Honoring the Past, Treasuring the Present, Shaping the Future

2019 National EFNEP Coordinators’ Conference
EFNEP Learning Gardens

• Participants will:

• Discover a model for creating sustainable learning gardens designed to inspire healthy eating, physical activity and outdoor play in classrooms.

• Learn how to empower teachers to incorporate gardening and nutrition education into learning environments to impact healthy habits in youth.

• Explore the importance of leveraging volunteer services to impact community health.
Learning Gardens

• Learning Gardens empower teachers to use gardens to teach nutrition education to increase healthy habits in children through a sustainable model capitalizing on Extension volunteers, staff and expertise.

• We want children to be outdoors.

• We want children to know where their food comes from.

• We want children to eat vegetables and fruits.

[Community Partnership Impacts]
Vision & Mission

• Vision: Create a model program that connects Master Gardening expertise and nutrition education to Early Childhood Centers, so children develop in healthy, nature-aware environments and adopt healthy behaviors during a critical phase in development.

• Mission: Empower teachers to incorporate gardening and nutrition education into early childhood learning environments to impact healthy habits in young children.
Learning Gardens
Defined Roles & Expectations per Year

- **Master Gardeners** – gardening expertise
- **Nutrition Educator (EFNEP Coordinator)** – nutrition connection and resources
- **Community Environments Educators** – garden plan, MG recruitment
- **Head Start admin/leaders** – financial requirements, teacher recruitment
- **Teachers** – maintain garden, engage children in garden and nutrition education
Three Year Plan

- **Year 1:**
  - Community Environments specialists plans gardens
  - Teachers engaged in weekly ‘garden visits’ with Master Gardeners and Nutrition Educator
  - Nutrition education activities taught every week

- **Year 2**
  - Teachers, along with Master Gardener guidance, plan garden beds
  - Bi-weekly ‘garden visits’ with Master Gardeners and Nutrition Educator
  - Master Gardeners become “Master Health Volunteers” through 40-hour training
    - Bring nutrition education piece to teachers

- **Year 3**
  - Teachers plan and implement entire garden process
  - Monthly visits (or as often as needed) by Master Gardeners and Nutrition Educator
  - Teachers utilize nutrition/garden curriculum learned previous year to engage kids in garden and nutrition
MOU (Memorandum of Understanding)

MOU Nebraska Extension Growing Together Gardens

Congratulations, your facility has been selected as a "Growing Together" garden! The purpose of this project is to:

- Facilitate the integration of gardening and related activities into the early childhood curriculum, to improve the quality of young children's learning experiences.
- Assist Early Childhood Education programs and professionals to establish a garden at their early childhood program location.
- Connect professionals and families to the information and resources available through Nebraska Extension.

The project will run from the week of May 10th through the end of the growing season. The exact starting date depends on the type of plants you and the children decide to grow.

To participate in the program as a garden site, you must provide the following:

- Garden site: either raised beds or a garden bed. Choose a location with full sun and good quality soil.
- Water source: a location near a water hydrant or sprinkler.
- Growing supplies:
  - Plants and seeds
  - Garden maintenance supplies for children, including:
    - small trowels or big potatoes for digging and planting
    - small plastic milk jugs for watering
    - 1 large watering can (teacher will use for fertilizing)
    - Non-toxic, organic fertilizer
    - Hose
    - Spray nozzle for watering

Allow Nebraska Extension to place a small sign, which will be provided by us, in the garden to acknowledge participation by Extension Master Gardener (EMG) volunteers.

Child Care Center (CCC) leaders will be provided with the following:

- Extension supports such as material and lesson plans. Assistance in lesson and delivery techniques throughout the project.
- Visits by a 2-person team of EMG volunteers. The primary purpose of EMG is to teach CCC leaders about planting, maintaining, and harvesting the garden. CCC leaders and children will maintain the garden, including planting, watering, weeding, and harvesting.
  - Year 1: Frequent visits, weekly during planting and harvest times, and more weekly visits at other times during the growing season.
  - Year 2: Bi-monthly visits; assist CCC leaders to plan and implement garden tasks; identify and develop a management plan to troubleshoot problems.
  - Year 3: Monthly visits or as needed; provide oversight and technical assistance with planning, planting, and harvest.

Visits by additional Nebraska Extension staff are needed or requested, such as nutritionists, entomologists, and early childhood experts.

2019 National EFNEP Coordinators' Conference - 50 Years of EFNEP: Honoring the Past, Treasuring the Present, Shaping the Future

Celebrating 50 years

Expanded Food and Nutrition Education Program
Tomato leaves can be poisonous to small children if ingested.

True

Tomatoes are a part of the nightshade family (along with potatoes and eggplant) which can mean that they produce toxins in small amounts. Typically not harmful in adults and only harmful if ingested in large amounts.
Three Year Plan

• Year 1:
  • Community Environments specialists plans gardens
  • Teachers engaged in weekly ‘garden visits’ with Master Gardeners and Nutrition Educator
  • Nutrition education activities taught every week
Garden Planning

• Nebraska Extension Urban Horticulturists, Mary Jane Frogge and Sarah Browning devoted time and resources to training and recruiting Extension Master Gardeners to be involved in this new approach toward empowering teachers to use gardens as teaching tools.

• Extension Associate, Mary Jane Frogge designed the garden plots to grow radishes, lettuce, spinach, beans, cucumbers, beets, and squash.

• Community Action’s Nutrition Specialist gathered community resources to install garden beds and purchased a variety of seeds for planting according to the plan developed by Mary Jane.
Garden Map

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Master Gardener Schedule

2-3 Master Gardeners per garden

- One lead per garden – expected to be there each week
- 1-2 additional MG who signed up to attend meetings
Garden Plan:

MAY

JUNE

JULY

AUGUST

SEPTEMBER

OCTOBER

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Teacher Engagement

• Head Start preschool teachers attended weekly 30-minute meetings with Extension Master Gardeners (MG), Extension Nutrition Educator, and Head Start Nutrition Coordinator

• MG show the teachers what to look for in the garden, how to plant/harvest, how to know when/how to water, identified bugs/pests, etc

• Nutrition Educator would provide nutrition linkages/connections, activities, resources, etc
Nutrition Education

• Nutrition Education resources, classroom activities, and curriculum lessons were provided to the teachers to connect the garden to healthy eating habits.
  • May, June, July: 1-2 concepts/activities per week
  • August, September: pilot curriculum to test, booklet given
Nutrition Education

- **Harvest of the Month**
  - Offered by Head Start nutrition specialist
  - Voluntary teacher participation
  - Included parent-engagement in some tastings

- **Harvest of the Month experiences:**
  - more powerful and engaging after they started the gardens. The students understood where the food was coming from and were excited to try the Harvest of the Month vegetables.
  - Aligned cucumber ‘harvest of the month’ with cucumber harvest in garden
Garden Quiz!

• True or False

The temperature of the day impacts the heat/spicy of a radish.

True

The hotter the weather, the hotter/spicier the radish.
Evaluation Methods

• Vegetables Preference Survey for Children:
  • Stickers to put on answer
  • Required one-on-one help from teachers
  • Gave sticker on shirt when finished

• Vegetable Preference using pictures
  • Matching game: vegetable to emotion face
  • Developed by Dr. Dipti Dev at UNL
  • Could not get IRB approval in timely manner to use
  • Requires one-on-one with child and Extension professional
Evaluation Methods

• Weekly teaching track records for teachers:

<table>
<thead>
<tr>
<th>Classroom:</th>
<th>Garden Data Collection</th>
<th>(complete &amp; turn in weekly)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Amount of Time in garden with kids</td>
<td>Amount of time connecting garden to learning nutrition/healthy eating</td>
</tr>
<tr>
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</tbody>
</table>

How much time did you spend teaching nutrition using the school enrichment kit?
Please fill out the following information for your classroom. Thank you!
This form will be picked up at the time of the final classroom presentation.

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Task and Description</th>
<th>Evaluation</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson 1: Vitamin B12</td>
<td>Lesson 1: Vitamin B12</td>
<td>Lesson 1: Vitamin B12</td>
<td>Lesson 1: Vitamin B12</td>
</tr>
<tr>
<td>Lesson 2: Hunger</td>
<td>Lesson 2: Hunger</td>
<td>Lesson 2: Hunger</td>
<td>Lesson 2: Hunger</td>
</tr>
<tr>
<td>Lesson 5: Food and Drink</td>
<td>Lesson 5: Food and Drink</td>
<td>Lesson 5: Food and Drink</td>
<td>Lesson 5: Food and Drink</td>
</tr>
</tbody>
</table>

Spreadsheet and Formulas:

- Use for tracking
- Input data for analysis

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Successes!

- Garden overall:
  - Due to the success of this growing season, the preschool students at the Head Start locations were able to taste radishes, lettuce, spinach, beets, cucumbers and squash straight from the garden. The teachers even experimented with pickled cucumbers and radishes and were encouraged by the students’ willingness to try all of the vegetables—their favorite being pickled radishes.
Successes!

Teachers:

• The teachers’ first reaction to gardening: being scared. The Extension Master Gardeners helped the teachers grow in both garden knowledge and confidence.

• “Without [the Extension Master Gardeners] I would have been lost”. 
Successes!

Teachers:

- “Gardening has been good for the teachers too – to see food grow over a period of time versus the instant gratification of just getting vegetables from the grocery store”.
  - Two teachers started gardens of their own at home and two additional improved their already-established home gardens.
  - “I feel like I was as proud as my kids were when things grew.”
Successes!

Teachers:

• After being in the garden the teachers would say, “I get to start my day again” because being outside is a stress-reliever.

• The effects that a teachers’ stress or anxiety level has on their classroom is becoming increasingly known. The more we can do to reduce teachers’ stress, the better for them and the children. – UNL CHIME research
  • https://child.unl.edu/chime
Successes!

Children:

• Teachers enjoyed having a natural element to better engage kids; the garden provided more opportunity to take kids outside.
  • “The kids get so excited about getting to go to the garden when they go outside. That’s the first thing they want to do.”

• The teachers are seeing the kids make connections between the classroom and the garden.
  • A child found seeds in an apple and said, “A seed! We need to plant this in the garden!”

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Successes!

Children:

• The teachers witnessed the garden slow down children’s impulses and increase their respect of other living things

• Social-emotional lessons also emerged from the garden.
  • The children grew in their ability to share and connect with each other.
Successes!

Parents:

• When parents picked up their kids, the kids would say, “guess what we made today?!” and share their stories from the garden and food tastings. The children were especially excited to tell their parents about the refrigerator pickles that they made from their garden cucumbers.

• Due to an abundant production, many families were able to take cucumbers home with them to continue healthy eating habits at home.

• Many of the teachers’ goals for next year involve increased parent engagement in the garden.
Successes!

Extension/EFNEP/Master Gardeners:

• Gained new collaborations and partners in health
• “Converted” Master Gardeners in to Master Health Volunteers – increased their own awareness of health
  • “I enjoyed seeing the teachers’ curiosity about the garden grow.”
    -Extension Master Gardener
Garden Quiz!

• Open-ended Response

Why would we use a garden to spark healthy eating and physical activity?
Learning Opportunities!

- **Master Gardeners** self-selected to do this project
  - Personality issues
- **“Work friends”** matter
  - Engagement issues
- **Director engagement matters**
  - Setting expectations through modeling

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Limitations/New Opportunities!

- Lack of nutrition education curriculum in Year One
- Lack of funding for project – requires investment from outside resources or the school/program
- Evaluation methods
Lessons Learned!

• Work with the willing!
• Build group cohesion and accountability
• Build excitement and passion for gardening/outdoors
  • Repeatedly noticed this ‘bubbling up’ from MG – I would encourage this in them and encourage them to share their ‘bubbling up of excitement for gardening’ with the teachers.
• Teachers want easy-to-learn and easy-to-implement nutrition education methods
  • Giving them a curriculum does NOT work!
Year 2

• **Master Gardener became Master Health Volunteers**
  
  • **Master Health Volunteers (MHV)** make their communities healthier places to live by volunteering on health-related projects. They receive 40 hours of public health training and give back 40 hours of volunteering.
    
    • [https://wellconnectedcommunities.extension.org/master-volunteer-curriculum/](https://wellconnectedcommunities.extension.org/master-volunteer-curriculum/)
    
    • Presentation Skills, Adult Learning Principles, Health Behavior Change Theories, ACEs, Head Start, Nutrition/PA

• **MVH will introduce nutrition education weekly curriculum and concepts — training and lessons provided by EFNEP Coordinator**
  
  • CATCH Early Childhood
  
  • Funding for curriculum provided by community partner
  
  • Increasing parent-engagement tools
Gardening Beyond ‘Learning Gardens’

• In school:
  • optional lesson for teachers who utilize our nutrition education ‘kits’ is planting herbs seeds and growing them in the classroom (SNAP-Ed)

• Out-of-school-time:
  • After school: “Nutrition and Garden Club”
    • Utilize established school garden to teach nutrition education from
  • Summer:
    • nutrition education using gardens at community agencies
    • “Raising Nebraska” garden on State Fair grounds — used to teach YWCA youth nutrition
Gardening Beyond ‘Learning Gardens’

• Replicable for school-based garden programs

• Ability to use Master Gardener hours or recruit/train for additional volunteer program (Master Health Volunteer)

• Ability to teach EFNEP concepts using outdoor spaces and gardens
Curriculum Resources:

Section 2: Farm to Childcare Classroom Activities

Lesson planning pages organized in alphabetical order by food into classroom activities—Circle Time, Sensory and Dramatic Play, Math and Science and Arts, descriptions to use in newsletters and menus for the highlighted food, flashcards, and family-size recipe to send home.

Apples .............................................................. 11
Broccoli ........................................................... 17
Cabbage ........................................................... 23
Cantaloupe ......................................................... 29
Carrots ............................................................. 35
Chives .............................................................. 41
Cucumber .......................................................... 47
Kale ................................................................. 53
Pepper .............................................................. 59
Radishes ............................................................ 65
Snap Peas ........................................................... 71
Tomatoes ........................................................... 77
Zucchini ............................................................ 83
Curriculum Resources

Harvest of the Month features a variety of California grown fruits and vegetables for all seasons. These selections reflect an increased number and variety of fruits and vegetables to feature during each three-month season. This offers greater flexibility for schools and programs implementing Harvest of the Month. By featuring more fruits and vegetables, Harvest of the Month showcases the diverse and extensive availability of produce in each season. While many California grown fruits and vegetables are available in multiple seasons or year-round, the schedule is based on when the featured produce items are in peak season in most regions of California.

### Harvest of the Month Featured Produce

<table>
<thead>
<tr>
<th>Season</th>
<th>Fruits</th>
<th>Vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>Apple*</td>
<td>Tomatoes*</td>
</tr>
<tr>
<td></td>
<td>Kiwi</td>
<td>Winter Squash</td>
</tr>
<tr>
<td></td>
<td>Pears</td>
<td>cooked Greens*</td>
</tr>
<tr>
<td></td>
<td>Persimmons</td>
<td>Root Vegetables*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter</td>
<td>Mandarins</td>
<td>Broccoli*</td>
</tr>
<tr>
<td></td>
<td>Oranges</td>
<td>Cabbage*</td>
</tr>
<tr>
<td></td>
<td>Grapefruit</td>
<td>Sweet Potatoes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Swiss*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry Beans*</td>
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<tr>
<td>Spring</td>
<td>Avocados</td>
<td>Asparagus</td>
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<tr>
<td></td>
<td>Dried Fruit*</td>
<td>Carrots</td>
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<tr>
<td></td>
<td>Strawberries*</td>
<td>Peas</td>
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<tr>
<td></td>
<td>Berries*</td>
<td>Spinach</td>
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<tr>
<td></td>
<td></td>
<td>Cucumber*</td>
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<tr>
<td>Summer</td>
<td>Grapes</td>
<td>Corn</td>
</tr>
<tr>
<td></td>
<td>Melons</td>
<td>Green Beans</td>
</tr>
<tr>
<td></td>
<td>Peaches/Nectarines</td>
<td>Potatoes*</td>
</tr>
<tr>
<td></td>
<td>Plums</td>
<td>Salad Greens*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peppers*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zucchini*</td>
</tr>
</tbody>
</table>

*Peak availability occurs in multiple seasons or year-round.
Curriculum Resources

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Curriculum Resources: Pilot

JMG Early Childhood Curriculum Pilot Project

Thank you for serving as an approved pilot site for the JMG Early Childhood Learn, Grow, Eat & Go! Curriculum Pilot Project! This new JMG curriculum developed around the six main plants parts is currently being drafted for pre-K to kinder students, specifically targeting 4 & 5-yr-olds.

>>> The 4 week Early Childhood Learn, Grow, Eat & Go! pilot curriculum is available for implementation at any point January 21 – June 21 2019! Instructions for pilot site/teachers are below.

*If you are not a pilot teacher but would like to be, you can apply to be a designated pilot site here: [http://bit.ly/prejMGpilot](http://bit.ly/prejMGpilot)
Curriculum Resources: Comprehensive List

• Google Sheet of various garden curricula
  • https://docs.google.com/spreadsheets/d/1Bh5fWQQ3jfbIv13WNalcTCxmRJeyO4QM0rpkc70UscY/edit?usp=sharing
Garden-based Nutrition Education Research


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EFNEP
Expanded Food and Nutrition Education Program
• The Findings and Conclusions in this Presentation Have Not Been Formally Disseminated by the U.S. Department of Agriculture and Should Not Be Construed to Represent Any Agency Determination or Policy.

• The Expanded Food and Nutrition Education Program (EFNEP) is funded by the U.S. Department of Agriculture, National Institute of Food and Agriculture (USDA/NIFA).

• USDA is a equal opportunity provider and employer.
Questions?
Workshop Proposal:

• Expanded Food and Nutrition Education Program coordinator in Nebraska established a health-related community program to implement sustainable gardens in school settings to encourage healthy eating, physical activity and outdoor play. These Learning Gardens included connecting the expertise of Extension Master Gardeners and the EFNEP coordinator to teachers in two different school programs. Beyond garden planning meetings, weekly Learning Garden meetings included Master Gardeners teaching gardening information and the EFNEP coordinator providing nutrition information and resources to teachers. Teachers were imbued with confidence in gardening as vegetables were harvested and children were more excited than ever to eat vegetables that they had grown in their gardens. Evaluation methods included in-class vegetable preference surveys with youth and post-growing season focus groups and interviews with teachers, Master Gardeners and site directors. Overall results include teachers’ increase in healthy eating, physical activity in the garden and planting vegetables at home, parents’ increase in eating vegetables harvested from the Learning Gardens, and a growth in children’s’ excitement for and knowledge of different vegetables. The presentation will detail the program model and sustainability components. Lessons learned, limitations and directions for future development will be shared.

Interactive strategies and approaches planned for use in presentation to engage audience:

• Interactive demonstration of garden engagement techniques to use with children. Quizzes and polls embedded in the presentation for participant interaction.