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Mission

The Urban Ecology Center educates and inspires people to understand and value nature as motivation for positive change, neighborhood by neighborhood. Our environmental community Centers:

- Provide outdoor science education for urban youth
- Protect and use public natural areas, making them safe, accessible, and vibrant
- Preserve and enhance these natural areas and their surrounding waters
- Promote community by offering resources that support learning volunteerism, stewardship, recreation, and camaraderie
- Practice and model environmentally responsible behaviors

Introduction and Philosophy

The Urban Ecology Center’s community gardens are meant to provide space for members of the community to garden, meet each other, and enjoy the natural world. At the Urban Ecology Center we inspire people to tread be mindful of their impact on water, the climate, energy, land use, biodiversity, and the community. Making intentional food choices, growing your own food, and growing native plants are ways to have a huge impact on each of these things. Through gardens, we can increase local biodiversity as well as reduce carbon emissions and energy use by avoiding the transportation and production associated with commercial food. There are also health benefits to gardening. Working in the garden is an excellent form of exercise and simply being outside in nature is good for you, not to mention eating all those garden-fresh goodies!

We are happy you have decided to join us in tending a plot of land. Whether you have been gardening for many years or you are just starting, we hope this handbook will provide you with useful information and perhaps a little inspiration. The beginning has details about the gardens here at the Urban Ecology Center. We have addressed some of the frequently asked questions, and the end of the handbook provides information about a number of different topics, pulled from many outside sources. Take some time to page through these resources to gain ideas about the art and science of gardening. Thank you for joining in this effort of caring for ourselves, our community, and our environment. We wish you sunny skies, gentle rains, and bountiful harvests!
Garden Basics

Plot Information

- Garden plots are 4x8 ft. and 4 x10 ft.
- Garden plots are located along the Hank Aaron State Trail behind the Urban Ecology Center (UEC) in the Three Bridges Park.

![Map of the garden area](image)

Tools

- Tools and watering cans are available to gardeners during the UEC public hours (noon -7 Monday- Friday and 9-5 Saturday) in the locked garden shed by community gardens. These tools are clearly labeled for Community Garden use and must be returned to the shed as soon as you're done with them so they're available for the next gardener. There is no reason to check in with anybody to use these tools, simply walk in and grab what you need.

![Garden shed](image)
• If the tool you need is being used or you need something else, you are welcome to borrow tools from the “building shed” (see the charming pictures of Jaime Cano below). Staff assistance is necessary. You can do this as a member of the Center through the Equipment Lending benefit, and must talk to the receptionist and fill out the appropriate lending form to borrow these tools. The normal policies of copying a credit card and taking a $5 deposit DO NOT apply if you are using an equipment lending tool while you are working in the gardens. However, if you are taking the tool offsite or borrowing a bike, canoe, snowshoes, etc. You must bring a credit card and driver's license and bring a $5 deposit with you to follow the normal lending procedures.

Selection of shovels and rakes at the “building shed”

• Water will be available on site from the water containers located at the garden area. The water containers are filled as needed by our Outdoor Leaders. If you notice that it's running low, please let Jackie know.

• A wagon and watering cans are available for you to help carry your water from the container to your garden. The wagon is locked up in the “garden shed”. Please make sure it is returned and the shed is locked when you are done.

The water containers are filled with rainwater from our retention pond. Each container has a spigot for filling your watering can.
Communication

- We will be sending out a monthly email with information about the gardens and tips about gardening via our gardening blog. Please read these emails because they contain valuable information and instructions.
- If you need to contact us for any reason, please email Jackie González at jgonzalez@urbanecologcenter.org and Jackie will triage your email to the appropriate person.

What to Plant?

- You are welcome to grow annual plants and herbs of your choice. If you would like to plant something else, please ask us first.
- Food crops and native plants are great choices! Please refrain from using chemical pesticides and fertilizers and avoid species that tend to become invasive. The Wisconsin Department of Natural Resources has a list of invasive and opportunistic plants to avoid available here: http://dnr.wi.gov/invasives/species.asp?filterBy=Terrestrial&filterVal=Y.

Other Information

- Composting is available from our composting system. You are welcome to bring in your own organic material for your garden if you would like.

Rules and Regulations

- Service fee will be $25 for members and non-members
- Reduced fee available to persons with limited income. Please contact the UEC if you are interested in paying a reduced fee.
- Community Gardens are rented as is. The UEC is not responsible for weeds or other plants that were left in the plot by a previous gardener.
- No pesticides or chemical fertilizers are to be used in the gardens.
- The UEC is not responsible for damage from wildlife or vandalism.
- No objects are to be left outside the garden bed in the walkway. Items left out in this way will be removed and donated to a thrift store on a regular basis.
- Gardens must be planted and weeded before June 1st (3 weeks after the usual last frost). The UEC reserves the right to reassign the plot to someone on the waiting list if your garden is not planted on or before this time. Plot rental fees are non-refundable.
• Gardeners agree to consider their neighboring gardeners when planting (i.e. plant taller plants on south side of garden so as to not shade your neighbors garden & timely weed removal before seeds set)
• In the fall, gardeners should cut back any dead growth and apply mulch in the garden with any organic material (leaves, straw, green manure etc.)

Frequently Asked Questions

• How can I get the most out of my garden?
• When should I plant things?
• How do I control weeds?
• Where can I get mulch and compost?
• I am going on vacation this summer. How do I make sure my garden doesn’t get out of control?
• My plants are sick. What can I do?
• How do I keep other people from taking my produce?

How can I get the most out of my garden?

Visit often and watch your plants carefully! Your plants will be healthier and you will be happier if you weed a little and often rather than discovering they have taken over while you were away. Coming often will also help you identify pest or disease problems quickly so that you can take action before your entire crop and those of your neighbors are ruined. Toward the end of summer, come often to harvest your produce as it ripens. Nothing is more tempting to passersby than a whole vine full of beautiful, ripe tomatoes! Try to harvest your vegetables when they are at their peak—if you leave them too long, many will become tough and will not taste as good. For some vegetables, harvesting before things become overgrown will actually encourage the plant to produce more. See H.C. Harrison’s article, “Harvesting Vegetables from the Home Garden” for harvesting information for many different kinds of vegetables.

You might also consider trying some different gardening techniques. The section of the resources guide labeled “Other Strategies to Try” has articles about space-saving techniques, succession planting, season extension, companion planting, and attracting beneficial insects. These are all techniques that other people have found helpful. Give a few a try and see what works for you. Keep a notebook of what you plant where and when and what worked and what didn’t. This will be a great help for future years, and it will help you watch your plants carefully. Everybody has a different way of gardening and part of the fun is experimenting!
When should I plant things?

It depends on what you are planting. The “Vegetable Cultivars and Planting Guide for Wisconsin Gardens—2008” is a good starting point and lists planting dates, depth, and spacing guidelines for a number of plants. Always check your seed packets—they have a lot of good information and some varieties have different planting requirements than the general guidelines. Look up the average frost date for your area (Generally, there is only a 10% chance of frost after May 24. A table with more details for Wisconsin is available here: http://cdo.ncdc.noaa.gov/climatenormals/clim20supp1/states/WI.pdf) since you will be working off of those to figure out timing. Johnny’s Seeds also has some online calculators that might help you (see Online Resources).

How do I control weeds?

The best plan is to visit your garden early and often so that the weeds don’t get out of hand. Using mulch will often help control weeds in addition to retaining moisture. Take a look at “Mulches for Home Gardens and Plantings,” by H.C. Harrison as well as “Green Manure Cover Crops for Minnesota,” by J. MacKensie. Simply keeping your soil covered can go a long way toward controlling weed growth. The Weed Identification Tool (listed in Online Resources) might help you determine what you are dealing with. Try to remove weeds before they go to seed so that you prevent them from coming back in your plot or a neighbor’s. If you do end up with some weeds that have gone to seed, please don’t put them in the compost—our compost is not hot enough to kill the seeds. Some gardeners here have had good success covering their gardens with leaf mulch over winter. When you rake it away in the spring, there are very few weeds!

Where can I get mulch and compost?

Mulch can be any number of things—leaves, straw, pine needles, wood chips, newspaper, cardboard, sawdust, or plastic sheeting. They all have different benefits and weaknesses, but many can be found for free or low-cost. Be careful, though, because all organic mulches will change the soil in some way—often for the better, but pine needles and oak leaves in particular will increase the acidity of the soil. Most newspapers and corrugated cardboard are printed with soy-based inks now, which are safe for the gardens and veggies (you may want to call the newspaper to find out what kind of ink they use—particularly if they use colored ink). Avoid the glossy pages or any coated cardboard because they may contain more chemicals and they won’t break down as easily. Some people suggest covering the newspapers or cardboard with straw or other organic material so that the garden looks a little neater.
Check with local farms for other compost or mulch materials. If you have space, you could make your own compost at home with grass clippings, leaves, and kitchen scraps. Compost may be available on-site, and other mulch and soil amendments may also be available on a limited basis. If you decide to bring in mulch or compost from other sources, it is a good idea to ask whether or not chemicals were used in the growing of the materials. We would like to avoid the addition of synthetic chemicals to the soil in the community gardens.

*I am going on vacation this summer. How do I make sure my garden doesn’t get out of control?*

If you are going to be away for more than a couple days, it would probably be a good idea to arrange for someone else to watch your garden while you are gone. Find a friend or neighbor, or get to know the other community gardeners—allowing them to harvest whatever comes ripe while you are gone can be a good incentive for a week or two of garden-watching. If you have more produce than you can use, consider donating it to your local food shelf. Make sure to call first to ask whether they are able to use produce donations. Contact Feeding America Eastern Wisconsin (414-931-7400, http://www.feedingamericawi.org/) or call 211 if you need contact information for your local food shelf.

Some people share their garden plot for the entire season. This is a great way to keep on top of garden tasks, even if you are likely to be gone often throughout the summer. Planting, weeding, and watering become much lighter work with an extra pair of hands!

*My plants are sick. What can I do?*

Your first task will be to identify why your plants are suffering. Sometimes over-watering, under-watering, imbalances in soil nutrients, or overcrowding can cause problems in plants. (See L. Sloane’s article “Water Well” for hints on watering). Take a close look on and around the plant and see if you can spot any insects or other critters that might be causing damage. Take a picture or take good notes about the damage to help you as you try to identify what is causing the problems. Check out the What’s Wrong with My Plant site and House and Garden Insect Pest Identification tool (listed in the Online Resources) to see if you can identify the pest (also check the “Attracting Beneficial Insects” article by J. Queirolo to make sure you aren’t killing the friendly ones). “Organic Pest Control: What Works, What Doesn’t,” by B. Pleasant, is a great resource for ideas about controlling common pests with organic methods.

If you can’t identify any pests, it might be a fungus, bacteria, or virus. Try to identify it through Vegetable MD Online (also in the Online Resources) which will also help with figuring out what to do next. If you are still having trouble, call the Horticulture Help Line (414-256-4664) for advice from the Master Gardeners
and extension workers. If you do have a diseased plant or plant parts, don’t put it in the compost—otherwise it will just spread to wherever you put the compost.

**How do I keep other people from taking my produce?**

Unfortunately, community gardeners all over the country often experience the disappointment of other people taking their produce. We have installed fences and signs in multiple languages to dissuade people from picking the produce, although these barriers will not stop anybody who is determined to take some food. Community garden organizations often suggest making friends with the people who live near the garden so that they can keep an eye on them, but there aren’t any houses that overlook our gardens. It doesn’t hurt to continue to build community around the gardens, though. Talk with the people who pass by and chat about the gardens. The more people who understand what we are up to, the better! Keep your plot tidy and visit often. People are less likely to take produce from a well-cared-for plot than one that looks overgrown and neglected. You can also design your garden to remove temptations. Plant visible, readily edible plants farther away from the bike path. People are less likely to go around to the back of the gardens to pick a tomato. Plants that aren’t as easy to eat on the spot or are more unrecognizable, such as squash, beets and other root crops, sunflowers, onions, or herbs, might fare better and create a barrier between the path and your garden. Beans and peas are difficult to spot, so they might work well on the fence. Experiment with unusual varieties of vegetables—purple beans, yellow tomatoes, or kohlrabi might be unfamiliar enough to give people pause. One of our gardeners has tried sprinkling flour on her produce and thinks it is worth trying. People think it is chemical dust or some sort of disease. Check out the “Theft and vandalism” article by American Community Gardening Association in “Other Strategies to Try” for other ideas about preventing theft.

Finally, consider planting extra—people who take produce may just be hungry.

**Online Resources**

- **Food Gardening Guide** [http://www.garden.org/foodguide/browse](http://www.garden.org/foodguide/browse)
  The Food Gardening Guide is available through the National Gardening Association. There is a lot of information about specific crops—all the way from getting started to harvest. This can be a good starting place if you have questions or problems related to certain plants. Not all the suggested management techniques are organic.

- **Weed Identification Tool** [http://weedid.wisc.edu/weedid.php](http://weedid.wisc.edu/weedid.php)
  This online tool is available through the University of Wisconsin Madison. It is a two-step process that will help you identify weeds through plant
characteristics. Bring a sample with you, take a picture, or take good notes to help you answer the questions. (Look at things like leaf type, whether leaves grow opposite each other or alternate, flower characteristics, unique characteristics like hairy leaves or stems, etc.)

- **What’s Wrong with My Plant?**  
  A website through the University of Minnesota Extension that helps diagnose plant problems. The website is very user-friendly and allows you to search by plant type and area of the plant affected. The site covers popular vegetables as well as other plants.

- **House and Garden Insect Pest Identification**  
  [http://www.extension.umn.edu/gardeninfo/insectgallery/index.htm](http://www.extension.umn.edu/gardeninfo/insectgallery/index.htm)  
  This online tool is available through the University of Minnesota Extension. You will need to know general type of insect (fly, beetle, caterpillar, insect relative, etc.) and size. The website will generate a list of pests, with pictures, that fit the description. Click on the pictures to find more information, including management techniques, for each insect. Be aware that not all of the management techniques are organic.

- **Vegetable MD Online**  
  [http://vegetablemdonline.ppath.cornell.edu/](http://vegetablemdonline.ppath.cornell.edu/)  
  Cornell University has a number of fact sheets and photos of common vegetable diseases. Good information on prevention and management of disease, but not all suggested methods are organic.

- **Johnny’s Selected Seeds**  
  Johnny’s offers a wealth of gardening information. Check out the interactive tools (under Growing Guides on the left-hand side of the screen) that will help you calculate planting times and succession planting according to frost date. There is also detailed information about specific varieties of vegetables, which might be helpful if you lose your seed packets.

- **Seed Savers Exchange**  
  Based in Iowa, this organization works to preserve seed diversity by saving and collecting heirloom seeds. They offer many varieties of seeds for sale, as well as many resources about saving and preserving seeds.

- **Mother Earth News**  
  This website has thousands of articles about organic gardening, many of which are very detailed and offer good instruction for different techniques. The site is fun for browsing and also helpful for finding specific information.
about organic gardening. There is also an online garden planner that, in addition to helping you plan out your space, tells you when to plant things based on your zip code.

- **University of Wisconsin Extension** [http://www.uwex.edu/](http://www.uwex.edu/)
  UW Extension has a lot of information about specific topics—particularly plant pests and diseases. Look through the information available through *infosource* ([http://infosource.uwex.edu/](http://infosource.uwex.edu/)) and the publications available through the learning store ([http://learningstore.uwex.edu/default.aspx](http://learningstore.uwex.edu/default.aspx)). Many of the publications in the learning store list prices, but most can be viewed for free in pdf format on the computer. The Extension offers explains many different techniques, but be aware that not all the techniques are organic.

- **Other University Extension Sites**
  [http://www.extension.umn.edu/](http://www.extension.umn.edu/)
  [http://web.extension.illinois.edu/state/hort.html](http://web.extension.illinois.edu/state/hort.html)
  [http://www.extension.iastate.edu/](http://www.extension.iastate.edu/)
  If the University of Wisconsin Extension site does not have the information you are looking for, try the extension services of neighboring states. The above links are for the University of Minnesota, University of Illinois, and Iowa State University.

### Articles and Other Resources

Hard copies of these articles are available in the back of the binder.

- **The Horticulture Help Line** 414-256-4664
  This is a service of the University of Wisconsin Extension horticulturalists and area Master Gardeners for people living in Milwaukee County. Call the help line with your plant questions from 9:00am-12:00pm Monday-Wednesday, or visit in person on Wednesdays from 4:00pm-6:00pm June-August.

### Getting Started

  This guide is an updated version of some of the charts in “The Vegetable Garden.” It has general seed information, a list of cultivars (varieties) that grow in Wisconsin, a planting guide, and a list of seed catalogues. A publication of the UW Extension.
   This guide provides a Wisconsin-specific overview of a number of vegetable topics. If you are new to gardening, this might be a good place to start. It is not exclusively organic, but does include a section on organic gardening. A publication of the UW Extension.

   Many plants (such as tomatoes, peppers, eggplants, etc.) require a longer growing season than we have and need to be started indoors before you can plant them outside. This article covers soil, timing, lighting, and hardening. It is not vegetable specific and includes a timing chart for starting flower seeds. A publication of the University of Minnesota Extension.

   This article contains slightly different information from the University of Minnesota document above (everybody does things a little differently!). The article covers seed storage, planting, preventing disease and strengthening seedlings.

Soil Preparation and Care

   This article provides good basic information about caring for and improving your soil, with an emphasis on organic methods. A publication of the American Community Gardening Association.

   Using mulch can really help your garden in a number of ways. This report includes information about the function of mulches, types of mulches, and selecting mulches for different crops. A publication of the UW Extension.

crops can help improve your soil and keep weeds out of areas of your garden that aren’t actively in use. This article has information about nitrogen fixation and specific green manure crops that are commonly used in Minnesota. A publication of the UMN Extension.


  Different plants use different amounts of nutrients from the soil. Learn how to rotate your crops to avoid nutrient deficiencies in your plants and prevent certain plant diseases. This article explains the reasoning behind crop rotation and a method for planning out your own crop rotations. An article from *Mother Earth News*.


  Your plants need water, but how much and how often? This short article describes how to tell if your plants need water, timing and techniques of watering, and ways to conserve water in the garden. An article from *Organic Gardening*.

*Harvest and Storage*

• Harrison, H.C. (2001) **Harvesting Vegetables from the Home Garden.** Retrieved from [http://learningstore.uwex.edu/Assets/pdfs/A2727.pdf](http://learningstore.uwex.edu/Assets/pdfs/A2727.pdf). Your vegetables are growing and starting to look like food, but are they ready to be harvested? Bigger isn’t always better. This article has information about how to tell when your crops are ready to harvest. A publication of the UW Extension.

• MacKensie, J. (2009) **Saving Vegetables Seeds: Tomatoes, Peppers, Peas and Beans.** Retrieved from [http://www.extension.umn.edu/distribution/horticulture/M1226.html](http://www.extension.umn.edu/distribution/horticulture/M1226.html). Saving seeds can save you money and help preserve the genetic diversity of vegetables. It can be difficult to save seeds from some plants, but this article gives basic information about saving seeds from the easiest plants. It covers plant selection, harvesting and storage. A publication of the UMN Extension.


  Once you have harvested your vegetables, make sure you store them in a way that will help them stay fresh as long as possible. This article includes plant-specific information about fruit and vegetable storage. Charts
describe chilling injury and ethylene production for various fruits and vegetables. A publication of the UW Extension.

Other Strategies to Try


- Larson, B. (2009) **Extending the Gardening Season.** Retrieved from http://hort.uwex.edu/sites/default/files/Extending%20the%20Gardening%20Season.pdf. Start your vegetables early and keep harvesting them into the winter! This article is a basic introduction to various season extension techniques, including cold frames, hot beds, hoop houses, and floating rows. A publication of the UW Extension.

- MacKensie, J. (2008) **Planting Vegetables in Midsummer for Fall Harvest.** Retrieved from http://www.extension.umn.edu/distribution/horticulture/M1227.html. Do you have empty places in your garden once your lettuce and radishes are done? Plant something else! This article outlines strategies for planting in midsummer and includes a days-to-maturity chart for various vegetables. A publication of the UMN Extension.

- Naeve, L. (2005) **Small Plot Vegetable Gardening.** Retrieved from http://www.extension.iastate.edu/publications/pm870a.pdf. In a community garden, your gardening space is limited to the size of the plot. This article provides a brief overview of various space-saving techniques, such as use of vertical space, succession planting, wide-row planting, and square-foot gardening. A publication of Iowa State University Extension.

  This is a detailed article about making and using cold frames to extend the growing season. An article from *Mother Earth News*.


  Often, trees or buildings shade our vegetable gardens during part (or most) of the day. This article is about growing vegetables in shady areas, including information about using reflective mulches. There is a link to a chart of shade-friendly vegetables, as well (http://www.motherearthnews.com/shade-tolerant-vegetables http://www.motherearthnews.com/shade-tolerant-vegetables-zm0z11zsto.aspx). An article from *Mother Earth News*.

*Common Pests and Diseases*

well as cucumbers, and spread bacterial wilt so keep your eyes out for these quick little critters! A publication of the UW Extension.

- Gleason, M.L., and Edmunds, B.A. (2006) *Tomato Diseases and Disorders*. Retrieved from http://www.extension.iastate.edu/publications/pm1266.pdf. Tomatoes are a favorite crop, but are susceptible to many pests and diseases. This article briefly covers a number of different problems and can help with diagnosis and control. The online version has great color photographs to illustrate various symptoms. A publication of the Iowa State University Extension.

**Native Plants**

You are welcome to plant native plants in your garden plot—either alone or along with your vegetables and herbs. The resources below can help you get started, but the staff at the UEC are also great sources of knowledge on native plants. The UEC also has some native plant seeds available for sale at the Riverside Park location.


- Nowak, M. (2002) *Why Hardiness Zones, Native Ranges, Ecoregions?* *Wild Ones Journal* (May/June 2002). Retrieved from http://www.forewild.org/download/EcoregionsBrochure.pdf. There are many different ways of dividing up the country. This short article describes the differences between hardiness zones, native ranges, and ecoregions so that you can better decide which plants are native to your area. The back has a map of ecoregions in the United States. A publication of Wild Ones.

- Nowak, M. (2002) *Guidelines for Selecting Native Plants: The Importance of Local Ecotype*. *Wild Ones Journal* (May/June 2002). Retrieved from http://www.forewild.org/download/LocalEcotypeBrochure.pdf. Even if a plant species is native to your area, the plant or seeds you purchase might come from a different area. This short article outlines why it is important to
purchase plants from local ecotypes and ways to find local plants. A publication of Wild Ones.

  This is a good introduction to native landscaping. The article introduces a number of concepts and benefits to using native plants in your yard or garden. The rest of the PlantNative website offers more specific information about planning, planting, and maintenance of native plantings.

  This is a list of the plants grown by the UW—Madison Arboretum by plant form and preferred conditions. There aren’t any photos, but the list still gives you a place to start looking for plants appropriate to the area.

  How do you know if the plant you would like to plant is native to the area?
  The Wisflora database, from the Wisconsin State Herbarium, allows you to search for plants found in Wisconsin. Each plant page has a map of locations where the plant is found, by county. The database is browseable and has photos of herbarium specimens, habitat information, and in some cases, user-submitted photos.

**Books**

These are a few books that some of the community gardeners have found helpful.


