



# Engaging Your Entire School in the Garden

March 17 3:30-4:30

**TEAM**  
NUTRITION  
 **IOWA**

# TEAM NUTRITION IOWA™

- Iowa Dept of Education – Bureau of Nutrition & Health
  - Patti Delger [patti.delger@iowa.gov](mailto:patti.delger@iowa.gov)
  - Carrie Scheidel [carrie.scheidel@iowa.gov](mailto:carrie.scheidel@iowa.gov)
- Improve children's eating and physical activity habits through nutrition education based on the principles of the Dietary Guidelines
  - Training and Technical Assistance
  - Fun and Interactive Nutrition Education
  - School Wellness Policy Development, Implementation and Assessment





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## **SUCCESS: AMOUNT OF FOOD HARVESTED**

Photo from Franciscan Sisters of Little Falls, MN



## **SUCCESS: CURRICULA CONNECTIONS TO GARDEN**

Photo from Mount Desert Islander



## **SUCCESS: STUDENT INVOLVEMENT**

Photo from AgCulture

**IOWA STATE UNIVERSITY**  
Extension and Outreach  
**Healthy People. Environments. Economies.**





Image from Arkesia

## BEST PRACTICE: Define Garden Goals

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Image from U of Oregon

## BEST PRACTICE: Outline Roles

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Image from Kitchen Gardeners International

## BEST PRACTICE: Seek funding

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- Onion, winter squash, sweet potato, tomato, kale (80 days)



Photo from EIRC.org

## BEST PRACTICE: Harvest in session

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Healthy People. Environments. Economies.



# Save *the* Date

Volunteer  
(20 hrs)

Education  
(10 hrs)

IOWA STATE UNIVERSITY  
Extension and Outreach  
Healthy People. Environments. Economies.





Learn it Grow it Teach it

**Susan DeBlieck, [deblieck@iastate.edu](mailto:deblieck@iastate.edu)  
[www.mastergardener.iastate.edu](http://www.mastergardener.iastate.edu)**

**IOWA STATE UNIVERSITY**  
Extension and Outreach  
**Healthy People. Environments. Economies.**



# School Garden Tips from FoodCorps Iowa



*Marlie Wilson, Iowa FoodCorps Fellow*



# Classroom Management in the Garden



# Before students arrive: set up for success

**School garden environments that promote behavior:**

- **Seating area (tables are a plus)**
- **Canopy for temporary shade**
- **Clear boundaries between growing space and walkways**
- **Garden signage that students will understand**



# Gardening rules!

Set expectations clearly:

- Walk instead of running
- Listen for directions
- Treat all living things with respect; that includes plants, bugs, and people!
- Share with others and work together
- Don't be afraid to get dirty

Use a visual aid if possible!



Let a little chaos happen!



# Engaging Parents and Community

Wait.....  
**FAMILY NIGHT!**  
5:00-6:00  
SWEET POTATO PARTY  
2016



# Sharing ownership

- **Involve families in ownership of garden project from the beginning**
- **Invite representatives to serve on school garden committee**
- **Ensure that parents are involved in decisions of how school garden produce is used**
- **Identify families with expertise in gardening and cooking to lead workshops for teachers and/or students; highlight the assets in your school community and celebrate them**



# Promotion and awareness

- **On site signage: make sure passersby can learn more and contact someone**
- **Publicize your garden to the PTA/PTO, community organizations, and businesses**
- **Connect with other school and community gardeners around the city**
- **Utilize Master Gardeners**



# Recipes for success

- Host a regularly scheduled event to engage parents and other volunteers– even in off-season
- Incorporate garden and healthy taste tests into “Family Nights”
- Provide info at parent-teacher conferences; open houses
- Host a mock farmers market
- Allow parent volunteers to take produce home with them



# Bringing the Garden to the Classroom



# Cooking with kids

- Hands-on way to teach students about healthy eating and nutrition, understanding where food comes from
- Opportunity for teaching core curriculum
- Build teamwork and collaboration in classroom



# Classroom cooking ideas



# Indoor garden activities

- **Seed dissection**
- **Worm bins and composting**
- **Starting transplants**
- **Potato sprouting**
- **Celery/carnation coloring experiment**
- **Garden planning**
- **Invite a farmer to visit/skype!**



# Garden to Cafeteria



# Involve kids & food service

- **Students can participate with:**
  - Harvest
  - Preparation
  - Promotion
- **Work with the kitchen:**
  - Follow safety protocols
  - Learn where to find supplies
  - Clean up when finished
- **Voting jars at the end– I tried it, I liked it, I loved it**



# Make sure the whole school knows



# Iowa Farm to School Workshops

- **Council Bluffs: April 6<sup>th</sup>**
- **Altoona: May 1<sup>st</sup>**
- **Teachers, administrators, food service staff encouraged to attend; CEUs available**
- **\$10 unless Iowa Nutrition Network School**
- **To register:**  
[www.ncat.org/events](http://www.ncat.org/events)



# Linking the Garden to Learning



**Cindy Hall**  
**Program Manager**  
**Iowa Ag Literacy Foundation**



# Science – Life Science

- What are the differences between living and non-living things.

How does a plant grow? Observe the lifecycle of plants.

- What do plants need to grow? Do all plants need the same thing?
- How do plants use energy from the sun to make food? Discuss photosynthesis.
- Research adaptations of seeds for dispersal and adaptations of flowers for attracting pollinators

# Science – Life Science

- Observe pollinators in the garden.
- Investigate functions of different plant structures.
- Investigate the impact of environmental changes on plants.
- Study wildlife and insects and their habitats. Where do certain creatures live in the garden? Why?
- Investigate how plants are the primary source of energy for all food chains.

# Science – Earth Science

- Create a garden weather station. Record daily measurements and compare conditions with plant growth.
- How are some soils different from others? Compare and contrast the properties of different types of soils (density, air spaces, presence of living organisms, composition, texture, smell, appearance).
- Look for signs of soil erosion in the garden. Simulate soil erosion.

# Science – Physical Science

- What is pH? How does it affect plants? Use litmus paper or a test kit to test the pH of different soils. Investigate how plants respond to soils with **different** pH levels.
- Simulate the water cycle in the indoor garden by covering it with a “dome” of clear plastic. Study and observe the transpiration, evaporation, and condensation of water.
- What are the properties of different types of light? Cover pots with cellophane of different colors to screen out all but one wavelength of light from plants. Observe plant growth.

# Math

- Measure the growth rates of plants and display results on different types of graphs. Make predictions regarding future growth.
- Using information from seed catalogs, predict dates of germination and maturity.
- Plan backward from a desired harvest date to determine when each crop should be planted.
- Measure your garden perimeter and calculate the area. Use graph paper to make a map to scale of your garden.

# Math

- Calculate amounts of fertilizer to use per quart and per liter of water.
- Count the number of seeds planted and the number of seeds that sprout and calculate the germination rate.
- Measure the height of a group of plants and determine the mean, median, and mode.
- Make a recipe that uses fruits and vegetables from the garden and requires various measuring techniques.

# Math

- Chart temperatures of the air and soil in your garden in Fahrenheit and centigrade.
- Determine the weight and volume of soil mix when wet and dry. Determine the volume of soil in a rectangular window box.
- Investigate vegetable prices in a supermarket. Track the amount of produce harvested in your garden and use the market prices to determine the value of your harvest.

# Social Studies

- Research and report on cultural or ethnic differences in food consumption and gardening practices.
- Research agricultural history and create a timeline of important events.
- Interview local farmers about choice of crops, growing practices, marketing, and farm history.
- Study the contribution of Native American foods and other cultures' foods to our history and diet. Grow samples in the school garden.

# Social Studies

- Research the histories of classroom garden plants. Discover where they originated, how today's varieties differ from the original plants. Locate their origin on a map and then trace their movement around the world.
- Create a map of the school garden noting important features and directions.
- Trace the path of a fruit or vegetable from the field to the table.
- Use the classroom garden to complement a study of the influence of climate on food production.

# Language Arts

- Keep daily garden journals documenting observations, weather conditions, and classroom activities.
- Research the growing habits of the school garden plants using the Internet and reference material. Create a planting schedule based on the information.
- Write letters to local merchants explaining the school gardening project and asking for donations.
- Write thank you notes to volunteers and garden sponsors.

# Language Arts

- Brainstorm different adjectives to describe each plant in your garden.
- Study new vocabulary that relates to plants and gardens.
- Publish a class newsletter with student articles about the garden and distribute it to other classrooms and parents.
- Write step-by-step instructions for common garden activities.

# Resources

- ISU's Connecting Living & Learning
  - <http://www.extension.iastate.edu/4h/page/curricula-info-ordering>
- National Ag in the Classroom
  - <http://www.agclassroom.org/teacher/matrix/>
- Edible School Yard
  - <http://edibleschoolyard.org/resources-tools>
- Iowa Ag Literacy Foundation
  - [www.iowaiowaagliteracy.org](http://www.iowaiowaagliteracy.org)

# Iowa Ag Literacy Foundation Resources



- Lessons and support materials
- Lending Library
- Teacher Supplement Grant
  - 2015: Social Studies & Literacy
  - 2016: 21<sup>st</sup> Century Skills & Literacy
  - 2017: Science & Literacy
- Professional Development Workshops
- Student Reader
  - Iowa Agriculture Today



IOWA

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TODAY

Exploring the Connection between Agriculture and You!

ialf Iowa Agriculture Literacy Foundation

ISSUE 1

# Agriculture is Everywhere

When you woke up this morning, you had your first encounter with agriculture. Your sheets and pajamas were probably made with the fibers from cotton plants.

Did you wash or shower with soap? That soap is made from fat from cattle and oil from plants such as palm, corn and soybeans.

Did you have cereal, eggs, milk, bacon, pancakes, buttered toast or juice for breakfast? Thank agriculture again!

Did you pack a lunch in a paper bag, or finish your math by writing on paper? That paper comes from another agricultural crop — trees. Corn and soybean by-products may go into the ink in your books.

Did you ride to school today? The bus or car you rode to school likely ran on biodiesel made from soybeans or ethanol made from corn, and its tires are made from the rubber plant. Did you pass a city park, a golf course, an orchard or nursery? Did you see a windbreak or a sod farm? All of these are agriculture too.



HOW DOES EACH OF THESE PHOTOS SHOW A CONNECTION TO AGRICULTURE?

CAN YOU LIVE A DAY WITHOUT AGRICULTURE? THERE'S JUST NO WAY!

## WHAT IS Agriculture?

The business, science and practices of growing and selling plants and animals to be used for food, fiber and fuel.

- **FOOD** comes from plants and animals.
- **FIBER** is the raw material from plants and animals that we use to make cloth and clothing, rope and more. Fiber can be made from cotton, wood, wool, and even soybeans!
- **FUEL** can be made from crops products like corn, soybeans, and sugarcane. Fuel made from plants grown on farms is called renewable.

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Iowa Agriculture Literacy Foundation

# St. Joe's Catholic School – New Hampton

- Donated Seeds from Seed Savers Exchange
- Last year 2,000 pounds of produce!
  - School meals
  - Teachers – cooking cart in the classroom
  - Community Spaghetti Dinner
    - 300 lbs of tomatoes made 125 quarts
- Amy Kloberdanz
  - [akloberdanz@stjoesph-nh.pvt.k12.ia.us](mailto:akloberdanz@stjoesph-nh.pvt.k12.ia.us)



# Growing a School Garden

- Curriculum
- Breaking New Ground
- Composting
- Planting Day Checklist
- Planting Schedule
- Herb Guide
- Planting Guide
- Diseases & Pests
- School Gardens 101
- Garden Care Checklist
- Keeping Track of Garden Maintenance
- Food Safety
- Supplies & Equipment
- Harvest Log Template

<http://www.iowafoodandfitness.org/uploads/PDF File 14846985.pdf>

## Growing a School Garden:

A Guide for Northeast Iowa Schools



Together, We  Grow  Healthy Kids.  

Northeast Iowa Food & Fitness Initiative

# Use of School Foodservice Funds

- Garden serves the purpose of operating or improving the school meal program (Memo Code: SP 06-2015)
  - Supplies, equipment, and staff time to support the garden may be purchased with foodservice funds
- **Foodservice Benefits from a School Garden!**
  - Increasing consumption of fruits and vegetables
  - Providing quality fresh produce
  - Increasing school meal participation



# Team Nutrition Funding

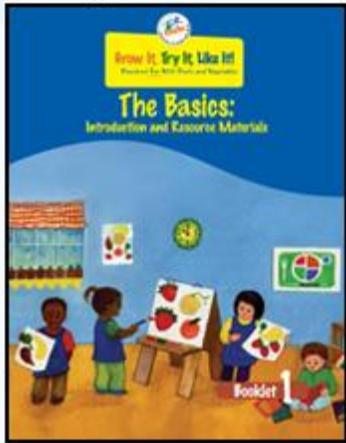
- *\$500 Sub-Grants*
  - *Seeds/seedlings*
  - *Grow Lights*
  - *Potting Soil*
  - *Starter Pots*
  - *Structural Supplies*
  - *Signage*
  - *Nutrition Education*
- *Deadline: March 31*



# A Garden is the Way to Grow

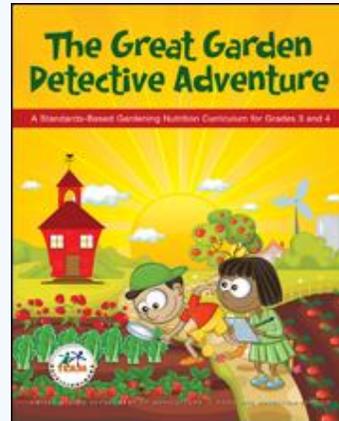
- Iowa Department of Agriculture and Land Stewardship
- Each Sub-Grantee Receives:
  - \$150
  - Garden Tools: Watering Wand, Soaker Hose, Weed, Disease and Insect Guide, Pollinating Wand, Stirrup Hoe, and Low Tunnel
  - Tammy Stotts: [tammy.Stotts@iowaagriculture.gov](mailto:tammy.Stotts@iowaagriculture.gov)
  - <http://www.iowaagriculture.gov/AgDiversification/AgardenIsTheWaytoGrow.asp>

# Nutrition Education Curriculum – FREE



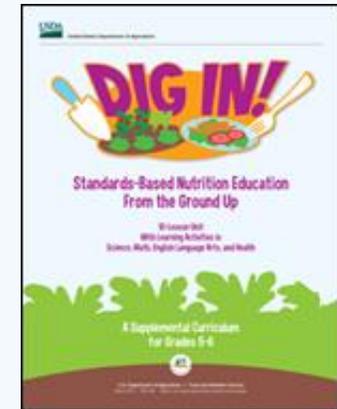
## Grow It, Try It, Like It! Preschool

Introduces peaches, strawberries, cantaloupe, spinach, sweet potatoes, and squash through nutrition education activities.



## The Great Garden Detective Adventure 3<sup>rd</sup> and 4<sup>th</sup> Grade

Investigations connecting the school garden to the classroom, school cafeteria, and home.



## Dig In! 5<sup>th</sup> and 6<sup>th</sup>

Lessons that engage students in growing, harvesting, tasting, and learning about fruits and vegetables.

<http://tn.ntis.gov/>

Dig In Poster Set  
FREE!

<http://tn.ntis.gov/>



# You've Got the Power!

Want to get your engine going?  
Eat your colors!  
Make half your plate  
fruits and veggies.



Explore a world of possibilities in the garden and on your plate.

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# Take Your Game to the Next Level

Get points for eating  
your colors!

Choose fruits and veggies  
at meals and snacks.

They'll help you be  
your best at school  
and at play.



Explore a world of possibilities in the garden and on your plate.

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# They're Tasty and They Know It!

Taste a tomato.  
Crunch a carrot.  
Savor a sweet potato.  
Rock your colors!  
Choose dark-green, red,  
and orange veggies at  
meals and snacks.



Explore a world of possibilities in the garden and on your plate.



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# Want To Eat Smart To Play Hard?

Snack on bean dip.  
Try a bean burrito.  
Warm up with  
veggie chili.  
Fuel up with  
beans and peas  
for protein  
and energy!



Explore a world of possibilities in the garden and on your plate.



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# Iowa Kids LOVE Iowa Foods



- *Sample Tasting Schedule*
- *Food Tasting Instructions*
- *Strategies and Tasting Code*
- *Fact Sheets*
- *Hand Washing and Food Safety Tips*
- *Words to Describe Food*
- *Fruit and Veggie Announcements*
- *Promotional Ideas*

<https://www.educateiowa.gov/fruit-and-vegetable-resource>

## Fruit and Vegetable Resources

The following resources have been compiled for schools that provide in-classroom tastings of fruits and vegetable and are located at:

<https://www.educateiowa.gov/fruit-and-vegetable-resource>

### Sample Tasting Schedule

Choosing fruits and vegetables for classroom tasting that are in season is a great way to ensure children have a positive experience with a new food.



### Food Tasting Instructions

Since everyone needs to make his or her own decision about how something tastes, food tasting instructions are provided in a printable poster to promote a pleasant food tasting experience for all students.



### Strategies and Food Tasting Code

The chance to taste a food many times helps young children to grow into adventurous eaters. Use the tips provided to increase the numbers of great tasters in your school.

### Fact Sheets

The more students know about a food, the more willing they may be to try it. Iowa's Pick a **better** snack™ fact sheets and the Iowa Grown fact sheets provide nutrition facts, uses, varieties, origin, trivia, etc., for over 34 fruits and vegetables. Display on your classroom Smart Board or lead a discussion using the interesting facts while tasting a new fruit or vegetable.



### Hand Washing Sign and Food Safety Tips

A hand washing sign that encourages the students to wash their hands before eating in a fun and engaging way. Hand washing facts are provided. Food Safety Tools include guidance on vegetable preparation, knife cutting, washing produce, etc. to assist with classroom taste testing.



### Words to Describe Food

A list of descriptive words that students can use to describe the fruits and vegetables they sample in a food tasting. Display the list of words on your classroom Smart Board, or lead a discussion using the descriptive words while tasting a new fruit or vegetable.

### Fruit and Veggie Morning Announcements

Fun, "Who Am I?" fruit and vegetable facts that students can try to guess can be read as morning announcements over the school intercom or displayed as health messages on classroom Smart Boards or flat screen TVs throughout the school. Seasonal fruit and vegetable monthly announcements are also included.

### Fruit and Vegetable Promotion Ideas

Ideas and suggestions on ways to incorporate fruit and vegetable nutrition education in a fun way that engages students in the classroom or at school events.



# Food Tasting Instructions

**Trying a new food can be fun!**

- When offered food, be polite and say, "Yes, thank you" or "No, thank you."
- Try it! At least one small bite.
- If you like it, think of other ways you could eat the food at home and school.
- If you don't like it, you may politely remove the food with a napkin.
- It is OK not to like something, but please be kind. No yucky faces or mean words.
- Be willing to try the food again! Sometimes it takes a while to like a new food.



## Cultivate Iowa

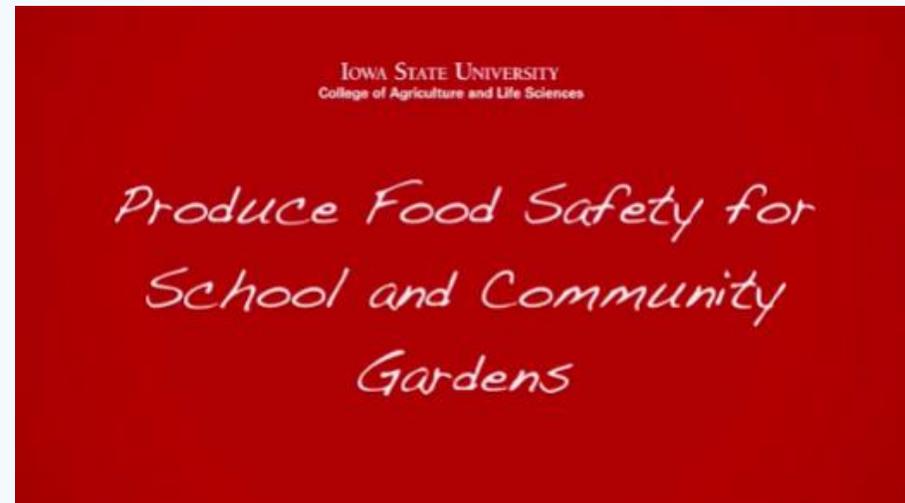
- Donate to garden produce to food pantries and other groups
- Guide that provides practical strategies that support gardening and produce donation
- <http://www.cultivateiowa.org/partner-resources/>

CONTAINER.  
SOIL.  
SEEDS.  
WATER.



# Food Safety Education – School Gardens

- Fundamental agricultural practices that keep food safe
- On-line tools include:
  - Two 1-hour videos
  - Activities
  - Quizzes
  - Instructional Guide



[www.safeproduce.cals.iastate.edu/elementary](http://www.safeproduce.cals.iastate.edu/elementary)



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