

Final Report for Junior Master Gardener Program 2008-09 MNLA Foundation Grant

Get youth excited about gardening. Provide an opportunity for active engagement in the outdoors. Increase young peoples' knowledge and skills in science, technology and life. Introduce youth to the opportunities that abound in the horticulture industry. These were primary goals of the Junior Master Gardener pilot project implemented in 2009 by the University of Minnesota Extension Master Gardener Program. Evaluation from all pilot sites reveals that outcomes were achieved. The project was made possible in large part by an MNLA Foundation Research and Education grant.

Project Overview

The University of Minnesota Extension Master Gardener Program collaborated with Extension's youth development program, Minnesota 4-H, in developing and implementing the project. Specifically, Master Gardeners worked with the 4-H Science, Engineering, and Technology (SET) initiative. The partnership was a good match. Each program partner brought to the project its content expertise – horticulture and youth development. Master Gardeners provided teaching and education; 4-H provided the group organizational structure.

The pilot project was designed with six expectations of each site. Each site had flexibility in carrying out the project. The national Junior Master Gardener (JMG) curriculum served as the base curriculum. Each group was expected to:

- engage at least 10 youth in a minimum of 8 learning sessions
- involve a local MNLA member sponsor
- incorporate a science experiment and a service project
- use technology to teach, communicate and report
- utilize JMG curriculum and have some type of teaching garden
- participate in evaluations

County Master Gardener and 4-H programs in Minnesota were invited to apply to become a pilot site. Six counties were selected with an expectation that both Master Gardeners and 4-H leaders were involved in the project. Two counties had multiple sites. Selected counties included: Clearwater, Crow Wing, Olmsted (2), Sherburne, Stearns (2), and Winona.

Leader training sessions were conducted to teach participants how to use the JMG curriculum and to provide orientation to the JMG-4-H SET pilot project. Trainings were conducted in Rochester and St. Cloud and were open to pilot site leaders, Master Gardeners, and other adults working interested in working with youth gardening. In total 72 participants attending the sessions.

Each JMG-4-H SET pilot site received the JMG leader curriculum, JMG student manuals for each youth participant and a \$125 grant to cover the cost of garden supplies and additional curriculum materials. These were all covered by the MNLA grant.

A Ning social networking site was established to provide an internal communication tool for site leaders, youth and program organizers. It was hoped that this technology would provide support for site leaders and an opportunity to create enthusiasm among participants by sharing garden progress.

From May through October local sites created and implemented their pilot youth gardening programs. A mid-term evaluation was conducted in July. That evaluation gave program organizers input into how to further assist sites and provided content for presentation at the annual State Master Gardener Conference. A final evaluation of was conducted with pilot site leaders in October.

Results and Outcomes

Youth Participation

A compilation of data from the eight JMG-4-H SET pilot project sites shows that in total:

- **125 youth initially enrolled in the project**
- **97 youth completed the entire project**
- **Age range varied based on individual site focus; participants ranged from elementary-aged youth to one project working with high school ESL students**
- **30 percent of youth participants were non-white/persons of color**
- **70 percent of youth participants were white/Caucasian**
- **87 youth were new to the 4-H program**

MNLA Member Sponsors

Seven of the eight pilot projects obtained a local MNLA member as a sponsor for the project. The intent of having a sponsor was to connect MNLA members with a local project funded by an MNLA Foundation grant. It was not intended that a sponsor provide monetary support, but work with the project leaders to determine how they could support the project.

At one site a local business became a new member of MNLA so they could sponsor the group. Four MNLA sponsors provide tours of their business or spoke to the youth about the green industry. One sponsor provided plants for the project; others provided discounts on plants and supplies. Another sponsor assisted in answering questions during the growing season. Many of the sponsors benefitted from retail sale of plants for project sites and from purchases by parents of the youth participants.

Leaders were asked to share what youth learned about the nursery and landscape industry. Some were uncertain, but several were confident that youth in their project learned about the scope of work and jobs, the seasonal work opportunities in the industry, and the process and timeline for growing plants from seed to retail.

Science Experiments

One element of the JMG-4-H SET project was to provide youth with an opportunity to engage in an applied science experiment to learn skills in the scientific process. Seven of the eight sites completed one or more science experiments. At all but one site, youth were involved in selecting the experiments. Some examples of experiments included:

- At a site in Olmsted County, youth grew a tomato plant in a traditional way in the garden and another in an upside down hanging planter. They compared and charted fruit size and yield.
- In Sherburne County, the youth garden became a site for the Minnesota Master Gardener variety trials. They grew Asian vegetables and lima beans. Through observation and production records, youth contributed their data to the state variety trials data collection. This group also experimented with a chemical and non-chemical control of powdery mildew.

- A Stearns County pilot group conducted an experiment on water content of fruit. They selected four types of fruit, cut and weighed samples, dehydrated the samples, then recorded and charted results.

Project leaders said youth learned the following from the experimentation component of the project:

- the importance of accurate measurements
- the need to reduce variables and have an accurate control group
- observation skills
- data collection skills and the importance of accuracy in keeping production records
- the need for patience and time in developing and obtaining data and results

Groups shared the results of their experiments in different ways and through different venues. Two of the groups shared results through power point presentations; one group submitted results to the state variety trial report and in reports to their Extension committee and county commissioners. One group did a lunchtime presentation, complete with posters, at their school; another posted text and photos on the Ning site and the county Master Gardener website.

Community Service

All eight project sites participated in at least one community service project, several did more than one. Six groups used their JMG-4-H SET pilot project gardens to grow produce for local food shelves. They either contributed extra produce from the gardens or grew special garden plots just for that purpose. One group put the produce into Share and Care Vegetable baskets.

The other area of service project undertaken was to plant and tend gardens or planters as community beautification projects. Three sites participated in this type of service project tending to public planters at county fair grounds and outside government buildings.

All leaders felt the projects were beneficial for the youth in learning organization and cooperation skills as well as the value and “good feeling” that comes from undertaking efforts to benefit others.

Technology

Most sites used electronic communication to some degree in either communicating among the group or in teaching. Some examples include:

- An Olmsted group used an online tool to research plants and then used a computer program to create a garden design.
- Another Olmsted County group used a local blog site to communicate among participants.
- Email communication was used to communicate within groups.

There were challenges identified in using technology in the group setting for this type of pilot project.

- access to computers and/or internet access was limited at facilities where programs were conducted
- age of youth and parental permission to use internet access was a concern
- time frame of meetings with youth did not allow time to utilize online searches and information

The Ning site set up for internal communication and reporting was not significantly utilized in the project. Only three sites posted regularly and postings became more infrequent as the project

progressed and garden activities became more demanding on time. Feedback from leaders describes reasons for limited use of the Ning site include:

- too complicated and not sufficient training (5 responses)
- too time consuming (6 responses)
- limited computer access (5 responses)
- didn't understand the benefit to the project (3 responses)

JMG Curriculum

The JMG curriculum received high praise from all JMG 4-H SET leaders. Leaders from all eight sites agreed that the Leader Guide and learning activities in the curriculum:

- were easy to use
- contained learning activities that were relevant
- engaged youth and youth liked the learning sessions

All leaders said they would recommend the curriculum to other youth gardening leaders and teachers. Summing it up, one leader said, "The JMG curriculum is well thought out, easy for a volunteer or teacher to use, promotes real learning, is hands on and fun for leaders and youth."

The leaders felt that the youth manuals were less valuable in the teaching. While they were good resource for youth, they felt that more resources should go for leader guides and that the youth manuals were less important in the informal teaching setting.

Future of Pilot Sites

Five of the sites said they hope to continue the gardening project in the future. One anticipates that a youth gardening program will continue, but in a different format. There is a consensus that youth were engaged and enthusiastic about the project and want to continue. Leaders, however, discuss the labor-intensity of the project, especially in raising a group garden that requires a minimum of weekly attention over the growing season. They question if it is sustainable in the current format. Several suggestions for modifying the youth gardening program effort were offered:

- start earlier and work on a different timeframe than weekly
- don't make a garden a required part of a project; JMG activities lend themselves to plant science learning without the need for a garden which is labor intensive
- move to a year-round program, less intense and smaller growing projects that can be done inside or outside

Future of JMG Youth Gardening Programs

The MNLA grant provided funding that allowed the State Master Gardener program the opportunity to construct a comprehensive youth gardening model using the Junior Master Gardener curriculum. The initial goals of the grant and program effort were achieved. As a pilot, there were important lessons learned about what made the model successful and where revisions should be made to limit challenges. It was clear from the pilot that:

- Youth are enthusiastic about and engaged in gardening with hands on activities
- Youth increase knowledge about horticulture, the plant industry and they gain science and life skills
- The JMG curriculum is engaging to youth and is easy for volunteer teachers to use
- The use of gardens enhanced the experience for youth

- Connections with MNLA businesses provided a link to see horticulture applied to career and business

Areas where revisions would be beneficial include:

- Reduce the time and labor intensity for volunteer leaders and teachers
- Utilize technology tools that are most useful and then provide more training for volunteers
- Examine alternatives to using community garden-type plots to reduce labor and time intensity

The University of Minnesota Extension Master Gardener Program intends to support continuation of the programs at the pilot sites and extend the model to other County/local Master Gardener programs across the state. We will host an additional training session to introduce the revised model and train volunteers to use the Junior Master Gardener curriculum. We will continue to partner with 4-H and will explore partnerships with other youth-serving organizations and schools.

December 2009



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