

Soil test results of heavy metals before and after the application of EM*

Children's Garden

East 12th St & Ave B
(southwest corner) East Village, NYC

Children's Garden heavy metals [ppm]	interior			perimeter			normal soil level (avg. soil level)	unsafe level
	7/2010 before	7/2011 after1	8/2012 after2	7/2010 before	7/2011 after1	8/2012 after2		
Chromium (Cr)	37	21	20	35	19	12	84	
Cobalt (Co)	6.4	4.0	<u>5.0</u>	5.8	3.0	2.2	1.0-40.0 (average: 7.0)	
Nickel (Ni)	17.4	14.0	13.0	17.3	10.0	7.0	0.5-50.0	>200 (veg) >500 (child)
Copper (Cu)	27	24	19	33	20	13	1-50	>200 (veg) >500 (child)
Zinc (Zn)	132	<u>153</u>	100	217	131	100	9-125	> 200 (veg) >500 (child)
Arsenic (As)	7.3	5.0	<u>5.1</u>	7.2	5.0	3.0	5.0-20.0 (avg: 3.0-12.0)	>50 (veg) >200 (child)
Cadmium (Cd)	1.4	1.2	0.2	1.4	1.0	0.5	0.1-1.0	>10 (veg) >50 (child)
Mercury (Hg)	1.5	1.5	0.9	0.1	<u>0.7</u>	0.1	<1.0	>10 (child)
Lead (Pb)	141	85	<u>102</u>	107	53	<u>54</u>	10-70 [EPA safe<50]	>500 (veg) >1000 (child)

">200 (veg)" means greater than 200 ppm (vegetables unsafe to grow at this level).
Underlined numbers indicate an increase.

* EM (Effective Microorganisms) was applied by various methods using EM•1 Microbial Inoculant: by trenching food waste fermented with EM (bokashi method) [interior only], and by watering at various dilution rates with Activated EM (EM•1 fermented with molasses, water) and EM•5 (EM•1 fermented with molasses, vinegar, vodka (40% alcohol), garlic, spicy peppers and water) [interior & perimeter].

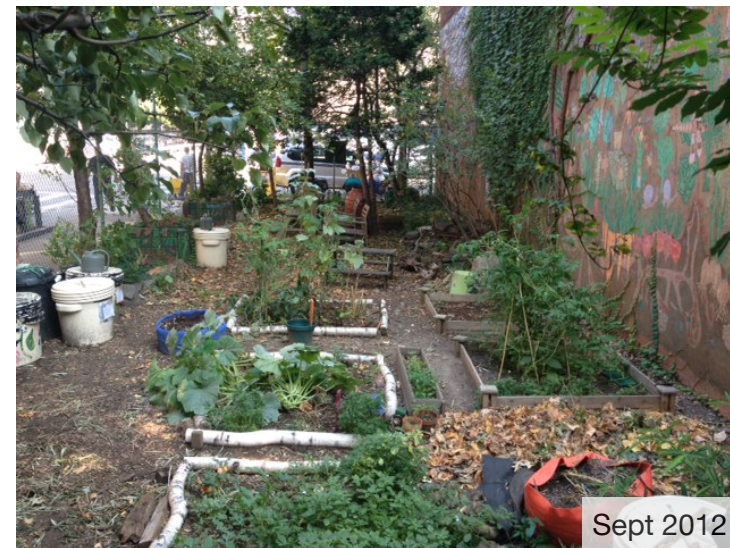
Interior = walking area & growing beds, Perimeter = flower bed by fence only (along sidewalks).

Note. This was **not** done under controlled conditions. Several cubic yards of compost and mulch were added during the before and after, every season, including covering with leaves (Dec 2011 photo) collected from the adjoining Sauer Park. Soils were sampled (10 spots, 2" & 6" deep, mixed, dried and sifted for each sample: interior and perimeter) by volunteers according to, and soils tested by, Brooklyn College's Environmental Sciences Analytical Center <www.brooklyn.cuny.edu/web/academics/centers/esac.php>.

The Children's Garden at 194 Ave B is a GreenThumb community garden since 1994.

Area: 1,200 sq ft (111.5 sq m) Interior: 574 sq ft (53.3 sq m)

Perimeter (tested area by fence only): 258.6 sq ft (24.0 sq m)



Sept 2012



Dec 2011