North Leupp Family Farms photo

Healthy Foods for Navajo Schools

Discoveries from the First Year of a Navajo Farm to School Program

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1. The Purpose of This Manual

This manual was developed as a part of STAR School's *Navajo and Hopi Farm-to-School Project* funded by First Nations Development Institute in spring 2012. Its purpose is to tell the story of the first year of a Farm to School (F2S) program linking a Navajo farm with a Navajo community-based charter elementary school and to provide a road map for other schools interested in school gardens and partnerships with local farms. In this manual, we address issues specific to the Navajo Nation as well as general issues that any school and farm would need to consider when considering a farm to school partnership.

The farm to school landscape is evolving quickly and each partnership involves a unique set of circumstances. A growing body of knowledge and extensive resources are available to support new and expanding programs. This introduction will provide a starting point for those exploring bringing healthy foods into their school. We hope that our experience will help inform future partnerships and encourage others to document and share their successes and lessons learned.

2. Why Farm to School?

Farm to School programs offer one strategy to help address conditions of severe poverty, social stresses, and health and nutrition problems including obesity and diabetes found in many Native communities, the largest regional group of whom are Diné or Navajo. In 1997, the Center for Disease Control (CDC) found "an age-standardized prevalence of diabetes mellitus (DM) of 22.9% among Navajo persons aged 20 years and older. This prevalence is 40% higher than any previous age-standardized estimate for the Navajo and four times higher than the age-standardized U.S. estimate. More than 40% of Navajo aged 45 years and older had DM".

The USDA Food Atlas states that for Coconino County, Arizona [the westernmost portion of the Navajo Nation and all of the Hopi Tribe's reservation) in 2006, there were at least 11,000 low income households living more than 10 miles from grocery stores; at least 40% of students were free-lunch eligible; the adult obesity rate in 2007 was 21.5 %; the low-income pre-school obesity rate in 2009 was 8.2%.

F2S benefits children and communities by...

- Offering fresher, more nutritious food
- Exposing children to a variety of locally produced healthy foods
- Supporting healthy eating habits
- Reducing childhood obesity and diabetes
- Providing opportunities to learn about the land, traditional foods and traditional growing practices, and how both support cultural values
- Demonstrating growing food as a way of life and livelihood
- Building your local food system
- Supporting local farmers and the local economy

3. Food Safety—What Rules Apply?

Overview

During this first year, we discovered a complex and evolving jurisdictional landscape complicated further by the fact that STAR School is located on private land in Coconino County with our partner farms are on reservation land governed by the Navajo Nation. An additional complicating factor was our desire to integrate produce from our school gardens into the school's food system.

Not only do food safety rules and authorities differ between jurisdictions, they also differ between facilities that prepare and serve food (school kitchens and cafeterias) and those that produce food (farms and school gardens). The following summarizes the jurisdictional and regulatory environments for school kitchens and cafeterias, farms and school gardens both on and off tribal land in Northern Arizona.

School Cafeterias and Kitchens

Federal, state, and county regulations define school cafeterias and kitchens as food establishments subject to the US Food and Drug Administration (FDA) Food Code. This code requires that food establishments buy only from an *approved source*—farms that have adopted growing and handling practices that meet the standards of an approved certification program and pass periodic on-site audits. They must also follow defined best practices in handling food within their facility and are subject to periodic inspections. This code applies to off-reservation schools. Schools located on tribal lands are governed by the tribally approved food safety code.

> *Approved Source*
>
> *Schools may only serve food from farms that are an approved source—farms that have adopted growing and handling practices that meet the standards of an approved certification program and pass periodic on-site audits.*

Schools not on tribal land fall under state and county jurisdiction. Their kitchens must obtain a food safety permit and pass periodic inspections from their county health department. Certified kitchens must have an approved food safety plan in place, commonly referred to as a Hazard Analysis and Critical Control Points (HACCP) Plan.

Schools located on tribal land operate under the jurisdiction of their tribal government. They are typically permitted through a tribal environmental health department with inspection services provided by Indian Health Service (IHS) or a designated local authority funded through IHS. If a tribe has a food safety policy in effect, it will be the standard applicable to schools located on their land. That policy will drive permitting and enforcement.

Because food safety policies are complex and evolving, the FDA Food Code is typically adopted as tribal policy. If the FDA Food Code has been adopted by a tribal government, as it has been by Navajo Nation, all food establishments including schools are required to

School Gardens

In response to a growing interest from schools in integrating production from their gardens into their cafeterias, the State of Arizona has developed new guidelines specific to school gardens (Appendix B). The two-page guidelines are the result of collaboration with the Arizona Department of Health Services (ADHS), Arizona Cooperative Extension and the Arizona Department of Education. They were developed to help schools and districts make a case to county health departments for designation of a school garden as an approved source, allowing garden produce to be used in the school's cafeteria.

The new rules are simplified USDA GHP/GAP protocols expanded to address special issues of concern, such as food contamination from activities near the site, water harvesting, animals, manure, and compost.

ADHS has recently created a new position to work with state schools wanting to serve school garden produce in the school. The School Garden Sanitarian/Health Educator's mission is to ensure conformity with the State guidelines through outreach and onsite inspections. (See More Resources and Links for contact information.) If gardens comply with the guidelines, a certificate as an approved source will be issued. It is ultimately up to each county health department whether they accept this certificate.

Some State certification requirements may be challenging for school gardens…

Develop a food safety plan, regularly document practices and train anyone working in the garden

Have potable water onsite for hand washing, harvesting, and cleaning

Periodically test irrigation water for water quality.

NO harvested water can be used in the garden under current regulations (this may change).

Exclude all animals from the garden

Use only commercially certified compost and fertilizers.

Keep sick children out of the garden.

Soil must be tested for lead

4. Choosing Your Path to Healthy Food

Any school wanting to bring fresh, local produce into their food system should first convene a team of key administrative, teaching, food service and maintenance staff to outline your goals, identify your resources and timeline, and explore alternative pathways to meet your goals. Options include developing partnerships with one or more neighboring farms, growing onsite in school gardens or a combination of both. We have developed a decision tree to graphically outline key steps and considerations followed by some important questions to consider at each step.

What Resources Will You Need?

The benefits of serving local foods in schools are many, but buying local foods typically costs more than buying produce from a food wholesaler. There can also be significant additional costs for the staff time, supplies, equipment and infrastructure needed to build and support your program.

You'll need to identify sources of funding prior to entering into a farm to school agreement. Farm to School grants are available from USDA and other funders to support these programs. USDA school lunch subsidies and the Fresh Fruit and Vegetable Grant Program, a program to purchase healthy snacks for elementary schools serving low-income populations, can be applied to support purchases from local farms. The National Farm to School Network (http://www.farmtoschool.org) and the USDA Farm to School Program (http://www.fns.usda.gov/cnd/f2s/) are excellent resources for finding available grants.

The following questions may help you clarify your best pathway to fresh local produce and identify what resources you'll need.

Is Your Kitchen Ready?

- Do you have the commitment of your kitchen staff?
- Do your menu planning and purchasing schedules fit with farm planning and production schedules?
- Do you have the kitchen space and equipment (e.g., produce sink, processing space, and freezers) needed to prepare the produce and process and store the excess harvest?

Would you like to have a school garden?

- Do you have an appropriate site for a garden with available water?
- Who will design, build and care for the garden?
- Will you use volunteers? If so, who will coordinate them?
- Will you build curricula around the garden? If so, how will that work and how will you coordinate among the different garden users?
- Will you use garden produce in the cafeteria or for snacks? If yes, can you meet the state regulations for a certified garden?
- How much and what type of produce will you grow?
- When will it be available and how much will need to be harvested at once?
- What happens to the garden over summer break and holidays during the growing season?
- What about a greenhouse instead of or in addition to a garden?

find out what crops they can grow successfully and how much volume they can supply. Ask for price points and projected range of harvest dates for each crop. It's a good idea to start simply by choosing choose one or a few products that you can handle fresh and easily process for storage.

Adapt Your Menus

Menus need to be adapted to match available farm products, production volume and timing. Consider the capacity of your food service staff to handle fresh produce and to prepare and process excess for longer-term storage. Food service staff should work closely with a nutritionist to ensure that the new menu items are not only nutritious but satisfy requirements for school lunch subsidies.

For a program to succeed, your food service staff must be committed to the program and be willing to be creative and flexible, especially as unexpected situations arise. Beginning farm to partnerships should have a simple, achievable plan that minimizes complexity for both the farmer and the school.

Some Estimates for a STAR School Year

900 lbs – zucchini and butternut squash

400 lbs – Indian corn

1000 lbs - blue corn

We could also use greens, sweet corn, pumpkin, watermelon, crookneck squash, cantaloupe as available.

Processing and Storage

Consider choosing produce that has a long shelf life or can be processed simply to extend use beyond the harvest season. If your kitchen has the capacity, consider simple processing methods like freezing, drying, pickling, or canning. This requires additional time for kitchen staff, so consider using volunteers, interns, or special programs like AmeriCorps.

Contract

Schools can either buy excess production from farmers or negotiate a contract specifying what crops they will grow, how much you will buy, at what cost, terms of payment and how to ensure quality of product. A contract offers farmers a predictable source of income and can be a valuable planning tool if negotiated in advance of the planting season. Contracts also offer schools a reliable source of local produce and an opportunity to plan ahead.

5. Some Considerations for Partner Farms

Getting Certified

One of STAR School's key goals was to help build the capacity of local farms to produce for local markets. Although farming is a long Navajo tradition, most of the growing has been to meet family needs. Few farmers are currently growing for market. Much of our

6. More Resources and Links

Farm to School Program Contacts

Ashley Schimke, Farm to School Specialist
Arizona Department of Education
602-364-2282, Ashley.Schimke@azed.gov

Cindy Gentry, National Farm to School Network State Lead
Community Food Connections
602-493-5231, cgentry@foodconnect.org

Kacie O'Brien, Western Region Farm to School Staff
US Department of Agriculture (USDA)
415-645-1925, Kacie.O'Brien@fns.usda.gov

School Garden Outreach and Certification

Kathryn Mathewson, School Garden Sanitarian/Health Educator
Arizona Department of Health Services
602-364-3952, Kathryn.mathewson@azdhs.gov

Monica Pastor, Agricultural Literacy & School Garden Food Safety
Arizona Cooperative Extension, 602-827-8200 x 317, MPastor@cals.arizona.edu

GHP/GAP Training and Audit Support

Dr. Kurt Nolte, Area Extension Agent and County Director
Yuma County Cooperative Extension
928-726-3904, knolte@cals.arizona.edu

Stewart Jacobson, Food Safety Projects Coordinator
Arizona Department of Agriculture
602-542-0950, sjacobson@azda.gov

Laws, Regulations and Policies

US Food and Drug Administration (FDA) Food Code -
http://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/default.htm

FDA Food Safety and Modernization Act of 2011 -
http://www.fda.gov/Food/GuidanceRegulation/FSMA/default.htm

Appendix A

The GHP/GAP Audit Verification Program audits the following. Note that not all sections are required for every facility. General Questions, Parts 1 and 2, and Required Documentation are relevant sections for a local Farm to School Partnership where washing and processing is completed in the school's kitchen. See the full audit checklist: http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5102511

General Questions:

- Food Safety Program
- Worker and Visitor Health and Hygiene Practices
- Traceback

Part 1 -- Farm Review:

- Water Usage, Sewage Treatment, Animals/Wildlife/Livestock
- Manure and Biosolids
- Soils -- Previous Land Use
- Traceback

Part 2 -- Field Harvest and Field Packing:

- Worker Sanitation
- Field Harvesting and Transportation
- Traceback

Part 3 -- House Packing Facility:

- Receiving
- Washing/Packing line
- Worker Health and Personal Hygiene
- Packinghouse General Housekeeping
- Pest Control
- Traceback

Part 4 -- Storage and Transportation:

- Containers and Pallets
- Pest Control
- Ice
- Storage and Temperature Control
- Transportation and Loading

Appendix B

Arizona Department of Health Services
Guidelines for School Gardens (GD-105-PHS-EDC)
Published June 7, 2013, Effective Date: May 17, 2013

Available online http://www.azdhs.gov/diro/admin_rules/guidance_PHS_BEDCS.htm

This guidance document has been prepared to provide schools with recommended standards for on-site gardens in which produce is grown to be served by the school to individuals.
The Arizona Department of Health Services recommends that a school that wants to grow produce in a garden on school grounds to be served to students, teachers, parents, or guests of the school comply with the following:

The administrator of the school should:

- Designate an individual at the school who is knowledgeable about or trained in Good Agricultural Practices (GAP) and Food Safety, as it relates to the type of produce being grown, to be the Person In Charge (PIC) of the garden and be responsible for managing the garden and overseeing daily operations.
- Ensure that a written Food Safety Plan (describing Who, What, Where, How, and When) is developed to ensure GAP is implemented by the PIC and that the PIC maintains written documentation demonstrating that the Food Safety Plan is being adhered to.
- Ensure that an outdoor garden is not located:
    - Adjacent to a well, septic system, garbage dumpster, in ground storage tank, compost area, school animals (rabbits, tortoises, birds, etc.), or animal enclosure.
    - In a low-lying, poorly drained area.
    - In an area subject to any kind of chemical application: herbicide, fungicide, or pesticide.
- Ensure that toilet facilities and sanitary hand washing facilities, including dispensed soap, dispensed hand towels, and drainage collection are provided at, and in close proximity to, all garden areas. Signs should be posted in garden area to wash hands. Drainage collection, if not plumbed to a sanitary sewer, should include a holding tank that is larger than the water supply holding tank.
- Provide a first aid kit.
- Ensure that the produce harvested from the garden is:
    - Rinsed with clean potable water to further remove soil and particulate matter, prior to consumption.
    - Prepared under sanitary conditions, in accordance with local food code requirements, and overseen by a person trained in Food Safety with a food handler's card, if available.

The PIC for a garden at a school should ensure that:

- Water used for hand washing, harvesting, or cleaning of equipment or utensils is from a