



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE





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GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

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GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

TABLE OF CONTENTS

Garden to Cafeteria: A Step-by-Step Guide	3
The Garden to Cafeteria Roadmap	3
Step 1: Get Started.....	5
Garden to Cafeteria Assessment.....	5
Summary of Relevant Regulations	10
Plan for Safe Food Practices	11
Food Safety Training Checklist.....	13
Kitchen and Cafeteria Food Safety Plan.....	15
Plan What to Grow in the Garden.....	16
Michigan Produce Availability Chart	19
Resources for Starting School Gardens and School Garden Education ..	23
Step 2: Build Community Connections.....	24
Promote and Support a School Garden Community	24
State and Regional Organization List	25
Step 3: Develop an Agreement	27
Set Up Sourcing and Communication Systems.....	27
Pricing for School Meals Programs	28
Sample Product Availability and Pricing Form	30
Harvest and Sales Logs.....	31
Step 4: Link to Garden Produce	33
Create a Sustaining Program	33



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Garden to Cafeteria: A Step-by-Step Guide

Introduction

Welcome to “Garden to Cafeteria: A Step-by-Step Guide.” This guide will walk you through the necessary considerations, tips and examples for using school garden produce in your cafeteria or food program.

A garden to cafeteria program can be developed to fit your school’s environment and needs. There can be one specific goal for having a garden to cafeteria program, or it can be a component of an educational garden project. Regardless of the objective, school gardens require planning, involvement and attention, but provide learning opportunities, enjoyment and delicious fresh food!

There is a learning curve for starting a garden to cafeteria program. If your school is new to this type of work, start small. Begin by assessing the interest and support your school food service staff members can provide. After that, set reasonable and measurable goals and begin by growing one crop to sell or donate to your cafeteria. If your school has just installed a new garden, the first one to two years may be used to prepare the garden itself, before starting an actual garden to cafeteria program. Building a strong foundation for a healthy garden and establishing and nurturing trusting relationships with food service staff members, school garden stakeholders and students increase your chances of success in developing a garden to cafeteria program.

The Garden to Cafeteria Roadmap

Step 1: Get Started

- Determine your ability to sell or donate garden produce to your cafeteria.



Tool: *Garden to Cafeteria Self-Assessment*

- Learn about relevant rules and regulations at the state and national levels.



Tool: *Summary of Relevant Regulations*

- Plan for safe food practices. Create a garden food safety plan.



Tool: *Plan for Safe Food Practices*

- Train all garden users about food safety practices.



Tool: *Food Safety Training Checklist*

- Create a kitchen and cafeteria food safety plan for garden produce.

GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

- Plan what to grow in the garden based on preferences, the needs of food service staff members, and growing season.



Tool: *Crop Planning Tool*



Tool: *Michigan Produce Seasonal Availability Chart*

- Explore and learn about resources for starting school gardens and using the garden as a teaching tool.



Tool: *Resources for Starting School Gardens and School Garden Education*

Step 2: Build Community Connections

- Hold a planning meeting about the garden to cafeteria program with food service staff members and potential stakeholders and volunteers.
- Build a school garden team to support the work.
- Create a summer plan for maintaining the garden.
- Reach out to state partner organizations for support, information exchange and resources.



Tool: *State/Regional Organization List*

Step 3: Develop an Agreement

- Create a communication plan to connect the garden and cafeteria.
- Make an agreement and timetable for selling or donating garden produce.
- Review guidelines for pricing produce for school meals programs.



Tool: *Pricing for School Meals Programs*

- Complete and share a product availability and pricing form for garden produce, if desired or required by food service staff members, to help document purchases of garden produce.



Tool: *Sample Product Availability and Pricing Form*



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

- Track harvests and sales and/or donations.



Tool: *Harvest Log template*



Tool: *Sales Log template*

Step 4: Link to Garden Produce

- Build financial support for the program.
- Promote and identify garden produce in the cafeteria.
- Begin using garden produce!



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Step 1: Get Started

Garden to Cafeteria Assessment¹

The following questions are designed to help determine your interest and ability in using school garden produce in your cafeteria. Many of these questions will require input from food service staff members or food service providers. If you are not in one of these roles, try to set up a meeting with these stakeholders to better understand the food service environment. The support and interest of your food service is essential for starting a garden to cafeteria program. This information is helpful when setting up your program and putting systems in place to ensure smooth planning.

1. Food service type

Your food service is:

- Self-operated
- Contracted

Whose approval will you need to pursue a garden to cafeteria program?

- School district administrators
- Food service staff members
- Contracted food service company
- School staff members
- Other: _____

How would you describe your food service operation?

- Scratch cooking
- Heat-and-serve
- Semi-prepared
- Combination of _____ and _____
- Other (specify) _____

Are there specific fresh fruits, vegetables or herbs currently being used in food service that could be easily substituted with school garden produce?

Are there products that could easily supplement the current menu?

Are these foods easy to order on short notice if the garden does not have an adequate supply or there is a crop failure?

¹Adapted from Planting a Salad Bar Lesson, Abbey Palmer, Marquette Food Co-op.



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

The following chart lists Michigan-grown produce. Which of the following foods are currently purchased and served in your school cafeteria? Which foods would you consider purchasing or sourcing from a school garden?

Fruits	Fresh	Source from Garden
Apples	<input type="checkbox"/>	<input type="checkbox"/>
Apricots	<input type="checkbox"/>	<input type="checkbox"/>
Blackberries	<input type="checkbox"/>	<input type="checkbox"/>
Blueberries	<input type="checkbox"/>	<input type="checkbox"/>
Cantaloupe	<input type="checkbox"/>	<input type="checkbox"/>
Cherries	<input type="checkbox"/>	<input type="checkbox"/>
Grapes	<input type="checkbox"/>	<input type="checkbox"/>
Muskmelon	<input type="checkbox"/>	<input type="checkbox"/>
Nectarines	<input type="checkbox"/>	<input type="checkbox"/>
Peaches	<input type="checkbox"/>	<input type="checkbox"/>
Pears	<input type="checkbox"/>	<input type="checkbox"/>
Plums	<input type="checkbox"/>	<input type="checkbox"/>
Raspberries	<input type="checkbox"/>	<input type="checkbox"/>
Rhubarb	<input type="checkbox"/>	<input type="checkbox"/>
Strawberries	<input type="checkbox"/>	<input type="checkbox"/>
Watermelon	<input type="checkbox"/>	<input type="checkbox"/>

Vegetables	Fresh	Source from Garden
Asparagus	<input type="checkbox"/>	<input type="checkbox"/>
Beans, green	<input type="checkbox"/>	<input type="checkbox"/>
Beets	<input type="checkbox"/>	<input type="checkbox"/>
Broccoli	<input type="checkbox"/>	<input type="checkbox"/>
Brussels sprouts	<input type="checkbox"/>	<input type="checkbox"/>
Cabbage	<input type="checkbox"/>	<input type="checkbox"/>
Carrots	<input type="checkbox"/>	<input type="checkbox"/>
Cauliflower	<input type="checkbox"/>	<input type="checkbox"/>
Celery	<input type="checkbox"/>	<input type="checkbox"/>
Corn	<input type="checkbox"/>	<input type="checkbox"/>
Cucumbers	<input type="checkbox"/>	<input type="checkbox"/>
Eggplant	<input type="checkbox"/>	<input type="checkbox"/>
Greens (collards, kale, etc.)	<input type="checkbox"/>	<input type="checkbox"/>



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Vegetables	Fresh	Source from Garden
Lettuce	<input type="checkbox"/>	<input type="checkbox"/>
Mushrooms	<input type="checkbox"/>	<input type="checkbox"/>
Onions	<input type="checkbox"/>	<input type="checkbox"/>
Parsnips	<input type="checkbox"/>	<input type="checkbox"/>
Peas	<input type="checkbox"/>	<input type="checkbox"/>
Peppers	<input type="checkbox"/>	<input type="checkbox"/>
Potatoes	<input type="checkbox"/>	<input type="checkbox"/>
Pumpkins	<input type="checkbox"/>	<input type="checkbox"/>
Radishes	<input type="checkbox"/>	<input type="checkbox"/>
Rutabaga	<input type="checkbox"/>	<input type="checkbox"/>
Salad greens	<input type="checkbox"/>	<input type="checkbox"/>
Spinach	<input type="checkbox"/>	<input type="checkbox"/>
Squash, summer (yellow, zucchini)	<input type="checkbox"/>	<input type="checkbox"/>
Squash, winter (butternut, acorn, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Sweet potatoes	<input type="checkbox"/>	<input type="checkbox"/>
Tomatoes, cherry or grape	<input type="checkbox"/>	<input type="checkbox"/>
Tomatoes, slicing	<input type="checkbox"/>	<input type="checkbox"/>
Turnips	<input type="checkbox"/>	<input type="checkbox"/>

Herbs	Fresh	Source from Garden
Basil	<input type="checkbox"/>	<input type="checkbox"/>
Chives	<input type="checkbox"/>	<input type="checkbox"/>
Cilantro	<input type="checkbox"/>	<input type="checkbox"/>
Dill	<input type="checkbox"/>	<input type="checkbox"/>
Mint	<input type="checkbox"/>	<input type="checkbox"/>
Oregano	<input type="checkbox"/>	<input type="checkbox"/>
Parsley	<input type="checkbox"/>	<input type="checkbox"/>
Rosemary	<input type="checkbox"/>	<input type="checkbox"/>
Sage	<input type="checkbox"/>	<input type="checkbox"/>
Thyme	<input type="checkbox"/>	<input type="checkbox"/>



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

2. Goals

a. There are many reasons to start a garden to cafeteria program. What are your motivations for starting one at your school? Check all that apply, but consider focusing on a few to guide your program planning.

- Connecting garden education to eating
- Offering fresher food
- Exposing students to new foods
- Reducing sourcing from food distributor for school meals
- Offering higher quality food
- Conducting taste tests in classrooms or cafeterias
- Promoting greater consumption of fruits and vegetables
- Promoting student choice in food service offerings
- Engaging the community in garden program
- Generating revenue from school gardens
- Providing hands-on learning activities for all ages
- Educating students about agricultural and small business skills
- Other (specify) _____

3. Garden scale and sourcing impact

a. What size is your school garden?

To calculate the size, use either method below:

- Measure the length and width of your total garden area. Multiply these two numbers. Measure the size of the pathways in the same manner. Subtract the area not in production (including pathways) from the total area.
- Calculate the area of one garden bed by multiplying the length and width. If all beds are the same size, multiply this number by the total number of garden beds. If beds are different sizes, calculate the total area of all same-sized beds individually. Add all of these numbers together for your total garden area. Do not include pathways in these measurements.

b. How much produce do you wish to source from the garden?

- How will produce from the garden primarily be used? Examples could include offsetting the amount of produce sourced from distributors or taste testing as the produce is available.
- Is your food service company flexible about the amount that can be sourced?
- Must you project the amount of harvested produce needed?

Consider these projected harvest amounts for spinach, lettuce and carrots:

Lettuce salad mix: Sprinkle lettuce seeds using a spice shaker with large holes or broadcast them by letting the seeds fall from your hand, in 2- to 4-inch wide bands. Target 10 seeds per square inch. When planting more than one row, space rows 2 inches apart. Lettuce will produce approximately $\frac{1}{4}$ pound per row foot when seeded at this density. For example, you would need to plant 80 row feet to produce 20 pounds of lettuce.

Baby spinach: Plant spinach seeds in 2- to 4- inch wide bands, spacing seeds $\frac{3}{4}$ of an inch apart. You will use about 40 seeds per foot. Spinach will produce about 1 pound per row foot when seeded at this density. For example, you would need to plant 20 row feet to produce 20 pounds of spinach.



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Carrots: Plant carrots in 2-inch wide bands, spacing seeds $\frac{3}{4}$ of an inch apart. Carrots will produce approximately $\frac{3}{4}$ pound/foot when seeded at this density. For example, you would need to plant 25 row feet to produce 20 pounds of carrots.

4. Available resources

These questions will help you identify a few essential considerations for building a healthy school garden program.

- Are there additional stakeholders in the school and community interested in this project? For instance, have you considered reaching out to parent groups, neighborhood organizations, or local and/or regional non-profit organizations?
- Maintaining a garden requires a lot of work and time, especially during summer break. Will you recruit volunteers to assist with garden maintenance?
- Will students assist with garden maintenance? If yes, through which venues (classes, afterschool programs, student groups, etc.)?
- Do you have access to garden tools and supplies?
- Do you have access to water?
- Will the school or food service contribute monetarily or provide other resources?
- Have you considered applying for school garden grants?

Check <http://grants.kidsgardening.org/> and <https://communitygarden.org/resources/funding-opportunities/> for current funding opportunities.



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Step 1: Get Started

Summary of Relevant Regulations

Learn about relevant regulations at the state and national levels and check on any additional rules or requirements your community, school or school district may have related to gardening and sourcing local foods. The summary below provides a good start.

In 2009, the United State Department of Agriculture (USDA) released a memo (SP 32-2009) that answered a number of frequently asked questions regarding school gardens. These responses included general approval to use garden produce in school cafeterias, as long as this was in agreement with State and local health and safety regulations. This memo also granted permission to purchase produce from the school garden, or a garden operated by a different organization or school, using school food service funds.

Q: Can school food service use funds from the nonprofit school food service account to purchase seeds for a school garden?

A: Yes, with the understanding that the garden is used within the context of the program, i.e. selling the food or providing food in the classroom as part of an educational lesson.

Q: Can the school food service use funds from the nonprofit school food service account to purchase items for the school garden such as fertilizer, watering cans, rakes, etc.?

A: Yes, as long as the items are used for the purpose of starting and maintaining the garden.

Q: Can funds received through the Fresh Fruits and Vegetables Program (FFVP) be used to purchase seeds, tools and/or equipment for a school garden?

A: No. FFVP funds may not be used for the purchase of any materials for school gardens.”

http://www.fns.usda.gov/sites/default/files/SP_32-2009_os.pdf

Additionally, a memo published by the National Policy and Legal Analysis Network to Prevent Childhood Obesity found no barriers to serving produce grown in a school garden in a school cafeteria. This memo also suggested investigating State and local policies to ensure that there are no barriers on those levels, but voiced doubt that there would be any obstacles at the State level.

http://changelabsolutions.org/sites/default/files/SchoolGardenLiability_Memo_FINAL_20130621.pdf

A buying local guide from the Michigan Department of Agriculture and Rural Development confirms that food establishments, including schools, may grow and use their own produce. This is acceptable as long as the produce is grown safely and is in compliance with applicable laws.

http://www.mi.gov/mdard/0,4610,7-125-50772_51200_51231-213569--,00.html



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Step 1: Get Started

Plan for Safe Food Practices

Providing safe food from the garden is one of the most important considerations in creating a garden to cafeteria program. These recommendations will assist you with creating your own food safety plan.

- The goal of a food safety plan is to encourage safe food practices, but having a plan will not prevent food safety situations from arising. Once the plan is in place, garden leaders and workers must be committed to understanding and using safe food practices in the garden. The food safety policy examples cited in this guide are based on the USDA Good Agricultural Practices (GAP).
- Food service directors or school administrators set food safety requirements for school cafeterias. GAP certification may not be required for sourcing produce from your school garden for the school food service program, but basing your practices on these food safety standards will help ensure that you are providing fresh, safe food. Keep in mind that farms going through a GAP audit will likely have components that school gardens do not, so not all points on the checklist will be applicable to a school garden.

You can access the USDA GAP audit verification checklist at

<http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELPRDC5091326>

Additionally, the Michigan Safe Food Risk Assessment is a valuable tool. Based on the GAP guidelines, it is designed to help small and medium-sized diversified farms (including school gardens) with safe food and responsible environmental practices. The assessment is intended for growers to use independently, but there may be educational and technical assistance available in certain parts of Michigan. You can access the assessment and who may be able to help at http://www.michigan.gov/documents/mdard/SafeFoodAssessment1128_382013_7.pdf

- Making a food safety plan for your garden will depend on your school's or school district's situation. Factors such as school or district size, age of students, garden size, and types of produce will determine the details of your plan.
- Remember that using the garden as an educational space may also change your food safety plan. Younger students, in particular, will want to explore, touch and likely taste the garden produce. Consider making garden policies that are age-appropriate. When harvesting garden produce for the cafeteria, for example, consider asking younger students to harvest only produce that will be cooked and adults or older students to harvest produce that will be eaten raw. Alternatively, source food for the cafeteria from garden beds managed only by older students to reduce food safety risks.
- Prioritize human health and sanitation in your food safety plan. To set a good foundation for other food safety practices, make sure that garden leaders, workers and visitors are clean and healthy when they spend time in the garden.
- The USDA recommends avoiding the use of herbicides and pesticides in your school garden due to potential health risks to school-aged children. Contact your local Michigan State University (MSU) Extension office for information on choosing appropriate plants, growing methods, and managing pests and weeds, or visit <http://msue.anr.msu.edu/county>.



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

- Consider keeping a garden kit in the classroom that is only used for garden activities. This kit might include gloves, hand tools, harvest tools and clean baskets or bowls.
- Maintain harvest, sales and garden logs to promote the use of good practices and allow for traceability in the event of a food safety incident.
- Include post harvest handling guidelines in your plan, and communicate with food service staff members to understand their preferences for accepting produce. Washing produce is not necessary at harvest unless required by the food service buyer; washing the produce just prior to serving may extend the shelf life.
- Develop and hold a training program for students, teachers and school volunteers to ensure everyone is on the same page with your food safety plan. This may be a requirement for anyone involved in the garden project. The following tool, “Food Safety Training Checklist”, is a resource for organizing a training. Developing a hands-on food safety training, ideally set in the garden, will make the content more applicable and memorable.
- Review your school’s or district’s liability insurance policy or get in touch with the school’s insurance agent to be sure that your school garden to cafeteria project is covered.
- Read the USDA fact sheet about food safety in school gardens for further guidance and direction on creating your own food safety plan.

USDA tips for food safety in the garden

<http://nfsmi.org/documentlibraryfiles/PDF/20110822025700.pdf>



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Step 1: Get Started

Food Safety Training Checklist²

I, _____, have been trained in and understand the following health, conduct, and safe food handling issues: (Check each box to confirm.)

Hand Washing

All volunteers and visitors are required to wash hands thoroughly for at least 20 seconds before beginning garden work. Re-wash hands after: using the restroom; touching bare skin other than clean hands or arms; coughing, sneezing or using a tissue; eating, drinking or using tobacco; and/or handling trash, cleaning products or garden products and chemicals.

Eating and Smoking

Avoid eating in the garden. Eating is permitted on the perimeter of the garden, or in other areas nearby. For schools that permit adult smoking on campus, smoking is not permitted in or near the garden.

Sickness

Students, teachers or volunteers with diarrhea, vomiting, Norovirus, fever, sore throat, open sores, skin lesions, Hepatitis A, or runny eyes, nose or mouth are to alert the garden supervisor immediately. Anyone who has experienced these symptoms within the last 24 hours is not permitted to work in the garden.

Product Contamination

Students, teachers or volunteers are to notify the garden supervisor if any garden tool or product comes into contact with blood or other body fluids. The supervisor will dispose of the product that has been contaminated and disinfect affected contact surfaces.

First Aid

Students, teachers and volunteers are instructed to seek prompt treatment from the garden supervisor or other designated agent with clean first aid supplies for cuts, abrasions and other injuries.

Ground Contact

All harvested produce that comes in contact with the ground must be disposed of to eliminate the possibility of contamination. Harvest and tend to garden produce regularly to avoid ground contact.

Surface Contact

Any surface that temporarily holds produce, such as tables or salad spinners, should be washed, rinsed and sanitized before and after contact with produce.

² Adapted from Marquette Food Co-op's Hoop House Policies and Allen Neighborhood Center's Standard Operating Procedures: Safe Food Handling Guidelines.



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

- Animals/Wildlife/Livestock**
Measures are taken to restrict wild and/or domestic animals from entering crop production areas. Measures could include, but are not limited to: fencing, netting, trapping, physical repellents, odoriferous repellents, and human patrolling. Pets are not allowed in the garden area at any time. Any animals observed in crop production areas must be reported to the garden supervisor. Dispose of any produce that shows evidence of animal contamination or damage.
- Glass**
Glass or brittle plastic bottles are not allowed in the harvest area under any circumstances. The standard operating procedure for any product contaminated by chemicals, petroleum, pesticides, or other contaminating factors is immediate disposal.
- Use of Harvest Containers**
Prior to harvesting, harvest containers or bins must be pre-rinsed, washed with soap and water, rinsed and allowed to air dry. Harvest containers will not be used for carrying or storing anything other than garden produce. Bins must be inspected prior to and during harvest to ensure that any foreign objects (glass, metal, rocks or other dangerous items) are removed from the bin.
- Harvest Equipment**
All harvest tools must be washed with soap and water immediately before and after harvesting.
- Produce Identification**
If garden uses produce identification for traceability (keeping track of and documenting where the produce came from and travels to), harvested produce must be labeled or identified as directed by the garden supervisor.
- Record Keeping**
If garden uses any record keeping system, fill out appropriate forms (such as garden log, harvest log, etc.) as directed by the garden supervisor at each visit.

I have read and understand all I have checked.

Printed Name: _____

Signature: _____

Date: _____

Garden Supervisor, or other approved person: _____



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Step 1: Get Started

Kitchen and Cafeteria Food Safety Plan

Your food safety plan should extend into the kitchen and cafeteria. For kitchens that do not normally handle fresh produce, work with food service staff members or the food service company to ensure that they are trained on accepting, preparing, serving and storing garden produce. They should accept produce from the garden using the same standards that apply to food received from any other distributor or vendor, ensuring that the produce is in good condition. Avoid co-mingling garden produce with produce purchased from another source for traceability purposes. For example, avoid mixing school garden lettuce with lettuce from a distributor.

Working with your food service staff members on this topic is one way to build connections with them. Keep in mind that they play a critical role in ensuring a garden to cafeteria program succeeds. Building relationships with food service on many levels will only help your program.

These USDA best practice sheets provide guidelines on handling garden produce in the kitchen and cafeteria:

Handling Fresh Produce

<http://www.nfsmi.org/documentlibraryfiles/pdf/20100414060724.pdf>

Handling Produce on Salad Bars

<http://www.nfsmi.org/documentlibraryfiles/PDF/20110822025744.pdf>

Step 1: Get Started

Plan What to Grow in the Garden

Consult with food service staff members, teachers and other garden stakeholders to plan what to grow in the garden. Consider seasonality, days required for crops to be ready for harvest, and your familiarity with particular crops in your decision-making process. These tools will help you create a crop plan.

<http://sproutrobot.com/>

A crop plan is the overall plan for your garden, and it can be revised annually. A crop plan can be used to plan your entire garden, including the beds or crops that you plan to use for your garden to cafeteria program. It has three parts: a planting schedule, a crop map and records. The example crop plan that follows is from a farm in Michigan's Upper Peninsula, in climate zone 5a. To find your climate zone by zip code, visit: <http://planthardiness.ars.usda.gov/PHZMWeb/>.

<p>A planting schedule is a calendar that lets you plan a whole season of production</p> <ul style="list-style-type: none">- Get several rounds of harvest by succession planting fast-maturing crops. Radishes are an example of a crop that matures quickly because they take less than 30 days to be ready for harvest. This method of succession planting is when several smaller plantings are made at timed intervals, rather than all at once. The plants mature at staggered dates, establishing a continuous harvest over an extended period. Lettuce, other salad greens, and radishes are common crops for this approach.- Anticipate how much seed you will need to order. Decide how much space you will devote to a specific crop in your garden, and then divide the space by the amount of space required for the crop. For instance, tomato transplants are planted at least 18 inches apart in rows. This information is available on seed packets, in seed catalogs, or from web sites. Here you will find the amount of seeds you need. Plan to order a little more seed than what is required, as you can expect to lose some plants. Most seed catalogs or packets will list the number of seeds in each size packet.- Start your transplants indoors at the right time. Seed catalogs or packets have information to help you select the date to start seeding transplants.	<p>A crop map lets you see the details and the big picture</p> <ul style="list-style-type: none">- Choose vegetable varieties. You can choose according to taste, color, size, available space, harvest times or any consideration that fits the goals of your garden.- Manage crop rotations for disease and insect control, soil improvement, and nutrient density. Your local MSU Extension office is a valuable resource in planning for these considerations.- Order or purchase seeds.	<p>Good records help you decide what to do next season</p> <ul style="list-style-type: none">- Record the brand, variety of each vegetable, seeding dates, and transplant dates.- Weigh what you harvest. This can serve as a great math activity.- Analyze crop profitability, if you are selling what you grow in the garden. This can be as simple as subtracting the cost of your materials (seeds and transplants, transplant supplies) from the total profit you make on a specific crop. You can make the exercise more complex by accounting for labor and shared expenses such as supplies.
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Sample Planting Schedule³

	March				April				May				June				July				August				September				October				November				Dec.				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
1	D S	Scallions				H	H	H	50	T	P	Cherry Tomato				H	H	H	H	D	S	60	Salad Mix	H	H	H	28														
2	D S	D	Rad-ish	H	H	21					T	P	Hot Pepper								H	H	H	80	D	S	Spinach				H	H	H	H	40						
3					D	Rad-ish	H	H	21	T	P	Sweet Pepper								H	H	H	H	80	D	S	Spinach				H	H	H	H	40						
4					D	S	Red Beets						T	P	Slicing Tomato								H	H	H	75	D	S	Spinach				H	H	H	H	40				

Key:

DS - Direct seed	H - Harvest	21 - Days until mature	TP - Transplant	Resting time
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³ Crop planning model provided courtesy of Rowan Bunce, Rock River Farm, LLC.

Planting Schedule

Abbreviations and definitions:

DS = Direct seed: plants that do well when seeded into garden beds outside.

G = Germination: time required for seed to sprout.

H = Harvest: amount of time a crop can be harvested once mature.

TP = Transplant: plant that must be started indoors before being planted outside.

Maturity = number of days a plant requires to be ready for harvest after germination.

	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Bed 1											
Bed 2											
Bed 3											

	Leaf Lettuce	Radish	Snap Pea
Germination: 7-10 days	Germination: 7-14 days	Germination: 7 days	Germination: 4-10 days
Maturity: 39 days	Maturity: 28 days	Maturity: 30 days	Maturity: 52 days
Harvest: 28 days	Harvest: 14 days	Harvest: 14 days	Harvest: 14 days
Direct Seed 1000 seeds sows 100' Sow every 7 days for a continuous supply	Direct Seed 1000 seeds sows 16' Grows best at soil temps of 60-65°F	Direct Seed 250 seeds sows 7' Sow in 3" wide bands, seeds about 1" apart	Direct Seed 250 seeds sows 8' Can be grown with or without trellis

MICHIGAN PRODUCE AVAILABILITY*

The extended growing season in the Upper Peninsula typically runs from March to November. Fresh and extended season produce may be available two weeks or more later than is suggested below.

CROP	STORAGE											
	Jan	Feb	Mar	April	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Onions, Spring/Green/Scallions	Field Fresh	Extended Season										
Parsnips												
Peas, Peapods & Shelling												
Peppers, Hot & Sweet												
Potatoes												
Pumpkins												
Radishes												
Rutabaga												
Salad Greens (Mesclun, Baby Greens, etc.)												
Spinach												
Sprouts (Alfalfa, Bean, etc.)												
Squash, Summer												
Squash, Winter (Butternut, Acorn, etc.)												
Sweet Potatoes												
Tomatoes												
Turnips												
Basil												
Chives												
Cilantro												
Dill												
Mint & Oregano												
Parsley												
Rosemary												
Sage & Thyme												

Putting Michigan Produce ON YOUR MENU

MICHIGAN PRODUCE AVAILABILITY*

The extended growing season in the Upper Peninsula typically runs from March to November. Fresh and extended season produce may be available two weeks or more later than is suggested below.

CROP	FIELD FRESH					EXTENDED SEASON					STORAGE				
	Jan	Feb	Mar	April	May	Jun	July	Aug	Sept	Oct	Nov	Dec			
Apples															
Apricots															
Blackberries															
Blueberries															
Cantaloupe, Honeydew															
Cherries, Tart															
Cherries, Sweet															
Cranberries															
Grapes															
Nectarines															
Peaches															
Pears															
Plums															
Raspberries															
Rhubarb															
Strawberries															
Watermelon															

Putting Michigan Produce ON YOUR MENU



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Step 1: Get Started

Resources for Starting School Gardens and School Garden Education

Endless educational possibilities exist with a school garden. Connecting students to the garden will help achieve the goals you have identified for your school garden initiative, such as increasing the consumption of garden produce during school meals. The following tools can help incorporate the garden into classroom curriculum.

Resources on Starting School Gardens

Got Dirt? Garden toolkit for implementing youth gardens
<http://www.dhs.wisconsin.gov/publications/P4/p40112.pdf>

Getting Started: A guide for creating school gardens as outdoor classrooms
<http://www.lifelab.org/wp-content/uploads/2010/06/GettingStarted.pdf>

Plan your garden tip sheet
<http://migarden.msu.edu/uploads/files/gardenPlanning.pdf>

Resources for School Garden Education or Curricula

Got Veggies? A youth garden-based nutrition education curriculum
<http://www.dhs.wisconsin.gov/publications/P0/P00228.pdf>

Eat. Think. Grow. Lessons for the school garden
<http://eatthinkgrow.org/>

Dig In! Standards-based nutrition education from the ground up
<http://www.fns.usda.gov/tn/dig-standards-based-nutrition-education-ground>

Garden Mosaics: Science pages
<http://communitygardennews.org/gardenmosaics/pgs/science/english/mainscience.htm>

The Edible Schoolyard Berkeley Resources
http://edibleschoolyard.org/program/edible-schoolyard-berkeley?quicktabs_programs=1



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Step 2: Build Community Connections

Promote and Support a School Garden Community

A garden to cafeteria program can be successful with a healthy school garden. Vibrant school gardens often receive support from the school and surrounding community, including from local farmers. Aim to build connections with as many community members and stakeholders as possible to ensure that your garden will thrive for years to come.

Hold a garden to cafeteria planning meeting.

Invite as many school stakeholders as possible. Stakeholders can include: students, school staff members, school administrators, food service staff members, parents, volunteers, community members, facilities staff members and others. Make a goal to increase a sense of ownership of the school garden among all stakeholders. Nurturing ongoing relationships with food service staff members are critical for success. Consider sharing the garden harvest with food service staff members, giving them photos of students in the garden, or inviting them to tour the garden. Build relationships with community members that live in the area, including those with their own gardens. Your garden will be more lively and safe when more people are invested in the project.

Build a school garden team.

Working together as a team makes this project easier and more enjoyable! If a Farm to School team already exists, it may make sense for it to support the school garden as well, potentially making it easier to coordinate fresh, local food. Include food service staff members, students, teachers, school administrators, local farmers, master gardeners, volunteers, facilities staff members and anyone else who is interested. Use shared decision making to build shared ownership of the program. Shared ownership will lead to long-term sustainability for the garden.

In some situations, creating a standardized, district-wide approach for your garden to cafeteria program can be beneficial. If your school district is trying to implement this program on a large scale, consider bringing together your stakeholders and supporters to develop a single food safety plan, training checklist, sales and harvest logs, and any other tools that will assist you in building a robust plan for your program.

Create a summer plan for maintaining the garden.

Due to Michigan's growing season, summer break is a critical time of the year in the garden. Make a plan for the months of June, July and August to weed and water the garden and harvest produce. There may even be an opportunity to freeze the summer harvest in the school kitchen. Discuss this possibility with the food service director. Volunteers, paid student interns, or community members can help over the summer. Evaluate financial resources and time needed to maintain the garden during summer break to determine a plan that will work best for your school community and your garden.



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Step 2: Build Community Connections

State and Regional Organization List

Reach out to state and regional organizations to link to resources and school garden projects. Building relationships will help to inform and sustain your garden to cafeteria program. The following local resources can assist you with everything from growing your garden to conducting taste tests in the cafeteria.

Statewide Resources

Michigan State University Extension and Master Gardener Volunteers

<http://msue.anr.msu.edu/>

Search for offices and educators with expertise in growing practices, managing pests and weeds, and developing local food systems. Your local MSU Extension office will also be able to connect you to Master Gardener volunteers in your area.

Michigan Farm to School

<http://www.mifarmtoschool.msu.edu/>

From the MSU Center for Regional Food Systems, Michigan Farm to School provides state-specific resources on Farm to School, many of which are transferable to garden to cafeteria programs.

FoodCorps

<https://foodcorps.org/where-we-work/michigan>

FoodCorps is a national non-profit service organization that focuses on reducing childhood obesity through nutrition education, school gardens and local product sourcing for cafeterias. Service members are located throughout Michigan and can provide resources and information on school gardens and local sourcing.

Cultivate Michigan

<http://www.cultivatemichigan.org/>

Cultivate Michigan is designed to help ramp up Farm to Institution programs and track progress of local food purchasing. It is a campaign of the Michigan Farm to Institution Network, a group of practitioners, supporters and advocates all sharing common goals to help Farm to Institution programs grow.

Michigan Organic Farmers Exchange

www.michiganorganic.msu.edu

From the MSU Center for Regional Food Systems, this site offers practical tools and information to help with planting, managing pests and improving the soil.



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Regional Resources

Michigan Land Use Institute

<http://www.mlui.org/food-farming/about/#.Uyc2jK1dUwN>

The Michigan Land Use Institute is a non-profit organization based in Northwest Michigan that has focal areas of Farm to School and a local food marketing campaign.

Food Systems Economic Partnership

<http://fsepmichigan.org/>

The Food Systems Economic Partnership is a non-profit organization serving Southeastern Michigan that focuses on Farm to School initiatives.

Upper Peninsula Food Exchange

<http://upfoodexchange.com/>

The U.P. Food Exchange (UPFE, The Exchange) is a partnership created between The Marquette Food Co-op and MSU Extension to support the local food activities already taking place within the Upper Peninsula's distinct regions (Eastern, Central and Western). The UPFE serves as a resource portal for farmers, businesses and individuals looking to connect with and actively participate in their local food system.



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Step 3: Develop an Agreement

Set up sourcing and communication systems.

Building a garden to cafeteria program relies on having clear communication and understanding between garden supervisors and food service staff members.

Create a communication plan.

Ensure that both garden supervisor(s) and food service staff members are involved in conversations about crop planning. Determine how to communicate when a crop is ready to be harvested, how much can be harvested, and when the cafeteria will be able to use it. Food service staff members must be aware of plans for garden produce delivery, including which crops will be delivered when, in the event that they need to adjust their menus or orders from their food distributors. They will also need to plan for staff time to wash, prepare and store the garden produce. This is particularly important for school gardens that are working on larger scales and are able to sell, donate or trade larger volumes of produce.

Incorporate feedback systems to learn what is working well, what students are eating, and any other useful information. Keep records of what works and what you would do differently next year.

Make an agreement to sell, donate or trade garden produce.

Explore the possibility of having food service purchase garden produce. This will build financial sustainability into your program. Mature, production-focused school gardens that are selling a large quantity of vegetables or fruits to food service suppliers may be able to successfully offset the costs of their garden programs. Newer, smaller gardens may not be able to cover their costs by selling produce, but they will still benefit from the added revenue and the educational component of selling produce to school food service.

School food service authorities are required to competitively bid for all food they purchase, including food from a school garden. If garden produce will be sold to the food service program, the Sample Product Availability and Pricing Form in Step 3 will be particularly useful, or even required, to help the food service director or company document price quotes. Purchases of garden produce will typically be made through informal solicitations from the food service authority and are highly dependent upon price. In these cases, food service directors will seek prices that are competitive.

Alternatively, talk with the food service director or company about the possibility of trading garden produce in exchange for covering some of the gardens' upfront costs. This could include seeds, tools, or materials used for growing produce in the school garden.

Some schools may not be able to either purchase or trade for garden produce. When these options are not possible, donating garden produce to the food service program is a positive outcome.

Prepare product pricing guidelines, if selling produce.

Work with food service staff members to determine fair prices for garden produce. The following documents listed under Step 3, from the Marketing Michigan Products: A Step-By-Step Guide, provide a framework for school food purchasing and pricing.



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Step 3: Develop an Agreement

Pricing for School Meals Programs⁴

School food service directors face many challenges. The average cost of food for a school lunch around one dollar. When you add in other costs, including labor, equipment, supplies, transportation and additional expenses, the total cost of a school lunch is between \$2 and \$3.⁵ Additionally, food service is expected to maintain their budget independently from the district. They must break even or turn a profit without financial assistance, and any profit must be returned to the food service program.

Ideally, prices for garden products should be comparable to those schools are currently paying food vendors, including large distributors, who may price products according to wholesale markets. However, school food service directors who are interested in school garden products generally appreciate fresh, quality products and would most likely support garden programs. Therefore, some directors may be willing to spend more for high quality garden products and make up the difference with other products they may be able to purchase elsewhere at lower cost, including USDA commodity foods. There are many other reasons that food service directors may benefit from using school garden produce:

- Reducing waste by using fresh products
- Increasing sales of meals
- Gaining positive public relations
- Showing an interest in community and school initiatives
- Demonstrating commitment to student well-being and health

Schools will often start small with sourcing from school gardens, but they may expand their purchasing if consistently provided with good quality products at relatively competitive prices.

Pricing for direct market sales such as garden to cafeteria can be a daunting task, but, if applicable, it helps to know your costs:

- **Variable costs** include production-related costs such as plants, seeds, compost, and any labor, packaging, etc.
- **Fixed costs** such as rent/mortgage, taxes, salaries, and capital costs do not vary by volume produced. These costs will likely be less common in garden to cafeteria programs.

An **optimal gross margin** is one that will cover total costs of production (including variable and fixed costs), marketing and provide a suitable profit. Gross margin is the difference between the cost of the product and its selling price:

$$\text{Gross Margin \%} = \frac{\text{Selling Price} - \text{Cost}}{\text{Selling Price}} \times 100$$

⁴ Adapted from "Pricing for School Meals Programs", *Marketing Michigan Products: A Step-By-Step Guide*.

⁵ School Food Focus. *School Food 101*. Accessed June 2014 at <http://www.schoolfoodfocus.org/wp-content/uploads/2010/05/School-Food-101-Cost-of-School-Lunch1.pdf>.



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

$$\text{Retail Price (\$)} = \frac{\text{Cost of Goods Sold (\$)}}{100 (\%) - \text{Desired Gross Margin (\%)}} \times 100^6$$

Product pricing for school customers should fall somewhere between wholesale prices and farmer's market prices, and be comparable with other school garden pricing. Be aware of and review current market prices if you want to competitively market your products to your school food service. Check out these resources for product pricing information:

- The USDA Agricultural Marketing Services (AMS) offers pricing information on local and regional foods, sold through farmer's markets and other venues. You can find this information at <http://www.ams.usda.gov/AMSV1.0/MarketNewsLocalRegional>.
- The USDA AMS also offers pricing information on The Fruit and Vegetable Market News website at <http://marketnews.usda.gov/portal/fv>. You can search by commodity to see product origins and current prices at terminal markets, including Detroit.
- The Benton Harbor Fruit Market offers a Locally Grown Produce Price Report (available by subscription only). The price report indicates the amount buyers are paying growers for fresh, local produce, but it may provide a wider range of pricing than reports from the USDA. Check the Benton Harbor Fruit Market's website at <http://www.bhfm.com/price-report> for more information.
- Rodale Institute regularly updates an online Organic Price Report by subscription to New Farmer. Search by product for a side-by-side comparison of organic and conventional prices at national markets. Visit <http://www.rodaleinstitute.org/Organic-Price-Report>.
- Contact large produce companies or distributors for price quotes or a price list.
- Ask farmers you know and trust for advice on pricing products and current going rates.
- Visit local farmer's markets to check out current prices for products. Also visit local grocers to know the upper range for pricing for schools.

If selling school garden products to food service is not the best option for your program, remember that donating products is still a success for meal providers and students!

⁶ Uva, Wen-fei L. *Smart Pricing Strategies*. Accessed September 2014. Cornell University. Accessed February 2010 at <http://agribusiness.dyson.cornell.edu/SmartMarketing/pdfs/Uva%203-01.pdf>.

Step 3: Develop an Agreement

Sample Product Availability and Pricing Form

Vendor Name and Contact Information: _____

Vendor's Signature: _____ Date: _____

Please fill in the columns below for count, packaging, unit price, the project quantity available, minimum delivery amounts and the months the product will be available. List additional available products and varieties you would like us to consider purchasing on the back of this form.

Product	Count	Variety	Packed	Condition/Description	Unit Price	Projected Quantity Available	Minimum Delivery Amount	Months available
Potatoes		Russet or Round White		Firm and smooth (not wrinkled); free of soft and/or dark spots, cut surfaces and greenish color. Loose dirt removed. Washed.				
Winter Squash		Butternut		Firm and smooth (not wrinkled); free of soft and/or dark spots and cuts. Caramel-colored skin with orange/yellow flesh. Washed.				

After careful review and evaluation, this bid has been awarded by the School Food Authority to (insert name of vendor or garden).

Signature of School Food Authority: _____ Date: _____

Step 3: Develop an Agreement

Harvest and Sales Logs

Recording your harvests helps maintain food traceability by allowing you to track your produce from harvest to when it is eaten. Keeping track of this information is a food safety precaution, in addition to helping you monitor how much you are producing. Numbering or naming your garden beds for use on harvest will assist with documenting traceability. Maintain permanent labels in the garden to assure that the correct information is entered on the log.

Recording the amount of produce going to food service as either sales or donations will allow you to track production, the impact on food services' sourcing, your program's income, and changes over time. This information can be used to support your program. Use the following tools to track your harvests and sales.

Harvest

Date	Harvester(s)	Product	Bed(s) #	Units harvested (pounds/bunches)
7/14/ 2014	Stefan and Camila	Spinach	1,7,9	2.5 pounds
7/14/ 2014	Stefan and Camila	Basil	2	6 bunches



GARDEN TO CAFETERIA

A STEP-BY-STEP GUIDE

Step 4: Link to Garden Produce

Create a lasting program.

Garden to cafeteria programs require financial resources so take the necessary steps to continue your program and increase its independence and popularity.

Build financial support for the program.

One strategy for building financial support is selling your garden produce. Food service, after school markets, or youth farm stands are all good options; avoid selling garden produce or value-added products containing produce (i.e. baked goods) during the day to students. This practice is not recommended based on nutrition guidelines for snacks and because it can create competition with food service and food safety concerns.

Youth Farm Stands: Youth Engagement in Community Food Systems

<http://foodsystems.msu.edu/uploads/files/youth-farm-stand-toolkit.pdf>

Another idea is to hold fundraisers, such as selling transplants or potted flowers for holidays, and hosting dinners featuring garden and local produce. Evaluate your available time and resources and estimate how much money you hope to make in order to choose the type of fundraiser that will work best for you. Research external fundraising companies for reputability and previous success rates before contracting with them.

You may also apply for school garden grants. There are an increasing number of mini-grants available for funding school gardens. Search for school garden grants on the Internet to find the most current grant opportunities.

Promote garden produce.

Label your garden produce in the cafeteria. Consider asking students involved with the garden to make labels and signs to post when serving garden produce. Reinforcing a connection with the food that students have helped raise will increase consumption and excitement!

Begin using garden produce!

