0.2437	2.9546	8.9616	227.1150
3.2	0.2023	0.0394	8.4124	358.5750
3.3	1.5456	L/D	4.2031	748.7550
4.1	0.0539	64.3884	11.8915	101.4825
4.2	0.1469	68.5556	10.3252	106.4700
4.3	0.3592	53.0666	9.2595	106.8900
5.1	0.2777	L/D	4.1922	N/A
5.2	0.4282	L/D	6.8342	408.8700
5.3	0.1791	5.4836	7.4970	194.0400
6.1	0.8367	50.5900	5.7042	134.4000
6.2	0.5363	52.7418	8.1316	187.3200
6.3	0.7882	51.1556	6.2591	124.2150
7.1	0.2231	L/D	5.3821	224.5950
7.2	0.2895	L/D	6.5722	330.7500
7.3	0.2443	0.9978	6.2208	293.6850
8.1	0.3697	53.4820	8.8079	99.5820
8.2	0.4418	49.7980	10.0278	121.3800
8.3	0.5360	52.7077	10.0061	102.2910

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	July 23rd, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.1961	7.0729	9.8485	617.7150
1.2	0.1550	4.7125	8.3862	960.7500
1.3	0.1544	8.2325	12.8521	1137.1500
2.1	0.5023	47.3834	10.0709	150.1500
2.2	0.2444	58.3369	9.4866	160.6500
2.3	0.3738	54.1903	8.9529	204.0150
3.1	0.1334	6.5395	9.7743	469.6650
3.2	0.1727	2.6365	9.5137	495.4950
3.3	0.5308	2.7091	6.1732	1467.9000
4.1	0.1024	61.7797	11.1412	196.0350
4.2	0.2164	65.2129	9.7456	170.3100
4.3	0.3753	52.7372	8.9518	173.9850
5.1	0.2628	0.0554	5.8612	554.7150
5.2	0.2892	0.8196	8.3669	577.2900
5.3	0.1587	9.5620	8.8013	379.5750
6.1	0.8026	48.3751	5.3530	199.3950
6.2	2.0213	50.9364	7.7196	160.9650
6.3	0.9582	49.0322	5.9587	181.1250
7.1	0.1697	0.7797	6.8610	370.5450
7.2	0.3143	1.0644	7.6277	601.6500
7.3	0.1017	4.7896	7.8747	684.4950
8.1	1.0225	50.5794	8.1891	213.3600
8.2	0.3692	46.4840	9.3672	187.3200
8.3	0.4494	50.4139	9.3819	121.8000

Date	July 24th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.0242	10.3111	10.2878	239.1900
1.2	0.2961	8.5625	9.4851	527.4150
1.3	0.1613	15.5021	14.0157	307.2300
2.1	0.3930	49.1725	10.6135	425.1450
2.2	0.2633	59.9304	9.8622	445.0950
2.3	0.3854	56.2857	9.3645	384.1950
3.1	0.0820	9.7927	10.4956	537.1800
3.2	2.3436	5.6768	10.7584	317.7300
3.3	0.1970	6.4290	8.0595	644.9100
4.1	0.0241	62.1506	11.3285	302.2950
4.2	0.3941	63.5052	9.9161	518.5950
4.3	0.4382	53.3551	9.1980	354.3750
5.1	0.1631	1.8496	7.6070	364.1400
5.2	0.2388	3.5393	9.8149	320.1450
5.3	0.0736	14.6968	10.2551	1283.1000
6.1	0.7930	48.8928	5.5043	311.3250
6.2	0.4913	51.1962	7.8576	489.9300
6.3	0.8693	49.4385	6.1244	417.5850
7.1	0.1196	3.0482	8.4114	377.0550
7.2	0.1760	3.5362	8.4622	554.0850
7.3	0.0872	7.8456	9.2251	424.5150
8.1	0.5254	51.0972	8.4823	376.5300
8.2	0.4705	48.1519	9.6043	464.5200
8.3	0.6291	50.8286	9.6392	215.0400

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	July 25th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	L/D	15.4067	11.4601	289.2750
1.2	0.0919	6.8519	5.5287	257.7750
1.3	0.0660	23.1017	15.3709	435.3300
2.1	0.3133	51.5232	10.8172	192.6750
2.2	0.2069	61.0729	10.0646	129.4650
2.3	0.4137	57.4084	9.4970	300.1950
3.1	0.0494	14.9303	11.9240	380.7300
3.2	0.0292	10.0427	11.8179	322.5600
3.3	0.0007	11.6715	9.4843	465.5700
4.1	L/D	65.0522	11.6383	295.8900
4.2	0.2417	67.7204	10.1098	220.3950
4.3	0.3522	55.3140	9.3704	256.0950
5.1	0.0846	5.4180	9.0097	354.0600
5.2	0.0854	7.5318	11.1228	263.5500
5.3	L/D	20.6808	11.4710	258.3000
6.1	0.7536	50.7902	5.6251	166.7400
6.2	0.6369	53.5719	8.1010	288.8550
6.3	0.8080	51.7301	6.2981	337.3650
7.1	L/D	6.6363	9.9909	221.4450
7.2	0.0066	7.2623	9.5113	335.7900
7.3	L/D	6.1077	5.5969	245.7000
8.1	0.3731	53.8129	8.7889	300.1950
8.2	0.3361	50.6168	10.0434	233.8350
8.3	0.5395	53.6878	9.9584	243.1800

Date	July 27th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.0001	23.4522	12.7675	334.9500
1.2	0.0187	21.9704	12.4533	454.3350
1.3	L/D	34.5152	16.9836	297.2550
2.1	0.4041	52.6639	10.9466	301.5600
2.2	0.1693	62.1463	10.2366	178.7100
2.3	0.2951	57.7068	9.5267	242.2350
3.1	0.0272	25.0430	13.5407	354.2700
3.2	L/D	17.4148	13.1069	306.6000
3.3	L/D	21.3104	11.6961	444.5700
4.1	L/D	67.4853	12.0460	266.4900
4.2	0.0678	67.6766	10.3878	284.1300
4.3	0.3063	58.2191	9.7386	281.2950
5.1	L/D	11.9651	11.3542	405.8250
5.2	0.0498	13.9282	12.6417	198.4500
5.3	0.3840	29.3914	13.4062	103.4040
6.1	0.7316	51.4517	5.6776	168.2100
6.2	0.4827	54.0793	8.1500	194.1450
6.3	0.7433	51.1053	6.2347	242.6550
7.1	0.0778	12.7558	12.0472	301.3500
7.2	L/D	12.6647	10.7299	386.2950
7.3	0.0026	11.1503	6.8414	312.1650
8.1	0.3820	53.1128	8.6625	245.7000
8.2	0.3255	51.0225	9.9322	345.2400
8.3	0.4449	53.0156	9.8187	305.3400

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix I: Table I2 Metals concentrations of soil solution samples at second sampling period (harvest period)

Date	August 30th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.1755	49.3081	11.2344	330.6450
1.2	0.1261	L/D	4.4551	189.5250
1.3	0.3715	10.7208	6.0986	290.9550
2.1	0.0945	0.0641	2.8671	355.9500
2.2	0.4025	52.9182	7.7347	465.2550
2.3	0.1749	26.8758	4.8009	281.5050
3.1	0.0627	19.3599	7.1862	535.8150
3.2	0.0684	22.2551	5.7798	374.8500
3.3	0.8165	L/D	L/D	396.2700
4.1	2.1840	L/D	1.8545	720.5100
4.2	0.1150	46.6998	7.1214	363.4050
4.3	0.1643	16.7366	7.0813	256.0950
5.1	0.1348	L/D	0.7110	276.4650
5.2	0.0614	4.7821	2.7241	229.8450
5.3	0.1261	45.7567	7.6501	312.1650
6.1	0.7682	40.9807	4.5106	413.9100
6.2	0.4802	31.9775	5.0401	320.8800
6.3	0.7518	40.1004	4.9839	260.9250
7.1	0.0336	0.4491	1.6544	176.4000
7.2	0.0314	33.0967	8.7674	253.5750
7.3	0.1949	L/D	0.9807	214.3050
8.1	0.1962	15.8932	4.3834	411.4950
8.2	0.2251	3.8081	4.4516	256.8300
8.3	0.4554	40.6759	7.2785	396.6900

Date	August 31th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.2158	48.7776	10.7809	779.9400
1.2	0.2610	0.2405	6.2316	529.4100
1.3	0.1851	18.2699	7.1726	299.6700
2.1	0.1122	1.7635	4.4374	374.9550
2.2	0.5528	52.2116	7.5516	580.5450
2.3	0.2883	27.1239	4.9649	456.5400
3.1	0.7996	22.2169	7.5904	388.0800
3.2	0.0989	25.3321	6.1813	328.8600
3.3	0.9573	L/D	0.7922	471.9750
4.1	1.7745	L/D	4.8564	899.5350
4.2	0.1883	48.6123	7.2232	300.0900
4.3	0.3826	27.7051	7.0878	343.0350
5.1	0.2875	L/D	2.4888	152.4600
5.2	0.1009	6.7796	4.0299	196.1400
5.3	0.2900	37.3245	7.3461	204.5400
6.1	0.8796	41.0287	4.5589	318.3600
6.2	0.5560	33.0399	5.1132	283.5000
6.3	0.8498	40.9448	5.0793	274.4700
7.1	0.1251	1.4255	3.1500	200.2350
7.2	0.0578	34.1448	8.8038	322.4550
7.3	0.2775	L/D	2.7432	250.4250
8.1	0.5200	18.9061	4.7292	308.2800
8.2	0.7839	11.5075	5.2325	375.6900
8.3	0.6650	40.1903	7.1771	329.5950

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	September 1st, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.2729	49.6534	10.7079	388.6050
1.2	0.1500	3.5123	7.1024	260.7150
1.3	0.1107	22.2684	7.9005	288.1200
2.1	0.2930	4.7788	5.6061	323.2950
2.2	0.4572	52.8209	7.5096	388.3950
2.3	0.2653	29.6410	5.2795	354.2700
3.1	0.1332	24.9549	8.0899	396.6900
3.2	0.1141	28.7647	6.6246	471.1350
3.3	0.2603	L/D	2.1594	456.3300
4.1	1.2296	0.4634	7.2973	888.6150
4.2	0.2442	51.0523	7.5184	482.0550
4.3	0.2561	32.4102	7.1532	337.3650
5.1	0.0799	-0.5643	3.8916	245.0700
5.2	1.0857	8.9226	4.5829	192.3600
5.3	0.2025	47.7285	7.8894	420.2100
6.1	0.8110	40.6971	4.5148	279.1950
6.2	0.5378	31.5811	5.3088	332.2200
6.3	0.8324	40.7431	5.0507	323.8200
7.1	0.2093	2.7442	4.3275	233.7300
7.2	0.0492	35.7935	8.8891	302.1900
7.3	0.1840	L/D	4.4036	261.1350
8.1	0.2375	22.4352	5.0753	179.6550
8.2	0.4793	16.0138	5.6183	132.6150
8.3	1.3220	40.9057	7.2424	184.1700

Date	September 2nd, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	L/D	49.9309	10.3137	89.9325
1.2	0.1730	7.0367	7.1626	113.1900
1.3	0.0977	24.2412	8.5652	237.6150
2.1	0.0405	8.0675	6.3427	272.8950
2.2	0.3008	54.0434	7.5934	128.4150
2.3	0.0464	31.2221	5.5181	154.4550
3.1	L/D	30.8120	8.6735	125.4750
3.2	L/D	31.6894	6.9933	87.1605
3.3	L/D	-0.7680	2.5027	225.1200
4.1	0.8308	2.5102	8.5804	1080.4500
4.2	0.0257	52.5822	7.7432	119.7000
4.3	0.0396	35.8684	7.9285	237.3000
5.1	0.0866	0.0015	4.5359	137.6550
5.2	0.2876	11.0318	5.3310	169.0500
5.3	L/D	51.7606	7.9943	140.8050
6.1	0.6729	41.9091	4.6035	119.0700
6.2	0.2627	33.7368	5.5472	126.0000
6.3	1.2632	41.8806	5.1732	113.1900
7.1	L/D	4.1033	5.4697	126.9450
7.2	L/D	37.5779	9.0859	110.7750
7.3	L/D	-0.2892	5.7721	187.9500
8.1	0.3856	27.1653	5.4471	129.8850
8.2	0.2056	19.7757	6.0635	125.8950
8.3	1.1960	43.2624	7.5045	260.8200

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	September 3rd, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	3.5480	49.3155	10.1344	135.0300
1.2	0.3576	10.9141	6.9954	130.3050
1.3	3.0072	18.2661	7.4190	114.5550
2.1	1.7693	3.2364	2.7991	166.6350
2.2	4.0509	51.5518	7.4144	132.6150
2.3	0.7347	31.3980	5.6473	86.5200
3.1	L/D	29.9498	8.6668	175.5600
3.2	L/D	32.5280	7.0093	113.6100
3.3	4.5245	L/D	L/D	198.8700
4.1	15.5820	L/D	3.0345	718.9350
4.2	2.7510	15.4355	4.7651	44.0265
4.3	2.5557	35.1062	7.3149	75.8625
5.1	2.4476	0.6099	4.9194	126.2100
5.2	L/D	12.5595	5.7524	138.2850
5.3	1.0204	48.4379	7.7441	58.6950
6.1	8.6972	39.0080	4.4134	93.7440
6.2	6.4586	31.7033	5.3270	142.5900
6.3	8.0210	38.2999	4.9422	137.1300
7.1	2.3079	4.3041	4.2927	146.1600
7.2	L/D	36.1356	8.6927	127.6800
7.3	1.8785	L/D	3.8751	172.6200
8.1	N/A	N/A	N/A	N/A
8.2	4.3554	18.9088	5.6213	105.7350
8.3	4.1171	40.7636	7.2258	81.3645

Date	September 4th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.0046	48.0209	10.3194	141.1200
1.2	N/A	N/A	N/A	N/A
1.3	N/A	N/A	N/A	N/A
2.1	L/D	L/D	0.3227	69.4050
2.2	0.5889	52.1554	7.8236	116.5500
2.3	0.0356	29.1541	5.1719	101.0100
3.1	L/D	26.7996	8.7009	156.2400
3.2	0.1428	24.2278	4.8615	142.8000
3.3	0.6054	L/D	L/D	106.8900
4.1	1.5152	L/D	0.3866	N/A
4.2	0.0291	L/D	1.2853	57.6030
4.3	0.2752	10.6977	3.9192	149.3100
5.1	L/D	L/D	0.7420	28.7700
5.2	0.0484	13.9026	5.6871	58.5900
5.3	0.0580	44.0848	7.5862	81.0705
6.1	1.5309	14.6002	4.0877	72.9645
6.2	0.4759	2.3478	2.7577	63.1260
6.3	0.6995	19.0887	4.5040	97.7655
7.1	L/D	L/D	0.3401	34.7025
7.2	0.1551	11.4565	6.1848	117.3900
7.3	0.0394	L/D	0.1442	70.0665
8.1	N/A	N/A	N/A	N/A
8.2	N/A	N/A	N/A	N/A
8.3	0.5343	12.6740	5.5526	81.5850

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	September 5th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.4477	18.1726	8.9894	908.3550
1.2	0.1244	L/D	0.0304	260.0850
1.3	N/A	N/A	N/A	N/A
2.1	0.0728	L/D	0.1402	180.7050
2.2	0.2819	40.9416	7.5249	225.6450
2.3	0.1551	8.4667	4.3447	215.7750
3.1	N/A	N/A	N/A	N/A
3.2	0.0855	1.8596	2.2762	176.2950
3.3	0.9575	L/D	L/D	230.6850
4.1	2.1168	L/D	0.1290	557.1300
4.2	0.0209	L/D	0.2710	554.6100
4.3	0.1108	L/D	0.9477	168.7350
5.1	N/A	N/A	N/A	N/A
5.2	0.0751	2.2493	3.9941	155.8200
5.3	0.2763	35.7402	6.3565	365.5050
6.1	0.5791	5.0473	2.9731	142.4850
6.2	0.2338	L/D	0.9687	191.7300
6.3	0.4640	3.5833	3.1744	115.1850
7.1	0.2136	L/D	L/D	158.5500
7.2	0.3920	L/D	3.7887	220.3950
7.3	0.1830	L/D	L/D	166.3200
8.1	N/A	N/A	N/A	N/A
8.2	N/A	N/A	N/A	N/A
8.3	0.4291	0.8377	3.0017	161.8050

Date	September 6th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.1175	L/D	5.3704	230.4750
1.2	0.4796	L/D	L/D	395.6400
1.3	N/A	N/A	N/A	N/A
2.1	0.1168	L/D	0.1165	185.5350
2.2	0.3776	13.9831	6.1983	N/A
2.3	0.2000	2.0152	2.7157	145.4250
3.1	N/A	N/A	N/A	N/A
3.2	0.1731	0.1015	0.3370	165.1650
3.3	0.9952	L/D	L/D	319.2000
4.1	2.0402	L/D	0.0738	613.4100
4.2	0.7550	L/D	0.2096	403.2000
4.3	0.2393	L/D	0.1842	189.2100
5.1	N/A	N/A	N/A	N/A
5.2	0.4644	5.1362	2.3368	167.2650
5.3	0.2892	8.5579	3.6902	538.4400
6.1	0.4862	L/D	1.9303	132.6150
6.2	0.3413	L/D	0.0897	201.9150
6.3	0.3998	L/D	1.5460	125.2650
7.1	0.4623	L/D	L/D	174.8250
7.2	0.3001	L/D	0.3056	186.0600
7.3	0.2969	L/D	L/D	428.8200
8.1	N/A	N/A	N/A	N/A
8.2	N/A	N/A	N/A	N/A
8.3	0.2514	L/D	0.6046	245.3850

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	September 7th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.0616	L/D	2.4259	142.0650
1.2	0.1478	L/D	L/D	190.9950
1.3	N/A	N/A	N/A	N/A
2.1	0.1890	L/D	0.0633	160.8600
2.2	0.4551	24.5889	5.5573	194.5650
2.3	0.1444	6.9363	2.1174	152.5650
3.1	N/A	N/A	N/A	N/A
3.2	0.1134	L/D	0.0094	167.0550
3.3	1.0458	L/D	L/D	230.2650
4.1	1.9079	L/D	0.0365	597.9750
4.2	0.2558	L/D	0.0781	479.0100
4.3	0.1746	L/D	0.0994	137.4450
5.1	N/A	N/A	N/A	N/A
5.2	0.1107	2.0831	0.8370	144.5850
5.3	0.3237	0.6331	1.4541	159.6000
6.1	N/A	N/A	N/A	N/A
6.2	0.1712	L/D	L/D	150.6750
6.3	0.2800	L/D	0.3186	166.7400
7.1	0.1548	L/D	L/D	102.1125
7.2	0.0422	L/D	1.7091	122.3250
7.3	0.8083	L/D	L/D	282.2400
8.1	N/A	N/A	N/A	N/A
8.2	N/A	N/A	N/A	N/A
8.3	0.3054	L/D	0.1128	185.8500

Date	September 8th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.0707	L/D	0.1429	116.8650
1.2	N/A	N/A	N/A	N/A
1.3	N/A	N/A	N/A	N/A
2.1	0.2135	L/D	0.0144	153.0900
2.2	0.2836	1.6954	4.0259	173.5650
2.3	0.3279	L/D	0.9840	139.6500
3.1	N/A	N/A	N/A	N/A
3.2	0.2073	L/D	L/D	236.4600
3.3	0.8965	L/D	L/D	231.7350
4.1	2.6292	L/D	0.0070	666.7500
4.2	0.1190	L/D	0.0180	348.8100
4.3	0.2545	L/D	0.0528	175.7700
5.1	N/A	N/A	N/A	N/A
5.2	0.1831	L/D	L/D	159.3900
5.3	0.7592	L/D	0.0198	413.9100
6.1	N/A	N/A	N/A	N/A
6.2	0.3544	L/D	L/D	174.7200
6.3	0.1956	L/D	L/D	224.0700
7.1	0.1125	L/D	L/D	146.1600
7.2	0.0314	L/D	0.0266	135.9750
7.3	0.5943	L/D	L/D	453.1800
8.1	N/A	N/A	N/A	N/A
8.2	N/A	N/A	N/A	N/A
8.3	0.0667	L/D	0.0509	184.3800

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	September 10th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	0.3774	L/D	0.0412	279.3000
1.2	L/D	L/D	L/D	308.7000
1.3	N/A	N/A	N/A	N/A
2.1	0.3142	L/D	0.0234	177.5550
2.2	L/D	L/D	0.1404	380.2050
2.3	L/D	L/D	0.2655	95.9280
3.1	N/A	N/A	N/A	N/A
3.2	0.0552	L/D	L/D	101.2305
3.3	0.9474	L/D	L/D	108.9900
4.1	2.8896	L/D	L/D	551.2500
4.2	N/A	N/A	N/A	N/A
4.3	0.0704	L/D	0.0661	109.9350
5.1	N/A	N/A	N/A	N/A
5.2	0.0426	L/D	L/D	74.0040
5.3	L/D	L/D	L/D	182.6370
6.1	N/A	N/A	N/A	N/A
6.2	0.1227	L/D	L/D	112.0350
6.3	0.0123	L/D	L/D	105.9450
7.1	0.0126	L/D	L/D	104.6430
7.2	L/D	L/D	L/D	107.6250
7.3	N/A	N/A	N/A	N/A
8.1	N/A	N/A	N/A	N/A
8.2	N/A	N/A	N/A	N/A
8.3	L/D	L/D	0.0454	180.9150

Date	September 12th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	L/D	L/D	L/D	338.9400
1.2	N/A	N/A	N/A	N/A
1.3	N/A	N/A	N/A	N/A
2.1	0.2577	L/D	L/D	147.9450
2.2	N/A	N/A	N/A	N/A
2.3	N/A	N/A	N/A	N/A
3.1	N/A	N/A	N/A	N/A
3.2	0.0148	L/D	L/D	68.2710
3.3	0.6880	L/D	L/D	192.5490
4.1	2.2019	L/D	L/D	508.6200
4.2	N/A	N/A	N/A	N/A
4.3	0.0746	L/D	L/D	87.0135
5.1	N/A	N/A	N/A	N/A
5.2	0.0761	L/D	L/D	49.4025
5.3	L/D	L/D	L/D	60.5115
6.1	N/A	N/A	N/A	N/A
6.2	0.0135	L/D	L/D	55.8180
6.3	L/D	L/D	L/D	60.6270
7.1	L/D	L/D	L/D	70.8960
7.2	L/D	L/D	L/D	131.9010
7.3	N/A	N/A	N/A	N/A
8.1	N/A	N/A	N/A	N/A
8.2	N/A	N/A	N/A	N/A
8.3	L/D	L/D	L/D	135.7650

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	September 14th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	L/D	L/D	L/D	247.4640
1.2	N/A	N/A	N/A	N/A
1.3	N/A	N/A	N/A	N/A
2.1	0.1054	L/D	L/D	282.4500
2.2	L/D	L/D	0.0129	513.6600
2.3	N/A	N/A	N/A	N/A
3.1	N/A	N/A	N/A	N/A
3.2	0.0339	L/D	L/D	54.7365
3.3	0.4280	L/D	L/D	378.9660
4.1	2.1273	L/D	L/D	490.3500
4.2	N/A	N/A	N/A	N/A
4.3	0.2060	L/D	L/D	130.9350
5.1	N/A	N/A	N/A	N/A
5.2	0.0171	L/D	L/D	65.9085
5.3	L/D	L/D	L/D	81.9315
6.1	N/A	N/A	N/A	N/A
6.2	0.0825	L/D	L/D	75.7155
6.3	L/D	L/D	L/D	140.0490
7.1	0.2235	L/D	L/D	172.4100
7.2	L/D	L/D	L/D	395.3250
7.3	N/A	N/A	N/A	N/A
8.1	N/A	N/A	N/A	N/A
8.2	N/A	N/A	N/A	N/A
8.3	0.0113	L/D	L/D	241.0800

Date	September 15th, 2005			
Pots no.	Cd (ppb)	Fe (mg/kg)	Mn (mg/kg)	Zn (ppb)
1.1	N/A	N/A	N/A	N/A
1.2	N/A	N/A	N/A	N/A
1.3	N/A	N/A	N/A	N/A
2.1	0.0190	L/D	L/D	N/A
2.2	N/A	N/A	N/A	N/A
2.3	N/A	N/A	N/A	N/A
3.1	N/A	N/A	N/A	N/A
3.2	0.1869	L/D	L/D	N/A
3.3	N/A	N/A	N/A	N/A
4.1	0.4603	L/D	L/D	N/A
4.2	N/A	N/A	N/A	N/A
4.3	0.2528	L/D	0.0007	N/A
5.1	N/A	N/A	N/A	N/A
5.2	0.0759	L/D	L/D	N/A
5.3	L/D	L/D	L/D	N/A
6.1	N/A	N/A	N/A	N/A
6.2	0.0615	L/D	L/D	N/A
6.3	L/D	L/D	L/D	N/A
7.1	L/D	L/D	L/D	N/A
7.2	N/A	N/A	N/A	N/A
7.3	N/A	N/A	N/A	N/A
8.1	N/A	N/A	N/A	N/A
8.2	N/A	N/A	N/A	N/A
8.3	0.3914	L/D	L/D	N/A

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix II: Table I1 Soil redox potential at first sampling period (grain fill stage period)

Date	July 12th, 2005	July 13th, 2005	July 14th, 2005	July 15th, 2005
Pots no.	Redox potential (mV)	Redox potential (mV)	Redox potential (mV)	Redox potential (mV)
1.1	-306.7	-399.6	-234.5	-87.3
1.2	-215.4	-113.4	-209.0	-175.5
1.3	-271.2	-269.3	-204.1	-71.7
2.1	-282.8	-308.3	-196.7	-196.9
2.2	-215.7	-245.7	-203.5	-189.5
2.3	-196.0	-178.8	-164.4	-178.6
3.1	-144.4	-191.0	-153.6	-43.6
3.2	-176.6	-205.7	-166.1	-177.2
3.3	0.3	-50.3	-69.6	-73.7
4.1	-235.6	-242.5	-175.5	-150.3
4.2	-183.3	-216.8	-193.8	-188.3
4.3	-176.0	-203.9	-170.5	-172.2
5.1	-176.1	-210.0	-187.1	-59.1
5.2	-163.2	-194.6	-46.6	-83.1
5.3	-210.7	-214.7	-191.3	-195.7
6.1	-165.8	-173.2	-163.6	-162.2
6.2	-170.0	-193.2	-197.1	-186.7
6.3	-162.2	-200.6	-190.5	-168.8
7.1	-188.5	-223.6	-184.0	-52.5
7.2	-128.5	-328.7	-47.8	-48.7
7.3	-176.3	-209.1	-68.6	-69.7
8.1	-131.2	-171.4	-155.9	-146.6
8.2	-169.6	-241.2	-58.6	-189.3
8.3	-224.7	-241.6	-205.7	-192.2

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments



Date	July 16th, 2005	July 17th, 2005	July 18th, 2005	July 19th, 2005
Pots no.	Redox potential (mV)	Redox potential (mV)	Redox potential (mV)	Redox potential (mV)
1.1	-99.8	-92.2	-120.7	-100.6
1.2	-83.3	-135.4	-97.6	-72.5
1.3	-61.7	-109.9	-94.7	-88.8
2.1	-183.8	-250.4	-183.5	-168.7
2.2	-221.3	-228.4	-174.0	-182.1
2.3	-166.1	-161.4	-150.6	-145.3
3.1	-51.1	-59.0	-62.0	-61.9
3.2	-92.9	-77.8	-66.7	-46.2
3.3	-60.0	-128.7	-38.1	-37.1
4.1	-297.2	-341.2	-213.0	-171.8
4.2	-183.9	-188.5	-175.3	-180.0
4.3	-177.0	-193.9	-172.2	-172.2
5.1	-52.7	-35.1	-8.9	-77.1
5.2	-60.9	-80.8	-25.6	-31.4
5.3	-53.7	-67.2	-53.5	-69.4
6.1	-164.0	-138.0	-150.4	-147.3
6.2	-172.7	-172.1	-183.5	-200.3
6.3	-161.4	-104.8	-127.8	-141.8
7.1	-22.6	-11.5	-31.8	-45.6
7.2	-29.2	-41.6	-15.4	-12.9
7.3	-91.8	-87.1	-86.1	-73.7
8.1	-153.8	-123.1	-129.5	-138.7
8.2	-174.7	-172.7	-163.0	-166.9
8.3	-180.5	-186.6	-193.6	-198.5

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	July 20th, 2005	July 21st, 2005	July 22nd, 2005
Pots no.	Redox potential (mV)	Redox potential (mV)	Redox potential (mV)
1.1	-86.0	-92.2	-103.4
1.2	-103.9	-135.4	-92.1
1.3	-78.6	-109.9	-83.3
2.1	-279.8	-250.4	-197.7
2.2	-209.8	-228.4	-157.3
2.3	-169.1	-161.4	-142.5
3.1	-78.4	-59.0	-49.9
3.2	-42.7	-77.8	-71.0
3.3	258.0	-128.7	-67.6
4.1	-232.2	-341.2	-167.7
4.2	-176.3	-188.5	-163.7
4.3	-175.3	-193.9	-146.1
5.1	-7.5	-35.1	-17.1
5.2	-18.3	-80.8	-42.0
5.3	-57.2	-67.2	-57.4
6.1	-149.4	-152.5	-122.6
6.2	-207.1	-172.8	-155.1
6.3	-165.0	-157.5	-146.4
7.1	-49.5	-79.2	-86.9
7.2	-58.2	-96.3	-58.6
7.3	-123.9	-117.6	-99.5
8.1	-169.1	-155.4	-133.1
8.2	-211.9	-198.4	-170.9
8.3	-216.1	-186.8	-164.6

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix II: Table I2 Soil redox potential at second sampling period (harvest period)

Date	August 30th, 2005	August 31st, 2005	September 1st, 2005	September 2nd, 2005
Pots no.	Redox potential (mV)	Redox potential (mV)	Redox potential (mV)	Redox potential (mV)
1.1	-88.6	-88.0	-82.0	-78.0
1.2	-102.9	-73.4	-72.4	-85.3
1.3	-62.9	-70.6	-72.3	-81.8
2.1	-87.2	-65.5	-71.8	-60.8
2.2	-80.8	-70.8	-74.9	-68.0
2.3	-76.7	-97.4	-79.7	-72.9
3.1	-64.9	-67.8	-36.5	-28.3
3.2	-49.6	-48.9	-49.4	-57.0
3.3	-12.2	-41.8	-45.8	-58.8
4.1	-98.4	-98.9	-92.0	-58.0
4.2	-72.3	-60.6	-83.1	-57.1
4.3	-54.3	-76.5	-68.0	-90.1
5.1	-16.7	-29.8	-24.2	-22.6
5.2	-18.5	-14.3	-20.6	-11.4
5.3	-58.7	-23.2	-31.8	-56.2
6.1	-47.8	-48.4	-36.1	-26.8
6.2	-86.1	-75.5	-74.5	-61.8
6.3	-31.0	-27.2	-31.2	-18.3
7.1	-18.9	-36.1	-45.2	-18.5
7.2	-33.1	-29.4	-41.6	-45.2
7.3	-51.2	-46.2	-30.6	-44.7
8.1	-19.7	-27.6	-34.3	-43.3
8.2	-60.2	-80.6	-93.1	-87.1
8.3	-108.4	-72.6	-70.9	-66.8

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	September 3rd, 2005	September 4th, 2005	September 5th, 2005	September 6th, 2005
Pots no.	Redox potential (mV)	Redox potential (mV)	Redox potential (mV)	Redox potential (mV)
1.1	-91.9	-91.2	-80.4	-105.9
1.2	-94.7	-85.4	-40.2	-56.7
1.3	-79.1	-93.1	-61.9	-76.3
2.1	-81.7	-71.8	-74.1	-68.2
2.2	-89.0	-57.0	-85.7	-93.8
2.3	-98.1	-87.9	-90.8	-74.8
3.1	-43.7	-29.8	-19.3	-52.5
3.2	-80.0	-73.0	-19.1	-73.8
3.3	28.3	-9.3	-10.3	-2.2
4.1	-93.3	-63.1	-12.5	-65.5
4.2	-111.1	-32.4	-60.6	-88.0
4.3	-91.2	-67.4	-64.4	-66.2
5.1	-33.0	-33.8	18.2	11.7
5.2	-30.3	-30.0	-3.6	54.9
5.3	-82.4	-58.6	-39.0	-74.7
6.1	-53.5	-44.3	-53.1	-56.6
6.2	-115.6	-75.2	-72.7	-55.6
6.3	-34.7	-29.3	-47.2	-9.2
7.1	-53.5	20.0	27.5	-27.4
7.2	-93.1	-54.8	-37.7	-33.9
7.3	-2.1	-15.9	-17.7	26.7
8.1	-28.2	-42.7	-65.1	-23.8
8.2	-64.1	-19.4	-22.1	-31.0
8.3	-80.6	-90.6	-41.8	5.0

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	September 7th, 2005	September 8th, 2005	September 10th, 2005	September 12th, 2005
Pots no.	Redox potential (mV)	Redox potential (mV)	Redox potential (mV)	Redox potential (mV)
1.1	-89.7	-86.1	-85.9	-67.4
1.2	-32.0	-27.8	-35.5	-47.6
1.3	-49.1	-54.9	-48.1	-48.8
2.1	-50.4	-57.0	-55.8	-45.4
2.2	-75.3	-34.8	-77.6	-69.0
2.3	-86.0	-89.7	-71.4	-68.6
3.1	-28.0	-7.9	-63.5	-20.7
3.2	-43.2	-56.8	-43.0	-14.5
3.3	17.2	4.5	17.0	5.0
4.1	-65.0	-48.1	-61.9	-69.4
4.2	-95.5	-102.1	-85.3	-72.1
4.3	-56.6	-59.2	-70.6	59.8
5.1	42.5	12.3	11.3	191.7
5.2	-41.9	2.8	9.4	11.9
5.3	-63.5	-55.4	-27.5	-9.7
6.1	-57.3	-68.8	-88.5	-87.2
6.2	-27.2	-27.9	-24.6	-6.1
6.3	-48.4	-44.2	-68.2	-11.1
7.1	-24.3	-3.8	-33.9	-12.2
7.2	-28.8	-1.6	-38.1	-3.3
7.3	35.9	17.7	-63.1	-31.9
8.1	-34.1	-4.3	-9.9	-34.8
8.2	-12.3	-46.4	-22.5	-28.7
8.3	-12.3	-2.7	-0.2	-3.9

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	September 14th, 2005	September 15th, 2005
Pots no.	Redox potential (mV)	Redox potential (mV)
1.1	-57.7	-51.6
1.2	-16.5	136.0
1.3	-59.0	49.2
2.1	-46.4	-46.6
2.2	-58.0	-61.6
2.3	-73.9	-68.9
3.1	-40.7	-1.7
3.2	-74.3	-54.7
3.3	2.3	-7.0
4.1	-60.2	-56.7
4.2	-77.2	-82.6
4.3	-50.9	-68.6
5.1	-1.6	4.2
5.2	-29.1	-12.1
5.3	-39.9	13.5
6.1	-81.4	-58.4
6.2	-16.2	-38.3
6.3	-62.3	-70.6
7.1	-9.9	-15.5
7.2	15.6	-53.7
7.3	184.4	23.2
8.1	-14.8	-19.1
8.2	-2.6	-13.9
8.3	-10.1	-28.8

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix III: Table I1 Soil solution pH at first sampling period (grain fill stage period)

Date	July 11th, 2005	July 12th, 2005	July 13th, 2005	July 14th, 2005
Pots no.	pH	pH	pH	pH
1.1	6.97	7.09	7.02	6.78
1.2	7.00	6.88	6.99	6.76
1.3	7.06	7.00	7.13	6.69
2.1	7.05	6.96	7.15	6.73
2.2	6.96	6.85	7.13	6.96
2.3	7.10	7.05	7.12	6.90
3.1	7.35	7.04	7.40	6.71
3.2	6.95	6.90	6.98	6.77
3.3	6.39	6.36	6.57	6.28
4.1	6.92	6.99	7.03	6.71
4.2	7.07	6.98	7.07	6.77
4.3	6.93	6.81	6.98	6.66
5.1	6.95	7.04	6.96	6.66
5.2	7.01	6.91	7.05	6.75
5.3	6.92	7.14	6.97	6.75
6.1	6.95	6.94	6.97	6.67
6.2	7.00	6.91	7.14	6.62
6.3	7.02	7.00	7.02	6.84
7.1	7.05	7.11	7.07	6.66
7.2	6.97	6.92	7.00	6.72
7.3	7.01	6.96	7.05	6.71
8.1	7.08	7.01	7.09	6.82
8.2	7.01	7.22	7.07	6.80
8.3	7.04	6.98	7.12	6.68

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	July 15th, 2005	July 16th, 2005	July 17th, 2005	July 18th, 2005
Pots no.	pH	pH	pH	pH
1.1	7.07	7.13	7.38	N/A
1.2	7.11	7.24	7.33	N/A
1.3	7.10	7.23	7.52	N/A
2.1	7.22	7.28	7.66	7.46
2.2	7.01	7.06	7.51	7.28
2.3	7.23	7.35	7.56	7.50
3.1	6.98	7.14	7.21	N/A
3.2	6.99	7.02	7.30	7.38
3.3	6.92	6.91	N/A	N/A
4.1	7.01	7.02	7.10	7.27
4.2	7.13	7.21	7.40	7.58
4.3	7.49	7.13	7.29	7.51
5.1	6.97	N/A	N/A	N/A
5.2	7.04	7.12	7.40	N/A
5.3	7.12	7.07	N/A	7.49
6.1	7.07	7.05	7.28	7.37
6.2	7.06	7.06	7.25	7.26
6.3	7.12	7.25	7.49	7.48
7.1	7.00	7.16	6.70	N/A
7.2	7.05	7.45	7.49	7.70
7.3	6.98	7.01	7.43	N/A
8.1	7.5	7.31	7.52	7.58
8.2	7.24	7.14	7.39	7.36
8.3	7.15	7.09	7.32	7.27

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	July 19th, 2005	July 20th, 2005	July 21st, 2005	July 22nd, 2005
Pots no.	pH	pH	pH	pH
1.1	N/A	6.98	6.53	6.55
1.2	N/A	6.92	6.58	6.79
1.3	N/A	6.57	6.55	6.40
2.1	7.05	6.99	6.91	6.98
2.2	7.00	6.98	7.06	6.94
2.3	7.27	7.11	7.11	7.15
3.1	N/A	6.62	6.54	6.57
3.2	N/A	6.48	6.72	6.50
3.3	N/A	6.44	6.47	6.36
4.1	6.86	6.85	6.81	6.88
4.2	7.09	7.10	7.28	7.15
4.3	6.94	7.04	6.93	6.95
5.1	N/A	6.81	6.65	6.68
5.2	N/A	6.97	6.87	6.89
5.3	N/A	6.84	6.73	6.76
6.1	6.97	7.03	6.94	7.02
6.2	6.94	6.87	6.81	6.82
6.3	7.10	7.08	7.04	7.07
7.1	N/A	6.86	6.87	6.79
7.2	N/A	6.84	6.74	6.74
7.3	N/A	6.83	6.89	6.82
8.1	7.16	6.84	6.95	7.09
8.2	7.13	7.01	6.98	6.99
8.3	6.96	6.92	6.86	6.93

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	July 23rd, 2005	July 25th, 2005	July 27th, 2005
Pots no.	pH	pH	pH
1.1	6.64	6.60	6.72
1.2	6.66	7.01	6.93
1.3	6.65	6.73	6.76
2.1	7.07	7.10	7.18
2.2	7.02	7.16	7.01
2.3	7.19	7.26	7.27
3.1	6.70	6.71	6.71
3.2	6.64	6.64	6.76
3.3	6.52	6.48	6.58
4.1	6.94	7.01	7.06
4.2	7.25	7.18	7.31
4.3	7.08	7.01	7.12
5.1	6.77	6.74	6.80
5.2	6.96	6.89	6.99
5.3	6.91	6.98	7.13
6.1	7.06	7.05	7.07
6.2	6.92	6.98	7.15
6.3	7.14	7.16	7.25
7.1	6.8	6.85	6.89
7.2	6.85	6.88	6.91
7.3	6.94	7.19	7.00
8.1	7.12	7.11	7.19
8.2	7.12	7.11	7.12
8.3	6.95	7.02	7.10

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix III: Table I2 Soil solution pH at second sampling period (harvest period)

Date	August 30th, 2005	August 31st, 2005	September 1st, 2005	September 2nd, 2005
Pots no.	pH	pH	pH	pH
1.1	7.13	7.14	7.20	7.22
1.2	6.91	6.87	6.92	6.79
1.3	6.74	6.79	6.81	6.87
2.1	6.63	6.64	6.62	6.72
2.2	6.99	7.13	7.13	7.11
2.3	7.01	7.09	7.05	7.09
3.1	6.75	6.77	6.80	6.91
3.2	6.89	6.95	6.94	6.99
3.3	7.01	6.56	6.51	6.50
4.1	6.32	6.18	6.12	6.39
4.2	7.04	7.15	7.09	7.18
4.3	6.84	6.93	6.87	6.93
5.1	6.79	6.79	6.72	6.81
5.2	6.98	6.93	6.89	6.92
5.3	7.14	7.39	7.33	7.21
6.1	7.08	7.06	7.07	7.08
6.2	6.19	6.87	6.96	7.04
6.3	7.17	7.12	7.16	7.22
7.1	6.72	6.78	6.82	6.85
7.2	7.15	7.16	7.17	7.35
7.3	6.98	6.95	6.88	6.87
8.1	7.01	6.97	7.97	7.00
8.2	6.92	6.93	6.94	6.97
8.3	6.57	6.95	6.99	6.93

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Date	September 3rd, 2005	September 4th, 2005
Pots no.	pH	pH
1.1	7.15	7.28
1.2	7.01	N/A
1.3	6.79	N/A
2.1	6.62	6.63
2.2	7.05	7.13
2.3	7.05	7.09
3.1	6.87	6.82
3.2	6.97	6.94
3.3	6.48	6.75
4.1	6.29	6.35
4.2	6.99	7.08
4.3	7.09	6.93
5.1	6.77	6.60
5.2	6.80	6.90
5.3	7.14	7.20
6.1	7.13	7.06
6.2	7.02	6.78
6.3	7.18	7.10
7.1	6.74	6.77
7.2	7.24	7.16
7.3	6.81	6.94
8.1	N/A	N/A
8.2	7.00	N/A
8.3	7.03	6.86

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix IV: Table I1 Soil redox potential, treatment average with SD value, at first sampling period (grain fill stage period)

DATA Type		Treatment	11/7/2005	12/7/2005	13/7/2005	14/7/2005	15/7/2005	16/7/2005	17/7/2005	18/7/2005	19/7/2005	20/7/2005	21/7/2005	22/7/2005	23/7/2005	24/7/2005	25/7/2005	27/7/2005
Redox	Average	T1	N/A	-264.43	-260.77	-215.87	-111.50	-81.60	-112.50	-104.33	-87.30	-89.50	-112.50	-92.93	N/A	N/A	N/A	N/A
	SD		N/A	46.02	143.29	16.32	55.97	19.11	21.72	14.25	14.11	13.01	21.72	10.08	N/A	N/A	N/A	N/A
Redox	Average	T2	N/A	-231.50	-244.27	-188.20	-188.33	-190.40	-213.40	-169.37	-165.37	-219.57	-213.40	-165.83	N/A	N/A	N/A	N/A
	SD		N/A	45.51	64.76	20.89	9.21	28.19	46.36	16.93	18.63	55.99	46.36	28.57	N/A	N/A	N/A	N/A
Redox	Average	T3	N/A	-160.50	-198.35	-129.77	-98.17	-68.00	-88.50	-55.80	-48.40	-60.55	-88.50	-62.83	N/A	N/A	N/A	N/A
	SD		N/A	22.77	10.39	52.48	70.08	22.02	36.06	15.34	12.55	25.24	36.06	11.33	N/A	N/A	N/A	N/A
Redox	Average	T4	N/A	-198.30	-221.07	-179.93	-170.27	-219.37	-241.20	-186.83	-174.67	-194.60	-191.20	-159.17	N/A	N/A	N/A	N/A
	SD		N/A	32.51	19.65	12.27	19.07	67.49	86.64	22.71	4.62	32.57	3.82	11.49	N/A	N/A	N/A	N/A
Redox	Average	T5	N/A	-183.33	-206.43	-141.67	-112.63	-55.77	-61.03	-29.33	-59.30	-27.67	-61.03	-38.83	N/A	N/A	N/A	N/A
	SD		N/A	24.58	10.51	82.38	72.93	4.47	23.47	22.53	24.47	26.14	23.47	20.34	N/A	N/A	N/A	N/A
Redox	Average	T6	N/A	-166.00	-189.00	-183.73	-172.57	-166.03	-138.30	-153.90	-173.13	-173.83	-160.93	-141.37	N/A	N/A	N/A	N/A
	SD		N/A	3.90	14.17	17.75	12.68	5.92	33.65	28.01	32.30	29.85	10.58	16.82	N/A	N/A	N/A	N/A
Redox	Average	T7	N/A	-164.43	-253.80	-100.13	-56.97	-47.87	-46.73	-44.43	-44.07	-77.20	-97.70	-81.67	N/A	N/A	N/A	N/A
	SD		N/A	31.71	65.27	73.37	11.19	38.19	38.06	37.00	30.43	40.68	19.24	20.95	N/A	N/A	N/A	N/A
Redox	Average	T8	N/A	-175.17	-218.07	-140.07	-176.03	-169.67	-160.80	-162.03	-168.03	-199.03	-180.20	-156.20	N/A	N/A	N/A	N/A
	SD		N/A	47.00	40.42	74.82	25.53	14.04	33.38	32.06	29.92	26.01	22.25	20.25	N/A	N/A	N/A	N/A

Appendix IV: Table I2 Soil redox potential, treatment average with SD value, at second sampling period (harvest period)

DATA Type		Treatment	30/8/2005	31/8/2005	1/9/2005	2/9/2005	3/9/2005	4/9/2005	5/9/2005	6/9/2005	7/9/2005	8/9/2005	10/9/2005	12/9/2005	14/9/2005	15/9/2005
Redox	Average	T1	-84.80	-77.33	-75.57	-81.70	-88.57	-89.90	-60.83	-79.63	-58.93	-56.27	-58.50	-54.60	-44.40	44.53
	SD		20.27	9.34	5.57	3.65	8.32	4.01	20.12	24.77	29.64	29.17	26.23	11.10	24.17	93.89
Redox	Average	T2	-81.57	-77.90	-75.47	-67.23	-89.60	-72.23	-83.53	-78.93	-70.57	-60.50	-68.27	-61.00	-59.43	-59.03
	SD		5.29	17.09	3.98	6.09	8.22	15.45	8.58	13.29	18.27	27.62	11.23	13.51	13.81	11.37
Redox	Average	T3	-42.23	-52.83	-43.90	-48.03	-31.80	-37.37	-16.23	-42.83	-18.00	-20.07	-29.83	-10.07	-37.57	-21.13
	SD		27.11	13.44	6.66	17.11	55.12	32.52	5.14	36.77	31.42	32.41	41.83	13.41	38.40	29.19
Redox	Average	T4	-75.00	-78.67	-81.03	-68.40	-98.53	-54.30	-45.83	-73.23	-72.37	-69.80	-72.60	-70.75	-62.77	-69.30
	SD		22.17	19.24	12.13	18.80	10.93	19.09	28.93	12.79	20.47	28.52	11.83	1.91	13.34	12.96
Redox	Average	T5	-31.30	-22.43	-25.53	-30.07	-48.57	-40.80	-8.13	-2.70	-20.97	-13.43	-2.27	1.10	-23.53	1.87
	SD		23.75	7.78	5.72	23.31	29.33	15.53	25.03	65.99	56.01	36.65	21.87	15.27	19.75	12.96
Redox	Average	T6	-54.97	-50.37	-47.27	-35.63	-67.93	-49.60	-57.67	-40.47	-44.30	-46.97	-60.43	-34.80	-53.30	-55.77
	SD		28.24	24.21	23.71	23.06	42.34	23.40	13.35	27.08	15.46	20.59	32.65	45.45	33.52	16.31
Redox	Average	T7	-34.40	-37.23	-39.13	-36.13	-49.57	-16.90	-9.30	-11.53	-5.73	4.10	-45.03	-15.80	2.85	-15.33
	SD		16.19	8.46	7.61	15.27	45.63	37.41	33.40	33.27	36.13	11.83	15.79	14.64	18.03	38.45
Redox	Average	T8	-62.77	-60.27	-66.10	-65.73	-57.63	-50.90	-43.00	-16.60	-19.57	-17.80	-10.87	-22.47	-9.17	-20.60
	SD		44.41	28.57	29.69	21.92	26.79	38.30	21.53	19.05	12.59	24.78	11.18	16.37	6.15	7.56

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix V: Table I1 Soil solution pH, treatment average with SD value, at first sampling period (grain fill stage period)

DATA Type		Treatment	11/7/2005	12/7/2005	13/7/2005	14/7/2005	15/7/2005	16/7/2005	17/7/2005	18/7/2005	19/7/2005	20/7/2005	21/7/2005	22/7/2005	23/7/2005	24/7/2005	25/7/2005	27/7/2005
pH	Average	T1	7.01	6.99	7.05	6.74	7.09	7.20	7.41	N/A	N/A	6.82	6.55	6.58	6.65	N/A	6.78	6.80
	SD		0.045826	0.11	0.07	0.05	0.02	0.06	0.10	N/A	N/A	0.22	0.03	0.20	0.01	N/A	0.21	0.11
pH	Average	T2	7.036667	6.95	7.13	6.86	7.15	7.23	7.58	7.41	7.11	7.03	7.03	7.02	7.09	N/A	7.17	7.15
	SD		0.070946	0.10	0.02	0.12	0.12	0.15	0.08	0.12	0.14	0.07	0.10	0.11	0.09	N/A	0.08	0.13
pH	Average	T3	6.896667	6.77	6.98	6.59	6.96	7.02	7.26	7.38	N/A	6.51	6.58	6.48	6.62	N/A	6.61	6.68
	SD		0.482217	0.36	0.42	0.27	0.04	0.12	0.06	N/A	N/A	0.09	0.13	0.11	0.09	N/A	0.12	0.09
pH	Average	T4	6.973333	6.93	7.03	6.71	7.21	7.12	7.26	7.45	6.96	7.00	7.01	6.99	7.09	N/A	7.07	7.16
	SD		0.083865	0.10	0.05	0.06	0.25	0.10	0.15	0.16	0.12	0.13	0.24	0.14	0.16	N/A	0.10	0.13
pH	Average	T5	6.96	7.03	6.99	6.72	7.04	7.10	7.40	7.49	N/A	6.87	6.75	6.78	6.88	N/A	6.87	6.97
	SD		0.045826	0.12	0.05	0.05	0.08	0.04	N/A	N/A	N/A	0.09	0.11	0.11	0.10	N/A	0.12	0.17
pH	Average	T6	6.99	6.95	7.04	6.71	7.08	7.12	7.34	7.37	7.00	6.99	6.93	6.97	7.04	N/A	7.06	7.16
	SD		0.036056	0.05	0.09	0.12	0.03	0.11	0.13	0.11	0.09	0.11	0.12	0.13	0.11	N/A	0.09	0.09
pH	Average	T7	7.01	7.00	7.04	6.70	7.01	7.21	7.21	7.70	N/A	6.84	6.83	6.78	6.86	N/A	6.97	6.93
	SD		0.04	0.10	0.04	0.03	0.04	0.22	0.44	N/A	N/A	0.02	0.08	0.04	0.07	N/A	0.19	0.06
pH	Average	T8	7.043333	7.07	7.09	6.77	7.30	7.18	7.41	7.40	7.08	6.92	6.93	7.00	7.06	N/A	7.08	7.14
	SD		0.035119	0.13	0.03	0.08	0.18	0.12	0.10	0.16	0.11	0.09	0.06	0.08	0.10	N/A	0.05	0.05

Appendix V: Table I2 Soil solution pH, treatment average with SD value, at second sampling period (harvest period)

DATA Type		Treatment	30/8/2005	31/8/2005	1/9/2005	2/9/2005	3/9/2005	4/9/2005	5/9/2005	6/9/2005	7/9/2005	8/9/2005	10/9/2005	12/9/2005	14/9/2005	15/9/2005
pH	Average	T1	6.93	6.93	6.98	6.96	6.98	7.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		0.20	0.18	0.20	0.23	0.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pH	Average	T2	6.88	6.95	6.93	6.97	6.91	6.95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		0.21	0.27	0.27	0.22	0.25	0.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pH	Average	T3	6.88	6.76	6.75	6.80	6.77	6.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		0.13	0.20	0.22	0.26	0.26	0.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pH	Average	T4	6.73	6.75	6.69	6.83	6.79	6.79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		0.37	0.51	0.51	0.40	0.44	0.39	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pH	Average	T5	6.97	7.04	6.98	6.98	6.90	6.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		0.18	0.31	0.31	0.21	0.21	0.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pH	Average	T6	6.81	7.02	7.06	7.11	7.11	6.98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		0.54	0.13	0.10	0.09	0.08	0.17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pH	Average	T7	6.95	6.96	6.96	7.02	6.93	6.96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		0.22	0.19	0.19	0.28	0.27	0.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pH	Average	T8	6.83	6.95	7.30	6.97	7.02	6.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		0.23	0.02	0.58	0.04	0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix VI: Table I1 Cadmium concentration in soil solution, treatment average with SD value, at first sampling period (grain fillstage period)

Element	DATA Type	Treatment	11.7.2005	12.7.2005	13.7.2005	14.7.2005	15.7.2005	16.7.2005	17.7.2005	18.7.2005	19.7.2005	20.7.2005	21.7.2005	22.7.2005	23.7.2005	24.7.2005	25.7.2005	27.7.2005
Cadmium	Average	T1	9.03735	1.05	0.81	0.58	0.63	0.52	0.26	0.32	0.24	0.11	0.12	0.18	0.17	0.16	0.08	0.01
	SD		1.161185	0.45	0.28	0.29	0.30	0.19	0.17	0.10	N/A	0.03	0.08	0.00	0.02	0.14	0.02	0.01
Cadmium	Average	T2	7.686	0.88	0.73	0.42	0.43	0.40	0.24	0.30	0.48	0.25	0.22	0.39	0.37	0.35	0.31	0.29
	SD		0.956291	0.24	0.15	0.19	0.18	0.10	0.09	0.12	0.30	0.07	0.12	0.08	0.13	0.07	0.10	0.12
Cadmium	Average	T3	6.5968	1.17	1.03	0.77	0.66	0.70	0.18	0.02	0.89	0.14	0.15	0.22	0.28	0.14	0.03	0.03
	SD		5.079183	0.08	0.16	0.04	0.33	0.17	0.18	N/A	N/A	0.00	0.01	0.03	0.22	0.08	0.02	N/A
Cadmium	Average	T4	1.897	0.59	0.47	0.26	0.26	0.16	0.31	0.14	0.35	0.19	0.09	0.19	0.23	0.29	0.30	0.19
	SD		0.304486	0.26	0.19	0.23	0.19	0.11	N/A	0.16	0.26	0.11	0.07	0.16	0.14	0.23	0.08	0.17
Cadmium	Average	T5	2.1819	0.93	0.79	0.59	0.62	0.16	0.35	0.16	0.50	0.13	0.34	0.30	0.24	0.16	0.08	0.22
	SD		0.703714	0.23	0.24	0.28	0.24	0.06	0.17	N/A	N/A	0.02	0.17	0.13	0.07	0.08	0.00	0.24
Cadmium	Average	T6	3.65225	1.40	1.11	0.96	0.87	0.18	0.70	0.75	0.65	0.41	0.35	0.72	1.26	0.72	0.73	0.65
	SD		1.12719	0.16	0.25	0.32	0.28	0.03	0.21	0.28	0.18	0.04	0.10	0.16	0.66	0.20	0.09	0.15
Cadmium	Average	T7	1.923075	0.67	0.62	0.35	0.31	0.15	0.07	0.13	N/A	0.11	0.17	0.25	0.20	0.13	0.01	0.04
	SD		0.089838	0.28	0.27	0.30	0.28	0.09	0.03	N/A	N/A	0.04	0.06	0.03	0.11	0.04	N/A	0.05
Cadmium	Average	T8	2.14585	0.72	0.82	0.57	0.46	0.29	0.42	0.38	0.43	0.31	0.23	0.45	0.61	0.54	0.42	0.38
	SD		0.503371	0.31	0.16	0.14	0.04	0.11	0.09	0.10	0.12	0.11	0.05	0.08	0.36	0.08	0.11	0.06

Appendix VI: Table I2 Cadmium concentration in soil solution, treatment average with SD value, at second sampling period (harvest period)

Element	DATA Type	Treatment	30.8.2005	31.8.2005	1.9.2005	2.9.2005	3.9.2005	4.9.2005	5.9.2005	6.9.2005	7.9.2005	8.9.2005	10.9.2005	12.9.2005	14.9.2005	15.9.2005
Cadmium	Average	T1	0.22	0.22	0.18	0.14	3.28	0.00	0.29	0.30	0.10	0.07	0.38	N/A	N/A	N/A
	SD		0.13	0.04	0.08	0.05	0.38	N/A	0.23	0.26	0.06	N/A	N/A	N/A	N/A	N/A
Cadmium	Average	T2	0.22	0.32	0.34	0.13	2.18	0.31	0.17	0.23	0.26	0.27	0.31	0.26	0.11	0.02
	SD		0.16	0.22	0.10	0.15	1.70	0.39	0.11	0.13	0.17	0.06	N/A	N/A	N/A	N/A
Cadmium	Average	T3	0.32	0.62	0.17	N/A	4.52	0.37	0.52	0.58	0.58	0.55	0.50	0.35	0.23	0.19
	SD		0.43	0.46	0.08	N/A	N/A	0.33	0.62	0.58	0.66	0.49	0.63	0.48	0.28	N/A
Cadmium	Average	T4	0.14	0.29	0.58	0.30	2.65	0.61	0.75	1.01	0.78	1.00	1.48	1.14	1.17	0.36
	SD		0.03	0.14	0.57	0.46	0.14	0.80	1.18	0.93	0.98	1.41	1.99	1.50	1.36	0.15
Cadmium	Average	T5	0.11	0.23	0.46	0.19	1.73	0.05	0.18	0.38	0.22	0.47	0.04	0.08	0.02	0.08
	SD		0.04	0.11	0.55	0.14	1.01	0.01	0.14	0.12	0.15	0.41	N/A	N/A	N/A	N/A
Cadmium	Average	T6	0.67	0.76	0.73	0.73	7.73	0.90	0.43	0.41	0.23	0.27	0.07	0.01	0.08	0.06
	SD		0.16	0.18	0.16	0.50	1.15	0.56	0.18	0.07	0.08	0.11	0.08	N/A	N/A	N/A
Cadmium	Average	T7	0.09	0.15	0.15	N/A	2.09	0.10	0.28	0.35	0.34	0.35	0.01	N/A	0.22	N/A
	SD		0.09	0.11	0.09	N/A	0.30	0.08	0.11	0.09	0.41	0.34	N/A	N/A	N/A	N/A
Cadmium	Average	T8	0.29	0.66	0.36	0.30	4.24	0.53	0.43	0.25	0.31	0.07	N/A	N/A	0.01	0.39
	SD		0.14	0.13	0.17	0.13	0.17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix VII: Table I1 Iron concentration in soil solution, treatment average with SD value, at first sampling period (grain fill stage period)

Element	DATA Type	Treatment	11/7/2005	12/7/2005	13/7/2005	14/7/2005	15/7/2005	16/7/2005	17/7/2005	18/7/2005	19/7/2005	20/7/2005	21/7/2005	22/7/2005	23/7/2005	24/7/2005	25/7/2005	27/7/2005
Iron	Average	T1	56.74524	54.76	57.56	54.56	53.47	21.10	9.33	N/A	N/A	N/A	0.19	2.28	6.67	11.46	15.12	26.65
	SD		1.890754	0.73	0.38	1.04	2.29	11.67	12.46	N/A	N/A	N/A	N/A	1.09	1.79	3.81	8.13	8.86
Iron	Average	T2	58.77104	56.51	60.82	57.99	57.47	55.28	52.88	55.42	56.22	55.96	57.02	56.26	53.30	55.13	58.67	57.51
	SD		4.901645	4.56	5.14	4.45	5.78	5.74	5.89	5.48	6.45	5.80	5.93	5.59	5.53	5.47	4.82	4.74
Iron	Average	T3	62.36257	61.11	62.71	60.87	57.07	27.50	N/A	N/A	N/A	N/A	0.04	1.50	3.96	7.30	12.21	21.26
	SD		7.679704	7.99	7.84	7.79	4.41	1.61	N/A	N/A	N/A	N/A	N/A	2.06	2.23	2.19	2.49	3.81
Iron	Average	T4	66.86966	64.74	67.83	65.95	68.14	61.92	58.33	61.71	65.24	64.04	61.99	62.00	59.91	59.67	62.70	64.46
	SD		7.430167	6.74	7.83	7.12	4.25	5.89	5.82	6.61	7.20	7.81	5.94	8.02	6.44	5.51	6.53	5.41
Iron	Average	T5	59.38532	59.99	62.23	60.52	53.03	25.98	11.90	N/A	N/A	N/A	0.96	5.48	5.19	6.70	6.47	12.95
	SD		1.229528	2.78	1.98	2.49	10.61	21.16	N/A	N/A	N/A	N/A	N/A	N/A	6.18	6.98	1.49	1.39
Iron	Average	T6	52.42736	52.89	55.01	53.90	52.95	52.03	51.27	51.63	53.45	52.18	52.36	51.50	49.45	49.84	52.03	52.21
	SD		1.22448	1.49	1.91	1.15	1.40	1.44	1.27	1.23	1.41	1.55	1.23	1.12	1.33	1.20	1.41	1.63
Iron	Average	T7	53.91061	53.62	56.16	53.39	20.92	4.81	N/A	N/A	N/A	N/A	N/A	1.00	2.21	4.81	6.67	12.19
	SD		2.467455	2.66	3.12	2.50	7.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.24	2.64	0.58	0.90
Iron	Average	T8	54.18375	45.59	56.08	54.03	52.88	52.19	51.41	52.44	54.99	51.57	52.23	52.00	49.16	50.03	52.71	52.38
	SD		3.490245	17.35	3.46	3.59	4.37	2.45	2.86	2.96	4.09	1.30	1.61	1.94	2.32	1.63	1.81	1.18

Appendix VII: Table I2 Iron concentration in soil solution, treatment average with SD value, at second sampling period (harvest period)

Element	DATA Type	Treatment	30/8/2005	31/8/2005	1/9/2005	2/9/2005	3/9/2005	4/9/2005	5/9/2005	6/9/2005	7/9/2005	8/9/2005	10/9/2005	12/9/2005	14/9/2005	15/9/2005
Iron	Average	T1	30.01	33.52	35.96	37.09	26.17	48.02	18.17	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		27.29	21.57	19.36	18.17	20.38	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Iron	Average	T2	39.90	39.67	41.23	42.63	41.47	40.65	24.70	8.00	15.76	1.70	N/A	N/A	N/A	N/A
	SD		18.41	17.74	16.39	16.14	14.25	16.26	22.96	8.46	12.48	N/A	N/A	N/A	N/A	N/A
Iron	Average	T3	20.81	23.77	26.86	31.25	31.24	25.51	1.86	0.10	N/A	N/A	N/A	N/A	N/A	N/A
	SD		2.05	2.20	2.69	0.62	1.82	1.82	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Iron	Average	T4	31.72	38.16	41.73	44.23	25.27	10.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		21.19	14.78	13.18	11.82	13.91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Iron	Average	T5	25.27	22.05	28.33	31.40	30.50	28.99	18.99	6.85	1.36	N/A	N/A	N/A	N/A	N/A
	SD		28.97	21.60	27.44	28.80	25.37	21.34	23.68	2.42	1.03	N/A	N/A	N/A	N/A	N/A
Iron	Average	T6	37.69	38.34	37.87	39.18	36.34	12.01	4.32	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		4.96	4.59	5.28	4.71	4.03	8.67	1.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Iron	Average	T7	16.77	17.79	19.27	20.84	20.22	11.46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		23.09	23.14	23.37	23.67	22.51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Iron	Average	T8	20.13	23.53	26.45	30.07	29.84	12.67	0.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SD		18.79	14.89	12.92	12.01	15.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix VIII: Table I1 Manganese concentration in soil solution, treatment average with SD value, at first sampling period (grain fill stage period)

Element	DATA Type	Treatment	11.7.2005	12.7.2005	13.7.2005	14.7.2005	15.7.2005	16.7.2005	17.7.2005	18.7.2005	19.7.2005	20.7.2005	21.7.2005	22.7.2005	23.7.2005	24.7.2005	25.7.2005	27.7.2005
Manganese	Average	T1	9.800389	8.15	9.82	9.61	9.40	7.99	4.22	10.64	N/A	1.53	6.56	9.28	10.36	11.26	10.79	14.07
	SD		0.623289	2.97	0.51	0.28	0.16	1.01	1.70	N/A	N/A	0.96	1.21	2.03	2.28	2.42	4.96	2.53
Manganese	Average	T2	11.61361	11.21	11.74	11.41	11.19	10.86	10.77	10.98	10.47	10.17	10.34	10.20	9.50	9.95	10.13	10.24
	SD		0.863568	1.00	0.76	0.75	0.78	0.63	1.04	0.82	0.61	0.62	0.66	0.66	0.56	0.63	0.66	0.71
Manganese	Average	T3	8.917843	9.24	9.40	9.13	8.97	7.68	1.93	N/A	N/A	1.74	5.81	8.69	8.49	9.77	11.08	12.78
	SD		0.600238	1.12	1.25	1.26	1.14	0.84	1.20	N/A	N/A	2.41	0.82	0.39	2.01	1.49	1.38	0.96
Manganese	Average	T4	11.97749	11.98	12.00	11.84	10.35	11.08	9.77	11.29	10.90	10.69	10.67	10.49	9.95	10.15	10.37	10.72
	SD		2.165007	1.84	1.82	1.70	3.16	1.26	2.81	1.51	1.29	1.47	1.38	1.32	1.11	1.08	1.16	1.19
Manganese	Average	T5	9.233145	9.58	9.78	9.58	9.15	7.11	2.80	0.64	N/A	2.24	3.90	6.17	7.68	9.23	10.53	12.47
	SD		1.138489	1.10	1.08	1.13	1.16	2.45	2.36	N/A	N/A	N/A	1.83	1.75	1.59	1.42	1.33	1.04
Manganese	Average	T6	7.355593	7.52	7.77	7.59	7.33	7.28	7.22	7.28	7.00	6.82	6.81	6.70	6.34	6.50	6.67	6.69
	SD		1.345965	1.43	1.42	1.38	1.38	1.33	1.29	1.32	1.31	1.29	1.28	1.27	1.23	1.22	1.28	1.30
Manganese	Average	T7	8.214573	8.34	8.63	8.32	8.06	1.34	N/A	N/A	N/A	0.09	3.68	6.06	7.45	8.70	9.75	11.39
	SD		0.725151	0.74	0.68	0.58	2.25	0.27	N/A	N/A	N/A	N/A	0.54	0.61	0.53	0.46	0.34	0.93
Manganese	Average	T8	10.93825	10.92	11.19	10.84	10.58	10.45	10.33	10.54	10.21	9.62	9.57	9.61	8.98	9.24	9.60	9.47
	SD		0.31747	0.48	0.46	0.28	0.10	0.48	0.34	0.43	0.38	0.78	0.74	0.70	0.68	0.66	0.70	0.70

Appendix VIII: Table I2 Manganese concentration in soil solution, treatment average with SD value, at second sampling period (harvest period)

Element	DATA Type	Treatment	30.8.2006	31.8.2006	1.9.2006	2.9.2006	3.9.2006	4.9.2006	5.9.2006	6.9.2006	7.9.2006	8.9.2006	10.9.2006	12.9.2006	14.9.2006	15.9.2006
Manganese	Average	T1	7.26	8.06	8.57	8.68	8.18	10.32	4.51	5.37	2.43	0.14	0.04	N/A	N/A	N/A
	SD		3.54	2.40	1.89	1.58	1.70	N/A	6.33	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manganese	Average	T2	5.13	5.65	6.13	6.48	5.29	6.50	5.93	4.46	3.84	2.50	0.14	N/A	0.01	N/A
	SD		2.45	1.67	1.20	1.04	2.33	1.88	2.25	2.46	2.43	2.15	0.12	N/A	N/A	N/A
Manganese	Average	T3	6.48	6.89	7.36	6.06	7.84	6.78	2.28	0.34	0.01	N/A	N/A	N/A	N/A	N/A
	SD		0.99	1.00	1.04	3.19	1.17	2.71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manganese	Average	T4	7.10	6.39	7.32	8.08	5.04	1.86	0.45	0.16	0.07	0.03	0.07	N/A	N/A	0.00
	SD		0.03	1.33	0.18	0.44	2.15	1.84	0.44	0.07	0.03	0.02	N/A	N/A	N/A	N/A
Manganese	Average	T5	3.70	4.62	5.45	5.95	6.14	6.64	5.18	3.01	1.15	0.02	N/A	N/A	N/A	N/A
	SD		3.57	2.48	2.14	1.81	1.45	1.34	1.67	0.96	0.44	N/A	N/A	N/A	N/A	N/A
Manganese	Average	T6	4.84	4.92	4.96	5.11	4.89	3.78	2.37	1.19	0.32	0.03	N/A	N/A	N/A	N/A
	SD		0.29	0.31	0.41	0.48	0.46	0.91	1.22	0.97	N/A	N/A	N/A	N/A	N/A	N/A
Manganese	Average	T7	1.32	2.95	4.37	6.78	5.62	0.24	3.79	N/A	1.71	0.03	N/A	N/A	N/A	N/A
	SD		0.48	0.29	0.05	2.01	2.67	0.14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manganese	Average	T8	5.37	5.71	5.98	6.34	6.42	5.55	3.00	0.60	0.11	0.05	0.05	N/A	N/A	N/A
	SD		1.65	1.29	1.13	1.06	1.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Remarks: N/A = not available caused by samples not available due to soil solution depleted.
 L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix IX: Table I1 Zinc concentration in soil solution, treatment average with SD value, at first sampling period (grain fill stage period)

Element	DATA Type	Treatment	11.7.2005	12.7.2005	13.7.2005	14.7.2005	15.7.2005	16.7.2005	17.7.2005	18.7.2005	19.7.2005	20.7.2005	21.7.2005	22.7.2005	23.7.2005	24.7.2005	25.7.2005	27.7.2005
Zinc	Average	T1	88.536	124.87	192.96	98.19	105.09	84.17	207.54	220.54	53.32	373.96	316.31	349.90	905.21	357.95	327.46	362.18
	SD		12.91678	36.21	68.89	39.48	13.09	27.92	155.47	N/A	N/A	7.94	12.84	164.58	264.13	150.66	94.74	82.00
Zinc	Average	T2	57.3405	109.96	390.76	83.42	78.55	74.90	87.13	43.20	75.84	228.17	85.90	100.16	171.61	418.15	207.45	240.84
	SD		15.59107	27.22	355.57	9.32	9.07	2.37	18.03	10.17	32.63	115.66	23.72	15.23	28.55	31.05	86.32	61.44
Zinc	Average	T3	168.0263	126.84	315.95	64.16	404.09	112.25	54.83	N/A	104.20	505.84	521.38	444.82	482.58	499.94	389.62	368.48
	SD		114.0051	20.49	271.09	21.57	274.34	9.95	18.99	N/A	N/A	52.20	193.86	271.30	18.26	166.74	71.92	70.07
Zinc	Average	T4	99.9565	138.54	89.55	84.21	82.41	91.30	52.55	42.14	108.43	167.76	226.94	104.95	180.11	391.76	257.46	277.31
	SD		31.79091	67.28	16.99	46.67	27.02	27.83	17.95	16.70	19.37	33.39	279.43	3.01	13.91	112.89	37.77	9.47
Zinc	Average	T5	101.5945	188.39	133.63	98.21	65.44	76.41	60.82	221.01	N/A	375.87	372.61	301.46	503.86	342.14	291.97	235.89
	SD		32.21874	116.83	49.30	19.69	9.84	20.14	2.35	N/A	N/A	58.83	84.38	151.91	108.22	31.11	53.84	154.65
Zinc	Average	T6	84.8995	241.55	141.09	88.04	124.08	97.81	67.82	75.42	205.35	167.48	85.64	148.65	180.50	406.28	264.32	201.67
	SD		14.1823	138.91	17.77	14.83	15.06	9.36	12.54	8.48	72.65	63.96	6.24	33.88	19.22	89.84	87.92	37.79
Zinc	Average	T7	134.6205	201.22	160.65	97.30	102.17	122.65	N/A	224.66	N/A	386.47	283.54	283.01	643.07	451.89	267.65	333.27
	SD		33.02218	76.91	61.85	20.22	7.02	69.73	N/A	N/A	N/A	71.52	40.20	53.88	58.58	91.63	60.25	46.24
Zinc	Average	T8	144.48	208.67	217.16	128.93	152.77	88.11	81.97	66.78	124.10	200.45	106.46	107.75	174.16	352.03	259.07	298.76
	SD		23.31331	62.01	222.63	60.60	104.87	28.83	38.38	14.72	19.97	76.24	40.55	11.88	47.18	126.53	35.92	50.10

Appendix IX: Table I2 Zinc concentration in soil solution, treatment average with SD value, at second sampling period (harvest period)

Element	DATA Type	Treatment	30.8.2005	31.8.2005	1.9.2005	2.9.2005	3.9.2005	4.9.2005	5.9.2005	6.9.2005	7.9.2005	8.9.2005	10.9.2005	12.9.2005	14.9.2005	15.9.2005
Zinc	Average	T1	270.38	536.34	312.48	146.91	126.63	141.12	584.22	313.06	166.53	116.87	294.00	338.94	247.46	N/A
	SD		72.78	240.21	67.34	79.41	10.72	458.40	116.79	34.60	N/A	20.79	N/A	N/A	N/A	N/A
Zinc	Average	T2	367.57	470.68	355.32	185.26	128.59	95.66	207.38	165.48	169.33	155.44	136.74	147.95	398.06	N/A
	SD		92.42	103.52	32.56	77.01	40.21	23.62	28.36	22.24	17.08	57.72	N/A	163.49	N/A	
Zinc	Average	T3	435.65	396.31	441.39	145.92	162.68	135.31	203.49	242.18	198.66	234.10	105.11	130.41	216.85	N/A
	SD		87.41	71.91	39.41	71.22	44.07	25.51	38.46	108.92	44.70	3.34	5.49	87.88	229.26	N/A
Zinc	Average	T4	309.75	321.56	409.71	178.50	59.94	103.46	555.87	508.31	538.49	507.78	330.59	297.82	310.64	N/A
	SD		75.88	30.37	102.31	83.16	22.51	64.85	1.78	148.64	84.12	224.82	312.06	298.12	254.14	N/A
Zinc	Average	T5	272.83	184.38	285.88	149.17	107.73	56.14	260.66	352.85	152.09	286.65	128.32	54.96	73.92	N/A
	SD		41.28	27.96	119.28	17.29	42.89	26.24	148.27	262.46	10.62	179.97	76.82	7.86	11.33	N/A
Zinc	Average	T6	331.91	292.11	311.75	119.42	124.49	77.95	149.80	153.27	158.71	199.40	108.99	58.22	107.88	N/A
	SD		77.09	23.18	28.50	6.41	26.76	17.85	38.79	42.29	11.36	34.90	4.31	3.40	45.49	N/A
Zinc	Average	T7	214.76	257.71	265.69	141.89	148.82	74.05	181.76	180.44	112.22	141.07	106.13	101.40	283.87	N/A
	SD		38.59	61.43	34.46	40.70	22.59	41.49	33.69	7.94	14.29	7.20	2.11	43.14	157.62	N/A
Zinc	Average	T8	355.01	337.86	165.48	127.89	93.55	81.59	161.81	245.39	185.85	184.38	180.92	135.77	241.08	N/A
	SD		85.34	34.46	28.55	2.82	17.23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix X: Table II Soil metals concentrations at first sampling period (grain fill stage period)

July 12th, 2005 Cadmium Conc. (mg/kg)				
	Rep. 1	Rep. 2	Rep. 3	Average
Treatment 1	1.0544	0.8417	0.8945	0.9302
Treatment 2	0.5934	0.5985	0.7627	0.6515
Treatment 3	0.9851	1.1335	1.4467	1.1884
Treatment 4	0.9533	1.1559	1.2249	1.1114
Treatment 5	0.1660	0.1663	0.1827	0.1717
Treatment 6	0.1661	0.1777	0.1725	0.1721
Treatment 7	0.4875	0.5622	0.5205	0.5234
Treatment 8	0.2195	0.2138	0.2463	0.2266

July 12th, 2005 Iron Conc. (mg/kg)				
	Rep. 1	Rep. 2	Rep. 3	Average
Treatment 1	0.4069	0.1976	1.8820	0.8288
Treatment 2	4.2071	1.0201	0.1893	1.8055
Treatment 3	0.1991	2.0843	N/A	1.1417
Treatment 4	0.1664	0.5588	0.6531	0.4594
Treatment 5	0.8282	0.2097	0.2571	0.4317
Treatment 6	0.1456	0.2042	0.3707	0.2402
Treatment 7	0.1164	0.5193	0.8593	0.4983
Treatment 8	0.2223	0.1202	0.5173	0.2866

July 12th, 2005 Manganese Conc. (mg/kg)				
	Rep. 1	Rep. 2	Rep. 3	Average
Treatment 1	1.1994	0.9342	1.0535	1.0624
Treatment 2	0.6316	0.6482	0.8399	0.7065
Treatment 3	1.0692	1.6913	2.8767	1.8790
Treatment 4	1.0186	1.3955	1.5186	1.3109
Treatment 5	0.5414	0.5958	0.6065	0.5812
Treatment 6	0.5575	0.5016	0.5280	0.5290
Treatment 7	0.6702	0.7137	0.6910	0.6916
Treatment 8	0.5494	0.5469	0.5589	0.5517

July 12th, 2005 Zinc Conc. (mg/kg)				
	Rep. 1	Rep. 2	Rep. 3	Average
Treatment 1	19.7038	12.9563	16.7463	16.4688
Treatment 2	7.1083	5.1870	10.0396	7.4450
Treatment 3	17.1949	19.8917	N/A	18.5433
Treatment 4	13.9753	20.3495	20.7443	18.3564
Treatment 5	0.5096	0.4329	0.3100	0.4175
Treatment 6	0.5286	0.6075	0.4876	0.5412
Treatment 7	2.0930	2.4044	2.6126	2.3700
Treatment 8	0.5240	0.4536	0.5660	0.5145

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
 L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix X: Table I2 Soil metals concentrations at second sampling period (harvest period)

September 1st, 2005
Cadmium Conc. (mg/kg)

	Rep. 1	Rep. 2	Rep. 3	Average
Treatment 1	0.8077	0.1424	0.2349	0.3950
Treatment 2	0.5115	0.6669	0.5530	0.5771
Treatment 3	0.1898	0.2245	0.3302	0.2482
Treatment 4	1.1444	0.7691	0.7970	0.9035
Treatment 5	0.0631	0.1389	0.1172	0.1064
Treatment 6	0.0389	0.0525	0.1467	0.0794
Treatment 7	0.4861	0.0499	0.3066	0.2809
Treatment 8	0.0693	0.0610	0.2421	0.1241

September 1st, 2005
Iron Conc. (mg/kg)

	Rep. 1	Rep. 2	Rep. 3	Average
Treatment 1	0.8271	1.1543	0.7032	0.8949
Treatment 2	0.9465	1.1646	0.8457	0.9856
Treatment 3	0.8827	1.1623	1.1789	1.0746
Treatment 4	0.8158	1.3320	0.7880	0.9786
Treatment 5	0.4743	0.6523	0.3864	0.5043
Treatment 6	0.4814	0.5431	0.5077	0.5107
Treatment 7	0.4519	0.8799	0.5730	0.6349
Treatment 8	0.5643	0.4466	0.4868	0.4992

September 1st, 2005
Manganese Conc. (mg/kg)

	Rep. 1	Rep. 2	Rep. 3	Average
Treatment 1	1.4852	0.6246	0.6385	0.9161
Treatment 2	0.8156	1.2101	0.9769	1.0009
Treatment 3	0.6956	0.6594	0.8233	0.7261
Treatment 4	2.1147	2.5851	2.7534	2.4844
Treatment 5	0.5632	0.5411	0.5679	0.5574
Treatment 6	0.8584	0.5637	0.5897	0.6706
Treatment 7	0.6374	0.5708	0.5829	0.5970
Treatment 8	0.5994	0.5991	0.7085	0.6356

September 1st, 2005
Zinc Conc. (mg/kg)

	Rep. 1	Rep. 2	Rep. 3	Average
Treatment 1	31.3483	2.7646	3.3509	12.4879
Treatment 2	9.4980	12.4149	11.4822	11.1317
Treatment 3	2.5997	1.7913	8.1417	4.1776
Treatment 4	29.9985	23.6925	23.5987	25.7632
Treatment 5	0.3086	0.3760	1.7661	0.8169
Treatment 6	0.1667	0.4565	0.5515	0.3916
Treatment 7	4.6773	0.2353	1.8418	2.2515
Treatment 8	0.3460	0.3670	1.9200	0.8777

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix XI: Table I1 Rice Plants metals concentrations at first sampling period (grain fill stage period)

	Stem			
	Cd (mg/kg)	Fe (mg/kg)	Mn (mg/kg)	Zn (mg/kg)
Treatment 1	0.0591	96.0386	315.2767	47.9853
Treatment 2	0.0921	82.6313	404.8413	51.3061
Treatment 3	2.0909	66.0331	356.7954	123.1245
Treatment 4	0.0469	85.6232	288.0642	43.4664
Treatment 5	0.0142	70.0559	235.2791	42.0764
Treatment 6	0.1026	84.2323	337.0119	56.9166
Treatment 7	0.0198	85.3672	277.9747	55.3292
Treatment 8	0.1119	78.9776	318.2193	57.6354

	Leave			
	Cd (mg/kg)	Fe (mg/kg)	Mn (mg/kg)	Zn (mg/kg)
Treatment 1	0.5221	200.9268	223.5316	40.5333
Treatment 2	0.1348	170.7716	281.1422	25.1082
Treatment 3	3.4970	114.4502	251.0790	117.5468
Treatment 4	0.5786	139.3029	257.8849	36.9927
Treatment 5	0.8456	200.5351	163.0842	50.8015
Treatment 6	0.1032	192.2518	170.0257	26.1075
Treatment 7	1.1611	74.9540	214.8459	67.3356
Treatment 8	0.1068	144.8108	192.7701	36.5259

Appendix XI: Table I2 Rice Plants metals concentrations at second sampling period (harvest period)

	Stem			
	Cd (mg/kg)	Fe (mg/kg)	Mn (mg/kg)	Zn (mg/kg)
Treatment 1	0.0471	148.8027	608.9624	38.2330
Treatment 2	0.0378	149.9064	616.9765	35.7575
Treatment 3	0.4163	139.2792	597.7574	56.8734
Treatment 4	0.0389	154.1791	485.6683	46.1347
Treatment 5	0.0119	131.3777	323.0609	34.4597
Treatment 6	0.0327	151.4602	501.1429	45.3266
Treatment 7	0.0051	136.3344	437.3706	42.9049
Treatment 8	0.0540	151.8154	530.1936	40.4391

	Leave			
	Cd (mg/kg)	Fe (mg/kg)	Mn (mg/kg)	Zn (mg/kg)
Treatment 1	0.4210	217.5678	433.4223	29.0600
Treatment 2	0.0902	87.3299	241.4490	17.1263
Treatment 3	4.8509	123.7415	414.8385	51.1311
Treatment 4	0.2320	163.0968	414.1038	26.9776
Treatment 5	0.2130	433.0528	335.8073	29.2714
Treatment 6	0.0930	185.2292	155.8521	11.6164
Treatment 7	0.4848	119.3063	404.1860	44.5130
Treatment 8	0.0758	142.2569	267.5434	25.2029

Remarks: N/A = not available caused by samples not available due to soil solution depleted.
 L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

Appendix XII: Table I1 Detection limit of analyzing instruments

Elements	Instruments		
	Inductively Coupled Plasma – Optical Emission Spectrometry (ICP)	Flame Atomic Adsorption Spectrometry (FAAS)	Graphite Furnace Atomic Adsorption Spectrometry (GFAAS)
Cd	0.015 mg/l	0.004 mg/l	0.05 µg/l
Fe	0.010 mg/l	0.030 mg/l	1.00 µg/l
Mn	0.005 mg/l	0.010 mg/l	0.08 µg/l
Zn	0.090 mg/l	0.005 mg/l	0.02 µg/l

Remarks;

- N/A = Data not available caused by samples not available due to soil solution depleted.
- L/D = Analyzed metal concentrations value below the detection limit of the analyzing instruments

BIOGRAPHY

Mr. Nitchan Lorchaiyanan was born on December 18th, 1981 in Bangkok, Thailand. He finished high school from Triamudomsuksanomkiao School in 1999. After that, he entered the Faculty of Engineering, Chulalongkorn University. He received a Bachelor's degree in Environmental Engineering in 2003. Then, he decided to pursue the Master's degree of international program in environmental management, Chulalongkorn University.

