Welcome to the training for the Kansas Team Nutrition Gardening Initiative. We’re excited that your school has decided to participate in this program!
Why is youth gardening important? Children have added motivation to eat fruits and vegetables that they helped grow! In recognition of this, the USDA strongly encourages school gardening projects.

Teaching kids to garden and grow their own produce is a great opportunity to increase their fruit and vegetable consumption.

As part of the Team Nutrition Training Grant from the United States Department of Agriculture, Kansas Team Nutrition through the Kansas State Department of Education are excited to help support Kansas Schools to start container garden projects in conjunction with the Fresh Fruit and Vegetable Program (FFVP) and the Summer Foodservice Program (SFSP). 19 schools in Kansas will be participating in this program in 2012.
Through gardening kids can learn how to grow food...
...and how to prepare food.

Read slide.
As we’ve already discussed, nutrition education is an important component of the FFVP. Tending to and consuming produce from a school garden is an excellent opportunity to teach children about where their food comes from and the benefits of a healthy diet that includes plenty of fruits and veggies.

While not a requirement, peer teaching is a great way to reinforce the healthy messages being taught to children through gardening and tasting of fresh produce. If there is one classroom that is in charge of the garden, you might want to allow the children growing the food to teach other classrooms about what they are learning in the garden. For example, while the other students are eating their snacks for FFVP, the students who grew the produce could tell the others what they observed in the garden as the item was growing.

In addition, KSDE & K-State Research and Extension have many additional resources to teach about gardening and nutrition.
The Summer School menu is a great opportunity to use the produce grown in your container garden or school garden. The fresh products will add color and nutrition to the meal tray. Produce grown may be used as a fruit or vegetable component of the lunch menu, but if there is not enough quantity to serve the entire menu, products can be incorporated into part of a recipe such as a vegetable salad or a sandwich topping.

A small portion of the fruit or vegetable can also be added to the tray as a garnish. This will promote the produce by giving each meal participant a sampling.

Another way to allow participants to taste the produce is to set up a display/tasting station at the lunch site allowing those who come for the meal a chance to see and taste what has been grown.

Produce from the garden can also be used as an outreach tool by letting kids take it home to their families.

No matter how you use the produce in the SFSP, be sure to give recognition to the grant project by making signs for the serving line or placing a small display of the product in the cafeteria. Meal participants will be excited to learn that part of their meal was locally grown!
Teaching children about where their food comes from is a great way to promote healthy habits, so be proud of the gardening program you will be doing! We strongly encourage various means of promoting the program so that everyone, including students, staff, parents, and other community members, know what you are doing to promote local, fresh produce in the school.

Here are some examples of ways you can promote the gardening program:

Visuals such as a chart or tally board are an easy way to show how much produce is coming from the school garden. The chart could details such as how many pounds of produce have come from the garden. Or you could make a tally board showing the number of each type of produce that has come from the garden (i.e. 20 zucchinis, 30 tomatoes, etc.).

Encourage signage such as “This product was produced for you by _____.“ The students who help grow the produce will be very excited to let everyone else know that they had a hand in the food that was grown.
Let’s Get Growing!!
All vegetables are not the same. Just like some of you love summer activities, others enjoy snowy days. In the gardening world we talk about Cool Season and Warm Season Vegetables.

Cool season vegetables like cool weather. Cool season vegetable seeds can germinate at lower soil temperatures. When the weather starts to get hot they “bolt”. They shoot their flower stalk, flower and set seed as they want to complete their cycle before it gets too hot.

In contrast, Warm season vegetables do better in hot weather. They can be stunted or killed by freezing temperatures, so you need to wait until May or sometimes even June to plant these crops.
So—what could you plant in March for the FFVP project? Beets, collards, chard, lettuce, radishes, onions and spinach are all cool season vegetables that will grow well in spring.
Salad gardens are a good option for the FFVP project. They are simple and easy to grow. Salad gardens can be grown inexpensively as most of the salad crops can be grown from seed. They also grow quickly so the kids see quick results. When can you start your salad garden? Soon. Many of these crops can be planted in March and early April.
What to grow in Salad Garden?

- Leaf lettuce
- Bibb lettuce
- Mesclun mixes
- Spinach
- Swiss chard
- Radishes
- Green onions (not from seed)

What do you grow in a salad garden?...Leaf lettuce, Bibb lettuce, Mesclun mixes that are colorful with a variety of leaf shapes, spinach, Swiss chard, radishes and green onions are good choices.
Summer Gardens will be grown in warmer temperatures so we need to shift to Warm Season Crops.
What are some examples of warm season vegetables? Cucumbers, peppers, tomatoes, okra, sweet potatoes, squash and sweet corn are all warm season vegetables.
Two good ideas are summer gardening projects are Salsa Gardens and Pizza Gardens. Children enjoy salsa and pizza, and here are examples of vegetables that you could grow in a salsa garden or a pizza garden.

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<tr>
<th>SALSA GARDEN</th>
<th>PIZZA GARDEN</th>
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<td>Tomatoes</td>
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<td>Peppers</td>
<td>Peppers</td>
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<td>Onions</td>
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<td>Herbs</td>
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<td>Herbs</td>
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There are some concerns about some of the warm season vegetables as they take months to reach harvest. Sweet corn, watermelon, pumpkins, etc., take a long time to get from seed germination to harvest time. Rather than taking a few weeks they require months to mature.

But....

We have a problem....most of these need MONTHS vs. WEEKS to germinate and mature
To speed things along, you need to either plant as early as possible. Other thoughts are to grow traditional summer vegetables and purchase more of the same product to stretch the harvest. Purchasing larger plants can also help you get to your end result in less time.

**Solution???

- Grow traditional summer vegetables for class to gain skills. Purchase more produce of the same type to supplement for tasting, recipes, etc.
- Purchase larger plants
Herbs are also an option. They add flavor and interest to recipes without adding salt, calories, etc. They could also be used as a garnish.

**Solution???

- Grow a variety of herbs to add to other vegetables for salsa, pizza sauce, etc.
  - Basil
  - Parsley
  - Thyme
  - Oregano
  - Chives
  - Etc.
For any garden here are some Keys to Success. Make sure your garden is located in full sun. Vegetables need at least 6-8 hours of direct sunlight each day for best production.

Water as needed, but don’t overwater. Watering is one of the favorite chores for many of the children so you may want to assign watering duties or rotate watering duties so that you don’t overwater your plants. You’ll also need to make sure that watering duties are covered for weekends and holidays.

Keep your project simple. Learn to grow a few things well and then move on to more involved projects if you have not had a lot of previous gardening experience.

Whenever possible involve the kids in the decision making process. You’ll have more interest and buy-in from the kids if they are involved in making some of the choices.

Keep your project fun and enjoyable. A good experience now will help empower young people to garden in the future. Also through this process we hope that some of the young people will share their gardening experiences with their families which may lead to more home gardening.
Where to garden? What are my choices? What are the advantages and disadvantages. Containers allow you to garden without preparing an in ground site. Some locations may not have an in ground garden plot available. There are some expenses in buying the containers and the potting soil and you will need to monitor watering carefully.
In ground beds are always an option. Raised beds are another option and they help resolve problems with poorly drained sites. Both are a more traditional garden format. They provide for more consistency in soil moisture levels than container gardens and may allow you to have a larger garden.
If you use a container, here are some tips. Use the largest pot you can afford. They are easier to maintain because you won’t have to water as often. This particularly comes into play in the heat of summer. If you use small pots you may have to water twice a day or more to maintain your plants.

Make sure your container has a drainage hole. If it doesn’t, drill holes for drainage. Containers without drainage retain too much water which can destroy the root system.

Always use commercial potting soil, not garden soil. Commercial potting soil is lighter and drains better. By growing in commercial potting soil you will have fewer root rot, disease and weed problems.
There are a lot of options when it comes to containers, so let's take a look at some advantages and disadvantages.

**Types of Containers**

- Clay or terra cotta
- Ceramic
- Plastic or synthetic
- Wood
- Others
Clay pots.
Clay pots are attractive. They allow for good evaporation of water through the walls of the container so it is harder to overwater your plants. They are heavy, which is both an advantage and a disadvantage. Because of the weight it is harder for someone to move or steal the containers. They are harder for you to move and somewhat expensive. They need to be watered more often. Also, they should be stored indoors during the winter so that they aren’t damaged by freezing and thawing.
Ceramic containers are another option.
Ceramic containers are very attractive, and come in all colors and shapes. Again they are heavy which helps deter theft. They are more expensive and needed to be stored indoors in winter.

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<td>Attractive</td>
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<td>Need to be stored indoors in winter</td>
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Synthetic containers come in a variety of shapes, textures, colors and materials.
Plastic or synthetic containers are easy to find. They are light and relatively inexpensive. The soil doesn’t dry out as quickly. They do break more easily. They are easier to pick up and carry away. They should be stored indoors in winter since the container material is brittle in cold temperatures. You also need to be cautious to not overwater the plants.
Wooden containers are another option. Besides the traditional whiskey barrel shape you may find them in square, rectangular or other configurations.
Wooden containers are attractive and have good air movement through the walls that help prevent overwatering issues. They can be hard to find.
These price comparisons are just some examples of somewhat similarly sized containers. Of course, prices vary widely by vendor, style, finish, color, etc., but these figures give you a general idea of what to expect when you purchase containers.
When shopping for potting soil you will find a great deal of variability in price and quality. Cheaper isn’t always a good deal. Cheaper brands often use inferior materials and can include small twigs, garden soil, etc., in the mix. Make sure you are buying POTTING Soil, not GARDEN soil. One 2 cu. Ft. bag will fill approximately two 12” containers.
Let's discuss various resources to help you with your gardening project.
The Kansas Garden Guide is the Kansas Gardener’s handbook, and is published by K-State Research and Extension. It is written specifically for gardening in Kansas. It includes planting date information for different parts of Kansas as we know that the climate varies widely from the southeastern to the northwestern parts of Kansas. You can either purchase the publication at your local Extension Office or download it for free from the website that I’ll share with you later in the presentation.
The Junior Master Gardener Level 1 Teacher/Leader Guide curriculum features general gardening lessons and hands-on activities. It is written for grades 3-5 and is available in both an English and Spanish version. It can be ordered at www.jmgkids.us.

Order [www.jmgkids.us](http://www.jmgkids.us) for $42.00.
The Junior Master Gardener “Health and Nutrition from the Garden” is provided as part of the grant and includes both gardening and nutrition activities.
4-H has excellent curriculum featuring hands-on activities. It is available for different age levels. The Helper Guide is for the teacher or leader. Books are priced individually as all books are less than $5 each.

www.4-hmall.org
K-State Research and Extension is the outreach of the land grant university in Kansas, Kansas State University. There is a presence in every county. If you aren’t sure where your office is located go to www.ksre.ksu.edu and click on your county for the local contact information.
K-state Research and Extension agents can help you with specific concerns....what is this insect, what is this disease, etc.? If they don’t know the answer immediately they can do some research and get back with you. They have a variety of gardening and nutrition publications (some free, some for a fee). The Extension office also offers soil testing for a fee. Some offices have Extension Master Gardeners volunteers. These individuals go through an extensive horticulture training program and then volunteer with the local Extension office. In some cases a Master Gardener may be available to serve as a mentor for your garden.
KSRE also has great online gardening resources available 24/7 at www.ksre.ksu.edu. Click on ‘Lawn and Garden’.
The Horticulture Information Center has a variety of resources including a weekly newsletter on current gardening topics, common plant and pest problems in Kansas, publications, instructional videos, plants recommended for Kansas and much more.
The Kids a Cookin’ site from K-State Extension Foods and Nutrition features kid-friendly recipes, instructional videos, tips and techniques for young cooks, etc. Kids a Cookin’ helps making cooking fun for young people.
Handling Produce Safely
Contamination of produce with harmful microorganisms can occur at all stages of production, processing, transportation, storage, preparation, and service. To prevent foodborne illness, fresh produce needs to be handled with care at each step from farm to table.

Everyone involved with growing and harvesting produce from the garden should be trained on basic food safety practices including hand-washing, glove use, personal hygiene, cleaning and sanitizing, and handling ready-to-eat produce. It is suggested that a list of all school gardeners be kept on file.

Good hand-washing practices go a long way in keeping ready to eat foods safe. Do not allow anyone to work in the school garden while sick. School personnel should decide whether single-use disposable gloves will be worn while picking produce in addition to good hand-washing. Although not required; this provides another layer of protection and is recommended.

Harvest containers should be made of materials that can be cleaned and sanitized before and after each classroom activity. Do not use garbage bags, garbage cans or containers that are not intended for food use.

Clean harvest tools such as knives and scissors with soap and water and store them in an area that prevents contamination before and after each garden classroom use.
Food safety guidelines should be followed when handling fresh produce. Wearing gloves when handling produce as a ready-to-eat food is required by the school’s Food Safety Plan.

Inspect the produce for quality or signs of contamination when it enters the school kitchen. Reject the produce if it does not meet your standards. Be sure that Food Service staff are present to accept the school produce and store it properly. Do not use produce that has been left in the kitchen unattended.

Refrigerate Potentially hazardous foods such as lettuce and leafy greens that must be kept below 40° F. Remember to store garden produce separate from other produce to improve traceability. Note on production records if a local produce item is being used.
We will continue to update information at www.kn-eat.org regarding food safety requirements for use of Farm to School and School Garden products as new information becomes available.

Currently, Farm to School Food Safety Guidance and a Sample Vendor letter are available at the link given on this slide. KSDE’s HACCP guidance requires that a letter is on file for each supplier/vendor (this includes items from the school garden) stating that they have a HACCP plan in place with standard operating procedures for produce production, harvesting and post-harvest handling OR that they follow safe food handling procedures.

The October 2011 HACCP Help Newsletter gives guidance for school garden produce record requirements. Past HACCP Help newsletter are located at the link listed on the slide.

Also, we are working on a gardening page which will be linked to the main website. This will provide all of the school gardening information listed in one place.
Prior to this training, everyone was sent a pamphlet called “Best Practices Handling Fresh Produce in Schools.” This publication from the USDA and National Food Service Management Institute gives additional tips for keeping produce safe at each stage. There is also information on the last page about special handling instructions for produce that is considered a potentially hazardous food such as melons, tomatoes, and leafy greens.
Taking It Home
Child Nutrition & Wellness offers several resources for fruit and vegetable recipes. The Healthier Kansas Menus were developed to provide schools with 4 weeks (soon to be 6 weeks) of menus, recipes, and production records that meet the meal pattern requirements and the requirements for the Gold level of the HealthyUS School Challenge. We are currently modifying the menus to meet the new meal pattern requirements. Check out this resource on our website. The recipe book includes many wonderful fruit and vegetable recipes that were tested in Kansas schools and received approval from both students and staff!

Child Nutrition Management Academy is offered in the summer at several locations across Kansas. It is a professional development program sponsored and coordinated by Child Nutrition & Wellness, KSDE. The classes are designed specifically for management level employees and those wanting to advance to a career in Child Nutrition Program management. This summer, for the first time, we will have 4 culinary classes taught by chefs. One of the culinary classes, called Develop a “Fresh” Perspective will provide participants with hands on training in using locally sourced fruits and vegetables.

Regional training classes are also available and can be requested anytime throughout the year. KSDE’s Regional Training System provides professional development your staff needs, when and where you want it. They are an economical and efficient way to train child nutrition personnel. Several of the classes offered provide information on preparing, serving, and promoting fruits and vegetables. Those classes are: “Build a Healthy Salad Bar”, “Preparing Fabulous Fruits and Vegetables”, “It’s Time to Get Down & Dirty”, “Pick a Peck of Produce”, and “How to Promote Fruits & Vegetables”.

The “Kansas Fruit & Veggie Quick Facts” book was developed to aid in nutrition education for the FFVP. It provides easy to use facts on 40 fruits and veggies grown in Kansas. It’s free for download on our website!