

program EVALUATION

2015–2016

Description of Sample:

Number of schools	5
Number of classrooms	90
Number of child participants	1,752
Child age (at end of school year)	Mean=8.23 SD=1.77
Child gender Female Male	n=892 (51%) n=860 (49%)
Child race/ethnicity Black/African American White/Caucasian Other	n=918 (53%) n=511 (29%) n=308 (18%)
Child grade	Fall Spring
K	n=217 n=288
1st	n=278 n=350
2nd	n=224 n=286
3rd	n=285 n=285
4th	n=266 n=266
5th	n=277 n=277
Body Mass Index	
Underweight (<5th percentile)	n=16 (2%)
Healthy weight (5th to <85th percentile)	n=349 (51%)
Overweight (85th to <95th percentile)	n=137 (20%)
Obese (>= 95th percentile)	n=184 (27%)
Lives in Food Desert	
No	n=479 (58%)
Yes	n=345 (42%)

Amount of Exposure to the School Garden (Based on Child Self-Report):

	End of 2016 school year
Number of years/grades of exposure to the school garden	
None	n=0
1 year	n=644
2 years	n=183
3 or more years	n=71
Number of visits to the school garden this year	
Never	n=5
1-6 times	n=209
7-10 times	n=542
15-30 times	n=466
More than 30 times	n=272
Experiential exposure to the school garden Higher scores reflect more garden experiences and responsibilities (e.g., watering, planting seeds, picking vegetables, farm stand, talking or writing about the garden)	Mean =7.72 SD=3.10 Range 5-18

Outcome Variables Assessed (Using Pre-Post Paired T-Test):



↑ **6.4%**
more willing to try vegetables



↑ **10.4%**
more willing to eat vegetables



↑ **3.7%**
more healthy food choices



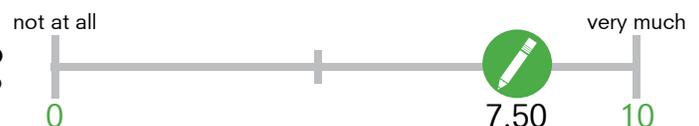
↑ **9.4%**
more involvement in meal prep at home

	Beginning of school year Mean (SD)	End of school year Mean (SD)	% Change	p-value
Willingness to try vegetables	5.64 (2.22)	6.00 (2.02)	6.4	<.0001
Willingness to eat vegetables	5.02 (2.31)	5.54 (2.13)	10.4	<.0001
Healthy food choices	5.17 (2.45)	5.36 (2.26)	3.7	<.0001
Involvement in meal preparation at home	6.36 (2.79)	6.96 (2.72)	9.4	<.0001
Growing season knowledge	5.61 (1.98)	6.79 (1.90)	21.0	<.0001
Plant part knowledge	2.91 (1.59)	3.08 (1.64)	6.2	.0001
Pictorial plant part knowledge	1.98 (1.30)	2.38 (1.24)	20.2	<.0001
Total plant knowledge	10.19 (3.90)	12.83 (3.23)	25.9	<.0001

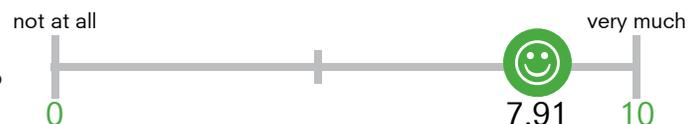
= p < .05 (statistically significant effect)

Children's Responses About the Impact of the School Garden (At the End of the School Year):

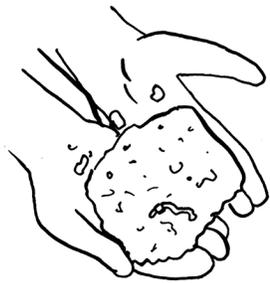
Has the school garden made you more excited to go to school each day?



Has the school garden helped you like your school?



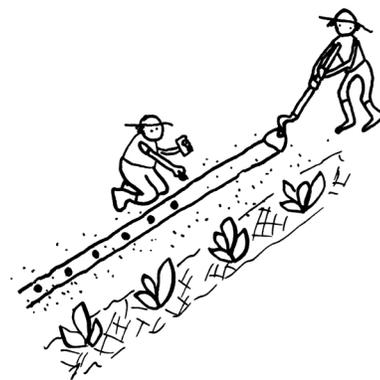
Impact of School Garden Exposure on Target Outcomes (Statistically Significant and Trend Effects):



more willing to try vegetables



more willing to eat vegetables



healthier food choices



more involved in meal prep at home



more excited to go to school



more likely to enjoy school

	Experiential exposure to school garden (p-value)
Growing season knowledge	0.07
Plant part knowledge	0.01
 Willingness to try vegetables	<.0001
Total plant knowledge	0.02
 Willingness to eat vegetables	<.0001
 Healthy food choices	<.0001
Unhealthy food choices	0.002
 Involvement in meal preparation at home	<.0001
 Interest in school garden	<.0001
 Excited to go to school	<.0001
Like school	<.0001

 = p < .05 (statistically significant effect)

 = p < .10 (trend effect)

Narrative Summary of Findings

Data was collected from 1,752 students (in grades K through 5) at five elementary schools with Schoolyard Roots-sponsored school garden programs during the 2015-2016 school year. Students were surveyed at the beginning and end of the school year. Their physical measurements were collected at the same times.

Analysis of covariance (ANCOVA) was utilized to examine the impact of school garden exposure on the primary outcomes measured, controlling for baseline levels. Three different measures of school garden exposure were utilized: 1) number of visits to the school garden this year; 2) experiential exposure to the school garden this year; 3) number of years of exposure to the school garden.

Significant positive change from the beginning to end of the school year was observed on measures of students': plant and growing season knowledge, willingness to try or eat vegetables, healthy food intake, involvement in meal preparation at home, and fondness for school. These results have been consistent over three separate evaluation reports and are strong effects.

Experiential exposure to the school garden had a significant positive impact on nearly every outcome measured, indicating that children's active involvement in garden-related activities is an especially important factor. Plant knowledge, growing season knowledge, healthy food choices, and interest in the school garden were significantly (positively) impacted by multiple measures of school garden exposure.

Future analyses will examine effects by school and grade level, as well as long-term effects of the Schoolyard Roots school garden curriculum in students who have participated in the program for multiple years.