HOOKED ON HYDROPONICS AWARD WINNERS
Evaluation Summary – 2008

Hooked on Hydroponics Awards
lights...water...plants...learning!
Sponsored by The Grow Store and ProgressiveGardening.org

The National Gardening Association surveyed the 2008 Hooked on Hydroponics Award recipients to capture quantitative and qualitative data on the grant's impact. The following is a summary of results.

Award package: Hydroponic systems for elementary schools (approximate value $360), middle schools (approximate value $785), and high schools (approximate value $1,100)
Number of applicants: 135
Number of recipients: 36
Number of evaluation respondents: 27*

Number of participants in award-winning programs:

Ages 2-5 (pre-K)	48
Ages 6-8 (grades 1-3)	351
Ages 9-11 (grades 4-6)	498
Ages 12-13 (grades 7-8)	479
Ages 14-18 (grades 9-12)	575
Adults (age 18+)	47
Total participants	1,998

Demographic information

Anglo American	53%
Latino	20%
African American	14%
Asian	5%
Native American	5%
Other	3%
Female	53%
Male	47%
Eligible for free or reduced lunch program	62%

Months of the year respondents conducted gardening programs:

Average	4 1/2 months/year
Range	1–11 months/year

Hours per week a participating child/youth was involved in gardening activities:

Average	2 1/2 hours /week
Range	1–7 1/2 hours/week

Type of audience participating in these programs:

In-school	96%
After-school	48%
Youth club	26%
Summer program/camp	11%
Community gardeners	11%
Gifted & Talented	11%
Special needs	7%
Preschool/Head start	4%
Home school	4%

Location of winners:

Urban	41%
Rural	37%
Suburban	22%

Program continuation:

Programs planing to continue next year	96%

Type of organizations responding:

Public school	78%
Charter school	11%
Nonprofit agency	7%
Private school	4%

Program leaders noted participant improvements in these characteristics:

Environmental attitudes	96%
Social skills	89%
Attitude towards school	85%

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**Winners failing to submit an evaluation are ineligible to apply for future grants. Seven winners requested an extension because their programs are still in progress.*

> *"This program proved to a number of students who live on farms that hydroponics is a viable solution for farming. Some students didn't believe plants could grow without soil until they actually observed it in the classroom. Even after a lecture and a Web quest one student was still positive there was no way tomato and lettuce plants could grow without soil!"*
>
> — Johann Odom, Middlesex High School, VA

Some students always arrive before class starts to check the plants in the hydroponics system. Our experiments are great motivators — when students take part in an experiment, they're eager to see its progress!

— Lui Yi, The International School for Liberal Arts, NY

Self-confidence 81%
Leadership skills.....78%
Scholastic achievement 78%
Community spirit 74%
Volunteerism 74%
Nutritional attitude 59%
Motor skills 52%

Reported evidence documenting the effectiveness of the programs:
Positive feedback from participants.....93%
Positive feedback from administrators.....70%
Positive community feedback 56%
Positive feedback from family members 52%
Improved attendance rates 30%
Improved test scores.....30%
Decreased disciplinary actions....26%
Positive survey results 26%
Awards and recognition 19%
Funding and donations 15%

Subjects taught through these programs:
Science 93%
Health and nutrition 52%
Math 48%
English 33%
Interdisciplinary 26%
Community service 26%
Social studies.....19%
Cultural studies/issues 19%
History.....15%
Art 15%
Intra/ interpersonal relationships 15%
Physical education.....4%

Percentage of time spent on instructional techniques (note: this is the average of all the responses for each technique):
Student-led investigation/ hands-on activities.....28%
Collaborative project work 21%
Independent Learning.....19%
Adult-led investigation/ hands-on activities.....18%
Lecture 18%

Source of curriculum used by gardening programs:
Combined materials from numerous sources 59%
Original material.....44%
Nonprofit organization (e.g., NGA or Life Lab).....26%
Cooperative Extension (e.g., 4-H or JMG).....26%
School district 22%
State education department.....11%

Compliance with State and National Education Standards:
Programs connected to State and National Education Standards.....78%

Importance of linking program to the standards:
Mandatory 19%
Very important.....22%
Important.....22%
Somewhat important.....19%
Not important.....11%
n/a.....7%

Approximate amount of money spent on these programs:
Less than $250.....52%
$251 to $500 .....15%
$501 to $1,000 .....7%
$1,001 to $1,500 .....4%
$1,501 to $2,000 .....11%
$2,001 to $2,500 .....4%
More than $2,500.....7%

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Approximate value of in-kind donations to gardening programs:

Less than $250.....37%
$251 to $500.....26%
$501 to $1,000.....19%
$1,001 to $1,500.....4%
$1,501 to $2,000.....7%
$2,001 to $2,500.....0%
More than $2,500.....7%

Percentage of funding programs received from other sources (note: this is the average of all the responses for each source):

Grants.....55.5%
School or school district funds.....13%
Parent or volunteer organizations.....7.5%
Instructor's pocket.....6.5%
Donations.....5.5%
Other sources.....5%
Fundraising.....4%

Documented media publicity:

Newsletter articles.....26
Web site features.....21
Newspaper articles.....17
TV features.....3
Radio features.....2

Community interaction and impacts noted by respondents:

Youth were engaged in a summer science project comparing hydroponic basil to traditionally grown basil in the Community Center's window. As the group studied the two systems they also learned about plant science and nutrition. As a result of having the hydroponics system, youth participants had an increased interest in plant science, which resulted in better attendance and less disciplinary problems while at the indoor gardening program. Youth evaluations revealed students enjoyed working with the experimental plants and enjoyed learning about plant growth, plant anatomy, and nutrition. One commented, "I liked [the program] — it was a fun way of learning." Another enjoyed this summer's program more than last year's, when we didn't have a hydroponics system. From both observation and youth evaluations it is clear that the hydroponics system encouraged the group to learn more about food systems and the sciences.

— Crystil-Lee Skoda, Cornell Cooperative Extension of Greene County, NY

The hydroponics lighting equipment we received added a great deal to the interdisciplinary challenge we designed for our freshman class. In addition, many of our sophomore students and upperclassmen performed independent research projects that made use of the equipment.

— Michael T. Roche, High Technology High School, NJ

The hydroponic gardening project had a significant impact on students. They were able to identify a real need in the school and then find ways to help others in the community through gardening. My students were so proud to describe our project to the Board of Trustees! They love their gardening time and have learned so much — from reading and writing, to social studies and science.

— Sarah Roberts, South Shore Charter, MA

"This gardening program provided an excellent learning process for both students and instructors. We worked collaboratively to test a variety of growing methods, and although most of our efforts were unsuccessful, the students enjoyed watching their seeds become plants."

— Amy Pugliese, Naylor Middle School Life Skills Suspension Program, AZ