Growing Garden Produce for Child Nutrition Programs
Gardens and garden-grown produce are great sources of fresh food and experiential learning in schools and child care centers. Research has shown that when children help grow it, they will eat it, but success in the garden doesn’t just happen – it’s planned and planted well.

HARVEST is the third tool in TDA’s Let’s Get Growing series. HARVEST was developed to help garden coordinators work with child nutrition professionals to identify the best use for produce grown in school and child care center gardens. Included in this resource are tips on the following topics:

1. Identifying funding
2. Models for using garden harvest, including
   - Supporting the cafeteria program with harvest items and introducing children to the fresh produce
   - Donating produce to organizations fighting food insecurity
   - Hosting a farm stand or participating in a local farmers market
   - Nutrition education and enrichment
   - Using produce for a special event or fundraiser to support the garden
3. Food-safe harvesting practices

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Other sources for funding can include community organizations, small businesses and organizations offering grants. Each funding entity may have specific reporting requirements associated with providing monetary support. The garden coordination team should take this into account when deciding how to fund a project.
Combining Funding Sources

It is also appropriate to combine private and public funding. Child nutrition program funds and funds from other sources such as grants, donations, or fundraisers may be combined to support garden projects. When a combination is used, the proportionate percentage of garden harvest and/or proceeds should be returned to the child nutrition program account, according to federal policy. For example, if a garden project is supported 75 percent by federal child nutrition funds and 25 percent by private donations from another source, at least 75 percent of the items harvested and/or income from the garden should be used by the child nutrition program. In this example, it is OK for all of the harvest to be used by the Child Nutrition program. This guide outlines several models for how to use garden harvest to support the child nutrition program.

Serve Garden-Grown Produce in Meals and Snacks

Serve Garden-Grown Produce for a Special Event or Fundraiser

Fresh fruits and vegetables grown by children can be a successful centerpiece for a special community event or a fundraiser. The event will engage the community and raise funds for the program. The children can get involved in the event by providing simple preparation work. Fundraisers hosted at a school require that products sold during school hours meet Competitive Food Nutrition Standards or Smart Snack criteria. Fresh fruits and vegetables meet the criteria, so they can be sold during school hours or after school hours depending on what works best for the program.

Spotlight Story:

The Independence Garden Group of Lewisville ISD

hosts an annual farm-to-table dinner highlighting produce grown in their campus gardens. Parents and community members were invited to spend an evening at the Independence Elementary campus garden to enjoy a six-course meal created by both school chefs and local chefs. Profits from the event help to fund Lewisville Independent School District’s (LISD) garden program.
In addition to teaching children about where their food comes from and how to grow something from a seed, more programs across Texas are using gardens to teach valuable life and career skills such as the following:

- Sales
- Entrepreneurship
- Healthy eating
- Science, technology, Engineering and math (STEM) learning activities
- Fundraising
- Customer service
- Philanthropy
- Local food systems

**SELL PRODUCE AT A FARM STAND OR FARMERS MARKET**

Children can learn about the economics behind a local food system while developing marketing and entrepreneurial skills by selling garden harvest at a farm stand or farmers market. This could be done at an existing market in the community, or at a special school event. Revenue generated from sales should be used to further support the garden.

**SPOTLIGHT STORY:**

The students at Rapoport Academy in Waco, Texas said their experience selling the produce they grew in their garden helped bring their experience full circle. They gained life skills and learned sales strategies and participated in all steps of the process: planting, growing, harvesting and selling. Proceeds from sales of garden produce are deposited in the child nutrition account and used to purchase supplies for the garden.
DONATE GARDEN-GROWN PRODUCE
Donating produce to organizations feeding people in need can be a valuable experience for children and a unique way to give back to the community. If a food pantry or charitable organization will accept the garden produce, work with them to establish the following parameters:

- Delivery schedule
- Preferred produce
- Delivery location

DOWNLOAD THE GARDEN HARVEST RECEIPT TEMPLATE
Use the garden harvest receipt template to track products and quantities delivered.

SPOTLIGHT STORY:
Elementary students at Graham Elementary School, an elementary campus in the Austin ISD, planted a garden that flourished all year long, especially during the summer. Summer volunteers donated 40 pounds of fresh produce grown in the garden including squash, okra and herbs to the neighborhood food pantry, Serving Center.
USE TASTE TESTING FOR NUTRITION EDUCATION

When a child is involved in the garden from start to finish, they are more willing to try the harvested fruit or vegetable. Taste testing offers a low risk situation for a child to try a new food. It also offers experiential learning that can be tied to healthy eating priorities.

SPOTLIGHT STORIES:

Students in Corpus Christi ISD, home to more than 55 gardens, report loving the taste of tomatoes right from the vine. Offering an opportunity to taste produce in the garden setting is a great way to support the child nutrition team. Children need multiple exposures to a new food before they will start to accept and like the food. Make the first exposure a very positive one by providing tasting opportunities directly from the garden!

Preschool students at Mainsprings Schools in Austin joined Texas Agricultural Commissioner Sid Miller to plant a salsa garden. Children helped to plant tomatoes and peppers while learning about the importance of healthy eating. Once the tomatoes and peppers ripened, they were used in a snack that supported an important learning opportunity about why it is important to make healthy choices.
There are several food safety best practices for planting, tending, and handling fresh produce harvested from a garden. Developing a policy or protocol specific for your garden and how you intend to use the harvest, and sharing the information with everyone working with the garden will help minimize the risk of foodborne illness. The following topics: Safe Soil, Safe Water and Safe Tools, will guide discussions between you and other local leaders about what constitutes food safety in the garden. Every garden across the state is unique and, therefore, each protocol will be different. Many of these conversation topics and discussions occur between the garden coordinator and the child nutrition team members, but occasionally you may need to consult with your local health inspector.

Following these recommendations can help achieve your goals related to serving garden produce to students, parents and community members.

FIND YOUR LOCAL HEALTH INSPECTOR
Health inspections and policies are determined at a local or regional level. There are 11 Texas Health Service Regions. This map can be used to identify the school or child care center’s Health Service district. Contact information for all Texas Public Health Organizations can be found in this database maintained by The Texas Department of State Health Services.

SAFE SOIL
Protecting plants at all stages of growing and harvesting is an important consideration, and it starts with the soil.

SAFE WATER
A general rule of thumb: if you would not drink the water, do not use it for your edible plants.

SAFE TOOLS
Remember that the food you are growing is meant to be eaten so good hygiene is very important and clean tools are integral to food safety.

BUILD-YOUR-OWN Garden Harvest Protocol

Use this template to guide conversations at the local level. Track questions and considerations that will impact your local operation.
Mitigating Contamination

Although unintended contamination can happen, there are known sources of contamination that can be mitigated. The following list can help you identify some of the sources of risk in your garden:

- Quality of building materials for raised garden beds
- Access for animals or pests to wander into the garden
- The usage history of where the garden now sits

Safe Soil

Soil is defined as the upper layer of earth in which plants grow and is one of the primary sources for plant nutrients. Protecting plants at all stages of growing and harvesting is an important consideration, and it starts with the soil.

If you are unsure about the composition of the garden’s soil, testing can determine the levels of chemicals, pesticides, lead and other additives that may be present. Soil testing is recommended for all school and child care center gardens, but it is especially important if the garden site is located near busy streets where pollution from roads and cars can have an impact. Contact your local Texas A&M AgriLife Extension for information on soil testing services available in your area.
BEYOND THE SOIL:
Soil Amendments

PESTICIDES, HERBICIDES AND FERTILIZERS
Pesticides can help control weed and pest problems, but application must be done correctly to avoid creating health risks. TDA and the Environmental Protection Agency (EPA) recommend that schools and child care centers use integrated pest management (IPM) to reduce pesticide risk and exposure to children. IPM relies on a combination of common-sense practices, with pesticide application as a last resort.

All school districts in Texas are required to have an IPM coordinator on staff. You can find your school district IPM coordinator on TDA’s list of School IPM Coordinators.

A Texas A&M AgriLife Extension agent can also provide guidance on the best methods to control local pest problems. If your goal is for the garden produce to be served in the cafeteria, talk to the IPM coordinator about approved IPM methods.

COMPOST AND MANURE
Composting uses heat and chemical reactions to break down organic inputs and form a nutrient-rich plant fertilizer. Work with your Texas A&M AgriLife Extension agent for expert assistance in learning the risks and rewards of composting. USDA also recommends vermiculture, or worm composting, as a way to use fruits, vegetables and waste paper to make your own fertilizers. Composting and vermiculture can be great for the garden as well as educational for all garden participants and can help reduce food waste!

SPOTLIGHT STORY:
Eastside Memorial
became the first high school in Austin ISD to introduce a composting program. The effort prevented 10,250 pounds of waste from going to the landfill. As a result of the school’s zero waste efforts and other environmental initiatives, Eastside Memorial High School became the first National Wildlife Federation Certified Green Flag High School in Texas.

CAUTION

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1st Green Flag High School
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## Discussion Topics

### Herbicide & Pesticide Considerations
Maintain a list of acceptable herbicides and pesticides that can be applied to a garden. Decide what to put on the list at the local level. TDA does not maintain a list of approved herbicides or pesticides but prefers that schools use green category products on edible school gardens. TDA defines green category products in administrative rule 7.204. A best practice according to TDA is to coordinate all pesticide and herbicide applications with the IPM coordinator.

Confer with Texas A&M AgriLife Extension, your IPM Coordinator or other appropriate departments for a list of approved herbicides, pesticides and fertilizers for produce harvested for consumption.

### Compost Considerations
USDA’s Food Safety Tips for School Gardens provides best practices for the use of compost in edible gardens. Aggie Horticulture’s Easy Gardening Guide provides steps to get started composting.

### Garden Location Considerations
Edible gardens should not be planted over septic systems or leach fields. If the historical usage is unknown, consider getting the soil tested. Contact your local Texas A&M AgriLife Extension for information on soil testing services available in your area.

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Launch the Conversation at the Local Level!

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Best practices for edible gardens

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In addition to safe soil, safe water is key to ensuring a healthy harvest. The garden coordination team can meet with a local health inspector to learn tips for keeping gardens safe and find out what local regulations exist for using water catchment or recycled water on edible gardens.

A general rule of thumb: if you would not drink the water, do not use it for your edible plants.

Launch the Conversation at the Local Level!
Use these discussion topics to identify the best questions for your local health inspector.

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<td>APPROVED WATER SOURCES FOR USE ON EDIBLE GARDEN</td>
<td>Work in coordination with your local health inspector to identify whether to include or exclude gray water (gently used water from your bathroom sinks, showers, or tubs) or recycled water. Health department rules and regulations vary by county.</td>
</tr>
<tr>
<td>CONTROL OF WATER RUNOFF NOT INTENDED FOR THE GARDEN</td>
<td>Water runoff from irrigation not related to edible gardens such as watering the lawn or other landscaping or rainwater runoff should be prevented from coming into contact with an edible garden.</td>
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Safe Tools

Remember that the food you are growing is meant to be eaten so good hygiene is very important.

Good hygiene includes:

- Clean tools
- Clean hands
- Healthy garden participants

Hands are the most common tools in many gardens. U.S. Centers for Disease Control and Prevention (CDC) estimates that more than 50 percent of foodborne illnesses are linked to poor hand-washing practices. Proper hand-washing and keeping sick children and adults out of the garden are two simple ways to greatly reduce the risk of foodborne illnesses. Easy access to soap, water and single use hand towels are good ways to ensure that all participants have clean hands before and after working in the garden. The CDC provides short videos for volunteers and children to ensure that proper hand-washing techniques are learned and followed.

PREVENTING CROSS-CONTAMINATION

Tasks that will not be completed by hand will require sanitized garden tools. Scissors and knives are common garden harvest tools that must be cleaned and sanitized between uses to prevent cross-contamination. If there was a pathogen on the fruit or vegetable being harvested one day and the tools go unwashed, it can easily be passed on to the next produce item it touches. Pathogens cannot be seen, so a visual check is not adequate assurance that your tools have been properly cleaned. Use a sanitizing solution after visible debris has been removed for effective sanitization.

LAUNCH THE CONVERSATION AT THE LOCAL LEVEL

Good hygiene practices in the garden offer a clear cut way to reduce the risk of contamination in your edible gardens. Discuss the following topics with your garden planning team to identify how you will ensure good hygiene for all participants — including children, volunteers and educators. Include your local health inspector, nutrition team members and other local leaders for input.

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<td>EXCLUSION OR INCLUSION OF SICK OR POTENTIALLY ILL CHILDREN AND ADULTS FROM CERTAIN GARDEN ACTIVITIES</td>
<td>Sick or potentially ill participants exhibiting symptoms should not be allowed to participate in the harvest of foods that will be consumed.</td>
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<tr>
<td>PROPER HAND-WASHING - WHO MUST DO IT AND WHEN IT MUST BE DONE</td>
<td>All garden participants must properly wash their hands by using liquid soap and single use paper towels before handling produce. Hands should also be free from open cuts or wounds that could come into contact with produce.</td>
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<td>ACCESS TO HAND-WASHING FACILITIES</td>
<td>Restroom facilities with water and soap should be accessible to anyone working in the edible garden. If there are no facilities nearby or facilities are not accessible, you can set up a temporary hand-washing facility following these guidelines provided by the CDC.</td>
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<tr>
<td>PREVENTION OF CROSS-CONTAMINATION FROM EQUIPMENT, GLOVES AND ANY OTHER TOOLS THAT COME INTO CONTACT WITH PRODUCE</td>
<td>All harvest tools and food-grade harvest containers should be sanitized between uses.</td>
</tr>
<tr>
<td>MATERIALS USED TO CONSTRUCT GARDEN STRUCTURES</td>
<td>Raised beds should be built using non-toxic, non-leaching materials for the frame. For example: untreated lumber or limestone blocks.</td>
</tr>
<tr>
<td>STORAGE, SANITATION AND MAINTENANCE OF GARDEN EQUIPMENT</td>
<td>Harvest tools should not be used for any other purposes on campus and should be stored in a secure location. Garden equipment must be cleaned and sanitized prior to being stored.</td>
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PACKING AND STORING
When it is time to pack, store and deliver your garden harvest to its final destination, work closely with everyone involved to identify the steps needed to build and maintain a safe and successful transfer of food from garden to plate. Work with teachers or other individuals who could act as receivers for your garden harvest to establish clear action steps each time they receive a delivery.

Launch the Conversation at the Local Level!

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<td>If your harvested produce is destined for the cafeteria or kitchen, work with your child nutrition team to determine if a leader from both the garden team and the nutrition team need to be present for harvest activities.</td>
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<td>ACCEPTABLE FOOD STORAGE CONTAINERS</td>
<td>Work with nutrition team members to identify what is considered a food-grade container. Often, food-grade containers are made of non-porous materials, like a stainless steel bowl that can be easily cleaned and sanitized.</td>
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<tr>
<td>MAINTENANCE OF INTEGRITY OF FOOD-SAFE STORAGE CONTAINERS</td>
<td>Similar to other garden tools, food-safe storage containers should be cleaned and sanitized before storing. A sanitization protocol could include running containers through a dishwasher or sanitizing in a three compartment sink.</td>
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<tr>
<td>ACCEPTABLE/UNACCEPTABLE FOOD-SAFE STORAGE CONTAINERS</td>
<td>Wicker baskets, burlap sacks or any container that previously held chemicals are not appropriate food storage containers. Work with your nutrition team members to identify what is considered an appropriate food storage container.</td>
</tr>
<tr>
<td>DOCUMENTATION OF HARVEST DELIVERY AND RECEIPT</td>
<td>All produce should be weighed and documented on an agreed upon harvest receipt. Download TDA’s garden harvest receipt template. The contracting entity (CE) should determine whether additional information should be included for proper documentation.</td>
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<tr>
<td>LIGHT PROCESSING OF GARDEN-HARVESTED PRODUCE</td>
<td>This is a decision that can be made at the local level. Identify if the produce should arrive pre-washed and whole or processed in some other way. If you are discussing this topic with your nutrition team you may also want to discuss minimum/maximum delivery amounts, and how much lead time should be given prior to delivery.</td>
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<tr>
<td>SERVING GARDEN-GROWN PRODUCE IN MEALS</td>
<td>Work with your child nutrition team to determine how you would like to notify other children that the produce was grown in the school garden.</td>
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CREATE YOUR OWN PROTOCOL
Create your own garden harvest protocol, using the Garden Harvest Protocol as a guide. Work within your school or child care organization, keeping the applicable federal and state policies in mind, to develop a protocol that works for you.

GARDEN HARVEST PROTOCOL EXAMPLE IN TEXAS
Austin ISD implemented a “Garden to Café” protocol in 2016. This protocol outlines specific best practices that are followed in the garden, when the harvest is integrated into the cafeteria. All of the resources included in their protocol are available for download on the Austin ISD Web page Austinisd.org.

SHARE YOUR SUCCESS today
Inspire others with your best practices and learning opportunities. Share your garden program successes and photos with TDA by emailing LocalProducts.SquareMeals@TexasAgriculture.gov.

Texas Farm Fresh Initiative
Planting the Seeds for Childhood Achievement while Supporting Texas Farmers and Ranchers
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This institution is an equal opportunity provider.
This resource provides ideas for working in partnership with child nutrition program team members to develop a food safety protocol that meets the needs of students, volunteers and child nutrition professionals. HARVEST provides the first steps in developing a local protocol based on local regulations.

Your partners at the Texas Department of Agriculture support your efforts to increase young Texans’ connections with local products and agriculture. Learn more about TDA’s Farm Fresh Initiative at SquareMeals.org/TexasFarmFresh and access additional resources and training materials. You may also connect with your local Education Service Center office for technical assistance.