



Got Dirt?



o Garden Toolkit for implementing youth gardens

For more information about this garden toolkit contact:



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Preface

Childhood obesity and its health related consequences are increasing in Wisconsin's youth. Nutrition research supports the role of increased fruit and vegetable consumption for prevention of cancer, heart disease, and obesity.¹ Thus, youth gardens could emerge as an important tool for nutrition and wellness in public health interventions. Recent research has documented that involving children in gardening is a promising strategy for increasing fruit and vegetable consumption.² School gardens may positively impact children's food choices by improving their preferences for vegetables and increasing their nutrition knowledge.² Furthermore, gardening is a wonderful means of increasing physical activity. A 130-pound person can burn around 295-calories an hour while gardening. Similarly, a 150-pound person can burn around 300-calories an hour.

Thus, to encourage healthy eating and increased physical activity, the Department of Health Services' Nutrition, Physical Activity & Obesity Program produced this garden toolkit. To ensure the inclusion of accurate gardening information, several gardening experts from around the state contributed or reviewed the Got Dirt? Garden Toolkit including University of Wisconsin Extension Horticulture Agents and Community Garden Coordinators, Master Gardeners, and other local gardening experts. This toolkit is a component of the Got Dirt? Garden Initiative. The Got Dirt? Garden Initiative also includes:

- Hands-on trainings on how to start a youth garden
- Ancillary resources for starting a youth garden
- Lesson plans and activities for use with the youth garden
- Connection to local gardening expertise/Master Gardeners

The purpose of the Got Dirt? Garden Initiative is to improve access to fresh fruits and vegetables through increasing the implementation of youth fruit and vegetable gardens in Wisconsin. The overall health outcome of the Got Dirt? Garden Initiative is to increase consumption of fruits and vegetables among children, adolescents, and adults. Moreover, by encouraging you to start a garden, the toolkit attempts to support a number of the following national and state initiatives:

- **Fruits & Veggies—More Matters®:** A national initiative, **Fruits & Veggies — More Matters®**, seeks to provide a consistent message regarding the importance of eating fruits and vegetables. Fruits and veggies matter in maintaining a healthy weight and may reduce the risk of many diseases. Eating a colorful variety of fruits and veggies provides a wider range of valuable nutrients like fiber, vitamins, and potassium. Incorporating the produce from the garden into meals and snacks are wonderful ways to increase the amount and variety of fruits and vegetables eaten each day. For more information, visit: www.fruitsandveggiesmorematters.org.
- **Wisconsin Nutrition, Physical Activity & Obesity Program:** The Program seeks to encourage healthful eating and increased physical activity as a means for reducing overweight and obesity in Wisconsin. Currently, 62% of Wisconsin adults are considered overweight or obese and 25% of high school students are overweight or obese.^{3,4} Furthermore, only 18% of high school students and 24% of adults in Wisconsin consume fruits and vegetables 5 or more times per day.^{3,4} Thus, the Program focuses on developing resources, providing technical assistance, and working with partners to create environments through policy and environmental change that support individuals in their quest to eat healthy and be physically active.



- Wisconsin Farm-to-School AmeriCorps Program:** The Wisconsin Department of Agriculture, Trade, and Consumer Protection in partnership with the Wisconsin Department of Public Instruction, Wisconsin Department of Health Services, Wisconsin Rural Partners, and the Center for Integrated Agricultural Systems received an AmeriCorps State Grant to support a statewide Farm-to-School AmeriCorps Program. The goal of the Wisconsin Farm-to-School AmeriCorps Program is to increase access to locally produced foods (including fruits and vegetables) in Wisconsin schools. Farm-to-School is a potential approach to reducing childhood obesity by promoting healthy eating habits, while increasing access to local foods in schools, and while creating another market for local farmers and other food businesses.
- Wisconsin Fresh Fruit and Vegetable Program:** Funded through the 2008 Farm Bill, the Wisconsin Fresh Fruit and Vegetable Program provides free fresh fruits and vegetables to children of participating elementary schools. The purpose of the program is to expand and increase the variety and amount of fruits and vegetables children experience and consume. Combined with nutrition education and a reinforcement of healthful eating habits, the program emphasizes the long-term goals of positively influencing children's life-long eating habits, specifically fruit and vegetable consumption. This program also encourages schools to reach out to area farmers/growers for purchasing local fresh whole produce. For more information, visit: http://fns.dpi.wi.gov/fns_ffvp
- Wisconsin Food Security Project:** The Wisconsin Food Security Project provides localized information about the food security infrastructure in Wisconsin. The project promotes food security by helping planners and policy makers identify strengths and gaps in their communities and by helping service providers and individuals and families to locate food-related resources.⁵ The Wisconsin Food Security Consortium's State Plan, titled **Ending Hunger in Wisconsin — An Action Plan**, includes goals related to improving access to healthy and affordable food. A bountiful garden's produce can be donated to local food pantries or other public and private programs working to eliminate food insecurity in Wisconsin.

For more information on the Wisconsin Food Security Consortium, visit, www.endhungerwi.org

In addition to these initiatives, several new approaches to increasing fruit and vegetable consumption are currently being piloted. Creating and supporting youth gardens is a way to work towards improving the health of all Wisconsin residents.

References Cited:

1. US Department of Health and Human Services, Healthy People 2010: Conference Edition Vol 1, 2000.
2. Graham H, Lane-Beall D, Lussier M, McLaughlin P, Zidenberg-Cherr S. Use of School Gardens in Academic Instruction. *J Nutr Educ Behav.* 2005;37:147-151
3. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System. www.cdc.gov/brfss.
4. Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance System. www.cdc.gov/HealthyYouth/yrbs/index.htm.
5. University of Wisconsin-Extension. Wisconsin Food Security Project. www.uwex.edu/ces/flp/cfs/.



For more information on the Wisconsin School Garden Initiative, visit the website which is continuously updated with the latest resources, training information, and funding sources. Visit the web site at www.woscjpp.gardens.org.

Additional information on the Wisconsin School Garden Initiative can be viewed at: www.dhs.wisconsin.gov/physical-activity/foodsystem/gardening.htm

About Your Garden Toolkit

The Wisconsin Department of Health Services' Nutrition, Physical Activity and Obesity Program and the Wisconsin Fruit and Vegetable Nutrition Program, along with other contributors, have compiled this easy-to-use garden toolkit to provide you with a framework for starting a fruit and vegetable garden. The toolkit is designed to walk you through the basic steps of starting and maintaining a garden. Also, we have included several examples of successful community, childcare, and school gardening projects in Wisconsin. These stories highlight key points including tips on funding, finding local resources, and engaging adults and children in gardening. In addition, there are stories on programs that can enhance your gardening experience including providing ideas on what to do with all the fruits and vegetables harvested and where to get more information on service learning and school curriculum resources.

The garden toolkit is separated into two main parts:

- Part One: Basic Steps for Gardening
- Part Two: Gardening Examples and Resources

In Part One, a comprehensive guide provides you with a start to finish approach that begins with finding a garden plot and ends with tips on preparing your garden for the next year. Part Two provides several resources to ensure that you have a successful gardening experience. Gardening can be a great deal of fun, but a lot of work. To further assist you with your garden, it may be beneficial to engage others to help you. Here are some suggestions for people you may want to contact:

- Co-workers
- Teachers
- School Administrators
- School Food Service Staff
- Students
- Parents
- Children
- Community Leaders
- Coalition Members
- Local Faith-Based Organizations
- Local Health Care Organizations
- Neighborhood Associations
- Local Businesses
- Representatives from Other Local Organizations

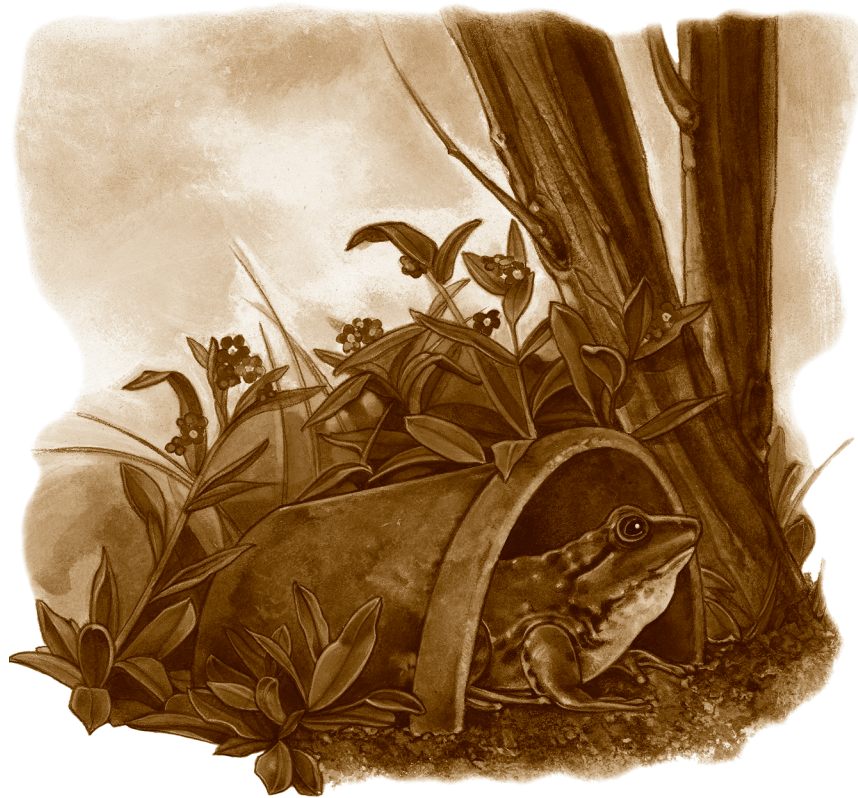
Gardening is a wonderful way to increase your physical activity, while having access to healthful foods such as fruits and vegetables. We hope that you find this toolkit useful and that it encourages you to start a garden. If you have any comments or suggestions for improving this gardening toolkit, please direct them to Kelli Stader, Nutrition, Physical Activity and Obesity Program, at Kelli.Stader@dhs.wisconsin.gov.

Basic Steps
for Starting
a Garden



Find a Place to Plant

Step 1



Where Can You Find Land?

Here are a few ideas of where you can start to look for land for your garden.

- Your Yard (Front or Back)
- Vacant Lots
- Private Land (A Neighbor's Yard)
- School Grounds
- Hospital Grounds
- Community Parks
- Farm Land
- County Fairgrounds
- County UW-Extension Office Grounds



Need help finding land? Contact these organizations:

- Wisconsin Park & Recreation Association
www.wpraweb.org/index.asp
- University of Wisconsin-Extension
www.uwex.edu

If you can only find a small amount of land...try small plot vegetable or container gardening. It's amazing how many vegetables can grow in pots! Keep in mind if you are using vacant land that you may need to obtain permission to use it. Permission may be necessary as vacant lots are still considered to be private land.

Small Plot Vegetable Gardening

overall points

- Choose a site that receives at least 6 hours of sun each day.
- If the land has never been used for a garden, rototill or dig up the area to a depth of 6 to 8 inches in the early spring.
- Even if space is limited, remember not to crowd the plants. They need air and elbow room.

space saving techniques

1. Try Interplanting: This is a technique that involves growing two or more vegetables in one area by planting slow-and-fast maturing crops among each other. The fast maturing vegetables will be harvested before the crops begin to crowd each other. You can also alternate rows of fast and slow maturing vegetables. For example, plant a row of tomatoes (slow maturing) and lettuce (fast maturing).

2. Try Succession Planting: This involves planting another crop once the other is harvested or finished. For example, when spinach has been harvested, replant the space with beans or beets.

3. Wide Row Planting: This technique involves scattering fruit and vegetable seeds over an 8 to 12 inch band rather than a single row. This method works best for leafy vegetables like spinach and lettuce, which ultimately form a leaf canopy that prevents weed growth.

4. Use Vertical Space: Using a trellis or fence to support pole beans, cucumbers, and squash is a great way to maximize a limited space. You can also cage or stake the tomato plants.

5. Plant Bush Varieties: By planting "bush" varieties, the plants take up less space in the garden than standard varieties. Bush varieties, available as seeds, are found in cucumbers, muskmelon, watermelon, and squash.

6. Square Foot Gardening: This technique involves marking squares of space for crops rather than planting in straight rows. Common arrangements involve marking off 1 foot by 1 foot areas of garden space. Plants are planted according to their space needs.

7. Bottom Line: Gardens don't have to be square. They can be planted in a circle or a triangle.



suggested fruits & vegetables for small garden plots

- a. Beets
- b. Carrots
- c. Cucumbers
(grow on a trellis or plant a bush-variety)
- d. Eggplant
- e. Green Beans
- f. Lettuce
- g. Kohlrabi
- h. Muskmelon
(grow on a trellis or plant a bush-variety)
- i. Onions
- j. Peppers
- k. Potatoes
- l. Radishes
- m. Shallots
- n. Spinach
- o. Summer Squash
(bush variety)
- p. Swiss Chard
- q. Tomatoes
(standard, patio, & cherry)



Container/Raised Bed Gardening

overall points

- To begin, be sure to select a container that is large enough to hold the plant and its root system.
- For most vegetable crops, a 3 to 5 gallon container is preferred
- Soilless potting mixes are the best for container gardens. The mix is less likely to compact, holds moisture and plant nutrients very well, and is typically lightweight.
- Plants grown in containers require frequent watering because they dry out quickly from sun and wind. Some plants may require daily watering.
- Clay, wood, plastic, cement, and metal are all suitable materials for growing plants.
- Raised beds that are two to three feet wide permit easy reaching across for weeding and harvesting.
- When using raised beds you can plant the fruits and vegetables closer together because you don't need to walk on the soil.
- For the best results, use drip lines or slow-release watering units in containers.

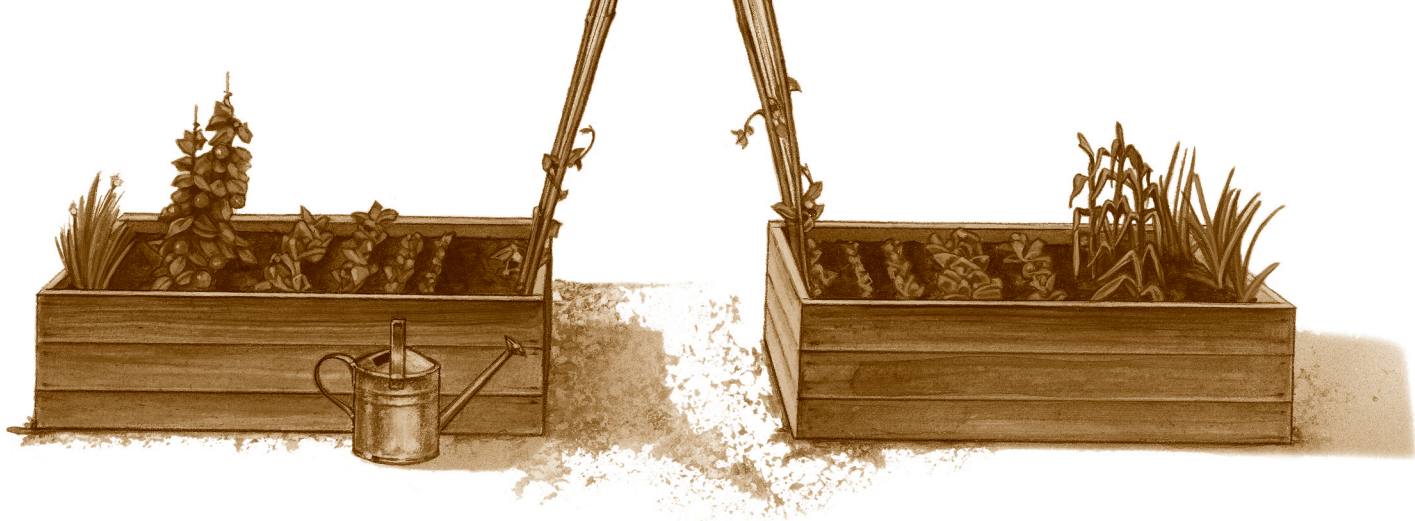
types of containers

- Examples of possible containers included clay pots, old pails, bushel baskets, plastic buckets, wash tubs, wooden planters, or hanging baskets. Almost any type of container can be used as long as it has good drainage via holes in the sides or bottom.
- Wood containers can be easily constructed, but last longer if heartwood of durable trees is used (i.e. cedar or redwood).
- A typical size for a wooden container is 18" X 24" X 8". Drainage holes must be drilled in the bottom or around the sides near the bottom of the box. A mesh screen can be cut to fit the bottom of the container to allow water, but not soil, to drain. Soil 6 to 8 inches deep is the minimum for most vegetables.
- Dairy supply plastic tanks (35 gallons or less) cut in half make excellent containers as well.



For more information on container or raised bed gardening visit the following websites:

- University of Wisconsin Extension: Specialized Gardening Techniques <http://cecommerce.uwex.edu/pdfs/A3384.PDF>
- University of Minnesota Extension Services: Gardening in Raised Beds www.extension.umn.edu/garden/yard-garden/landscaping/raisedbed-gardens/
- Iowa State University Extension: Container Vegetable Gardening www.extension.iastate.edu/Publications/PM870B.pdf



Where Should Your Garden Go?

1. Think Location: Plenty of sunlight and well-drained, level soils are important factors in deciding where to put your garden. The site should be fairly level to avoid erosion problems. A garden should be located away from trees and shrubs, not only because of shade, but also because they compete for soil moisture and plant nutrients. Ideally, your garden should be at least 75 to 100 feet away from any trees, especially from any walnut or nut trees.

2. Check the Soil: Fruits and vegetables grow best in well-drained, fertile soil. Improving drainage and soil structure can help poor soil. Organic matter (compost, peat moss, manure, and decayed ground bark) mixed with tight soils will open them up and improve drainage. It is very important to complete a soil test if the land being used has not been previously tested. For more information on soil testing contact your county UW Extension office. Note: If working with young children, it is especially important to check for lead in the soil.

3. Needs Sun: At least six hours of full sunlight daily is necessary to produce healthy, top-quality vegetables. If the best, well-drained location has some shade, locate cool-season crops, such as lettuce, radishes, carrots, and cabbage, in partial shade. Full sun is needed to grow such crops as sweet corn, snap beans, tomatoes, and peppers.

4. Water Supply: Water is one of the most important needs of a garden. Make sure an adequate water supply is nearby. Water generously once per week with a 1-inch application. You can set out a watering can, with a one inch mark inside, to collect sprinkler water. That way you will know when you have watered appropriately. Last, if your garden plot is located near a garage, you can collect rainwater from the eave spouts. If you use this as your main water source, be sure to have your water tested every 5 years or so.

5. Think Size: Your garden's size depends on the kind and amount of vegetables desired, land availability, and your time commitment. A manageable size for a garden is 100 square feet, but smaller or larger spaces can be used. Make sure that your first garden is not TOO BIG!

6. Map it Out: Make a garden map, plan or graph so that after the growing season you will know where not to plant your fruits or vegetables the following year. Crop rotation helps cut down on the spread of diseases, especially for the cabbage family and tomatoes.



suggested fruits & vegetables for container raised bed gardens

- a. Beets
- b. Carrots
- c. Cucumbers
- d. Eggplant
- e. Green Beans
- f. Kohlrabi
- g. Lettuce
- h. Onions
- i. Peppers
- j. Radishes
- k. Summer Squash
- l. Spinach
- m. Swiss Chard
- n. Tomatoes

Get Seeds & Tools



Selecting Seeds for Planting

overall suggestions

- Buy seeds early in the year (January through March) for the best selection.
- Select seeds based on time of maturity (how long they need to grow), and disease tolerance. This information should be on the package label.
- To ensure germination, purchase new seeds every year.
- Some seeds may have been chemically treated and will be labeled as such. Make sure to wash your hands following the handling of the treated seeds.
- Purchase new seeds every year. However, if you do choose to save seeds from the vegetables in this year's garden, make sure to store them in a closed container for next year. If using saved seeds, make sure to pre-test a few of the seeds for germination. In order to do this, moisten a plain white paper towel and fold it in half. Place a few seeds on $\frac{1}{2}$ of the paper towel and then fold it in half again. Place the paper towel in a plastic sandwich bag, close the bag, and store it for a week to ten days. Then remove the paper towel from the bag and see how many seeds have sprouted.
- Choose varieties marked "easy to grow".

quick tips

1. **Look for Purity:** For the best results, buy quality seeds from a reliable dealer.
2. **Check Packages:** Seeds sold in packages should show the crop, cultivar, germination percentage, and chemical seed treatments, if any.
3. **Check Storage:** Seeds should be kept in a cool and dry place to ensure good germination at planting. Paper packets are best kept in tightly closed cans or jars until seeds are planted. Laminated foil packets ensure dry storage.
4. **Hybrid Seeds:** Hybrid seeds often cost more than the seeds of non-hybrid cultivars. However, hybrids tend to have better uniformity, yields, and increased disease-specific resistance.
5. **Saving Seeds:** Some gardeners save seeds from the previous growing season. This requires knowing how to select, produce, handle, and store the seed.



For additional information on seed saving, visit:

<http://infosource.uwex.edu>

[www.extension.umn.edu/garden/yard-garden/](http://www.extension.umn.edu/garden/yard-garden/vegetables/saving-vegetable-seeds/)

[vegetables/saving-vegetable-seeds/](http://www.extension.umn.edu/garden/yard-garden/vegetables/saving-vegetable-seeds/)



Tools and Other Items Needed for Your Garden

the necessities

- a. Rake
- b. Shovel
- c. Garden hoe

other accessories

- Small hand trowels
- Watering cans
- Turning fork
- Small buckets
- Plant labels or row markers
- Rope or twine to mark rows if planting in straight rows
- Garden hose
- Lawn sprinkler
- Wheelbarrow



quick tip

The Baraboo High School FFA started several plants in a school greenhouse. FFA would sell the started plants for a minimal cost at the beginning of the planting season. Check your local high school to find out if there are students involved with starting plants indoors. You may be able to purchase these plants.



— Beth Kramer,
Sauk County, Master Gardener

Prepare the Soil

A Word about Wisconsin Soil

Some soils in Wisconsin are "heavy" because of high amounts of clay particles. These fine-textured soils hold lots of nutrients, but do not drain well and take longer to warm up in spring. Most of these soils also have a higher pH, which means the soil is more alkaline (basic) than acidic. Soil pH is an important factor, as some plants prefer more acidic "sour" soil, while others prefer more alkaline "sweet" soil. Soil can have a pH value of 7 (soil pH ranges from 0 to 14), meaning the soil is neutral, which is neither acidic or alkaline. Soils should never be tilled when wet or they will clump. In order to test the soil, grab a handful of soil and squeeze it between your thumb and forefinger. If it crumbles, it is dry enough. If not, your soil is too wet and it may be too soon to start "working" your garden.

The Ultimate Garden Soil

The ultimate garden soil is deep, loose, fertile, well drained, slightly acidic (pH of 6.2 to 7.0), and has lots of organic matter. Most garden soils don't meet all these requirements. So it is a good idea to try to improve your soil to the best of your abilities.





How to Improve Your Soil

kinds of soil

There are several types of garden soils, which range from sandy to clay.

test your soil

Getting a soil test is one practical way to know the nutrients your soil may need and whether your soil's pH is too low, high, or just right. The soil test helps you determine if you need to add lime (for low pH) or elemental sulfur (for high pH). For more information on soil testing, contact your county UW Extension office. Also, a pH indicator can be purchased from a local garden center. The pH for an ideal garden is around 6.8.



For more information on soil testing visit these websites:

- UW-Extension Office (county) : www.uwex.edu/ces/cty
- The Soil and Plant Analysis Lab <http://uwlabs.soils.wisc.edu>

add organic matter

To yield quality fruits and vegetables, garden soils need lots of organic matter. You can improve soils by adding organic matter. Organic matter helps create good crumb-like soil structure. This helps for better water and air movement and easier root penetration. The key to improving either sandy or heavy soils is to add organic matter frequently. Types of organic matter include rotted manure (aged), leaves, grass clippings (from a non-chemically treated lawn), compost, green manure, crop residues or peat moss. Add about 1-4 inches of organic matter over the soil. Then, blend the organic matter into your soil at least six inches deep. The best time to add organic matter is in the fall, after the previous growing season, when soils are reasonably dry. If you add it in the spring, make sure the soil is dry enough and work it in right away.



if I do container or raised bed gardening, will I get a good crop?

Raised bed and container gardening is a great way for anyone to get started gardening, and is particularly well suited for school gardens where space may be at a premium. You can get a great harvest in containers and raised beds. In fact, yields are often superior in raised beds compared to standard in-ground gardens. The key to good harvests with any gardening method is enough (not too much) fertility and water and plenty of direct sunlight. Containers will need to be watered more frequently than raised beds or in-ground gardens. Depending on the crop, a good rule of (green) thumb for container soil is $\frac{1}{4}$ compost, $\frac{1}{2}$ peat moss, $\frac{1}{4}$ soil with some vermiculite mixed in to keep it fluffy. Raised beds can be filled with $\frac{1}{4}$ compost and $\frac{3}{4}$ rich topsoil. Top dress heavy feeding crops like corn, squash, and tomatoes with compost when the plants are fruiting and add additional compost before each new season to maintain optimum harvests and to keep the beds and containers filled with soil.



— Mark Voss
teacher and organic market gardener

Start Your Garden



finding the best time to start your garden

In Wisconsin, the start of the growing season can vary greatly, depending on the weather. Sometimes, seeds requiring longer growing seasons may be started indoors to ensure a crop before fall's harvest. If this is the first time you have gardened, you may see better results with purchasing vegetable plants that have already been started.

Timeframe For Starting Your Garden

1. Timeline for Your Garden: When should you start your garden? That depends on where you live in Wisconsin. To find out when you can start planting, check the University of Wisconsin Horticulture Department's website at <http://learningstore.uwex.edu/assets/pdfsA1653.PDF> for their Planting Guide for Wisconsin Gardens. It gives anticipated start dates for most areas of the state. An important point to remember is that some vegetables grow best in cool temperatures, while others require warm soil and air.

2. Getting Ready to Plant in the Garden: If you purchase plants, they will have to be "hardened off" prior to planting them in the garden. Hardening off plants first reduces severity of "transplant" shock and gives them a better chance of survival in the garden. Gradually introduce the starter plants to outdoor growing conditions by setting them outside for short periods of time about 7 to 10 days before planting in the garden. Place the plants in a shady, protected location outdoors. Be aware of spring frosts and move plants indoors if the forecast calls for temperatures below 40 degrees. A cold frame is another way for getting plants used to the weather. A cold frame is like a miniature greenhouse. It is an unheated plastic or glass covered box that is heated by sunlight. A cold frame is ideal during spring weather when sudden drops in temperature can occur. You can construct your own cold frame by using a couple of bales of hay, straw or a wood frame for the sides and an old storm window for a top/cover.

3. Planting in the Garden: The best time to transplant started plants into the garden is in the late afternoon or during a cloudy day. Newly planted vegetables can be protected from the bright sun by boards or floating row covers. Plastic row covers are not recommended. They can actually cook seedlings too easily.



a few things to consider

1. Buying or Growing Transplants: Many crops need to be started early indoors or in “cold frames” and later transplanted to the garden. This head start allows a crop that needs a long-season to grow the ability to mature before frost in the fall. Some gardeners start their own seeds indoors. Others find it easier to purchase plants from garden centers and greenhouses. If buying, be very selective by choosing the dark green, stocky plants over leggy, yellow, weak ones.

2. Remove Any Fruit: Prior to planting, make sure to remove any fruit. If fruit is left on the plant, the nutrient resources will go towards the fruit and not into developing a strong, adequate root system (which will in the long run, help produce more vegetables).

3. Setting Transplants into the Garden: The main goal is to avoid root disturbance as much as possible. Try to transplant late in the afternoon or during a cloudy day. Protect newly set plants with light shade during bright days for the first 3 to 5 days. If planting early in the spring, you may want to consider covering plants to avoid damage from frost. When using a covering, be sure to provide some ventilation so the heat generated from the sun does not “cook” your plants. Water the transplants the day before you are planning to plant them into the garden. If you have individuals helping to plant that smoke, make sure they wash their hands or wear gloves prior to handling any of the transplants.



how do I protect my garden from frost?

One of the best ways I have found is to use floating row covers to cover plants whenever there is a threat of frost. These fabrics are light weight, easy to fold and store, and are available through most seed catalogues.



— Bill Wright
Community Garden Coordinator
Brown County UW-Extension



4. Planting Garden Vegetables:

Check the Year's Planting-to-Harvest Schedule: The University of Wisconsin Extension releases a planting schedule prior to the growing season each year. You can read it and make a copy at: <http://cecommerce.uwex.edu/pdfs/A1653.PDF>. It is also important to pay particular attention to the weather. If the ground is still cold, you may want to wait to plant. You may begin planting when there have been at least 4 or more consistent days above 65 degrees with sun.

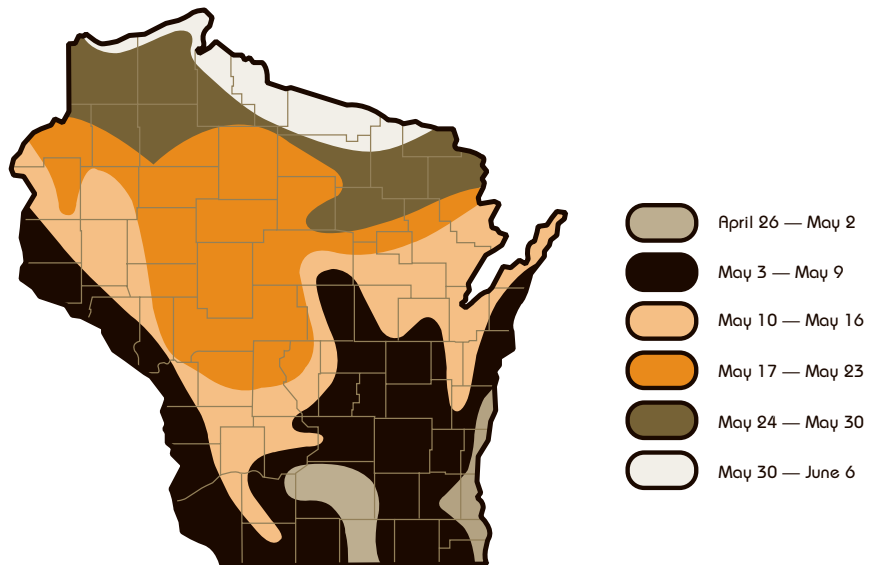
Use the table (at right) to help you decide the best time to plant your garden. Since the weather varies by region in Wisconsin, you may want to plant 1 to 2 weeks later if you are along the lower lakeshore or central part of the state. Plant 2 to 3 weeks later in northern Wisconsin counties.

5. Watch for Frost: Pay attention to frost warnings. Frost can destroy newly-planted fruits and vegetables. Plant your garden after the frost has subsided. If you have planted already and there is still a chance of frost, protect your plants by covering them with cloth, plastic, newspaper, or straw. Mulch around plants can also help trap heat in the soil to prevent freezing. Some vegetables tolerate frost and cold temperatures better than others do. If there is a chance of frost, plant "tolerant" fruits and vegetables.



For Additional Resources Regarding Frost, visit:
University of Wisconsin Extension Infocource:
<http://learningstore.uwex.edu/pdf/A1653.PDF>

typical dates of last spring killing frost





Fruit/Vegetable	Plant Date Madison, WI	Seed or Plant	Days until 1st Harvest
Asparagus	April 15	Seed	1-2 years
Bean, bush (snap)	May 10	Seed	50-60 days
Bean, pole (snap)	May 10	Seed	60-65 days
Beet	April 15	Seed	50-60 days
Broccoli	May 1	Plant	60-70 days
Brussels Sprouts	May 15	Seeds	90-100 days
Cabbage (early)	May 1	Plant	60-70 days
Cabbage (late)	May 15	Seeds	90-100 days
Carrot	April 15	Seeds	60-70 days
Cauliflower	May 1	Plant	50-60 days
Celery	May 20	Plant	100-110 days
Collards	June 20	Seeds	60-85 days
Corn	May 10 or May 2*	Seeds	65-90 days
Cucumber	June 1	Seeds	38-55 days
Eggplant	June 1	Plant	70-80 days
Endive	June 25	Seeds	90 days
Kale	June 25	Seeds	50-70 days
Lettuce (head)	May 1	Plant	60-70 days
Lettuce (leaf)	April 15	Seeds	40-50 days
Muskmelon	May 20	Plant	80-90 days
Okra	June 1	Plant	50-60 days
Onion	May 1	Plant	110-120 days
Onion, sets	April 15	Plants	40-50 days
Pea	April 15	Seeds	60-70 days
Pepper	June 1	Plant	60-70 days
Potato (early)	April 15	Seeds	80-100 days
Potato (midseason)	April 15	Seeds	100-120 days
Potato (late)	April 15	Seeds	120-140 days
Pumpkin	May 10 (Seeds)	May 20 (Plant)	90-110 days
Radish	April 15	Seeds	25-30 days
Rhubarb	April 15	Seeds or Crowns	1 year
Rutabaga	June 15	Seeds	100-110 days
Spinach	April 15	Seeds	40-50 days
Squash, summer	May 20-June 1	Seeds	50-60 days
Squash, fall	May 20 - Early June	Plants	90-120 days
Tomato	May 20 - Early June	Plants	65-80 days
Watermelon	May 20-June 1	Seeds	75-90 days



cool & warm season crops

Cool season crops can be planted when the ground temperature is around 50 degrees; warm season crops are planted when the ground is at 60 degrees.

cool season crops:

beets
carrots
peas
lettuce
chard
mustard
greens
cabbage
broccoli
brussel sprouts

warm season crops:

corn
beans
squash
pumpkins
peppers,
eggplant
melons
cucumbers

*depends on variety

Planting



Different Ways to Plant Your Garden

There are several different ways that you can plant your garden. Here are some examples:

1. Straight-Row Furrows: Although straight-row furrows are not the most efficient use of space, they make cultivation, insect control, and harvesting easier. To plant a straight-row furrow, first stretch a tight cord or rope between stakes at each end of the row. A 1 1/2 to 2-inch furrow can be made using the blade of a garden hoe. Use this method when planting large seeds, such as beans and corn. The handle of a garden hoe can be used to make 1/4 to 1/2 inch shallow furrows for small-seed crops such as lettuce, beets, carrots, etc.

2. Wide Row Planting: This method involves scattering seeds across a wide row to produce greater yields of smaller vegetables. This allows for a more efficient use of sunlight, space, and soil nutrients. Set your wide row by drawing a rake over the ground. Seeds can be planted in 4-to-24 inch wide bands, rather than rows. The bands reduce the chance of malformed roots. Some thinning is required during the growing season to ensure quality vegetables. Careful hand weeding is required. If using a raised bed, plants such as broccoli, tomatoes, peppers, and eggplant can be set closer together than in a typical straight row format.

quick tip

"Keep in mind that a garden cannot be planted in one day. Some fruits and vegetables grow best in cooler temperatures, while others require warm soil or hot air"

— Iowa State University Extension





3. Square-Foot Gardening: Similar to the wide-row planting method, extra hand weeding may be required. However, this method is a very efficient use of garden space. Instead of planting in rows, the garden is divided into squares that are 1 foot by 1 foot (1' X 1'). The number of plants in each square depends on the variety, how big the plant will get, and how far apart it needs to be from other plants in order to develop properly.

4. Hill Planting: This method is most commonly used for vine crops, such as squash, melons, and cucumbers. Hills let the roots range out from a central growing point, which helps the plant obtain more soil nutrients and water. Begin by raking dirt into a round hill that is raised from the ground, creating a 12-inch circle. Next, plant 4 to 5 seeds. Later, when the plants begin to grow, thin the hill to no more than 3 plants. Raised mound plantings are not highly recommended for the entire garden, as the soil will dry out much more quickly than if it were level. This can result in poor germination.



For an Additional Resource on Special Planting Techniques visit:
University of Wisconsin-Extension:
Specialized Gardening Techniques (publication):
<http://cecommerce.uwex.edu/pdfs/A3384.PDF>



how often should you water your garden?

Most gardeners use the 1 inch of water per week rule. Unfortunately, it is a bit more complicated because temperature, wind, soil, mulch, sun/clouds, and plant variety all need to be considered. Most gardeners monitor the soil and determine that the plant needs water when the soil appears to be dry. The key is to check the soil about an inch or two below the surface. Too much water will leach out the much needed nitrogen fertilizer and excessive water could actually suffocate the plants by depriving the roots of oxygen.



Dennis Lukaszewski, RLA
UW Extension Service, Milwaukee County

Caring for the Garden



general upkeep

1. Thinning Seedlings: Once your seeds have begun to sprout and grow in the garden, pull out the extras to provide growing space for the remaining plants. Make sure to remove the extras when the plants are still small, before they compete with others for light, air, and water. When fruits and vegetables grow too close together, the plants growth may be stunted, root crops become distorted, and vine crops grow poorly due to self-shading.

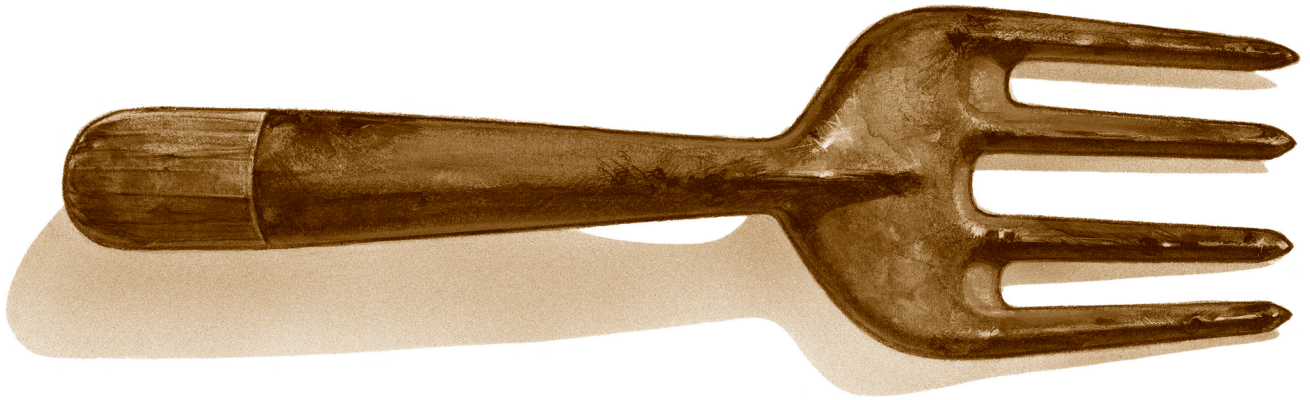
2. Weeding: If you keep weeds out of your garden, you'll have a better harvest! Weeds compete with your plants for water, light, and nutrients. Weeds also encourage insects and diseases that attack your garden plants. Mulch and cultivation can help keep the weeds in your garden under control. Use organic materials such as grass clippings (from a non-chemically treated lawn) or a good weed-free straw, specifically clean wheat or rye straw as means for controlling weeds in your garden. Old newspapers combined with a top layer of grass clippings can be placed around and in between plants to provide an excellent barrier for weeds. The coarser the material, the thicker the layer of mulch.

quick tip

Check the Weather Forecast! Many weather websites offer a Gardener's Local Forecast. Check here www.weather.com/activities/homeandgarden/garden/ and enter your zip code to find out if you'll need to water your garden today.



9
Steps



3. Watering: The best time to water is in the early morning or early afternoon. This allows for the leaves to dry off before nightfall, reducing the chance for disease. Drip irrigation or soaker hoses can be used to keep plants dry during watering, which also reduces the chance of disease infection. However, drip irrigation can be done anytime during the day if used under newspaper, straw, or grass mulch. Some plants, like tomatoes, do not like their leaves wet. In this case drip hoses work especially well. Note: Watering between 10:00 am and 2:00 pm could burn the plants, unless it is an overcast or cloudy day.

4. Garden Fertilizer: An inorganic garden fertilizer can be used according to your soil test. If you did not get a soil test, a rule of thumb would be to use 2-3 pounds per 100 square feet. It is best to determine which type of fertilizer you need based on the results of your soil test. Follow label directions for application of fertilizer.

5. Adding Organic Matter: "Organic Matter" provides nutrients for plants. Plants take food from the soil as they grow, so organic matter needs to be applied yearly. Some organic matter sources include: well-rotted cow or horse manure, compost made from tree leaves, lawn clippings (without chemicals), garden refuse (disease-free), green manure, and other organic residues. It is important to keep in mind that some fruits and vegetables are "heavy feeders" (i.e. corn and tomatoes), while others are not (i.e. green peppers). It is best to incorporate organic matter in the fall or early spring, as you prepare the garden soil.



how do I keep the weeds to a minimum in my garden?

At the Ho-Chunk Youth Fitness Garden, we found that a layer of leaf mulch did a great job of keeping the weeds down; especially around the squash, pumpkins, and vine plants.

— Roxanne Lane
Master Gardener
Sauk County



6. Integrated Pest Control Management

- a. **Purchase Quality Seeds & Plants:** Start by selecting healthy plants or seeds from reputable seed companies and nurseries. There are several different disease-resistant varieties of seeds you can purchase.
- b. **Plant Spacing:** Leave plenty of distance between plants to provide air movement, which reduces the chances for diseases to begin.
- c. **Plant Appropriately:** Setting plants out too early or late can make them weak and more susceptible to a pest attack.
- d. **Set up Barriers:** Use physical barriers between the plants and the pests by using row covers or nets that allow the sunlight and water to penetrate, but keep out pests. The barrier DOES have to be in place before the pest appears. Remember to remove the barriers during the blossoming stage so that insects will be able to pollinate the plants.
- e. **Pick the Pests:** Hand-pick and destroy insect pests.
- f. **Prevent Weeds:** A layer of mulch helps to control weeds and conserve soil moisture. A garden full of weeds is a major attraction to pests!
- g. **Learn to Look:** Monitor your garden weekly for any new pests. Regularly inspect your plants and their leaves for any trace of insect feeding, etc.
- h. **Keep it Clean:** After you have harvested everything from your garden, discard any diseased plant material from the site. Remove debris as soon as possible, as many pests will remain over winter in or under dead plant material. Plow or till the garden in the fall.
- i. **Rotate Crops Next Year:** Move crops to different garden locations each year to reduce buildup of plant-specific pests in the soil.



For more information for controlling diseases in your garden, visit the following websites:

- The Insect Diagnostic Lab, UW-Madison, Department of Entomology: www.entomology.wisc.edu/entodiag.html
- The Plant Diseases Diagnostic Lab, UW-Madison, Dept. of Plant Pathology: www.labs.russell.wisc.edu/insectlab
- University of Minnesota Extension Service: Controlling Diseases in the Home Vegetable Garden www.extension.umn.edu/gardeninfo
- Ohio State University yard and garden pest information: <http://ohioline.osu.edu/hyg-fact/2000/>



how can I engage youth in gardening?

Getting youth interested in gardening is easy — just provide a safe location, a hand trowel, some seeds and plants, and a volunteer to show them what to do — kids love learning how to grow things. Start small, either with a container garden or a small raised bed no larger than 4 x 4 feet. Square foot gardening is a technique that works well with kids. Have them map out their one foot squares and choose which plants they want in each square, then have them post their map at the garden while they plant. Caring for their garden and watching it grow will be a delight.



— Patti Nagai
UW Horticultural Agent,
Racine County

7. Keep the Beneficial Insects: Over 90% of insects around the garden are harmless to people and plants. Without the help of these “beneficial insects”, most plants would be overrun with pest insects every year. These beneficial insects feed on many different pest species. Furthermore, several of these beneficial insects are pollinators. With more pollination taking place, more high quality fruits and vegetables can be produced. To keep beneficial insects around your garden, limit or eliminate pesticide use. Consider leaving flowering weeds around the garden (i.e. dandelions and clover) to provide alternate nectar sources for pollination. To have beneficial insects attracted to your vegetable garden, be sure to add some flowers and herbs. Examples of annual flowers that attract pollinators include Alyssum, marigolds, nasturtiums, dill, and cosmos.

8. Mulching: Mulching with untreated, chemically free grass clippings, leaves, or straw in late June provides several benefits. The mulch will help to suppress weeds, conserve soil moisture, prevent compaction of soil by heavy rains, and add more organic matter to your soil.



For Additional Resources on Composting:

- Wisconsin Department of Natural Resources: Recipes for Composting: http://dnr.wi.gov/org/coer/ce/ee/earth/recycle/compost_waste.htm
- Iowa State University Horticultural Guide: Composting Yard Waste www.extension.iastate.edu/Publications/PM874.pdf



For Answers to General Gardening Questions, Visit These Websites:

- University of Wisconsin Urban Horticultural Website <http://hort.uwex.edu/>
- University of Wisconsin Extension-Milwaukee County Yard & Garden Line (Milwaukee County Residents only) <http://milwaukee.uwex.edu/horticulture/horticulture-help-line/>

Harvest Time



so, when is it a good time to pick?

Asparagus: Pick when the spears are 6 to 8 inches tall, and before the tips begin to open. Cut or break off stems at the soil line.

Beans (Snap): Pick when the pods are almost full size, but before the seeds begin to bulge. Never pick beans that are wet or have dew on them.

Beets: Pick the greens when the leaves are 4 to 6 inches long. If you want to use the tops or small beets, pick when the beets are 1 to 1 1/2" in diameter. If you want to use the roots only, pick when the roots are 1 1/2" to 3" in diameter.

Broccoli: Pick when flower heads are fully developed, but before flower buds start to open. Cut 6 to 7 inches below the flower heads.

Brussels Sprouts: Pick when sprouts at base of plant have become solid. Remove sprouts (buds) higher on the plant as they become firm, but do not strip the leaves, as they are needed for further growth. They tend to taste better if harvested after the first fall frost.

Cabbage: Pick when the cabbage head has become solid. Leave older leaves, stems and roots to produce small, lateral heads later in the season.

Carrots: Pick when roots are 1/2 to 1 inch or more in diameter. If you want to store carrots, pull them just before the ground freezes in the fall.

Cauliflower: Pick when curds (flower heads) are 6 to 8 inches, but still are compact, white, and smooth. Curds that are exposed to sunlight become cream colored, rough, and coarse in texture. Therefore, cover curds when they are 3 to 4 inches across by tying the outer cauliflower leaves loosely above the curds.

Celery: Pick when the plants become 12 to 15 inches tall. When the plant is still young and tender, the lower leaves (8 to 10 inches long) may be removed from a few plants and used in salads, soups or cooked dishes.

Chard: Break off new leaves at the ground level as they appear in early spring. Pick the tender leaves throughout the season.

Collards: Pick by breaking off outer leaves when they are 8 to 10 inches long. New growth from the center of the plant will provide a continuous harvest throughout the growing season.

Cowpeas/Black-Eyed Peas: Pick when seeds are near full size, but still bright green. Dry seed can be used for cooking, baking, or in soups. Pick dry seeds when they are full size and dry.

Cucumbers: Pick burpless cucumbers when they are 10 to 12 inches long. For sweet pickles, pick cucumbers when they are 1 1/2 to 2 1/2 inches long. For dill pickles, pick when the cucumbers are 3 to 4 inches long. For slicing, pick cucumbers when they are 6 to 9 inches long and are bright green and firm.

Eggplant: Pick when eggplant is about 4 to 6 inches long, but still firm and bright in color. Older eggplants may become dull in color, soft and seedy.

Endive: Pick when plant is 10 to 12 inches across and after blanching the center leaves of the plant by covering or tying loosely to exclude light for 2 to 3 weeks.

Steps



how to use the produce

Growing Vegetable Soup

A great garden book for children preschool to age 8 that explains the process of growing and using vegetables.

www.uwex.edu/ces/wnep/specialist/nfl/mmpds/9809a.pdf

Produce Oasis

For information on how to prepare and/or cook fruits and vegetables, visit:

www.produceoasis.com

Choose My Plate, Versatile Vegetables: Provided by the United States Department of Agriculture, this valuable handout provides tips on how you can meet the current recommendations for daily consumption of fruit and vegetables.

<http://choosemyplate.gov/food-groups/downloads/TenTips?>

[DGTipsheet1ChooseMyPlate.pdf](http://choosemyplate.gov/food-groups/downloads/TenTips?)

Storing Fruits and Vegetables

This document provides tips on selecting, storing, and preparing fruits and vegetables. For more information, visit the University of Wisconsin-

Extension Learning Store at: <http://learningstore.uwex.edu>.

[Storing-Fruits-and-Vegetables-from-the-Home-Garden-P1052.aspx](http://learningstore.uwex.edu/learningstore/subject/Storage/Store/Fruits-and-Vegetables-from-the-Home-Garden-P1052.aspx)

Garlic: Pull the garlic when tops begin to bend over or die.

Gourds: For eating, pick gourds when they are 8 to 10 inches long, young and tender. For decoration, pick when gourds are mature and fully colored, but before the first fall frost. Also, you'll know a gourd is mature if a finger nail doesn't leave a mark on them.

Horseradish: Dig up roots in the late fall or early the following spring.

Kale: Break off outer leaves when they are 8 to 10 inches long. New leaves will grow from the center of each plant for harvest throughout the growing season.

Kohlrabi: Pick when bulbs (thickened stems) reach 2 to 4 inches in diameter; depends on variety.

Leeks: Pull when leeks are 1 to 1 1/2 inches in diameter and before the ground freezes.

Lentils: Pick when lentil pods turn yellow. Mature seeds can be used in soups.

Lettuce: If growing leaves, pick when outer, older leaves are 4 to 6 inches long. If growing heads, pick when it is moderately firm and before seed stalks start. Leaves taken from either leaf or head lettuce can be harvested once the leaves are 4 to 6 inches long. New leaves provide a continuous harvest throughout the growing season, until hot weather may bring a bitter flavor and seed stalks begin.

Mushrooms: If growing edible mushrooms, pick when the mushroom is 1 to 2 inches across, but before the cap separates from the stem.

Muskmelon: Pick when the base of the fruit stem begins to separate from the fruit. The fruit is almost ripe when the separation begins, but will be fully ripe when a crack appears completely around the base of the fruit stem.

Mustard: Pick when outer leaves are 8 to 10 inches long. New leaves will provide continuous harvest, until flavor becomes too strong and the leaves become tough in texture from hot weather. Seeding again in late summer will provide for a crop with a milder flavor and tender texture.

Okra: Pick when young and tender pods are 3 to 4 inches long, but still bright green.



good time to pick continued...

Onions: For green onion sets, pick when onions are 6 to 8 inches tall. Harvest any with round, hollow seed stalks when they appear. Continue harvesting onions until all are used. Mature onion sets do not store well. If planted from seeds or plants, harvest when tops fall over and begin to dry. Pull with tops on and dry them in a protected place, cutting tops 1 inch above bulb for further drying.

Parsnips: Pick in very late fall, after early frosts, and in very early spring before growth starts. If roots are to be left in the soil over the winter, cover after early frosts with 3 to 5 inches of soil to avoid injury from alternate freezing and thawing.

Peas: Pick when pods are fully developed, but still green. Edible pod peas can be picked when pods reach near full size (about 3 inches) and before seeds show appreciable enlargement. If you only want seeds for eating, pick peas when seeds are fully developed, but pods are still fresh and bright green. For Sugar Snap and Sugar Ann peas, pick when the pods are filled out.

Peppers: Pick when peppers are firm, good size, and appropriate in color. In 2 to 3 weeks "mature" green peppers will be fully ripe (green will change to red).

Potatoes: Pick when tubers are full size and skin is firm. "New" potatoes can be harvested at any size, but generally after the tubers are 1 1/4 to 1 1/2 inches in diameter. If you plan to store your potatoes, it is best to wait for the top of the plant to die, then dig up the potato.

Pumpkins: Pick when fruits are full size, the rind is firm and glossy, and the portion of the pumpkin touching the soil is cream or orange in color.

Radichio: Pick in fall, after the first frost for the best flavor. The burgundy red leaves with white midribs should be folded to resemble a small, loose, head of cabbage.

Radishes: Pick when 1 to 1 1/2 inches in diameter.

Rhubarb: Pick when stalks are 8 to 15 inches long. Flavor and tenderness are best in spring and early summer. Harvesting from well established plants may be continued throughout the season; may want to pull all leaves present just before the first fall frost.

Spinach: Pick when larger leaves are 6 to 8 inches long. Pull larger, whole plants from the row until you harvest all plants. Spinach that is planted in early spring goes to seed when the days get longer. If spinach is planted in early August, it does not usually go to seed during the shorter days of fall.

Squash: Pick winter squash when it is full size, the rind is firm and glossy, and the portion of the squash touching the soil is cream to orange in color. Pick summer squash when 6 to 10 inches long.

Sweet Corn: Pick when kernels are fully rounded, but still filled with milky juice. Harvest about 21 days after silk appears. Pull each stalk once the last ear of corn has been harvested.

Sweet Potatoes: Pick in late fall, but just before the first early frost. Make sure to dig up carefully to avoid cuts, bruises, and broken roots. Use smaller, younger roots soon after harvest, as sweet potatoes typically do not store well.



other helpful resources

University of Wisconsin
Urban Horticulture Website
www.hort.uwex.edu

Harvesting Vegetables from
the Home Garden
UW-Extension Publication
[www.learningstore.uwex.edu/
pdf/A2727.PDF](http://www.learningstore.uwex.edu/pdf/A2727.PDF)

Freezing Fruits and Vegetables
UW-Extension Publication
[www.learningstore.uwex.edu/
pdf/B3278.PDF](http://www.learningstore.uwex.edu/pdf/B3278.PDF)

Safe Canning Methods
UW-Extension Publication
[www.learningstore.uwex.edu/
pdf/B2718.PDF](http://www.learningstore.uwex.edu/pdf/B2718.PDF)

Canning Vegetables Safely
UW-Extension Publication
[www.learningstore.uwex.edu/
pdf/B1159.PDF](http://www.learningstore.uwex.edu/pdf/B1159.PDF)

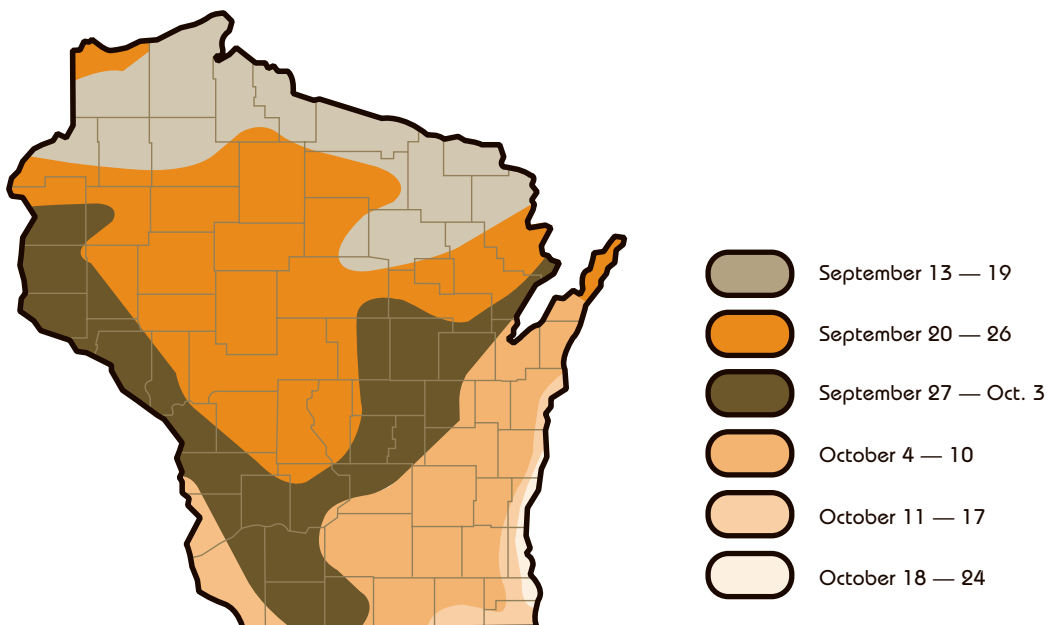
Tomatoes: Pick when fruits are fully colored. For fully ripe tomatoes, leave completely red fruits on healthy plants for 5 to 8 days during the warm, sunny days of August and very early September. Pick only fully ripe tomatoes for juice or canning to ensure full flavor, good color, and maximum sugar content. Tomatoes will ripen indoors if picked at a mature green stage or when some color is showing.

Turnips: Pick when roots are 2 to 2½ inches in diameter, but before heavy fall frosts.

Watercress: Pick tips of stems 6 to 8 inches long, especially in spring and fall. This is when leaves and stems are fully developed but still bright green and tender.

Watermelon: Pick when watermelon is full size, dull in color, and the portion touching the soil turns from greenish white to cream. The tendrils nearest a melon will curl and dry up when a melon is ripe.

typical dates for first fall killing frost



Map information provided courtesy of Wisonline® www.wisonline.com. Used by permission.

Preparing for Next Year

8 Steps



During the Growing Season

try composting

Compost, which is decomposed organic material, can be used in many different ways including as a soil amendment to add nutrients to your soil, as mulch around plants, or as an ingredient in potting soil. Furthermore, it can help fight disease, neutralize the pH of your soil, improve soil, protect against soil erosion, hold moisture, and help moderate soil temperature. To begin composting, find an area of level, bare ground near a water source. After choosing a place or container to store your compost, mix $\frac{1}{3}$ "green" and $\frac{2}{3}$ "brown" materials. Examples of "green" materials include grass clippings (from a chemical-free lawn), vegetable/fruit scraps, coffee grounds, weeds and other garden debris, feathers, hair, manure, or egg shells. Examples of "brown" materials include dry leaves, hay or straw, paper, cardboard, or dried grass clippings. Sawdust and small brush or twigs should be stored in a separate pile than the compost pile, as they tend to take longer to decompose. A sawdust or small brush pile can take up to 10 years or longer to fully decompose.

After the Growing Season

removing spent vegetable plants

Once the plants in your garden have stopped producing fruits and vegetables, entirely remove it from your garden. For example, remove all the cucumber, pumpkin, and squash vines in your garden. You can compost these spent plants, if they have not been infected by disease or insects.

add organic matter

You can improve soils by adding organic residues. Organic matter helps to create good crumb-like soil structure. This allows for better water and air movement and easier root penetration. The process of decomposition using organic residues is what helps loosen heavy soils. The key to improving "heavy" soils is to add organic matter frequently. Types of organic matter that you can use include rotten manure (aged), leaves, grass clippings (from a non-chemically treated lawn), compost, green manure, crop residues or peat moss. It is best to "dig" the organic matter into your soil at least six to eight inches deep. The best time to add organic matter is in the fall, after the previous growing season. This is when soils are reasonably dry. Plant a cover crop in the fall, such as annual rye, that can be tilled into the garden soil the next spring.



till it up

Tilling can be done mechanically via a rototiller or by hand using a spade or fork. Turning soil over and exposing the lower portion helps bury surface residue so microorganisms can decompose it. If left on the surface, crop residues act as an insulator and will slow the soil warming the next spring. If you take extra time to prepare your soil in the fall, it will make it easier come spring for next year's garden. Remember to NEVER, EVER TILL or work the soil when it is wet. If you do, the soil will form large clumps and balls and it will take even more time to create workable soil.

saving seeds

In general, it is not advised to save seeds from fruits and vegetables grown in the garden. Home-saved seeds of some crops can carry disease and seeds from hybrids will not grow true again. Some vegetables can be stored over the winter and transplanted outdoors the following spring for seed propagation. These vegetables include: beets, cabbage, carrots, onions, and rutabagas. Some vegetable seeds may be successfully saved. These include bean, lettuce, pea, pepper, and tomato seeds.

additional gardening resources and tips

For additional information on gardening check with your local county UW-Extension office or local garden shops. They can help with all sorts of gardening questions you may have including pests and diseases that you may experience in your garden.



last minute gardening tips

1. Spread Out Your Rewards: Replant beds or rows in the garden when vegetables pass their prime. For example, once the lettuce is done producing, replace the row with green beans.

2. Not Sure About the Difference of Good & Bad Bugs: Collect a sample of insects that you think are doing damage. Take your sample to a Extension agent or a garden center for identification.

3. Don't spray insecticides when crops are flowering, because it may also kill the pollinating insects.

4. If using floating row covers, be sure to lift them off of the plants occasionally to allow pollinating insects a chance to do their job.

"In the end, plants want only four things: plenty of soil moisture, plenty of air in the soil, plenty of plant food, and plenty of sunlight"

— The Old Farmer's Almanac Book of Garden Wisdom

examples
AND
resources



community garden examples

Hunger Taskforce of La Crosse

By Linda Lee, Hunger Task Force Board Member, La Crosse, WI

Hunger Task Force members were seeing very low fruit and vegetable consumption among low-income families they served and sought to help get these foods on to low-income families' tables by providing them free of charge. As a result, the Kane Street Community Garden was started in 1999. We were looking for free land to site the garden on. After we made several requests to the parks department, the City of La Crosse stepped forward and offered a one-block parcel in a low income neighborhood on the north side of the city. Initially the Planning Department opposed the \$1/one-year lease the City offered to Hunger Task Force, but after seeing how it benefited the neighborhood, they eventually became supporters. The Kane Street Garden was initially supported through community donations. The first year of the garden we worked with the media to get the word out about the garden and were able to raise between \$4500 and \$5000 to pay for seeds, a part time coordinator, water and tools. After that, we approached the Community Development Block Grant Committee who now provides \$7500/year the Kane Street Garden and \$2000 for the Rotary Garden. The La Crosse Community Foundation has also provided 3 years of funding from 2000-2003 (\$10,000 each year) for the garden coordinator. Grant funding has also been received from the United Way for tools and other garden expenses.

The Kane Street Garden produced 40,000 pounds of fruits and vegetables in 2003 and nearly 20,000 pounds in 2004. The 2004 growing season was too wet so yield was down. A survey conducted with garden recipients in 2003 found people were receiving produce regularly from the garden, with an average of 5 to 10 pounds per week, and saved \$8.90 on their weekly food bill. They also ate more fruits and vegetables as a result of their participation in the garden.

The Rotary South Garden was started in 2002 in a low income south side La Crosse neighborhood to distribute healthy, fresh food to neighborhood residents. The Rotary approached the Hunger Task Force and Hamilton Elementary School (a school with more than 80% of its students on free/reduced lunch) as partners. The garden focuses on education and the surrounding neighborhood. Each Hamilton child has been to the garden several times each summer helping to plant, maintain and harvest produce. In 2003, the Rotary South Garden produced around 1,500 pounds of food; 4,000 pounds in 2004.

Children are involved at both gardens but primarily at the Rotary South Garden. They help plant, maintain and harvest produce. The children seem to enjoy coming to the garden and a number of the older children come back on their own or with their parents, not as part of an organized class. Hamilton Elementary School children came to the garden, as part of summer

school enrichment programming. The gardens could be used to teach math, language, science as well as teamwork and how to get along with others. Each year pumpkins from another La Crosse garden are donated to a teacher of 2nd grade children at Hamilton. He uses the pumpkins to teach math (counting seeds, pumpkins, etc), language (the children write about the pumpkins) and science (how the pumpkin grows). If children actually work in the garden together they can learn teamwork skills, as many tasks require people to work together rather than alone.

Each spring, volunteers are recruited from the general community and through volunteer events such as the University of Wisconsin-La Crosse involvement fair. The Hunger Task Force has a booth there to recruit volunteers. Hunger Task Force works with the media to publicize the need for volunteers. Furthermore, they try and keep volunteer work days at the garden consistent (i.e. Every Saturday from 9 to noon in April & May and every Monday & Thursday from 3:30-6:30 pm in July, August and September). Master Gardeners sometimes volunteer but have not been greatly interested. For several years now, AmeriCorps volunteers have come regularly to the garden as part of their service.

All in all, volunteers enjoy working at the gardens as evidenced by their returning a number of times over the course of the summer. Recipients of the garden produce are very grateful. This can all be attributed to the hard work of the Hunger Task Force staff and volunteers working at the garden.

Challenges

Challenges to creating a community garden include helping everyone to get along. People may have strong opinions about how to garden and this can often lead to disagreements (i.e. organic gardening versus using chemicals to reduce pests in the garden). Planning meetings are essential to ironing these issues out and reducing tempers.

Fundraising is also a challenge. La Crosse is a generous community, but it is always difficult to get your activity in the public eye and to get people to financially support it. Recruiting volunteers is not always easy. People are busy and it can be difficult to keep volunteers coming back regularly. Take advantage of organized groups such as church or civic youth groups, garden clubs, etc. Lastly, have a strong, committed steering committee to help plan and oversee garden activities. If possible, **hire a part or full time garden coordinator** for the day to day work-it is too much to ask a volunteer to do this unless the garden is quite small!

"One night when I volunteered there an older woman came up & took my hand & kept thanking me for the garden. She shared with me that her husband was gravely ill & she had just been diagnosed with health problems. They were living on a very limited income & money was tight. The garden gave them access to free fresh produce that they normally couldn't afford."

— Linda Lee

Ho-Chunk Youth Fitness Program

By Charmaine Garry, Pam Lathrop-Roets, and Richard Broerman, Baraboo, WI

The Ho-Chunk Youth Fitness Program (HYFP), as part of our mission to help youth and their families eat more healthfully and be more active, began planting a garden in Baraboo in 2002. It was such a success that after two years we re-located the garden so that it could expand.

All of the Ho-Chunk Youth Fitness Program youth and parents, with the help of Master Gardeners from UW-Extension, planted a garden as part of their summer class. During the summer session, the families had opportunities to attend weekly "Garden Nights" to plant, water, weed, and harvest fruits and vegetables. In addition, the youth and their families, with the help of Master Canners from UW-Extension, learned how to make freezer jams and can tomatoes. The program's garden had such abundance that they shared the excess with Ho-Chunk community members and a local food pantry.

Children and adults alike enjoyed the experience. With the variety of fruits and vegetables planted, some community members were able to taste fruits and vegetables that they had never tried before. Everyone agreed that fruits and vegetables that you grow yourself taste better than those purchased in a grocery store.



The Ho-Chunk Youth Fitness Program and garden, is funded by an Indian Health Service grant that aims to prevent the spread of type-2 diabetes in Native-Americans.

We encourage you to plant a garden as part of your classroom or program to help you reach your fruit and vegetable goal!

Troy Gardens Kids' Gardening Program

By Megan Cain, Madison, WI

Troy Gardens is a 26-acre land trust on the Northside of Madison. The land was rescued from development by neighbors who then facilitated a community process to create a plan for the land. Troy Gardens features a large community garden, youth gardens, handicapped accessible gardens, a community farm, woodland and prairie restoration, nature trails, and edible landscaping. On five additional acres adjacent to the open space area, the Madison Area Community Land Trust is building 30 units of affordable co-housing at Troy Gardens.

The Kids' Garden is currently a 4,000 sq. ft. garden that is tended by kids in the neighborhood. Elementary and middle school aged youth from local low income housing complexes visit the garden once a week in spring, summer and fall to learn how to plant, tend, harvest and prepare the food that is grown. At the beginning of the season the youth pick out small 4'x4' garden plots to share with one or two others and decide together what to plant in their gardens. Each time they visit the Kids' Garden they tend to their plots and their plants and experience the process of growing food. The rest of the garden is a shared space where youth plant theme gardens, such as a Rainbow Garden and a Pizza Garden, construct bean tunnels and sunflower houses, and plant watermelon, tomato, pumpkin and raspberry patches. Some of the most popular activities during the gardening season have been:

- a visit from local chickens to learn their role in the garden and then holding and feeding them
- a visit from a UW entomology student to learn about insects and hold a tomato hornworm
- making pickles from the cucumbers in the garden to take home to share
- preparing a meal of pizza and pasta with lots of vegetables from the garden and then inviting families for a special dinner
- looking for the resident garden snake
- shoveling big mounds of compost into wheelbarrows to spread around the garden
- WATERING!!!
- learning about worms and worm composting
- painting beautiful signs for the garden
- TASTING!!!

In addition, in partnership with the WI Nutrition Education Project, the Kids' Gardening Program is working with teachers and students at Mendota Elementary to assist in integrating more gardening, nutrition and food into the curriculum and to put their school garden into more regular use.

For more information please contact Nathan Larson, Education Program Director, 608.240.0409, education@communitygroundworks.org



community garden resources

Locating an Expert

You can locate a Master Gardener in your area by visiting your local UW-Extension office or via one of the 41 local Master Gardener Associations around the state.

To find your county UW-Extension Office visit:
www.uwex.edu/ces/cty/

To find a local Master Gardener Association visit:
www.wimastergardener.org

Other Valuable Community Garden Resources

1. American Community Gardening Association: www.communitygarden.org

All about bringing neighbors and gardeners together on community land to share ideas, grow food and flowers. How to start, organize, maintain, insure, manage-and enjoy-community gardening. Need background research on the social and health benefits of gardening? Find it here.

2. Wisconsin Master Gardener Program: www.wimastergardener.org

Need seeds? Expertise on bugs, special kinds of plants, local nurseries and garden supply outlets? Volunteer advisors or mentors? Training? "The Wisconsin Gardener" on public television, urban horticulture and UW Extension InfoSource are all linked here. This is the Wisconsin "mother lode" of web sites. If you cannot find here, chances are you won't find it anywhere!

3. Growing Power: www.growingpower.org

Especially emphasizing community projects, Growing Power has a track record of creativity and outreach with Boys and Girls Clubs, churches, community centers, youth and jobs programs, public housing and neighborhood groups. Training in "Growing Your Community Food System From the Ground Up." Hands-on, experiential education in working greenhouses, fields and urban lots.

4. National Gardening Association: www.kidsgardening.com

KidsGardening, from the National Gardening Association, is like an encyclopedia of easy-to-use resources for beginning school and children's gardeners as well as those who have experience. Be sure to see the Thematic Library, curriculum connections, "how-to" instructions, stories and directory funding and award

5. FEEDs Program: www.uwex.edu/ces/cty/racine/hort/MoreaboutFEEDs.html

Project FEEDs, Food and Ecosystem Educational Demonstration sites, is a program of the University of Wisconsin Extension Horticulture/Urban Agriculture group. FEEDs is designed to link community gardens in Wisconsin (particularly in the southeast part of the state), create diverse community demonstration gardens, assist with garden design and technical advice, and provide gardeners with research-based information. To become a part of the FEEDs Garden Network, register your community garden at www.feeds.uwex.edu/submit/index.cfm and take the FEEDs Garden Survey.

6. Accessible Gardening: www.uwex.edu/ces/cty

Accessible gardening helps people with physical and developmental limitations enjoy barrier-free gardening. UW-Extension Urban Agriculture Program Staff have helped create several accessible gardens in Wisconsin. Contact your local county Extension office's Urban Agriculture Program for more information.

*Who are the key people to get involved
when starting a community garden?*

The local gardeners who will use the garden are the most important. In addition to the gardeners, a local garden center store employee, a Master Gardener and I would make sure at least one local politician is included, at the very least, on the advisory board. It is also a good idea to involve the neighbors — as hard as it to believe, sometimes they do not want a community garden in their neighborhood.

— Dennis Lukaszewski, RLA
UW Extension Service, Milwaukee County

child & adult care center garden examples

Heart & Home Family Daycare

By Billie Ognenoff, Owner, Milwaukee, WI

After attempting traditional gardens way in the backyard in past years with only minimal success, I decided to try what I call "front door gardening". My thought was that if I had to walk by my "garden" several times a day, it would be harder to forget about weeding, etc. I also liked the idea of the children being able to notice the changes in their garden every day whereas when it was way in back, it was often out of sight, out of mind and they lost interest after awhile (as did I)! The space wasn't very big (just either side of my front door) but it's biggest advantage was that it was right there where I couldn't help but see it! It all started back in early May when the children planted a variety of seeds in paper cups. We started out with carrots, tomatoes (two kinds), zucchini, green peppers, and broccoli, as these were some of their favorite vegetables. After brainstorming about what they thought the seeds would need to grow into plants, (sun, water, dirt, etc), they took their seeds home with instructions to watch closely and come back and tell us which seed sprouted first. We made a big wall chart and recorded their findings and they were very excited to come in after a few weeks and report that their zucchini or carrots had "popped up"! We had some interesting conversations about why they thought one person's carrots sprouted first while another one's hadn't sprouted at all and they figured out that differences in sunlight, watering, etc. could be responsible for the variations.



They helped me prepare the soil all around our front door so we could put the seeds that I had first planted in cups in the ground. By now, we were at the end of May and they had also planted their seeds at home if they had the space to do so. For the next month or so, things were kind of quiet with most of the garden related activity being weeding (which even the three year olds learned to do!) and measuring the growing height of the plants as this was the most tangible change they could see at this point. Then they began to notice other changes (usually while coming in the door with their parents in the morning when the sun was brightest on the plants) like tiny green tomatoes or small clusters of broccoli heads and this was really exciting for them to compare the plants they were seeing now with the tiny seeds they had planted!



I thought our little garden was thriving (and it was) but I'll admit to a little envy when one family brought in an 18 inch long zucchini that had come from those seeds in a cup a few months before! (Especially because my zucchini hadn't done anything but flower yet!) We enjoyed this zucchini for lunch that day with a little butter and Parmesan cheese and it was so fun to watch their pride in sharing food that they had grown themselves!

This inspired a special snack a few days later when I declared it "Obscure Vegetable Day"! We went to the market and bought 10 "obscure vegetables" that I thought might be new to most of the children. This included eggplant, turnip, snow peas, pickled beets, asparagus, Brussels sprouts, parsnips, collard greens, etc. (To their credit, some of these were familiar to some of the children already and with positive connotations!) I cooked some of them and some we ate raw but it was a sampling snack where they tried pretty much everything and gave me their feedback (liked, didn't like, or they weren't sure). We charted this and then voted on their personal favorites with pickled beets and sugar snap peas tying for most liked! It was very enlightening to hear parent's responses when they saw the chart that night ("My son tried Brussels sprouts? I won't even try those!!!") Since that day, I have incorporated some of those obscure vegetables into our everyday menus and they are now familiar to the children.

As the summer went on, it became obvious that the rewards of gardening were especially sweet when you could step outside the front door, and pick a fresh pepper for a salad or a few children could take a small basket and collect only the ripest cherry tomatoes for lunch. Many of the children have worked the garden into their goodbye ritual at the end of the day by asking if they can pick a tomato or piece of broccoli "for the road"! Who would have thought that preschoolers would see vegetables as a reward?

Having a hand in every aspect of raising these vegetables has made them proud and invested in this garden. Many of the parents don't have the time or space for a garden of their own so they are very glad that their children get to have the experience here. We're already poring over the seed catalogs to get ideas for next year's garden and they want to include some of those "obscure vegetables" in that one! Lately, we've been reading the weather reports together to see if they are predicting a frost so they know if we need to cover up our precious plants so they don't freeze. To have a four-year old ask if we should "tuck in the tomatoes tonight" is its own reward!

Bad River Head Start Program

By Janelle Cole & Becky Le Meux, Odanah, WI

The Gitiganing Garden Project is a grassroots organization run by members of the Bad River Band of Lake Superior Chippewa who are dedicated to re-establishing the Bad River community's relationship with food and health. The members of Gitiganing believe that "Food is Medicine," and they strive to combat diabetes by re-introducing whole and high-quality traditional foods into the diet of their community.

Two years ago, The Gitiganing Garden Project joined together with Bad River Head Start to create a pumpkin garden for Head Start children and families. The garden of heirloom Omaha Pumpkins emphasized hands-on learning by involving the children in gardening activities such as planting, weeding, and harvesting. The projects also included educational activities to enhance the awareness of traditional American Indian food crops and their cultural significance.

childcare garden resource

Team Nutrition's Nibbles for Health:
Grow a Family Garden

This site includes great tips on gardening with young children, including a list of gardening tasks that are easier for children.

www.fns.usda.gov/sites/default/files/Nibbles_Newsletter_33.pdf

Many hands from the community helped tend the garden over the summer months, and when fall rolled around there were over 70 pumpkins to harvest. Every child was delighted to be able to take home a bright orange pumpkin they had helped plant. Head Start took the remaining pumpkins and sponsored a cooking class for Head Start parents on making pumpkin pies and sweets. The parents then cooked and donated 25 pumpkin pies to Bad River's annual Intergenerational Feast. During the feast one child exclaimed proudly, "That's my pumpkin in the pie!"



This year over 55 pumpkins were harvested from the garden, and more children are discovering the joy of gardening. The Head Start Pumpkin Garden is just one example of Gitiganing's efforts to promote healthy eating and activity through gardening. The Gitiganing Garden Project will continue to garden with our children, to help them grow in a healthy way.

For more information, contact:
Gitiganing Garden Project
P.O. Box 275
Odanah, WI 54861
badrivervistas@yahoo.com
phone 715.685.2784 fax 715.685.2601



St. Mary's Continuing Care Center

Take It Slow...and Remember the Taste! St. Mary's Continuing Care Center Grows Its Own By Sarah Brooks, Madison, WI

Just because you don't live in the house you grew up in doesn't mean you can't enjoy the benefits of a garden. In fact, the residents of the St. Mary's Continuing Care Center just across the road from Chavez Elementary School in Dane County are finding that gardening brings back fond memories.

Former restaurant owner, gardener and community builder Nancy Christie wanted to add an outdoor dimension to the nutrition and recreation services at St. Mary's. So she invited "Slow Food" advocate Susan Boldt and Master Gardener Sarah Brooks to help.

They listened to residents and staff to hear about the vegetables and flowers remembered from their childhoods and...voila! Heritage seeds and heirloom tomatoes started showing up in the courtyards. Peppers, herbs and spices for Italian dishes were planted in raised beds, and by mid-summer the suppers at St. Mary's were seasoned with flavors that residents favored.

Each year St. Mary's hopes to add a few more plants and activities to attract folks who spend most of their time indoors to get out in the sunshine. Coming soon: wheelchair strolls on the path through the neighborhood to the school garden across the way, plantings by the parking lots and street side.

"What a difference it makes to have our own tomatoes! These are so delicious they remind me of our summer suppers in the old neighborhood 50 years ago. And it's wonderful to see some new faces in the garden."

— St. Mary's volunteer

school garden examples

Middleton High School Garden

By Mark Voss, Teacher, Middleton High School, Middleton, WI

The Middleton High School garden was established in the spring of 2000 by a core group of motivated staff called the Green Team who are devoted to environmentally progressive projects at school. The project drew inspiration, as so many school garden projects do, from the Edible Schoolyard in Berkeley, CA. The goal of the project was to establish a school garden that teachers of any discipline could use in whatever manifestation they deemed

useful. Students and staff avail themselves of the school garden in both formal and informal ways including everything from direct observation in science to harvesting and preparing produce in at-risk classes, to using produce for recipes in family and consumer education classes and French gastronomy units, to students simply hanging out and eating lunch in a beautiful space on a warm afternoon. Related goals included effecting the school nutrition "environment", providing an avenue for school service, and educating students and staff about gardening.



The garden at Middleton High School has been well funded through grants from the Wisconsin Environmental Education Board, Madison Area Master Gardeners, private donations, and school project funds. Our ultimate goal with regard to funding is for the school board to acknowledge the value of the garden project and fully fund its maintenance and integration into the curriculum.

Two encouraging developments have evolved spontaneously out of our school community as a result of the school garden. The first is the "germination" of a garden club that meets monthly and plans or works in the garden. The second is the "sprouting" of an independent study project by two students who are running a second production garden apart from the teaching garden. These students are selling the organically grown produce to students and staff at a "farmers market" held at school several times a week.

One of the most challenging times of the year for school gardens is during the summer vacation period. Those confronting this problem may consider organizing a **Plant a Row for the Hungry** campaign. Garner support from community members to maintain the garden and contribute summer harvests to local food pantries. For more information, visit: www.gardenwriters.org/par/.

The Edible Schoolyard at Martin Luther King, Jr. Middle School in Berkeley, CA offers the "Rolls Royce" of websites and resources. Includes the philosophy, practices, and value of gardening in and around schools. Curriculum and activity ideas in the garden, classroom and kitchen are available. Particularly useful: "Lessons We Learned the Hard Way" teacher liaison and links to other sites. For more information, please visit: www.edibleschoolyard.org

Kids Get Down to Earth with HUG

By Tammy Hansen, Wisconsin Nutrition Education Program Coordinator,
UW-Extension Marathon County

"Help Us Grow" or HUG is a cooperative project of the Marathon County Nutrition Education Program, the Wausau School District, Lincoln Elementary School and the Marathon County 4-H Program. During the year-long project, now starting its ninth year, kids learn about making healthy food choices, how to prepare their own healthy snacks, how to be physically active each day, how to plant and maintain a garden, and how to harvest and use what they plant.



The HUG project was initiated in January 1997 as a response to the many research studies that reflected poorly on the nutritional status of today's youth. Findings of particular concern were the relatively low intake of fruits and vegetables and the growing problem of childhood obesity. Based on these findings, three main goals were established for the HUG project: to increase youth consumption of fruits and vegetables, to teach youth how to prepare their own healthy snacks, and to help youth understand the importance of daily fitness activity. A wide variety of activities are conducted throughout the school year in an effort to meet these goals. Skits, storytelling, puppet plays, games, and many other creative nutrition/fitness activities are used to make nutrition topics fun and interesting for kids during the school year. Then at the beginning of the growing season, the current fourth grade students plant a variety of different foods that they might not otherwise get at home in a large outdoor school garden. Over the summer, the Wausau School District offers a six-week summer school class called the "Magic Bean". One of the main focuses of this nutrition/fitness class is to maintain the garden. Approximately 65 summer school students work in the school garden each week. After the "Magic Bean" class ends, a summer, "at-risk" 4-H club takes over the maintenance of the garden until school starts again. Then when school resumes in the fall, the new fourth graders work the garden and harvest the produce. Using some of this produce, they prepare the food for a harvest party where last year's fourth graders are invited as special guests to enjoy the fruits of their labor. In this way, the students get to complete the cycle from garden to table. The interrelationship between nutrition and gardening enables children to make food choices based on new tasting experiences and an increased appreciation and understanding of where our food comes from. The knowledge they gain has a direct correlation to the resulting overall quality of their diet.



Program success has been measured in a variety of ways. Food recalls taken at the beginning of the year and again at its conclusion reflected an increased consumption of vegetables. Pre and post verbal interviews taken during the six-week summer school class found a 54% improvement in students reporting eating five servings of fruit and vegetables a day, a 29% improvement in those willing to try a new food, and a 48% increase in students reporting they helped work in some other garden other than the school garden. One of our cooperating teachers in the HUG project wrote, "It was nice to see the kids try new fruits, vegetables, and snacks made from items that are healthy choices. The kids couldn't help but learn to make better food choices. Many kids said they helped parents shop and were more aware of food labels, the food pyramid, and basic cooking skills now than they were before. They even made me eat vegetables...and I don't like vegetables...but I eat more now than I have in many, many years. Even adults can change!"

Howe Elementary School

By Bill Wright, Green Bay, WI

The school garden located at Howe Elementary School in downtown Green Bay, WI is a joint effort between the school and the 4-H After School Program of Brown County UW-Extension. The garden was first started as an extension of the 4-H summer program but has evolved into a program which engages both the summer program students and Mrs. Emily DeVillers 5th grade students in the spring and fall. A theme is selected for the garden each year (salad garden, pizza garden, Three Sisters garden, etc.). The



students then start seeds in the classroom in the early spring so that the transplants can be moved to the garden before the end of the school year. The students will also direct seed some seeds when the time is appropriate. Most of the weeding and care of the garden is the responsibility of the summer 4-H program students. The students then harvest the produce and assist in the preparation of a lunch or baking of pies, depending on the type of produce grown that particular year. This program provides a wealth of learning opportunities for the students including the areas of science, math, where their food comes from, and learning to work together to make the garden a success.

For more info about this project, contact:
Kathy Kauth or Bill Wright
Brown County UW-Extension
Green Bay, WI 54302
(920) 391-4610

Dear Mr. Bill,
Thank you for letting us learn neat things about gardens. If you never would have been here to teach us, I wouldn't know anything about gardening. Also thank you for being patient with us. You are a great teacher.

Sincerely,

Labeisha Stufleen-Charney



School Garden Resources

Want more information on school garden projects? Check out these great resources:

1. **Gardening With Kids:** www.gardening-with-kids.com
This site includes tips for how to successfully garden with kids. Additionally, tips on how to encourage children to get involved with watering and weeding the garden are offered.
2. **Grant Resource Directory:** www.kidsgardening.org
This one-stop shop website will provide you with valuable information on how you can connect with other school gardening projects around the nation, access to possible funding opportunities, a school greenhouse guide, wonderful and classroom gardening stories.
3. **Kids World Plant Nutrition:** www.agr.state.nc.us/cyber/kidswrld/plant/index.htm
Sponsored by the North Carolina Department of Agriculture, this site offers kid-friendly explanations of plants and their essential nutrients, puzzles, and games.
4. **Junior Master Gardener:** www.jmgkids.com
Growing plants and gardens is good for kids! This site includes information on Junior Master Gardener Curricula, an inter-active kid's section, and wonderful resources for teachers and leaders.
5. **My First Garden:** <http://eeinwisconsin.org/core/item/topic.aspx?s=0.0.02209&tid=85010>
This wonderful website provides a great overview of the basics of gardening, including tips on starting a garden and how to plant fruits and vegetables. Additionally, the site includes a **Just for Kids** section that includes interactive on-line games including **The Great Plant Escape**.
6. **National Junior Horticultural Association:** www.njha.org
The National Junior Horticultural Association is designed to help youth obtain and develop skills expanding art and science of horticulture. This site contains information about ongoing projects and programs involving horticulture.
7. **Science NetLinks:** www.sciencenetlinks.com
This website provides a wealth of resources for K-12 science educators, including lesson plan ideas on where food comes from and what plants need to grow.

Need Funding to Start a School Garden?

1. **School Garden Grants:** www.grants.kidsgardening.org
2. **Youth Garden Grants:** www.wischoolgardens.org
3. **Grant Resource Directory:** <http://eeinwisconsin.org/core/item/topic.aspx?s=0.0.02209&tid=85010>

service learning

Top Six Reasons to have a Garden at Your School

1. Garden experiences reinforce classroom curriculum, which can be integrated across several subject areas.
2. Students understand the role of food in life by allowing education on healthy eating and nutrition.
3. A school garden creates an opportunity to work cooperatively on real tasks.
4. Gardens at schools provide opportunities for community involvement, a link to neighbors, volunteers, parents and community businesses.
5. Students learn to value the garden by developing a sense of pride.
6. Gardens, both school and community, provide excellent prospects for student service-learning projects

Adapted from the Edible Schoolyard. www.edibleschoolyard.org

Tips for Starting a School Garden

- Include administration, teachers, parents, and students in the planning process; form a garden committee.
- Get permission before planning to plant a garden on either public or private property.
- Define specific talents and expertise of each member in your garden committee. List specific needs and wants and have individuals commit to those areas.
- Establish project lists, including realistic timelines for completion of tasks and specific objectives for students in the garden.
- Enlist the help of community volunteers who may have gardening experience or are just interested in helping. Older adults in the community may be willing to tend the school garden during the summer months when school is not in session.
- Enlist the help of garden experts from UW Extension Family Living Program and the Wisconsin Master Gardener Program.

Tips for Gardeners Working With Young Kids

- Young children have very short attention spans. Make sure that you have lots of options available so they can work in the garden immediately. Digging holes seems to hold endless fascination.
- Kids need instant gratification. This can be met by planting radishes, as they come up in 3 to 4 days.
- A picture is worth a thousand words. Never tell kids something that you could show them instead.
- When giving out supplies to kids, try to keep seeds, tools, and watering cans as similar as possible to avoid squabbles (i.e. purchase all green watering cans, not pink and blue ones.)
- When working with older kids, try to add responsibility and ownership to projects, as gardening may be perceived as "uncool."
- Pair older and younger kids together.
- Remember many kids won't talk in a large group. Try to create smaller work groups.



Gardening and Service-learning

School and community gardens provide excellent prospects for student service-learning projects, with opportunities for numerous connections to classroom curriculum. Service-learning is a teaching and learning method which fosters civic responsibility and links classroom learning and applied learning in communities. Often, community service or volunteerism is mistaken for service-learning. Community service offers students a chance to contribute to the community without necessarily connecting to the curriculum or providing reflection opportunities. Projects must include four main components to be considered "service-learning."

Four Point Test for Service-learning

Wisconsin has come up with a Four Point Test to determine whether the project is service-learning.

1. Student Engagement: Do students identify community needs and the issue to be addressed? Is the service project student-planned and student-led?
2. Meaningful Service: Does the service meet a real community need? How is the need identified? Who benefits from the service project? Will the community be a better place because of the project? Are local agencies, organizations, or community groups partners in the project?
3. Link to Learning and/or Curriculum: Is the service activity connected to classroom learning? How are learning outcomes determined and measured?
4. Reflection and Evaluation: Is there an opportunity for students to talk or write about the project before, during, and after it happens? Are students involved in evaluating the project's success? How will the knowledge gained from this project be used in future planning?

Why Service-learning?

Service-learning is not intended to create more work for teachers or to be an “add-on” to regular schoolwork; instead, it is a teaching method to enhance classroom learning and curriculum with meaningful service, student leadership, and positive skill development. Projects can involve one classroom, a grade level, or an entire school.

Learn and Serve America, a grant program of the Corporation for National and Community Service, found that effective service-learning programs can improve grades, increase school attendance, and develop personal and social responsibility among students. Additionally, students who participate in service-learning often report feeling that they have made a positive contribution to the community, improving their citizenship skills. They also gain career and communication skills and develop positive work attitudes.

Service-learning through school & community gardens

In Wisconsin, schools ranging from the elementary through the high school level are experimenting with the gardening concepts and service learning. Below are some projects they have implemented and reported.

Examples from around Wisconsin:

Tiffany Creek Garden

Tiffany Creek Elementary in Boyceville, Wisconsin

After a unit on plants in science, a class of second grade students went outside on a walking tour with their teacher to identify plants used to beautify their community. Those same students read *Linnea in Monet’s Garden* with the visual arts teacher and recreated their own versions of the artwork in the book.



As a result of these experiences and a short discussion and brainstorming session, the students composed short paragraphs explaining project ideas and how they would contribute to the project. The class wrote about the importance of changing the look of school grounds to make it a more welcoming environment. They decided with the teacher to create a raised garden on the school grounds.

Working with their teacher, the students planned, designed, and planted a raised garden of flowering perennials and annuals. Partners for the project included the University of Wisconsin-Stout, teachers, staff, parent volunteers, and the Boyceville High School agriculture class, which constructed the raised garden bed. The project was funded by a service-learning grant of \$1000 from the National and Community Services Act and matching funds from the school district.

This project made classroom connections in Language Arts, Science, Math, and Social Studies. Students composed summaries, evaluations, lists, letters, and a photo essay for the project. They also kept a journal throughout the process and talked about their experiences and challenges, and they wrote thank-you notes to the volunteers and donors who supported the project. To incorporate Science, the teacher taught about plants and how they grow, thrive, and reproduce under a variety of conditions; she also described how to plan, prepare, and plant a garden. To connect the project to the Math curriculum, students measured and diagramed plots for the garden, applying what they were learning in the classroom. The second-graders learned about citizenship and communities as part of their Social Studies learning in the project.

To reflect upon the project, the students engaged in classroom discussions; wrote in their journals about their likes, dislikes, and contributions; and created a photo scrapbook with student-coined captions. The class also created a video capturing the whole process of designing and planting a school flower garden.

Kids for Composting

The Oneida Nation Reservation at Oneida Elementary

The Oneida Elementary garden plot was faltering. It is now a place of activity year round at the school. The elementary school secured grants from the Solid Waste Management Assistance Program of the U.S. Environmental Protection Agency and from Learn and Serve America to implement a "Kids for Composting" project on the Oneida Nation Reservation.

The project serves as a model for cooperative projects and promotes composting in other food service establishments in the community. Their vision is to create sustainable composting and gardening at the Oneida Nation Turtle Elementary School, which will promote civic and personal responsibility among the youth, foster intergenerational communications, and provide enhanced educational opportunities.

Most of the cafeteria food waste is used for a large scale outdoor composting project. Some of the waste is used for classroom worm vermicomposting. The cafeteria waste is source separated by the elementary school students in the cafeteria immediately following food service. During winter, the students weigh the compostable waste and put it in plastic drums, covering them with soil. They are placed by the compost pile until spring thaw. Children in grades K-8 are in charge of the daily operation of the program, including weighing food scraps, recording the amount of waste, hauling compost, applying compost, and gardening activities. Students utilize sampling techniques and take averages to assess trends in enhanced plant performance due to soil enhancements. Photos are used for comparative purposes.

The goal is to have more facilities on the Oneida reservation fully "source separating" in the next few years. Currently there are 27 such food service facilities on the reservation.

Students are learning hands-on about waste cycles and food cycles through their participation. Curriculum is being incorporated to use this first hand experience as a medium to learn concepts from biology, chemistry, environmental science, and more. Even families are participating with their children over the summer months.

The volunteer labor will produce foods used in community feasts during the end of the school year. The students contribute to this community fellowship and environmental awareness, while gaining responsibility themselves. They reflect upon their work by comparing before and after photographs.

The Giving Garden at West Salem Elementary School

Three multi-age classes from grades one through three designed, constructed, planted, maintained, and harvested a garden on West Salem School District Grounds. The garden was designed to produce vegetables for the fifty families per month that utilize the West Salem Care and Share Food Pantry. Students from the junior high school constructed benches for the garden, and high school students helped with the planting. The project was designed to teach students what a good community member is by providing opportunities to work with teachers, parents and other community members. In addition to learning gardening skills, students learned about the relationships between people, plants and wildlife, and practiced leadership skills in their work crews.

The students came up with the idea of planting a garden to help serve their community. They invited a speaker from the food pantry to come and talk to them about the pantry and about community needs. After the garden was planted, the students created a weekly schedule for their families to work the garden on a rotating basis during the summer.

This project connected to science (plant study) and math (measurement and budgeting). Now that the garden is in place, the teachers plan to expand curricular connections to include study of composting, economics (supply and demand) and more math (calculating the output of the garden, etc.).

Classroom reflection included discussion of the concept of "community," and the reasons a food pantry would be needed in a community, such as job and wage loss and poverty. Students wrote journals throughout the project.

Youth Service-Learning Garden Project at Hurley K-12 School

Nearly 100 students in six elementary schools took part in this project, creating new flower and vegetable gardens around the signs at the Iron County Farmer's Market and the Hurley School.

In order to complete their projects, some of the students appeared before the school board, the farmer's market board and the University of Wisconsin Extension Board to obtain permission. Then they solicited the help of the Iron County Extension Youth Agent to help plan the garden. Students took a trip to a local greenhouse where they purchased plants and learned how to keep them healthy. They then transplanted the seedlings after starting them in their classrooms.

Through this project, students learned to identify the parts of a flower, and they learned how plants metabolize water and other nutrients. Each classroom planted seeds, watered, provided lighting, and transplanted plants to the two gardens. They were helped on planting day by six members of the Hurley High School Ecology Club, a master gardener, and the assistant manager of the market.

The students received help and donations from a number of sources, including a local plywood manufacturer, which donated lumber for the flower bed frames, and the county forestry department and the Wisconsin Conservation Corps, which donated two days' labor to help build the frames.

All six classes reflected on the experience through journal writing, and some completed the Department of Public Instruction student survey. The surveys indicated that students wished to continue gardening, both at home and at school. Students participated in group writing projects, created stories, and wrote thank-you notes to businesses and individuals who donated time or materials.

Pilgrim Park Middle School Landscaping Project

Sixth Grade Gold House students at PPMS in Elm Grove, Wisconsin established a goal at the beginning of the 2000 school year to improve the landscape surrounding their school. This goal developed as a result of preparing for the new millennium, and asking, "What kind of legacy could they leave behind for future sixth graders?" The students decided that they wanted to develop a prairie, improve the cross-country trails/create and observational walk through the forest areas surrounding the school, and create an outdoor learning classroom area.

A survey was created by the students to gain insight into what the rest of the school community would like. Goals were established, and steps to reach the students' goals were developed. We enlisted the help of several community members and parents to provide information and guide the students in their planning. Classroom teachers, Master gardeners, landscape architects, a botanist, a prairie restoration specialist, and our buildings and grounds supervisor made up the team.

The existing landscape was analyzed, needs were identified, and the students developed an action plan. Through the donation of hard work, contacts with the city for free mulch and compost, donation of plant materials, discounts obtained at a local nursery, donated funds through the student



senate and other donors, our plans started to bear fruit. We created three specialty gardens, planted four trees, cut the forest trail and spread over 80 yards of mulch for the path.

Bird life has increased, evidence of deer and other wildlife has increased. Finding compass plants thriving on our prairie was very exciting for the students due to the story behind how the early settlers used them as navigation tools. We are in the process of developing a gardening club.

The project has helped to promote environmental education and foster the awareness of the school's natural environment. It has challenged the students to use and improve their critical thinking skills, and gain basic skills needed to participate in resolving the issues that arise. Group cooperation and team building activities have created an atmosphere that promoted civic responsibility by encouraging students to use their knowledge, personal skills, and assessment of environmental problem-solving and action.

Implementing Your Own Service-learning Project

If these stories inspire you to plan a gardening service-learning project in your classroom or school, remember several key points. Be sure to facilitate student-generated project ideas that meet real community needs, so that those in your class will have ownership and responsibility of the project. Incorporate reflection activities throughout the project. These can be visual arts, journaling, discussions, group activities, or musical projects; students learn and process experiences in different ways, so various reflection activities will maximize responses. Finally, tie classroom learning and curriculum into the service-learning project. Make the subjects students study in school applicable to the community around them.

cultivating the future

Veggin' Out

by Tony Zech

The Veggin' Out Program in Wisconsin features food and cooking demonstrations at farmers' markets of delicious and easy to prepare recipes utilizing fruits and vegetables currently available at those markets. The program targets WIC and Senior Farmers' Market Nutrition Program (FMNP) participants to increase their use of vouchers for fresh produce at the market, but is open to everyone. The program helps participants eat more fruits and vegetables and promotes the **Fruits and Veggies—More Matters®** message. The program was adapted from a program in Rhode Island created by Johnson and Wales University.

Veggin' Out Program materials include a training manual, sample flyers, and equipment. Participants and staff enjoy the program and find it beneficial. Chefs, nutritionists, Extension staff, or other trained staff provide the interactive demonstrations and nutritionists or other trained staff provide nutrition education at the market. Activities for children may be provided.

Participants can participate in these demonstrations, sample the foods prepared, receive copies of the recipes demonstrated, and be eligible for prizes (if offered). Farmers' markets that host these demonstrations benefit through increased attendance and publicity. Farmers at the market benefit by developing relationships with chefs that need sources of fresh produce in their practice. Chefs benefit by receiving recognition and publicity and chefs-in-training benefit by receiving practical experience and the opportunity to build relationships that will benefit their future practice. Nutritionists and other program staff benefit by connecting and outreaching their programs to the community.



The Veggin' Out Program helps prevent hunger and food insecurity since participants learn how to prepare and use fruits and vegetables. Participants receive information that helps them save money on fruits and vegetables and use community food resources. The program also helps prevent overweight and obesity in children and adults by promoting strategies for developing healthy eating and physical activity habits. Participants learn how easy it is to eat 5 servings of fruits and vegetables each day and the benefits of eating healthy and being physically active.

Veggin' Out is a program that helps achieve win-win partnerships that benefit everyone involved! If you are interested in being a Veggin' Out partner or would like more information, please contact State WIC FMNP Nutrition Coordinator at 608.266.3742.

What is Community Supported Agriculture (CSA)?

by **Bill Wright**

CSA is a model for local agriculture which dates back about 35 years. The movement was started in Japan by a group of women who were concerned about the increase in food imports and the decrease in local farms. They set out to establish a growing and purchasing relationship between their group and the local farms. This arrangement, called "teikei" in Japanese, translates to "putting the farmer's face on food." The concept later reached Europe and then the United States where it became known as "Community Supported Agriculture."

A CSA becomes a partnership between a farmer and a community of supporters. At the beginning of the year, supporters purchase a "share" of the farm's production. The farmer uses this money to cover the cost of seeds, fertilizer, equipment maintenance, labor, etc., and produces a healthy supply of fresh produce throughout the season (usually May through October). When CSA members make this commitment, they are supporting the farm through the season and are sharing the costs, risks, and bounty of growing food along with the farmer. This mutually supportive relationship between local farmers and community members helps to create economically stable farm operations in which members are assured the highest quality produce. In return, farmers are assured a reliable market for a variety of crops.

How does a CSA work?

When community members purchase a "share," they then receive a bag/box of locally-grown, fresh produce once per week from approximately May through October. The type of produce received varies from farm to farm and, in some cases, may also include such things as honey, eggs, or herbs. The method of distribution also varies from farm to farm. Some farms will deliver all boxes to a central location for pick-up by members while some farms require members to pick up their boxes at the farm on a designated day and time. It is important to understand the operating procedures of the CSA share you are purchasing in order to get the most benefit from your purchase.

In addition to healthy produce, CSA farms also provide a focal point for education and community building. CSA farms sponsor a variety of events throughout the year which can include field days, work days, harvest festivals, and celebrations. These events provide an opportunity for families to share and learn together in a rural setting.

Why are CSA's important?

- Through direct marketing, CSA's give farmers the fairest return on their products.
- A CSA helps to create dialogue between farmers and consumers and increases our understanding of how, where, and by whom our food is grown.
- A CSA creates a sense of social responsibility and stewardship of local land.
- By purchasing shares in a CSA, members help to keep food dollars in the local community and help to maintain local food production.

Visit one of these sites to find a CSA in your area:

www.biodynamics.com

www.foodroutes.org

www.localharvest.org

www.csacoalition.org (southern Wisconsin only)

www.farmfreshatlas.org (Wisconsin Farm Fresh Atlases)

Wisconsin Young Greens: Kids Grow Project

by Carla Wuennenberg

UW-Extension Division of Outreach and E-Learning, working with the Divisions of Broadcasting and Media Innovations and Cooperative Extension, is creating a digital youth gardening service-learning curriculum. The project was inspired by a Milwaukee County Cooperative Extension 4-H youth urban horticulture program, and will be available in spring, 2005. Young Greens: Kids Grow is composed of video clips from Wisconsin Public Television's Wisconsin Gardener series that will be supplemented with classroom materials for teachers and students. The classroom materials will be paper-based in PDF format and online, through interactive websites. The project will be compiled by UW-Extension Outreach and E-Learning with support from a Wisconsin Campus Compact AmeriCorps VISTA, and will be aligned to state standards by educational consultants.

AmeriCorps VISTA is a national program that places full-time volunteers with organizations to help them develop and strengthen programs designed to bring individuals and communities out of poverty. Wisconsin Campus Compact (WiCC), part of the national Campus Compact organization, is a coalition of leaders from more than 30 Wisconsin public and private colleges and universities, including UW-Extension. Member campuses of WiCC are dedicated to strengthening civic engagement in the state's postsecondary institutions. The goal of the cooperation between AmeriCorps VISTA and WiCC is to help develop service-learning initiatives that address poverty by engaging high school and college students in efforts to improve academic achievement and aspirations of low-income youth. Young Greens: Kids Grow will give youth around the state an opportunity to learn outside of the classroom and increase their connection to their academics. It will also expose them to older students who can share their enthusiasm for learning.

Young Greens: Kids Grow, funded by UW-Extension's Cross-Divisional Grant program, will be made accessible to teachers across Wisconsin through the IDEAS portal website. IDEAS (www.IDEAS.wisconsin.edu), funded by UW-Extension and the UW System, connects resources, including lesson plans and videos, from across the internet to the classroom. Educators from around the state find and evaluate the resources on IDEAS, meaning they have all been filtered through the eyes of a teacher. Most of the resources, including all lesson plans are aligned to the Wisconsin Model Academic Standards. Ultimately, Young Greens: Kids Grow will give teachers access to innovative, interdisciplinary ways to connect their students to hands-on learning opportunities integrating the garden into the classroom and into the community.

Online resource: The IDEAS Portal website www.IDEAS.wisconsin.edu

Selected PK-16 educators from Wisconsin work in teams to identify, evaluate, catalog, and align to the state education standards resources that are already on the internet such as lesson plans and reference materials. These resources are then made available from the IDEAS search engine, funded by UW-Extension and UW-System.

Coming in spring 2005, the Wisconsin Young Greens: Kids Grow project will also be available from IDEAS. Young Greens: Kids Grow gives teachers access to innovative, interdisciplinary ways to connect students to hands-on garden-based projects that tie into the curriculum and link to the community.

The Wisconsin Homegrown Lunch Project

Linking the Land and the Lunchroom by Doug Wubben

The Wisconsin Homegrown Lunch project is an exciting initiative in Madison, WI intended to increase the amount of locally and sustainably grown produce used in schools, and develop a farm-to-school model for the Midwest. Funded by the USDA Sustainable Agriculture Research and Education Program since October 2002, Wisconsin Homegrown Lunch (WHL) is a joint effort of the University of Wisconsin Center for Integrated Agricultural Systems (www.wisc.edu/cias) and the non-profit REAP Food Group (www.reapfoodgroup.org).

With one full-time Project Coordinator and the oversight of a professor heavily involved in the project, WHL relies on partnerships with school foodservice staff, principals and teachers in three pilot elementary schools, volunteers, and local organic vegetable growers to work toward the following general goals:

- Increase access to fresh, local produce for Madison school children, beginning in public elementary schools
- Build stable markets for area farms and food producers who prioritize ecologically sound growing methods
- Create meaningful educational links between classrooms, lunchrooms, and local food and agriculture

The Madison Metropolitan School District's Food Service are constrained in many ways from using more fresh produce, not the least of which is having to serve 18,000 meals daily to 45 schools from their centralized kitchen facility. Another constraint is how willing the kids are to trying new lunch items such as veggie wraps. It's not that helpful to figure out ways to serve up healthier foods if the kids won't eat it.

Our project has been fortunate to have the cooperation of the Madison Metropolitan School District and other community partners in overcoming the barriers to serving more fresh produce. As for the "Will the kids eat it?" question, our approach has always been the more you expose and engage young people with new foods, the more interested and willing they will be to eat them. Through our "Classroom Tastings," "Farmer-in-the-Classroom," activities,

and farm tours, kids learn about where their food comes from, get to know real people who are growing food, and get to taste all kinds of fresh foods. Time and again, given a supportive atmosphere, we find young people not only willing but excited to try new and fresh foods. Carrot and daikon radish sticks, heirloom tomato and apple slices, and shredded cabbage, turnip, spinach, and carrots wrapped in tortillas are just some examples of what children in our three pilot schools have gobbled up.

Integrating what happens in the classroom and the lunchroom is crucial as we work to improve how our children eat.



Farm-to-school initiatives are complex puzzles, and will be pieced together differently in each community. Across the board, they require cooperation, flexibility, and a willingness to think and work both inside and outside of the box. Certainly, if meaningful and lasting connections between farms and schools can occur, they can work within other institutions as well, for the benefit of farmers, communities, and a broad constituency of eaters.

For more information on the Wisconsin Homegrown Lunch project, please visit our web-site: www.reapfoodgroup.org/farmtoschool.

resources and educational opportunities

Extra Gardening Resources

For additional information on gardening check with your local county Extension office or local garden shops. They can help with all sorts of gardening questions you may have including pests and diseases that you may experience in your garden.

The following websites have useful information on basic gardening tips:

- University of Wisconsin-Extension Urban Horticulture Website: www.hort.uwex.edu
- University of Wisconsin-Extension Urban Horticulture: The Vegetable Garden (publication) <http://learningstore.uwex.edu/pdf/A1989.PDF>
- University of Wisconsin Urban Horticulture: Growing Vegetables at Home: Questions & Answers: <http://learningstore.uwex.edu/pdf/A2801.PDF>
- University of Minnesota Extension Services: Gardening and Commercial Horticulture: www.extension.umn.edu/garden
- Iowa State University Extension: Gardening Publications www.extension.iastate.edu/pubs/ga.htm

Wisconsin Resources:

Wisconsin Master Gardeners: Need seeds? Expertise on bugs, special kinds of plants, local nurseries and garden supply outlets? Volunteer advisors or mentors? Training? "The Wisconsin Gardener" on public television, urban horticulture and UW Extension InfoSource are all linked here. This is the Wisconsin "mother lode" of web sites. If you cannot find here, chances are you won't find it anywhere! For more information on the Wisconsin Master Gardener Program visit: www.wimastergardener.org

UW-Extension County Agriculture Offices: To find volunteer master gardeners or for questions related to gardening, contact your county UW-Extension Office. For a listing of UW-Extension offices around the state visit: www.uwex.edu/ces/cty/

Food Preservation/Master Canners: For information on preserving your garden produce, contact your county UW-Extension Family Living Agent. For a listing of UW-Extension offices around the state visit: www.uwex.edu/ces/cty/

Wisconsin Garden Club Federation (WGCF):
www.wisconsin-gardenclub.org

Wisconsin Public Television: The Wisconsin Gardener: www.wpt.org/garden/

National Resources:

KidsGardening.org
www.kidsgardening.org

National Junior Horticulture Association
5885 104th Street
Freemont, MI 49412
www.njha.org

American Horticultural Society
7931 E. Boulevard Drive
Alexandria, VA 22308
www.ahs.org

Educational Opportunities

Wisconsin Master Gardener Program:

If you are interested in becoming a master gardener, contact your county UW-Extension office for more information on classes or visit www.hort.wisc.edu/mastergardener/ for more information on becoming a Master Gardener.

Contact Information:

Master Gardener Program Coordinator
Dr. Susan Rice-Mahr, Department of Horticulture
1575 Linden Drive, University of Wisconsin-Madison
Madison, WI 53706
(608) 265-4504

To find a Master Gardener program in your county or region, visit www.uwex.edu/ces/cty/ for more information

Junior Master Gardener Program:

If you are interested in how kids can become Junior Master Gardeners, please visit www.jmgkids.us for more information.

Continuing Education for Teachers:

Contact the Wisconsin Teacher Enhancement program for current course listings at <http://biology.wisc.edu/K12-ProfessionalDevelopmentforK12Educators-WisTEP.htm>

Wisconsin School Garden Initiative

The following additional resources are available:

- **Got Dirt? Cold Frame Manual**
contains information about ways for extending the growing season
- **Got Dirt? Microfarm Manual**
contains information about bringing the garden indoors
- **Got Dirt? Container Garden Manual**
contains information about alternatives to in-ground gardens
- **Got Veggies? A Garden-Based Nutrition Education Curriculum**
contains lesson plans and related activities for use with a youth garden

These resources can be accessed and downloaded at: www.wischoolgardens.org

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University of Wisconsin-Extension-Cooperative Extension. **Compost: An Overview.** <http://infosource.uwex.edu>

University of Wisconsin Extension-Cooperative Extension. **Container Gardening.**

University of Wisconsin-Extension-Cooperative Extension. **Frost Protection.** <http://infosource.uwex.edu>

University of Wisconsin-Extension-Cooperative Extension. **Insects: Beneficial Types.** <http://infosource.uwex.edu>

University of Wisconsin Extension-Cooperative Extension. **Planting: When to Plant.**

University of Wisconsin Extension-Cooperative Extension. **Preparing Soil for Planting.**

University of Wisconsin Extension-Cooperative Extension. **Weeds: Control.**

KinderGarden. **Starting a School Garden.** <http://aggiehorticulture.tamu.edu/kindergarden/Child/school/step.htm>

KinderGarden. **Tips for Gardening with Kids.** <http://aggiehorticulture.tamu.edu/kindergarden/pnote.htm>

acknowledgements

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