



People's Garden School Pilot Program

2013 American Community Gardening Association Seattle, Washington

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Cornell University
Cooperative Extension



Presentation Outline

Project Overview

Research

Educational Toolkit

Educator Panel



Project Overview



Grant Parameters



- USDA/FNS funded project
 - \$1 million, 2.5 years
 - Pilot
- Research Project
- 3-5 States, by population
 - 1 each from high ,medium and low population tiers
- Schools having: 50%+ students receiving free & reduced price meals, & no existing gardens
- Social scientist



What is Cooperative Extension?



- Outreach arm of the Land Grant University
- Office serving every county
- Local Extension Educators and volunteers, with expertise in:
 - Nutrition (e.g. SNAP-Ed)
 - 4-H/Youth Development,
 - Community-based Horticulture (e.g. Master Gardener Volunteers)
- Builds ‘community’ with additional local partners



Project Partnership

- **4 Land Grant Universities:**
 - Washington State University Extension
 - Cornell University Cooperative Extension – New York City/Cornell University
 - Iowa State University Extension
 - University of Arkansas Cooperative Extension
- **Social Scientist**
 - Nancy M. Wells, PhD, Associate Professor, Design & Environmental Analysis, Cornell University
- **54 Schools**
- **27 Extension Educators**
- **Local Volunteers**
- **Community Agencies**



Research



What Questions Did We Want to Answer?

- 1: Does Fruit & Vegetable (FV) consumption at school increase as a result of garden participation?
- 2: Does FV consumption at home increase as a result of garden participation?
- 3: Does preference for FV change as a result of garden participation?
- 4: As a result of their involvement with the garden program, were there changes from baseline to follow-up in children's: FV knowledge; Engagement and participation in learning; Time spent outside, and amount of physical activity?
- 5: What mediating variables explain linkages from program activities to medium-term outcomes? e.g, Increased availability of FV at home, increased availability of FV at school.



What Else Did We Want to Know?



- 1:** Document the *development and operation* of school gardens serving high-poverty schools in four geographically diverse areas.
- 2:** Record the *varieties of fruits and vegetables* planted and the quantity produced in the gardens.



Research Methods

- **Randomized Controlled Trial (“True Experiment”)**
- **Schools Randomly Assigned to:**
 - Intervention – rec’d gardens in Spring 2012 OR
 - Wait list Control – receive gardens in late Spring 2013
- **Four Waves of Data Collection:**
 - Baseline Fall 2011
 - Wave 2 Spring 2012
 - Wave 3 Fall 2012
 - Wave 4 Spring 2013
- **Urban and rural schools**
- **Geographic differences**



Assessing Diet: multiple measures



	None <input type="checkbox"/>	1-3 servings last week <input type="checkbox"/>	4-6 servings last week <input type="checkbox"/>	7 servings last week <input type="checkbox"/>	8 or more servings last week <input type="checkbox"/>
Raisins					
	None <input type="checkbox"/>	1-3 servings last week <input type="checkbox"/>	4-6 servings last week <input type="checkbox"/>	7 servings last week <input type="checkbox"/>	8 or more servings last week <input type="checkbox"/>
Dried Fruit					
	None <input type="checkbox"/>	1-3 servings last week <input type="checkbox"/>	4-6 servings last week <input type="checkbox"/>	7 servings last week <input type="checkbox"/>	8 or more servings last week <input type="checkbox"/>
Peach					
	None <input type="checkbox"/>	1-3 servings last week <input type="checkbox"/>	4-6 servings last week <input type="checkbox"/>	7 servings last week <input type="checkbox"/>	8 or more servings last week <input type="checkbox"/>
Cherries					

SURVEYS, at SCHOOL

Name _____	Age _____	Date _____			
	None <input type="checkbox"/>	1-3 servings last week <input type="checkbox"/>	4-6 servings last week <input type="checkbox"/>	7 servings last week <input type="checkbox"/>	8 or more servings last week <input type="checkbox"/>
Pineapple					
	None <input type="checkbox"/>	1-3 servings last week <input type="checkbox"/>	4-6 servings last week <input type="checkbox"/>	7 servings last week <input type="checkbox"/>	8 or more servings last week <input type="checkbox"/>
Grapefruit					
	None <input type="checkbox"/>	1-3 servings last week <input type="checkbox"/>	4-6 servings last week <input type="checkbox"/>	7 servings last week <input type="checkbox"/>	8 or more servings last week <input type="checkbox"/>
Fruit Salad					
	None <input type="checkbox"/>	1-3 servings last week <input type="checkbox"/>	4-6 servings last week <input type="checkbox"/>	7 servings last week <input type="checkbox"/>	8 or more servings last week <input type="checkbox"/>
Applesauce					
	None <input type="checkbox"/>	1-3 servings last week <input type="checkbox"/>	4-6 servings last week <input type="checkbox"/>	7 servings last week <input type="checkbox"/>	8 or more servings last week <input type="checkbox"/>
Watermelon					

SURVEYS, at HOME



LUNCH TRAY PHOTOS
(objective measure)

Objective Measurement: Lunch tray Photography



Analyze Pairs of Trays Before & After Lunch



- Take 3 days of before/after photos of student's lunch for digital analysis
- Measures Consumption

Roger M. Echon, PhD, Social and Health Research Center, 1302 South Saint Mary's Street, San Antonio, TX



School Cafeteria Records

- **Collect 10 days of Lunch Menus** (must include the 3 days photos were taken)
- **Collect 10 days of 'Production Records' from Cafeteria Staff** (must include 3 days photos were taken)

Rock on Cafe™ Food Production Record

Date: _____ Weather: _____ Other: _____

School Name: _____

MENU	Recipe #	Portion Size	# of Portions Planned	# of Portions Prepared	lbs., Cans, or Cases Used	# of Student Portions Served	# of Adult Portions Served	Leftover & Code (Freezer, Cooler, Storage, Waste)	A La Carte (Adults/Students)	Cooking Temp	Serving Temp Min 140°F	Corrective Action	Students	
													Adults	Total
Entrees														
Vegetables/Fruits/Juice														
Grains/Bread														
Milk														
Condiments/Other Foods														

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
♥ 2-E Egg Salad in a WW Wrap Or Chicken Nuggets Plain or Buffalo Tater Tots Chilled Fruit Cup	♥ 3-F Chicken Caesar Salad with Breadsticks Or Chicken Patty Italiano With Mozzarella Cheese on a WW Bun Corn Niblets	♥ 4-A P- Chef Salad with Breadsticks Or Hot Ham and American Cheese on a WW Wrap Steamed Squash Chilled Fruit Cup	♥ 5-B Turkey and Swiss On Whole Wheat Bread Or Chicken Fajita with Black Beans and Salsa White Rice Chilled Fruit Cup	♥ 6-C Whole Wheat Pizza Square Small Tossed Salad Low Fat Dressing Chilled Fruit Cup
♥ 9-D Tuna Salad in a Whole Wheat Wrap Or Baked Chicken Patty on a WW Bun Green Beans Chilled Fruit Cup	♥ 30-E Turkey Salad on a Bed of Lettuce Or Cheesy Baked Mac and Cheese Steamed Spinach Chilled Fruit Cup	♥ 11-F Buffalo Chicken Salad with Cheese and Breadsticks Or Baked Mozzarella Sticks With WW Bread Slice Sweet Peas Fresh Apples	♥ 12-A Turkey and American On a WW Roll Or Soft Turkey Taco with Lettuce, Cheese & Salsa Chilled Fruit Cup	♥ 13-B Whole Wheat Pizza Square Cucumber Coins Low Fat Dressing Fresh Apples
♥ 16-C Chicken Caesar Salad With WW Bread Slice Or Chicken Nuggets Plain or Buffalo WW Bread Slice Corn Niblets	♥ 17-D P- Chef Salad Boiled Egg With Croutons Or Chicken Patty Parmesan On a Whole Wheat Bun Green Beans Apples	♥ 18-E Buffalo Chicken Salad with Cheese and Breadsticks Or Grilled American Cheese on WW Bread Celery Sticks Apple Sauce	♥ 19-F Ham & Swiss on a WW Roll Or Pizza Bagel with Mozzarella Cheese With Spinach Chilled Fruit Cup	♥ 20-A Whole Wheat Pizza Square Carrot Sticks Low Fat Dressing Chilled Fruit Cup
♥ 23-B Crunchy Chicken Salad With Cheese Bread Sticks Or Baked Chicken Patty on a WW Bun Green Beans Chilled Fruit Cup	♥ 24-C Chef Salad with Egg and Breadsticks Or Mozzarella Sticks W Sauce Bread Slice Corn Niblets Chilled Fruit Cup	♥ 25D Chicken Caesar Salad With Croutons Or Spaghetti with Meat Sauce Small Spinach Salad Chilled Fruit Cup	♥ 26-E Buffalo Chicken Salad With Cheese and Breadsticks Or Hot Ham and American Cheese in a WW Wrap Green Beans	♥ 27-F Whole Wheat Pizza Square Small Tossed Salad Low Fat Dressing Chilled Fruit Cup
♥ 30 School Closed Memorial Day	♥ 31-A Crunchy Chicken Salad With Cheese and Breadsticks Or Soft Turkey Taco With Lettuce and Cheese Salsa			



THE PEOPLE'S GARDEN

Additional Information Collected

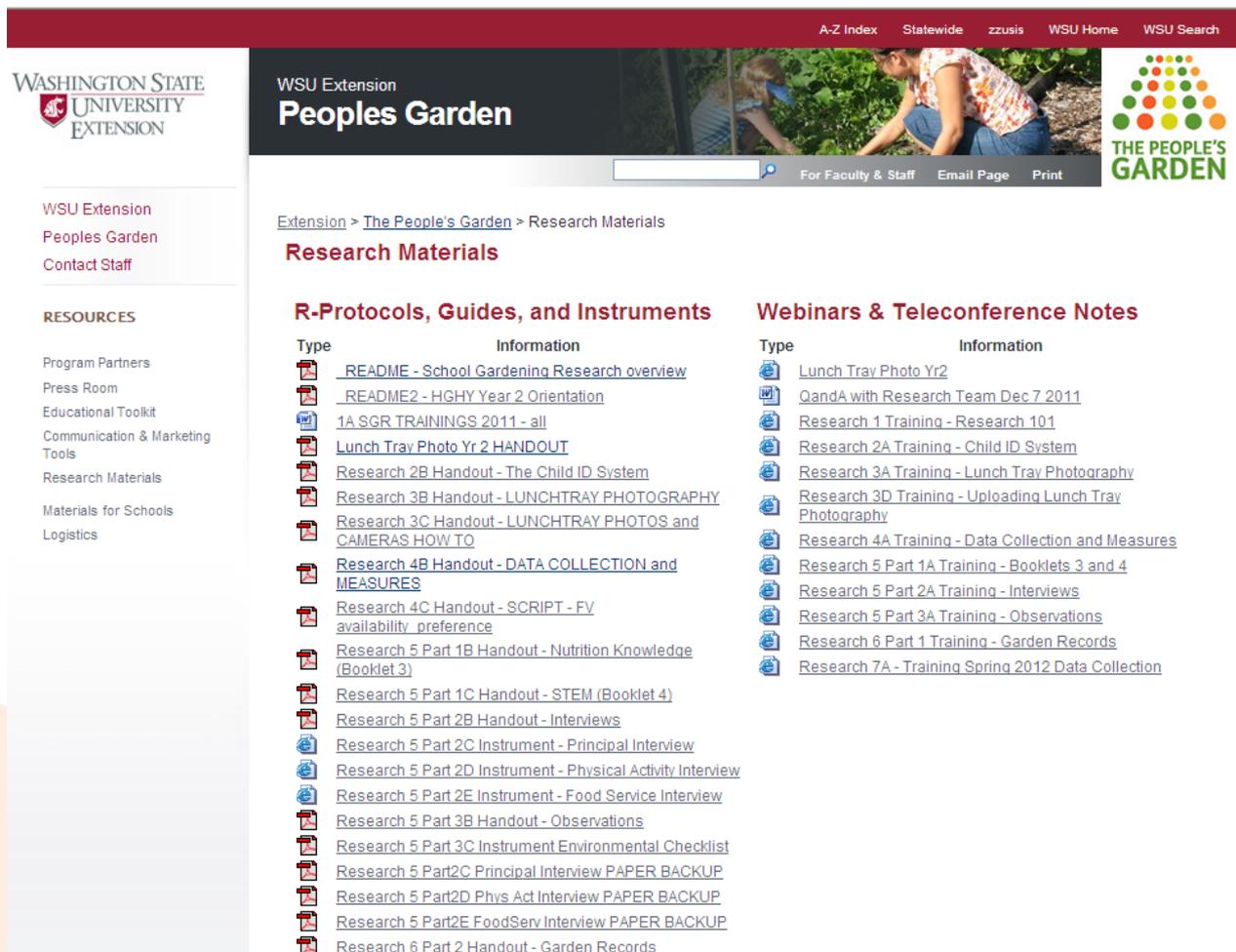


- **Class Info – Who we are**
- **Teacher’s Log**
- **Principal Interview**
- **School Environment Assessment**
- **Garden Records**
 - **Garden Activities**
 - **Garden Production**



Training on Research Protocol and Instruments for Extension Educators

- Training Webinars
- Written Guidance
- Q&A
- Teleconferences



The screenshot displays the WSU Extension Peoples Garden website. The header includes navigation links for A-Z Index, Statewide, zzsis, WSU Home, and WSU Search. The main content area is titled "Research Materials" and is divided into two columns: "R-Protocols, Guides, and Instruments" and "Webinars & Teleconference Notes".

WSU Extension Peoples Garden

Navigation: A-Z Index, Statewide, zzsis, WSU Home, WSU Search

Left Sidebar:

- WSU Extension
- Peoples Garden
- Contact Staff

RESOURCES

- Program Partners
- Press Room
- Educational Toolkit
- Communication & Marketing Tools
- Research Materials
- Materials for Schools
- Logistics

R-Protocols, Guides, and Instruments

Type	Information
	README - School Gardening Research overview
	README2 - HGHY Year 2 Orientation
	1A SGR TRAININGS 2011 - all
	Lunch Tray Photo Yr 2 HANDOUT
	Research 2B Handout - The Child ID System
	Research 3B Handout - LUNCHTRAY PHOTOGRAPHY
	Research 3C Handout - LUNCHTRAY PHOTOS and CAMERAS HOW TO
	Research 4B Handout - DATA COLLECTION and MEASURES
	Research 4C Handout - SCRIPT - FV availability preference
	Research 5 Part 1B Handout - Nutrition Knowledge (Booklet 3)
	Research 5 Part 1C Handout - STEM (Booklet 4)
	Research 5 Part 2B Handout - Interviews
	Research 5 Part 2C Instrument - Principal Interview
	Research 5 Part 2D Instrument - Physical Activity Interview
	Research 5 Part 2E Instrument - Food Service Interview
	Research 5 Part 3B Handout - Observations
	Research 5 Part 3C Instrument Environmental Checklist
	Research 5 Part2C Principal Interview PAPER BACKUP
	Research 5 Part2D Phys Act Interview PAPER BACKUP
	Research 5 Part2E FoodServ Interview PAPER BACKUP
	Research 6 Part 2 Handout - Garden Records

Webinars & Teleconference Notes

Type	Information
	Lunch Tray Photo Yr2
	QandA with Research Team Dec 7 2011
	Research 1 Training - Research 101
	Research 2A Training - Child ID System
	Research 3A Training - Lunch Tray Photography
	Research 3D Training - Uploading Lunch Tray Photography
	Research 4A Training - Data Collection and Measures
	Research 5 Part 1A Training - Booklets 3 and 4
	Research 5 Part 2A Training - Interviews
	Research 5 Part 3A Training - Observations
	Research 6 Part 1 Training - Garden Records
	Research 7A - Training Spring 2012 Data Collection



Where Are We Now?



- Planned Project
 - April – Sept 2011
- Completed Data Collection – 4 periods
 - Fall 2011, Spring 2012, Fall 2012, Spring 2013
- Created Gardens
 - Spring 2012 – Intervention schools
 - Spring 2013 – Control schools
- Data Analysis
 - Summer 2013 thru Spring 2014



By the end of the project 24 educators will have:



Collected:

- 86,000 surveys
- 129,000 pre and post lunch tray photos
- 2,000 cafeteria production records

Implemented:

- 4,000 educational toolkit lessons

Planted:

- 6,200 square feet of gardens



Educational Toolkit



Toolkit components



- Lesson plans
- Snack recipes
- Supporting Resources:
 - Garden Implementation Guide
 - Gardening Information
 - School food services
 - Food safety in the garden



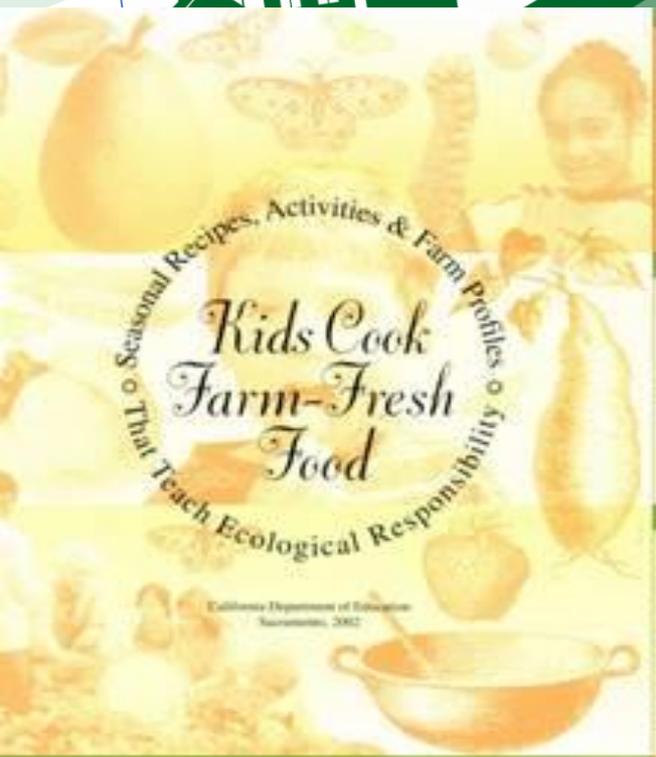
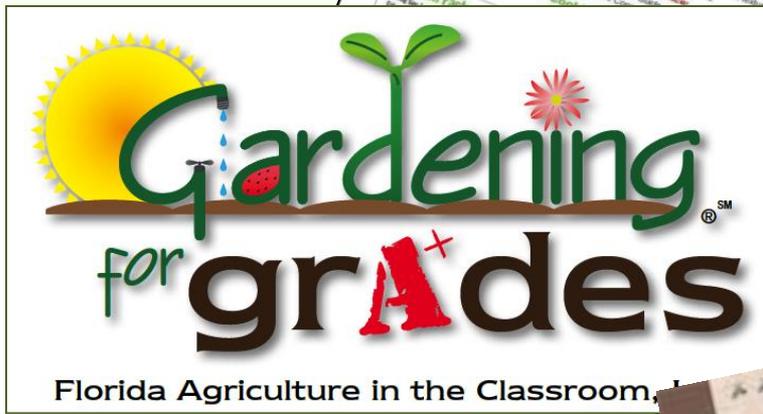
Criteria for Selection of Content



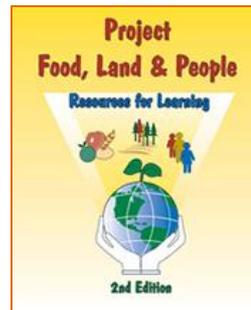
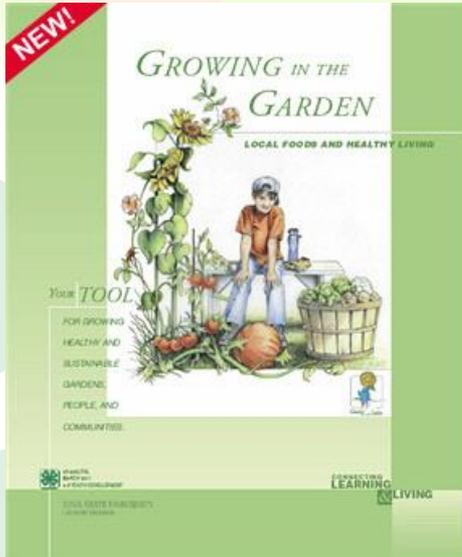
- Experiential learning
- Age-appropriate
- Nutrition and gardening content
- Standards alignment
- Science, Technology, Engineering and Math (STEM)
- Research-based content



17 curricula reviewed



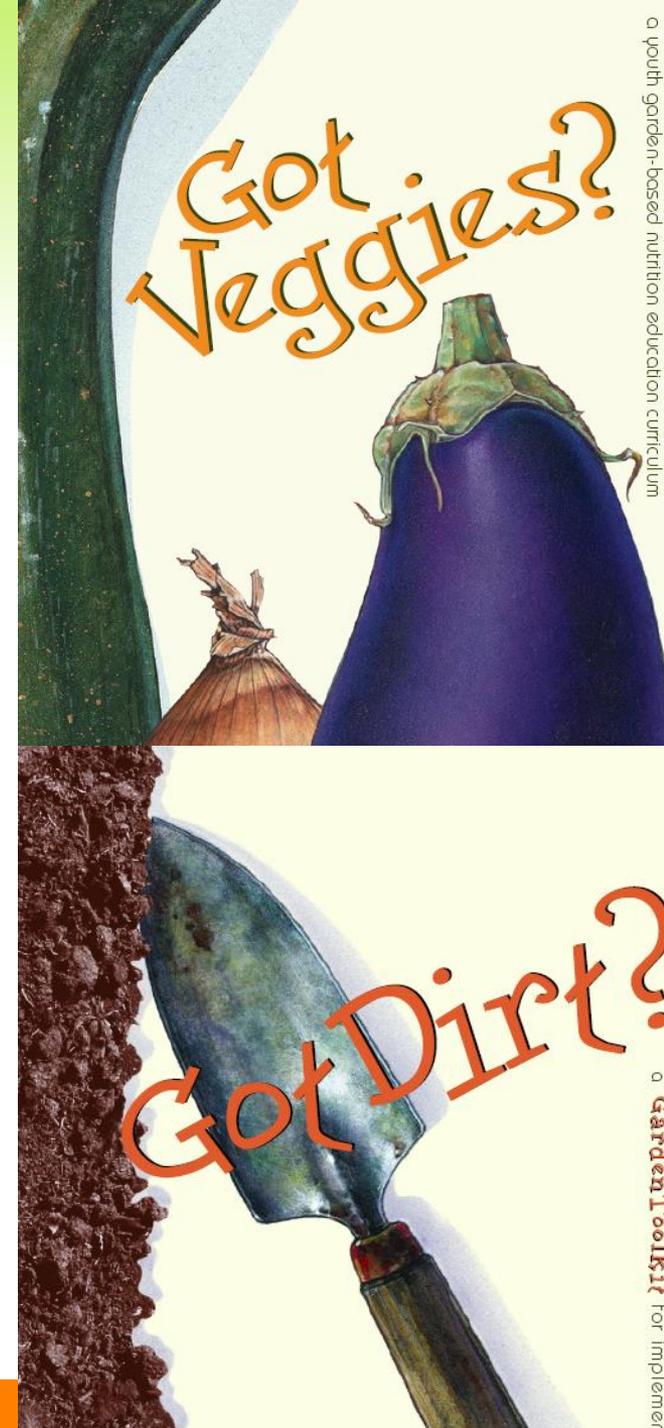
Curricula Selected – most closely met criteria



Garden Mosaics



Seed to Salad: Salad Party





The People's Garden School Pilot Project

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356 video views

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Grade 2: Lesson 3: Our Food Garden Plan

by ExtSchoolGarden 1 month ago

93

About The People's Garden School Pilot Project

The "Healthy Gardens, Healthy Youth" School Pilot Project is an Extension partnership that aims to engage more than 4,000 elementary students in creating vegetable & fruit gardens in 54 low-income schools, as part of a 2.5-year research study.

- [Visit us on Facebook](#)
- [WSU People's Garden Site](#)
- [USDA People's Garden Site](#)
- [ISU Growing in the Garden Curricula](#)

Created by	ExtSchoolGarden
Latest Activity	Jan 30, 2012
Date Joined	Jan 19, 2012

Where we are now

- Finalizing Toolkit resources
- Developing strategy for post research phase distribution
 - Negotiating copyrights
 - Determining cost structure



Let's Have Some Fun!

<http://www.extension.iastate.edu/4h/growinginthegarden>



Educator Panel





West Liberty (IA)



Lynch (IA)



How to deter woodchucks – 5th graders' solution



THE PEOPLE'S
GARDEN





04/25/2013





Our School Garden Cook Book

By Ms. Peterson's 5th grade Class
2013



Alega Faamuli

Broccoli



Nutrition Fact:

There's 31 calories in a broccoli, the total fat is 0g
1% There's 0mg of cholesterol 0% of
There's 30mg of sodium 1%. The total carbohydrate is
6g 2% there's 3g of protein.

Growing Fact:

Broccoli is easier to grow than its relatives cauliflower and brussels sprouts.

Historical Fact:

Broccoli was engineered from a cabbage.

Fun Fact:

Broccoli is part of the cabbage family.

Bravo for Broccoli Bake

A dinner dish the whole family can enjoy!

Preparation time: 25 minutes

Serves: 6

Ingredients

- 1 ½ cups whole wheat corkscrew pasta, dry
- 3 cups broccoli, fresh or frozen, chopped
- 1 can low-sodium cream of broccoli soup, condensed
- ½ cup skim milk
- 2 tablespoons plain bread crumbs
- ¼ teaspoon salt-free seasoning blend

Instructions

1. Preheat oven to 350° F.
2. Cook pasta according to package directions.
3. Place frozen broccoli in large microwave safe and oven proof dish and cook for 2 minutes on high.
4. Coarsely chop cooked broccoli.
5. Mix soup with skim milk and add to chopped broccoli. Drain pasta and add to mixture.
6. Top with bread crumbs and seasoning blend. Bake in oven for 10-15 minutes until heated through.
7. Serve.



Source: <http://www.fruitsandveggiesmorematters.org/recipe?IRID=144>

Third Grader Teacher Borst & Cook Put Students to work



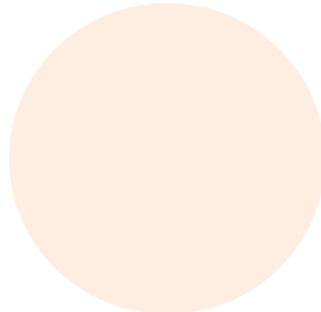
4th Grade students Studied about Plants in the Garden – Year One



Garden Journals in Making



Receiving Certificate from the Principal Akrum after making presentation



Questions?

Follow the Project:

Project website:

peoplesgarden.wsu.edu

Facebook:

www.facebook.com/HealthyGardensHealthyYouth

YouTube channel:

www.youtube.com/user/ExtSchoolGarden



This project has been funded at least in part with Federal funds from the U.S. Department of Agriculture. The contents of this publication do not necessarily reflect the view or policies of the U.S. Department of Agriculture, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government. Project number CN-CGP-11-0047.



