

NEBRASKA

2018 SCHOOL GARDEN NEEDS ASSESSMENT



School gardens are a tool for teaching interdisciplinary lessons and provide hands-on and experiential activities for students. Time spent in school gardens allow for observation, discovery, experiments, and lifelong lessons in growing food and nutrition understanding.

In 2018, Nebraska school personnel received a web survey about school gardens and growing spaces, with the intent to guide curriculum and provide support. Almost three-quarters of the 361 respondents were administrators (73%) and 16% were teachers. Agricultural educators represented 22%, and 81% were from rural locations. Altogether, respondents represented 165,800 students from pre-kindergarten to high school seniors.



3 have never had a garden or growing space

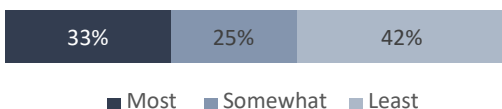
Private schools were more likely than public to never have had a garden (62% v. 35%)

The most common reasons why were:

- 48%** Lack of ability to care for garden during summer months
- 47%** Lack of financial support
- 42%** Not enough interest

Summer neglect and financial support were bigger barriers for schools with more low-income students.

A third of sites were extremely or very (most) interested in gaining access to a school growing space.



9% used to have a garden

The most common reasons why they no longer had a garden:

- 41%** Loss of garden leader
- 41%** Loss of volunteers
- 38%** Loss of interest

- 26% were extremely or very interested in gaining access to a school growing space
- 38% were somewhat interested
- 36% were slightly or not at all interested in regaining a garden or growing space.



5 had a garden when surveyed

Among schools who had ever had gardens, rural schools were more likely than urban to have a garden (88% v. 70%), as were public more than private (85% v. 76%)

14% of sites said they were a Farm to School program.

67% of schools received funding to start their gardens. Public schools were more likely to get start-up funds. About a quarter (23%) shared amounts of support, ranging from \$100-\$160,000, with an average of **\$20,266**

\$3,569 was the average annual garden budget among the 52% who shared that information.

WHAT AND WHO IS IN THE GARDEN?

Most gardens were started by classroom teachers and/or students (71% each). They were also most likely to manage it over the summer (52%/57%) and during the school year (68%/75%).

School gardens were variable in age:

- 20% were <1 year old
- 30% were 1-3 years old
- 21% were 4-6 years old
- 9% were 7-9 years old
- 20% were 10+ years old



62%

had a greenhouse, mostly in rural or public schools

About a quarter of sites planted in the ground (26%), or in raised beds (24%). Eighteen percent planted in containers or garden towers. Urban and private sites were 2x as likely as rural and public to plant in the ground, or use raised beds.

Most common garden features were:

- 33% -- tool shed or storage area
- 31% -- automatic irrigation
- 26% -- outdoor teaching area
- 21% -- sinks
- 19% -- a compost area

WHO IS IN THE GARDEN?

27%

of sites reported 10% of their students had garden instruction

19%

of sites reported >50% had garden instruction



Older students were more likely to learn in the garden

- Pre-K: 12%
- Kindergarten: 29%
- First: 27%
- Second: 27%
- Third: 29%
- Fourth: 31%
- Fifth: 32%
- Sixth: 25%
- Seventh: 43%
- Eighth: 50%
- Ninth: 70%
- Tenth: 75%
- Eleventh: 73%
- Twelfth: 72%

97%

of schools used their growing space to support student learning

Most instructors created their own materials:

- 82% used self-created lesson plans
- 46% used websites
- 38% used resources from workshops or seminars
- 33% used textbooks
- 22% used garden-based curriculum
- 14% used nature-based curriculum
- 7% used trade books (literature)

99%

used the garden to teach **SCIENCE**

- 40% used the garden to teach **MATH**
- 8% to teach **HISTORY/SOCIAL SCIENCES**
- 8% to teach **ENGLISH-LANGUAGE ARTS**

Non-core courses most often taught in the garden:

- 83% Agricultural studies
- 35% Health/nutrition
- 25% Service learning/community service
- 23% Family and Consumer Sciences/Culinary Arts
- 21% Environmental studies
- 16% Business/entrepreneurship



91%

used the garden during class instruction time

To support student learning, sites used the garden:

- 48% after school
- 27% in a summer program
- 14% before school
- 12% for non-school community uses
- 7% during recess

Schools with more low-income students were more likely to use the garden during class time than those with higher income levels.

WHAT AND WHO IS IN THE GARDEN?

8

of garden instructors were school teachers

Other instructors included:

- 31% Paid school staff
 - 14% Community volunteers (not parents)
 - 12% Older students (buddy teaching)
 - 10% Parent volunteers
- 13% of sites had garden support staff.

Most common **positive** observations of **students**:

- 47% Increased leadership skills
- 45% Increased environmental attitudes
- 43% Sense of volunteerism

Most important **benefits** of school gardens:

- 38% Increasing awareness of careers
- 36% Increasing environmental attitudes
- 35% Improving decision-making skills

“Improved call to be stewards of creation.”

Most important potential **challenges** of gardens:

- 42% Supporting student learning and engagement
- 34% Managing an aesthetically pleasing space
- 32% Maintaining good relationship w/groundskeeper

Difficulty with school gardens:

“Amount of time to make this productive has frustrated some teachers. Don't like the time we spend on it with little results.”

Most important factors in supporting school gardens:

- 37% Encouragement from administration to use garden as an instructional tool
- 37% Teacher training in garden-based instruction
- 34% Teacher training in gardening skills



84%

grew vegetables

Besides vegetables, gardens grew:

- 58% ornamentals (non-edible plants)
- 51% herbs
- 27% Nebraska native plants
- 16% fruits
- 1% nuts



47%

used their produce in the school lunch

Other uses of harvested produce:

- 38% donated
- 37% sold
- 35% eaten in class/cafeteria testing
- 35% eaten during garden time
- 34% academic study
- 12% composted
- 4% eaten out-of-school (like at PTO or school board meetings)

Agricultural educators were more likely to say their garden supplied their cafeteria, but were less likely to say their produce was donated. Schools with more low-income students were more likely to eat during garden time.



There was a strong desire from respondents to have more garden related training.

81

wanted more garden-based learning instructions.

Nearly half (48%) wanted to professional development opportunities for gardening skills, and/or outdoor classroom management.

SCHOOL DIFFERENCES LEAD TO DIFFERENT GARDEN EXPERIENCES



Urban		Rural
70%	Had a garden	88%
7%	Had a greenhouse	69%
43%	Had a man-made wildlife habitat	12%
52%	Had a tool shed	29%
29%	Had a pond or water feature	7%
24%	Had a rain barrel	8%
43%	Grew Nebraska native plants	14%
5%	Had sinks	24%
20%	Used garden during recess	5%
40-50%	Students getting garden instruction	30%
56%	K-5th students in garden	25%
26%	8th-12th students in garden	75%
29%	History/social studies	4%
43%	Agricultural studies	89%
39%	Art	6%
52%	Environmental studies	16%
57%	Health/nutrition	31%
58%	Harvested & eaten in garden time	31%
38%	Composted	7%
17%	Used in school lunch	52%
13%	Sold	41%
31%	Funded by school/district	70%
38%	Funded by individual donations	14%
29%	Partnership w/college or university	9%

Location and school type were related to many garden access and learning differences. The tables at left show statistically different characteristics – that is, the differences between the two are large enough that it is unlikely to be due to chance. There are some similar patterns between urban and private schools, but the overlap between the two is limited - only 6% of schools were both urban and private.



Both gardens and greenhouses were more prevalent in rural and public schools. The features of the gardens varied by location – while rural school gardens had sinks, urban schools were twice as likely to have several decorative features. Rural schools were 3x more likely than urban schools to have school or district funded gardens.

In rural and public schools, the gardens were generally not used during recess, and which grades had access to the gardens depended on location and type. Overall, about a quarter of elementary school students used the gardens, and three-quarters of high school students. But NOT in urban or private schools, where use is highest for younger students.



Private		Public
76%	Had a garden	85%
10%	Had a greenhouse	66%
23%	Used garden during recess	6%
38%	PreK students in garden	10%
64%	1st – 4th students in garden	26%
54%	6th students in garden	23%
31%	9th students in garden	74%
23%	11th – 12th students in garden	77%
33%	History/social studies	5%
45%	Agricultural studies	86%
55%	Art	8%
17%	Funded by school/district	67%
50%	Funded by individual donations	15%



Of 5 types of classes, only agricultural studies were more common in rural and public school. Perhaps related to that, the sale of and use of garden produce in school lunches was higher in rural areas.



All differences significant at least the 0.05 level; Flaticon images from Freepik