

Community Garden Connections

Education Manual

A year-round
manual for guiding
the educational
growth of garden
leaders



ANTIOCH
UNIVERSITY
NEW ENGLAND

**Community Garden
Connections**
<http://www.antiochne.edu/c>

Acknowledgments

This education manual is the result of two years of Community Garden Connections (CGC) community engagement efforts and educational programming. The program has been formed through regular feedback from CGC garden partners, community input from CGC's Advisory Committee, expert advice from fellow community educators, and constant reflection on the part of CGC student Coordinators and advisory faculty.

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Purpose of this Manual

This manual is a resource for future Community Garden Connections (CGC) coordinators as well as for groups interested in starting similar garden programs. Developed as a part of an Environmental Studies Master's Project through Antioch University New England, the content within is informed by research, personal experience, and a series of piloted workshops. The manual is organized into a sequence of educational opportunities that follow the developmental needs of groups starting garden programs. While there is already a wealth of garden curricula available for educators and gardeners on how to garden, there are fewer guides that zero-in on how to develop a garden site and program. That's why the focus of the following educational program is on garden leaders (visionary gardeners, program staff, program directors, and volunteers)—the individuals and teams that form the vision for the garden and make it a reality. This manual also recognizes the broad audiences that CGC's garden leaders work with, from afterschool youth groups, to renters at a housing complex, to senior citizens in assisted living.

To this purpose the following manual is divided into five sections:

1. ***Getting Your Group Ready*** addresses Garden Team formation and first tasks of the group, such as assessing the garden site, and discussing garden purpose and goals. This process occurs before any workshops are held.
2. ***Site Design & Planning*** takes Garden Teams through assessing, mapping, and designing their garden site. This includes the 1st workshop in the series.
3. ***Planning Your Garden*** provides Garden Teams with the what, when, and where of growing a vegetable garden. This includes the 2nd workshop in the series.
4. ***Building & Planting Your Garden*** assists Garden Teams with seasonal planning and teaches basic gardening skills. This includes the 3rd workshop in the series.
5. ***Tending Throughout the Season*** provides resources on various gardening topics that can be used to continue to guide Garden Teams through their first growing season.

Within these sections, the user is provided with program plans, lesson plans and other tools for running a series of three workshops. Sample agendas, worksheets, and other topical resources are provided to further guide Garden Teams' development of their garden site.

Table of Contents

Introduction to the Program

- ❖ Why Garden? [p. 1](#)
- ❖ What is CGC? [p. 3](#)
- ❖ Sample CGC Applicant Cover letter..... [p. 4](#)
- ❖ Sample CGC Application..... [p. 6](#)
- ❖ CGC Logic Model..... [p. 8](#)
- ❖ CGC Evaluation Plan..... [p. 9](#)
- ❖ Education Program Objectives & Deliverables..... [p. 12](#)
- ❖ Education Program Timeline..... [p. 16](#)
- ❖ Sample Education Program Budget..... [p. 17](#)

Getting Your Group Organized

- ❖ Overview, Objectives & Timeline..... [p. 18](#)
- ❖ Garden site visit & meeting
 - Sample 1st Garden Site Visit Meeting Agenda..... [p. 20](#)
 - Building Your Garden Team—tips..... [p. 21](#)
 - Sample CGC Garden Partner Agreement..... [p. 23](#)
 - Garden Site Considerations checklist..... [p. 24](#)
- ❖ Surveys
 - New garden partner need/asset/interest survey cover letter..... [p. 26](#)
 - Local garden education resource survey cover letter..... [p. 27](#)
- ❖ Garden purpose & goals discussion
 - Determining Purpose & Goals brainstorming guide..... [p. 28](#)
- ❖ Additional Resources
 - Action Plan template..... [p. 30](#)
 - Getting Your Group Organized Additional Resources..... [p. 32](#)

Site Design & Planning

- ❖ Overview, Objectives & Timeline..... [p. 33](#)
- ❖ Garden Team Site Assessment
 - Garden Site Considerations checklist..... [p. 35](#)
 - Creating a Base Map handout..... [p. 36](#)
- ❖ Site Design & Planning Workshop Overview
 - Workshop prep Action Plan..... [p. 39](#)

- Workshop Program Plan.....[p. 41](#)
- Gardens with Purpose Slideshow Notes.....[p. 46](#)
- ❖ Workshop Lesson Plans
 - Site Considerations & Design Basics lesson.....[p. 49](#)
 - Design Charrette activity.....[p. 53](#)
- ❖ Workshop Appendices
 - Workshop Planning Checklist.....[p. 58](#)
 - Sample Workshop Agendas (participant & staff).....[p. 59](#)
 - Workshop Sign-in sheet.....[p. 62](#)
 - Workshop Evaluation.....[p. 64](#)
 - Garden Resource handout.....[p. 66](#)
 - Lesson Materials (handout, worksheet, template).....[p. 69](#)
- ❖ Site Design & Planning Additional Resources.....[p. 77](#)

Planning Your Garden

- ❖ Overview, Objectives & Timeline.....[p. 78](#)
- ❖ Planning Your Garden Workshop Overview
 - Workshop prep Action Plan.....[p. 80](#)
 - Workshop Program Plan.....[p. 82](#)
- ❖ Workshop Lesson Plans
 - Your Garden: What to Grow lesson.....[p. 87](#)
 - Your Garden: When to Grow lesson.....[p. 90](#)
 - Plant Relationships lesson.....[p. 94](#)
 - Indoor Seed Starting lesson.....[p. 97](#)
 - Garden Planning activity.....[p. 100](#)
- ❖ Workshop Appendices
 - Workshop Planning Checklist.....[p. 105](#)
 - Sample Workshop Agendas (participant & staff).....[p. 106](#)
 - Workshop Sign-in sheet.....[p. 109](#)
 - Workshop Evaluation.....[p. 111](#)
 - Lesson Materials (handouts, worksheets, visuals).....[p. 113](#)
- ❖ Planning Your Garden Additional Resources.....[p. 141](#)

Building & Planting

- ❖ Overview, Objectives & Timeline.....[p. 142](#)
- ❖ Seasonal Planning Meeting
 - Seasonal Planning Meeting—Staff Agenda.....[p. 144](#)
 - Supply Check Sheet.....[p. 145](#)

- ❖ Ordering Materials
 - Tips for ordering materials from past years.....[p. 147](#)
- ❖ Building & Planting Your Garden Workshop Overview
 - Workshop prep Action Plan.....[p. 150](#)
 - Workshop Program Plan.....[p. 153](#)
- ❖ Workshop Lesson Plans
 - Planting Seeds lesson.....[p. 158](#)
 - Transplanting with Square Foot Gardening lesson.....[p. 161](#)
 - Vertical Gardening lesson.....[p. 164](#)
- ❖ Workshop Appendices
 - Workshop Planning Checklist.....[p. 167](#)
 - Sample Workshop Agendas (participant & staff).....[p. 168](#)
 - Workshop Sign-in sheet.....[p. 171](#)
 - Workshop Evaluation.....[p. 173](#)
 - Lesson Materials (handouts, visuals).....[p. 175](#)
- ❖ Planning Your Garden Additional Resources.....[p. 182](#)

Tending Through the Season

- ❖ Overview, Objectives & Timeline.....[p. 183](#)
- ❖ Mini-Workshop Series Overview.....[p. 184](#)
- ❖ Garden Evaluation Resources.....[p. 185](#)
 - Harvest Chart A.....[p. 186](#)
 - Harvest Chart B.....[p. 187](#)
 - Garden Journal Activity lesson plan.....[p. 188](#)
- ❖ Garden Bed Management Resources.....[p. 190](#)
 - Mulching & Weed Management Techniques handout.....[p. 191](#)
 - Organic Pest & Disease Control handout.....[p. 195](#)
- ❖ Harvesting & Mid-Season Planting Resources.....[p. 200](#)
 - Mid-Season Gardening Tips.....[p. 201](#)
- ❖ Nutrition Information, Recipes, & Educational Resources.....[p. 203](#)
- ❖ Composting Resources.....[p. 205](#)
- ❖ Putting the Garden to Bed Resources.....[p. 206](#)
- ❖ Curricular Activities/Program Resources.....[p. 207](#)

Why Garden?

Benefits of gardening are many and varied, especially when gardening communally. Below is a snapshot of just a few of the most basic benefits to communal gardening.

Improve Physical Health

A survey of urban adults found that those with a household member who participated in a community garden ate 1.4 more fruits and vegetables than those who did not, and they were 3.5 times more likely to eat fruits and vegetables at least 5 times a day.¹

Also gardens themselves provide opportunities that get people outdoors and moving. This is critical at a time when children and adults in the US spend 90% or more of their lives indoors and have less access to the outdoors than ever before.⁶

Improve Psychological Health

Spending time outdoors and in the act of gardening has shown to provide multiple psychological benefits, among them: stress relief, mental stimulation, personal control, and motivation.³

Reduce Costs/Increase Affordability

In the U.S. in 2009, 50.2 million people lived in food-insecure households, including 17.2 million children.⁵ For those in the U.S. living below the poverty line, fresh fruits and vegetables often are a luxury. Those same people see cost-savings when they are able to grow food for themselves.

Build Skills & Individual Empowerment

Learning how to garden builds numerous handy skills that not only empower individuals to grow their own food, but also extend into other aspects of life (i.e., using tools, planning, etc.).

Strengthen Social Networks

In urban areas, green spaces have been found to correlate with increased social contact among neighbors.⁴ Communal gardens, in particular, “decrease isolation through sharing of seeds, tools, knowledge, ideas, produce, culture, and recipes.”⁷

Reduce Food Miles/Reduce Carbon Emissions

In the U.S., fresh produce travels an average of over 1,500 miles from farm to plate, creating an excessive dependence on fossil fuels for food transportation.² The presence of gardens not only reduces the miles our food travels; it also increases vegetation which sequesters carbon in the soil, potentially significantly reducing excess carbon in the atmosphere.³

Increase Community Resiliency

By bringing food closer to home, increasing access to fresh fruits and vegetables for all citizens, empowering citizens to grow their own food, increasing individual well-being, and strengthening social ties, communities are becoming more resilient in the face of major social and environmental changes.

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What is CGC?

CGC, or Community Garden Connections, is a program based out of the Environmental Studies Department at Antioch University New England in Keene, NH. The program's activities, however take place in the Keene community, making use of University resources, research, and service learning, coordinated by a group of graduate students, and advised by departmental faculty. Ultimately, *Community Garden Connections serves to build individual and community capacity to grow local food and address issues of food security related to climate change, personal and communal health, and resiliency.* The primary activity for carrying out this mission is the physical and educational development of communal garden sites. The program seeks garden site applicants that are local organizations or agencies that benefit populations otherwise underserved by the current food system, such as low-income or fixed income groups and individuals.

Get in touch with the CGC Team:

Community Garden Connections
40 Avon Street
Keene, NH 03431
communitygardens@antioch.edu

Check out what we're up to by following us at:

Keene Community Garden Connections Blog

<http://keenecommunitygardenconnections.wordpress.com>

Keene Community Garden Connections Facebook page

<http://www.facebook.com/pages/Keene-Community-Garden-Connections/277691318927822>

Keene Community Garden Connections Website

<http://www.antiochne.edu/cgc/>

Sample CGC Applicant Cover Letter

September 17, 2011

Dear Potential Garden Partner,

Keene Community Garden Connections (CGC) is excited to announce another opportunity for local organizations and agencies in Keene to benefit underserved populations by becoming CGC garden sites! This opportunity is made possible thanks to funding from the Rashti Foundation. With their support, during 2010, Antioch University New England (AUNE) partnered with Harper Acres and the Keene Recreation Center in the work of developing their garden sites. The sites have been bountiful, connecting participants to their food, from building raised beds to enjoying fresh garden produce, all the while engaging participants with the communities around them. Now we are seeking two to three more sites and we invite you to apply.



Prior to filling out the application, please read the following information. These details will provide you with a sense of what we at AUNE can offer you through this funding as well as give you an understanding of what we expect of the garden site partners throughout the project. Please note that multiple agencies may collaborate to share one central site.

What we offer:

Each garden site will be provided with AUNE graduate students serving as Garden Site Coordinators, who will offer initial support (through summer 2012) as funding liaisons, project assistants, and informal educators, providing guidance to enhance participating community members' ability to establish, tend, and reap their garden harvests. In addition to this support role, Garden Site Coordinators will:

- Purchase garden tool kits included in funding, which will consist of building materials, garden tools, seeds, soil, and related educational supplies;
- Assist in the research and design fun educational events and/or garden programming
- Coordinate "Garden Connections" workshops and other educational workshops for garden participants and staff, based upon interest;
- And assist in the organization of a "Harvest Fest and Community Sharing" and a "Community Open House" event, involving CGC garden sites as well as the broader Keene community.

What we expect of you:

For the gardens to be successful and to ensure their continuation beyond the funding period, it is essential that agencies hosting gardens can commit to the following:

- Involve at least one staff member and five clients/community members in all phases of garden development (from planning to upkeep)
- Provide a logistically suitable site, with access to safe gardening space and water;
- Ensure long-term viability and active engagement of participants in the garden creation, maintenance, harvest, and educational aspects;
- Engage in evaluation of programming and events;
- Attend (at least one staff and two participants) two spring 2012 "Garden Connections" workshops and host a one-day summer 2012 "Harvest Fest and Community Sharing."

Please contact us at communitygardens@antioch.edu or visit us at <http://www.antiochne.edu/cgc/> if you have questions regarding the project. Thank you for taking the time to apply. We look forward to reviewing your application. **Please return your application to the below address no later than October 21st**, so it can be included in our selection process. If you have not already received an electronic copy of the application and would like one please email us with your request.

Mail to:

Tom Wessels
Antioch University New England
40 Avon St.
Keene, NH 03431

Whether or not you choose to apply, please share information on CGC with other organizations you think would be a good fit and might be interested in hosting a garden. Thank you for helping to spread the word!

Peas and Thanks,

The Community Garden Connections Team

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Tania Schusler, Core Faculty, AUNE
Rachel Thiet, Core Faculty and Chairperson, Environmental Studies, AUNE
Tom Wessels, Core Faculty, AUNE

Sample

Keene Community Garden Connections Application

Primary Agency _____ Primary Contact _____

Phone Number _____ Email Address _____

If your site is a collaboration of multiple agencies, please provide information on all agencies involved.

Agency #2 _____ Contact Name _____

Phone Number _____ Email Address _____

Agency #3 _____ Contact Name _____

Phone Number _____ Email Address _____

On a separate page, please address the following questions.

- Describe the land available for gardening. (Include information concerning: space for 4, 12x4 ft. or similar sized raised beds, sun exposure, availability/proximity to water source, access to garden for participants and visibility of garden to general Keene community. It would also be helpful to know the specific address/location of the potential garden site.) *Please note: raised beds can be placed in parking lots, yards, decks, etc.
- How will you provide vegetable garden maintenance? **Daily** watering and **regular** weeding and harvesting for the duration of the growing season will help ensure a productive and well cared for garden.
- Tell us about the population that your gardens would serve.
 - Who are they?
 - How might they benefit from a garden?
 - How many participants do you envision?
 - How will you and your agency recruit participants for involvement in the garden?
 - How will you encourage their active and long-term engagement in the garden?
 - Who will use the produce? How will it be used?
- How would gardens fit into current programming at your agency? If complementary programming does not currently exist, explain how it could be developed and supported.
- What do you envision your gardens and associated programming will look like in five years?
- In the future, additional funding needs may arise. How would your agency secure further support to ensure long-term viability of the garden and related educational programming?

↓ Be sure to fill out both sides. Thank you! ↓

I understand that as a recipient of Keene Community Garden Connection funding our agency will:

- **Commit at least 1 staff member and 5 participants** to the project (for involvement in garden creation, maintenance, harvest, and educational programming.) The more people who are involved from the start, the greater the long term viability for the garden's future.
- Ensure that participants **meet regularly** (eg. weekly) for garden planning, programming, and maintenance.
- Recruit staff and participants to **attend two, 4-hour "Garden Connections" workshops** to be scheduled by participating agencies and CGC. (These workshops will be central to *your* planning and sustainability of the gardens.)
- Provide **regular garden maintenance** and oversight (*daily watering and regular weeding and harvesting for the duration of the growing season*) to help ensure a productive and well cared for garden.
- Co-host a summer 2012 "Harvest Fest and Community Sharing" event.
- Collaborate with other organizations in the community to increase the exposure of gardening to others!
- Participate in ongoing program evaluation as requested by funder.

Primary Agency Director _____
(print name) (signature) (date)

Committed Staff Member _____
(print name) (signature) (date)

Thank you for your interest and for applying to become a garden site! We will be following-up with you in the weeks after October 21st. Final decisions will be made by November 11th.

Please feel free to contact us with any questions at communitygardens@antioch.edu. You can also learn more about Community Garden Connections at our website: www.antiochne.edu/cgc/.

**PLEASE RETURN BY Friday, October 21st to:
Antioch University New England, c/o Tom Wessels
40 Avon Street
Keene, NH 03431**

Keene Community Garden Connections Logic Model

Situation: Food security is related to food access, physical, psychological, and communal health, climate change, and social/economic systems that favor some and marginalize others. Community gardens can increase access to healthy foods, physical activity, and the amounts of time spent outdoors, as well as strengthen social ties.

Inputs		Outcomes			
Resources	Activities	Outputs	Short-term	Medium-term	Long-term
<p>4 CGC Co-coordinators</p> <p>3 Faculty Advisors</p> <p>Garden tool kits and related educational supplies</p> <p>Internet and computer technology</p> <p>Funding of \$25,000</p> <p>CGC Advisory Council consisting of community project partners and stakeholders</p>	<p>Collaborate with community partners to establish garden sites</p> <p>Provide ongoing educational support tailored to Garden Site Teams' specific interests, including workshop series</p> <p>Coordinate networking, educational, and outreach events for community</p> <p>Integrate CGC with Antioch academics/curricula</p> <p>Share findings in relevant community venues and professional conferences</p> <p>Host periodic Advisory Council meetings to gather input and expertise & share progress with Advisory Council via periodic news updates</p> <p>Secure funds to hold a second workshop during Phase II of this initiative</p> <p>Extend media invitations to highlight community gardening efforts</p>	<p>Establish 5 raised-bed gardens in the Keene area</p> <p>Involve 8 community non-profits and social service agency partners</p> <p>Directly engage a minimum of 40 community members through Garden Site Team participation and related educational programming</p> <p>At least 20 participants at Garden Connections workshops</p> <p>Indirectly reach 250 community members</p> <p>Engage 25 Antioch students</p> <p>Application and criteria process</p> <p>Research and evaluation protocols to track programmatic impact</p> <p>Website, blog, and Facebook page</p>	<p>Increase consumption of fresh foods, healthy eating habits, & time spent outdoors</p> <p>Build capacity at 5 existing garden sites to be self-sustaining in the long-term. Extend learning to other potential garden sites</p> <p>Increase accessibility of food system-related educational opportunities for previously underserved community members</p> <p>Create opportunities for Antioch students and faculty to engage in service-learning and applied research projects related to agriculture and sustainability that support community-identified priorities</p>	<p>Build community members' capacity to grow and cook healthy, affordable food</p> <p>Improve community members' physical and psychological health through gardening</p> <p>Foster a stronger sense of community through the creation of green, communal spaces</p> <p>Enhance collaborations and build synergies among stakeholders involved in food systems work</p>	<p>Strengthened individual and communal capacity and resiliency in the Monadnock region around issues of food security related to climate change and personal and communal wellness.</p>

Community Garden Connections Evaluation Plan

Evaluation Questions (What we want to know)	Potential Indicators (How will we know it?)	Sources (Who knows the information?)	Methods (What will we use to gather information?)	Management (When and how will we carry out methods?)	Analysis (What will we do with data gathered?)	Reporting (Who wants to know the information?)	
1. Is CGC delivering the outputs as expected (participation, gardens, and materials developed)?	Number of people directly involved in CGC garden sites	Co-Coordiators Site staff/partners Site participants	Sign-up sheets; counts; # of participants at each site (repeat and newcomer) Information from site programs	Ongoing	Summing totals	Rashti Foundation Advisory Committee Site partners/ Organizations	
	Number of people indirectly involved in CGC garden sites and activities		Gather news articles, publications/websites by other organizations, requests for information etc. referencing CGC Sign-up sheets from events Readership/distribution of published materials Visits to blog, Facebook page	Ongoing, as events occur	Summing totals	Antioch University New England Keene Community Co-coordinators/ faculty advisors	
	Number of gardens established			Pre/During/Post photo documentation of garden sites	Ongoing	Summing totals	
	Development of programmatic materials			Application materials, evaluation instruments, Site Binders & Educational Materials	Ongoing, as materials are completed	Compilation of materials	
	2. Are the people, organizations, and communities involved in CGC learning?	Number of workshops implemented	Co-coordinators Site staff/partners	Pre-Post survey (awareness, attitudinal, behavioral, etc.)	Pre-program surveys given in February or March (before first workshop)	Descriptive analysis of quantitative data	Rashti Foundation Co-coordinators/ Faculty Advisors
Number of educational programs designed at a given site (e.g., cooking class, seed		Site participants Community	Interest surveys and resulting education programs	Post-program	Qualitative analysis for themes	Advisory Committee	

	planting demo, etc.) Participants share knowledge gained	members Event participants	Co-coordinator journals, survey/interview Event evaluations Observations Conversations and interviews/surveys with site personnel Participant journals/scrapbooks with photos	surveys and interviews in Oct. or Nov. Event evaluations at end of event Interviews/surveys with site personnel in Oct. or Nov., ongoing casual conversations Observations ongoing	Analyze by site and across sites	Site partners/Organizations, participants AUNE
3. Is CGC improving the health of participants? a. Physical health	Increased time spent in the out-of-doors Increased consumption of fresh foods Increase in perceived health Increase in healthy eating habits	Site Participants Site staff/partners Co-coordinators Event participants	Pre/Post survey (attitudinal, behavioral, etc.) Weigh food raised and distributed among community members Early Sprouts evaluation instruments (nutrition) Observation Conversations and interviews/surveys with site personnel Participant journals/scrapbooks with photos Evaluations from CGC events	Pre-program surveys in Feb. or Mar. Post-program surveys in Oct. or Nov. Produce weighed at harvest Observations ongoing Interviews/surveys with site personnel in Oct. or Nov., ongoing casual conversations Event evaluations at end of event	Descriptive analysis of quantitative data Thematic analysis of qualitative data	Rashti Foundation Site participants Site partners/Organizations Co-coordinators/faculty advisors Advisory Committee
b. Emotional/psychological health	Increased time spent in the out-of-doors Stronger/more extensive social networks					
c. Community well-being and social connectedness/engagement	Increased knowledge/use of community resources					

<p>4. Is CGC increasing access to healthy food?</p>	<p>Increased consumption of fresh foods</p> <p>Evidence participants changing diet/using food in new ways (e.g., recipe sharing venue for food they've tried)</p> <p>Community members attending harvest events</p>	<p>Site participants</p> <p>Event participants</p> <p>Site staff/partners</p> <p>Co-coordinators</p>	<p>Pre/post survey</p> <p>Weigh food raised and distributed among community members</p> <p>Sign-in sheets from events</p> <p>Conversations and interviews/surveys with site personnel</p> <p>Participant journals/scrapbooks with photos</p>	<p>Pre-program surveys given in Feb. or Mar.</p> <p>Post-program surveys and interviews in Oct. or Nov.</p> <p>Weigh produce at harvest</p> <p>Interviews/surveys with site personnel in Oct. or Nov., ongoing casual conversations</p>	<p>Descriptive analysis of quantitative data</p> <p>Thematic analysis of qualitative data</p> <p>Summing totals of produce harvested</p>	<p>Rashti Foundation</p> <p>Advisory Committee</p> <p>Site participants and partners</p> <p>Co-coordinators/faculty advisors</p> <p>Keene Community</p>
<p>5. Is the Antioch community engaging in service learning and applied research related to CGC?</p>	<p>Students completing capstone projects and coursework related to CGC</p> <p>Students and faculty present learning to Antioch community and professional organizations</p> <p>Students volunteer time and efforts to CGC projects/events</p>	<p>Co-coordinators/faculty advisors</p> <p>Other students, faculty, and staff</p>	<p>Track capstone projects related to CGC</p> <p>Track coursework related to CGC</p> <p>Sign-in sheets and numbers from events (indicating participation of Antioch community members)</p> <p>Track professional conference presentations, journal articles submitted</p>	<p>Ongoing tracking of projects, presentations, papers and coursework</p> <p>Sign-in sheets at events</p>	<p>Compilation of project themes</p>	<p>Rashti Foundation</p> <p>AUNE</p> <p>Co-coordinators/faculty advisors</p>

Community Garden Connections

Education Program

Outcomes & Deliverables

Overall Master's Project Outcomes:

- Increase Garden Site Team knowledge of gardening & garden-related topics.
- Build Garden Site Team skills around gardening & garden planning.
- Increase Garden Site Team confidence for running a garden program.
- Foster connections between various CGC garden sites and between CGC garden sites and local garden educational partners.
- Prepare Garden Site Teams to be mostly self-sustaining in the long-term.
- Provide future CGC Co-coordinators with tools & guidance for leading educational opportunities.
- Provide other organizations with the access to tools to start their own garden education program &/or to tailor individual lessons or workshops for their programs.

Overall Master's Project Deliverables:

- Assess CGC garden site interest, needs, and assets for gardening/garden-related education through pre-determined assessment questions delivered in site meetings and/or over email.
- Conduct online survey for community stakeholders concerning local resources available for gardening education. Follow-up with phone calls and meetings as necessary.
- Create program plan for workshop series in consultation with CGC Co-coordinators. This program plan will include evaluation strategies such as revised summative evaluation form(s) used in prior CGC workshop settings.
- Develop and compile resources for further educational growth, group formation, and program development.
- Deliver 3 ½-day workshops.
- Develop online educational resources page on CGC's website, based on information received from community partners, best practices, and garden site participant interest.
- Final product—CGC Education Manual: a year-round education manual to guide garden leaders in the development of a garden site and program.

Getting Your Group Ready—Project Prep

Outcomes:

- Prepare & help to organize new garden sites for program planning and upcoming educational opportunities.
- Instill confidence & promote understanding in the upcoming project.
- Gain understanding of new garden sites' needs, interests, and assets.
- Gain contact with & record of local garden educational resources.
- Promote new garden site knowledge of their potential garden site.
- Promote reflection on group goals and vision.
- Increase new garden sites' understanding of CGC expectations & project timeline.

Deliverables:

- Survey new garden sites' needs, interests, and assets around gardening.
- Conduct resource assessment to determine local garden educational resources.
- Meet with new garden sites to discuss expectations & project timeline.
- Meet with new garden sites & promote discussion of garden goals, and vision.
- Walk potential garden site with group, including taking photos, notes, and potentially a soil sample.
- Assist in the formation of Garden Site Teams for each new garden site.

Site Design & Planning—Workshop 1

Outcomes:

- Build garden planning team skills to work together
- Create a sense of community among garden sites
- Inspire groups to think broadly & creatively about garden design
- Inspire groups to think intentionally about program design
- Promote confidence in individuals to begin the garden planning process
- Develop an understanding of how garden site goals relate to site design & program design
- Increase knowledge of basic design considerations
- Develop initial ideas on site design to refine throughout the weeks following the workshop
- Increase awareness of local resources (people & places, mostly) that can be useful in starting out

- Increase awareness of potential challenges & opportunities in the upcoming season, and in doing so increase individual and group preparedness for the upcoming season.

Deliverables:

- Ice-breaker
- Slideshow of local gardens sites and programs
- Defining goals & sharing
- Site design presentation
- Site design planning activity
- Break for lunch & site design sharing
- Experienced garden group panel & general Q&A

Planning Your Garden—Workshop 2

Outcomes:

- Foster confidence in groups' ability to design & plan their garden
- Increase understanding of what, when, & where to plant various vegetables.
- Increase understanding of various vegetable needs.
- Build comprehension of plant relationships
- Prepare Garden Teams for garden season planning.
- Foster learning between garden sites.
- Develop skills so that groups can independently start seeds indoors.

Deliverables:

- Share final draft of site plans
- Lessons on the what, when, & where of vegetable planting
- Provide basic information on various vegetables
- Plant Relationships lesson/activity
- Indoor Seed starting activity
- Garden planning activity

Building & Growing Your Garden—Workshop 3

Outcomes:

- Promote gardener confidence to build raised beds independently
- Develop understanding of what seeds & plants need based on seed packet information

- Promote gardener confidence to plant a variety of vegetables independently
- Increase knowledge of how to water seeds and plants appropriately to ensure successful growth
- Develop understanding of Square Foot Gardening basics
- Develop understanding of what plants need as they grow
- Develop understanding of the way in which different plants grow
- Develop understanding of plants that grow better when trellised
- Promote gardener confidence and provide tools and inspiration to create successful trellising structures
- Promote gardener confidence to a build mini-hoop house

Deliverables:

- Raised bed building demo and hands-on practice
- Learning Stations on Planting Seeds, Transplanting with Square Foot Gardening, Vertical Gardening, and Mini-Hoop House construction
- Lunch/sharing time

Tending Through the Season

Outcomes:

- Continue to build garden-based knowledge and skills
- Increase awareness of local gardening resources (people, curriculum, etc.)
- Provide inspiration & tools for planning garden program
- Provide resources for garden programming (links to curriculum, activities, etc.)
- Promote learning between garden sites
- Develop & promote community networking

Deliverables:

- Tips & resources for 6 monthly hands-on mini-workshops
- Links to curricular resources
- Communicate what participating organizations can provide beyond advice
- Open space/time in mini-workshop for chatting between participants and organizations & making connections

Community Garden Connections: Group Education Timeline

NOV	DEC	JAN	FEB	MARCH	APRIL	MAY AUG	JUNE SEP	JULY OCT	
Getting Your Group Organized		Site Design & Planning		Planning Your Garden		Building & Planting		Tending Throughout the Season	
<p>mid-late November Garden site visit & 1st meeting</p> <p>late Nov. - early Dec. Need/asset/interest survey of new garden sites</p> <p>late Nov. - early Dec. Resource survey of local ed. partners</p> <p>early-mid December Check-in with new Garden Teams</p> <p>mid Jan. Discuss purpose & goals with new garden sites</p>		<p>Jan./early Feb. Garden Team planning</p> <p>late January Garden Teams walk the site, take photos, create base map</p> <p>late January Garden Teams send draft statement of purpose</p> <p>mid Feb. Site Design & Planning Workshop</p> <p>late Feb. Garden Teams continue site design & planning</p>		<p>Feb./early March Garden Teams complete site plan</p> <p>late Feb./early March Garden Teams generate list of what vegetables, fruits, & herbs participants want to plant & eat</p> <p>early-mid March Garden Planning Workshop</p> <p>early-mid March Order Seeds for garden sites</p>		<p>late March Seasonal Planning Meeting with Garden Teams</p> <p>March & early April Order wood, compost, soil, and other materials for new garden sites</p> <p>late March/early April Groups start seeds indoors</p> <p>mid April Raised Bed Building & Planting Workshop</p> <p>mid-late April Raised bed building & filling workparties at new garden sites</p>		<p>late April - early June Planting parties & garden set-up activities at sites</p> <p>May Garden Evaluation mini-workshop/activities</p> <p>June Garden Bed Management mini-workshop/activities</p> <p>July Harvesting & Mid-Season Planting mini-workshop/activities</p> <p>August Cooking with veggies mini-workshop/activities</p> <p>September Composting mini-workshop/activities</p> <p>October Putting the garden to bed mini-workshop/activities</p>	

Community Garden Connections

Education Program Sample Budget

The following budget includes estimated totals for the education component of CGC's program. This does not include infrastructure supplies for CGC garden partners. However, staff and faculty time is all-inclusive (includes both education-related & non-education tasks over the six month period of planning the 3 workshops).

Budget Category/Description	Total	In-Kind/Other Source
a) Program Staff Time		
CGC Co-Coordinators time (workshop prep & facilitation, meetings, communication with garden partners, technical assistance, purchasing, etc.) 4 student employees x 10 hrs./wk. x 6 mo.	1 full-time equivalent (FTE)	
AUNE Faculty time (workshops, advisory time, etc.) 2 hrs./wk x 6 mo.	.05% FTE	
b) Workshop equipment		
Bed-building tools (1 electric saw, 4 power drills, 10 shovels)		\$1,050
Easels, projection equipment, etc.		\$600
b) Workshop supplies		
Printing/copies, markers, activity supplies, etc. (3x)	\$300	
c) Workshop meals/snacks		
Budget \$10 per participant for food and supplies (x25 participants) (x3 Workshops)	\$400	\$350
d) Use of workshop space w/ tables, chairs, & dry erase/chalk boards		
Reserved University room (2x); Garden partner space (1x)		\$300
e) Other educational supplies		
Printing/copies for meetings, etc.	\$100	
Total Budget	\$800 plus staff/faculty time	
Total In-Kind/Other Contributions		\$2,300

Getting Your Group Organized

mid-late November

Garden site visit & 1st meeting

late Nov. - early Dec.

Need/asset/interest survey of new garden sites

late Nov. - early Dec.

Resource survey of local educational partners

early-mid December

Check-in with new Garden Teams

mid January

Discuss purpose & goals with new garden sites

Overview

Outcomes:

- Prepare & help to organize new garden sites for program planning and upcoming educational opportunities.
- Instill confidence & promote understanding in the upcoming project.
- Gain understanding of new garden sites' needs, interests, and assets.
- Gain contact with & record of local garden educational resources.
- Promote new garden site knowledge of their potential garden site.
- Promote reflection on group goals and vision.
- Increase new garden sites' understanding of CGC expectations & project timeline.

Found in this section...

- ❖ Garden site visit & meeting
 - 1st Garden Site Visit Meeting agenda
 - Building Your Garden Team—tips
 - Sample CGC Garden Partner Agreement
 - Garden Site Considerations checklist
- ❖ Surveys
 - New garden site need/asset/interest survey cover letter
 - Local garden education resource survey cover letter
- ❖ Garden purpose & goals discussion
 - Determining Purpose & Goals brainstorming guide
- ❖ Additional Resources
 - Action Plan template
 - Various resources on community garden start-up, group forming, planning, and meeting, survey tips, soil test information

Garden Site Visit & Meeting



“I’m a part of something that has potential.”—CGC program participant

Community Garden Connections

1st Garden Site Visit—Agenda

- **Welcome**
 - Congratulations!
 - Introductions and check-ins
 - Give site binder & explain purpose
 - You are a part of a greater community

- **Our Expectations**
 - Role models in the community
 - Increasing resiliency
 - Access to healthy food
 - Self-sustainable within a year (a unique concept)
 - Communal education—when we are long gone this should be a beautiful, productive garden
 - Be open to making partnerships
 - Be able to form staff & structure for this project—tips & tools for Garden Team formation
 - Maintain excellent communication with CGC staff

- **Big Picture (What's coming up)**
 - 3 Workshops: February, March, and April
 - Seed ordering: mid-March
 - Bed-building & Planting work parties: April and May
 - 4 Mini-Workshops: June, July, August, October
 - Regular site visits and meetings
 - Participation in evaluation and surveys

- **Your Expectations**
 - What do you need from us?

- **Communication Plan**
 - What's the best way to contact you?
 - What are your scheduling restraints? What works?

- **Thanks and Site Walk**
 - Take photos
 - Site assessment—take notes
 - (if possible) Take soil sample

Building Your Garden Team

Some key ingredients to a dynamic Garden Team and, therefore, a successful garden project:

Dedicated, Motivated Individuals

New projects take passion for the cause, dedication to the project, and energy to get things done. It's more important to have a handful of dedicated team members than a fleet of individuals who are unmotivated about the project.

A Healthy Mix

A diversity of ages, backgrounds, knowledge, and skill levels strengthens your team. Start by identifying people in your organization or community that could play a potential role. Some questions you'll want to ask yourselves:

- ❖ Who will be involved with the garden?
 - Who'll call the shots?
 - Who'll maintain the garden?
- ❖ Who will the garden affect? (Maintenance crews, neighbors, program staff, administrative staff, participants, participant families, etc.)
- ❖ Who should be a part of the planning process? (This should be all of the above to a certain degree, but could be a strategic few for Garden Team itself.)

Among these potential Garden Team members you might look for:

- Avid gardeners, individuals and families interested in growing their own food
- Landscape architects, garden designers, landscapers
- Carpenters, builders
- Fundraisers, grant writers
- Planners, project coordinators, volunteer coordinators
- Youth, elders

Value Youth & Elders, whose perspectives are often left out of decision-making. Their opinions, ideas, and experiences can bring a unique perspective into your Garden Team.

- ❖ What other support might you need? Some examples of potential partners:
 - Community leaders (council members, planning commission, etc.)
 - Municipal departments (parks, zoning, and streets)
 - Service groups (i.e. Kiwanis, Lions, Rotary, Master Gardeners, etc.)
 - Schools, churches, food pantries
 - Businesses or employers
 - Existing community gardens
 - Cooperative Extension educators

Clear Lines of Communication

Open, honest, and regular communication is key to keeping your Garden Team alive and well.

Some ways to maintain healthy communication:

- ❖ Set up regular meetings to bring all those involved up-to-speed and provide opportunities for discussion and feedback.
- ❖ Choose a form of communication that works well for your team members to regularly stay up-to-date on developments so that no one gets left out.
- ❖ Build relationships and trust, and share successes through frequent small celebrations and occasional big events. (i.e. potlucks, BBQs, garden open houses, work parties, fundraisers, etc.)

Defined Roles and Responsibilities

Clarifying roles will keep your group moving, growing, and organized.

Some possible roles include:

- ❖ Leadership/Point-person
- ❖ Outreach/Participant recruiter
- ❖ Program implementer
- ❖ Event organizer
- ❖ Group communications
- ❖ Garden site maintenance
- ❖ Volunteer coordinator
- ❖ Tasks as they arise with roles based on skills, knowledge, and desire to be involved

An Open Invitation

Even once your Garden Team is established don't forget to continue to reach out. A group that doesn't seek new participants will eventually shrink and may even cease to exist.

Some times when groups might want to grow:

- | | |
|-----------------------------|---|
| ❖ Planning the garden | ❖ Maintaining common areas |
| ❖ Maintaining the garden | ❖ Organizing events |
| ❖ Sharing the physical work | ❖ Reaching out to new gardeners |
| ❖ Organizing people | ❖ Facilitating or attending gardening workshops |
| ❖ Growing through conflict | ❖ Growing your garden community |
| ❖ Watering/providing water | |
| ❖ Securing the garden | |

Resources used:

- American Community Gardening Association's Rebel Tomato: <http://communitygarden.org/rebeltomato/>
- Community Action Coalition for South Central WI's "Handbook for Starting a Community Garden": http://www.cacscw.org/garden_handbook.php
- University of Wisconsin Extension's "Starting a Community Garden: How to Put Your Plot on the Path to Success": <http://fyi.uwex.edu/peopleplants/publications/>

Sample

Community Garden Connections Garden Partner Agreement

What we offer:

Each garden site will be provided with AUNE graduate students serving as Garden Site Coordinators. The Site Coordinators will offer initial support (through the 1st garden season) as funding liaisons, project assistants, and informal educators. As a part of this support role, Garden Site Coordinators will:

- Purchase garden tool kits included in funding, which will consist of building materials, garden tools, seeds, soil, related supplies, and educational materials;
- Regularly meet with garden partners to assist in site development;
- Assist in the research and design of fun educational events and/or garden programming;
- Coordinate workshops and other educational opportunities for garden staff and participants;
- And assist in the organization of a “Harvest Fest and Community Sharing” event, involving CGC garden partners as well as the broader Keene community.

What we expect of you:

For the gardens to be successful and to ensure their continuation beyond the funding period, it is essential that organizations hosting gardens can commit to the following.

I understand that as a recipient of Community Garden Connections funding our organization will:

- Provide a logistically suitable site, with access to safe gardening space and water.
- Maintain excellent communication with CGC Site Coordinators
- **Commit at least 1 staff member and 5 participants** to the project (for involvement in garden creation, maintenance, harvest, and educational programming.) The more people who are involved from the start, the greater the long term viability for the garden's future.
- Ensure that participants **meet regularly** (eg. weekly) for planning, programs, and maintenance.
- Recruit involved staff and participants to **attend three, 4-hour “Garden Connections” workshops** to be scheduled by participating organizations and CGC. (These workshops will be central to *your* planning and the sustainability of the gardens.)
- Provide **regular garden maintenance** and oversight (*daily watering and regular weeding and harvesting throughout the growing season*) to help ensure a productive garden.
- Co-host a “Harvest Fest and Community Sharing” event.
- Collaborate with others in the community to increase the exposure of gardening!
- Participate in ongoing program evaluation as requested by funder.
- Ensure the long-term viability of the program by committing staff and resources, and seeking additional funding as needed.

Organization Director _____
(print name) (signature) (date)

Committed Staff Member _____
(print name) (signature) (date)

Please make a copy for your records & return signed form to your CGC Coordinator.

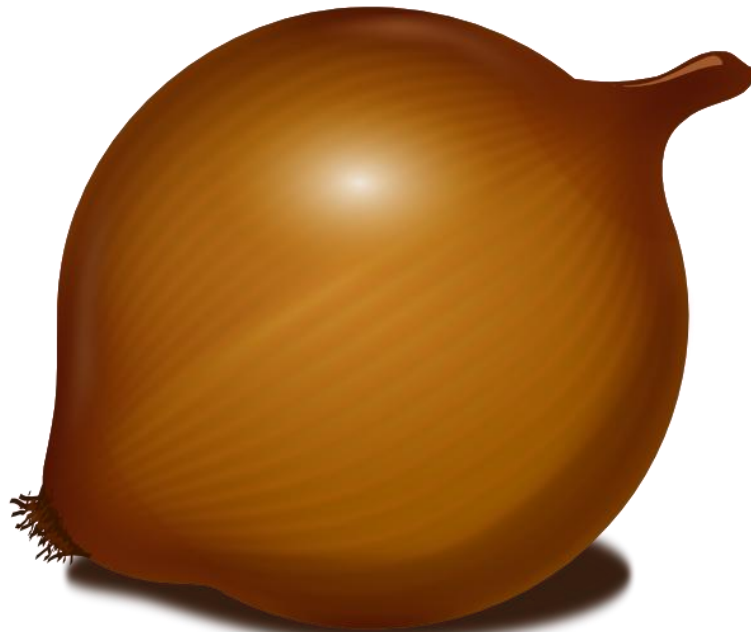
Garden Site Considerations

When picking your garden site, there are several site conditions you should take into account early in your planning process. Even if your site does not have all of the following optimal site conditions it is important to consider the site's potential for meeting plant, participant, and programming needs.

Optimal Site Conditions

- Light:** At least 6 hours of direct sun daily
- Drainage:** Little to no standing water after heavy rains
- Accessibility:** Close proximity to facilities; land as level as possible
- Exposure:** Some protection from high winds; avoid low lying frost pockets
- Water:** Close available water source
- Soil:** Good soil quality & safety (if doing in-ground plantings)
- Wildlife:** If deer or other large animals are present, fencing may be necessary, something to consider in terms of space & cost
- Safety:** Site promotes personal safety (away from traffic; close to supervision); If digging, make sure not digging on any utility line (Call Before You Dig—dial “811”)
- Size:** Space large enough for the number of participants and garden tools, and a diversity of activities
- Availability & Sustainability:** Site available for garden construction by April & will remain available into the foreseeable future

Participant & Garden Educator Surveys



“We’re not alone! So many resources are available to us!”—CGC program participant

Hello Garden Partners,

Happy new year to you all! This is a busy but exciting time as we all plan for new projects in a new year, including a garden at your site!

To get things started we would appreciate your help in completing a brief survey. You can access the survey by following this link: [insert link here]

This survey has been created to gather information to inform educational opportunities we provide to get your group ready for your first season gardening. In order to develop these workshops to be as useful as possible to you, it is important for us to know what information you already have, what you need, and what content most interests you. We are also eager to set workshop dates as soon as possible. The survey should only take 10-15 minutes of your time. All survey responses will be kept confidential.

Please distribute this survey to all individuals who will be a part of your Garden Team. This might include program staff, other organizational staff, volunteers, selected participants, and others. We hope to include as many of these team members in this workshop series as possible, so it will be important to have their input.

For you input to be used most effectively please respond to the survey by **[insert date here]**.

Feel free to contact us with any questions. Thank you for taking the time to provide this information and for all that you already do in our community!

On behalf of the CGC Team,

[insert names & contact info here]

Cc: Student Coordinators—[insert names here]

Cc: Faculty Advisors—[insert names here]

Hi, XXXXX.

I am conducting a brief survey to identify gardening resources in our community to support individuals who are new to gardening and groups who are starting gardening programs. This information will be used to design educational outreach completed by Keene Community Garden Connections (CGC), which aims to build capacity to grow food locally and address issues of food insecurity. By gathering this information we hope to make use of the wealth of knowledge in our community and emphasize collaboration between complimentary efforts.

You are receiving this request because you and/or your organization are a valuable community resource. This survey should take no more than 10-15 minutes to complete and I would appreciate your participation. Your responses will be kept confidential. The survey will remain open until **[insert date here]**.

If you are willing to complete this brief survey, please access the survey at:
[Insert web link here]

Thanks for considering this request and for all that you already do in our community.

On behalf of the CGC Team,

[Insert names & contact info here]

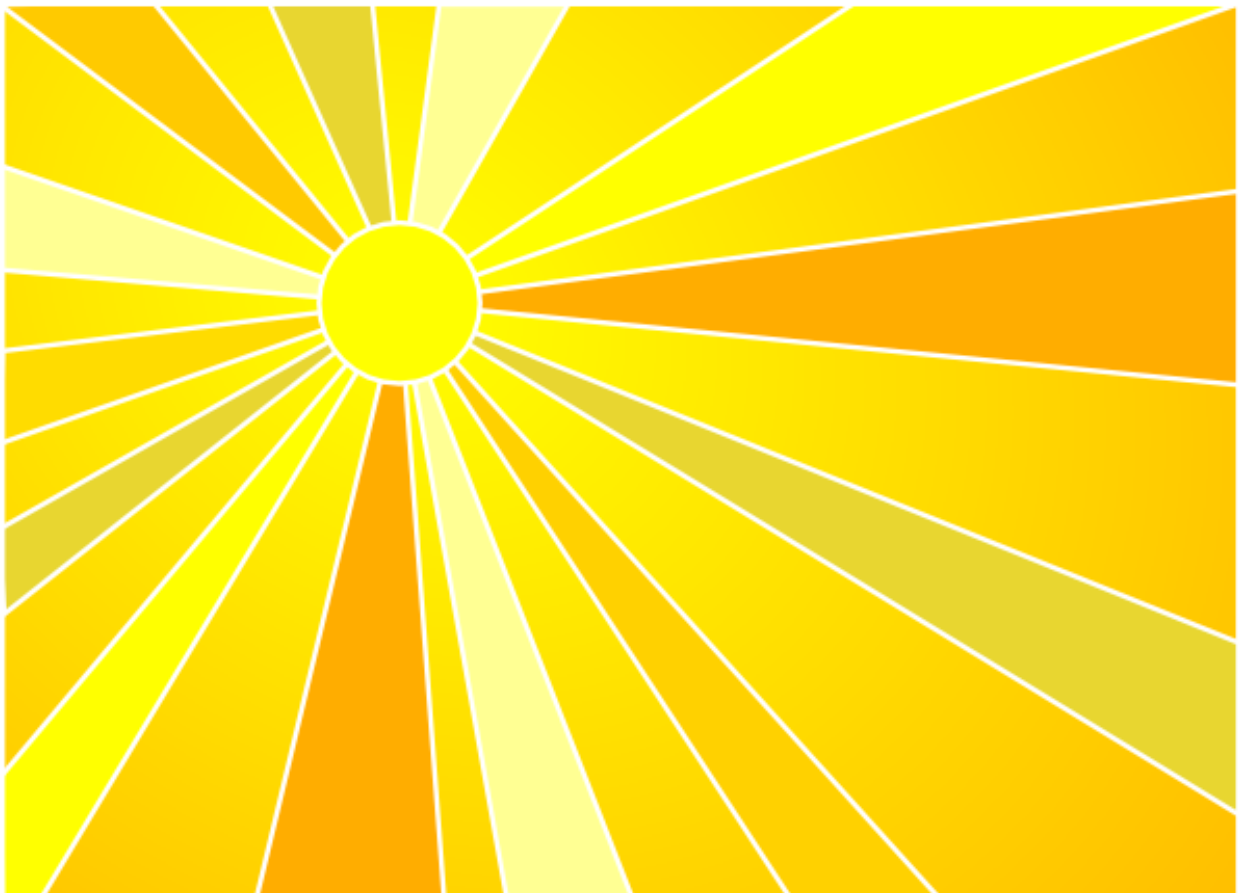
To learn more about Community Garden Connections, visit our website at:
<http://www.antiochne.edu/cgc/>

and our CGC blog at: <http://keenecommunitygardenconnections.wordpress.com/>

Cc: Student Coordinators—[insert names here]

Cc: Faculty Advisors—[insert names here]

Determining Purpose & Goals



Determining Purpose & Goals

Developing your garden or garden program's purpose and goals is an important step to take early on. This will help you decide what your garden will look like, what activities will be happening there, and who to involve.

Developing Purpose/Mission

Purpose and *mission* are often used interchangeably to explain a very broad concept of why your garden and garden program exists. An example of a mission or statement of purpose: *Community Garden Connections serves to build individual and community capacity to grow local food and address issues of food security related to climate change, personal and communal health, and resiliency.*

To come up with your garden's own statement of purpose you will want to bring your Garden Team together to brainstorm. A great place to start is by answering the following questions:

- ❖ (simply) What is the purpose of the garden?
- ❖ What inspired your group to want a garden/garden program in the first place?
- ❖ Does the garden meet a specific need?
- ❖ What role will the garden play in your organization? In the community? (i.e. food production, community building, environmental restoration, beautification, recreation, learning, empowerment, etc.)
- ❖ Who will use the garden? (youth, seniors, a specific population, neighbors)
- ❖ Who will the garden serve?
- ❖ How will the garden produce be used?

Once you've answered some of these questions you should begin to get a sense of what is your garden/garden program's purpose. Brainstorm a list of ideas. As a Garden Team, choose one or a combination to determine your statement of purpose.

Developing Goals

Goals are statements describing what your group hopes to accomplish in order to bring it closer to its overall purpose or mission. As an example, a couple of CGC's goals include:

- *Build community members' capacity to grow and cook healthy, affordable food.*
- *Foster a stronger sense of community through the creation of green, communal spaces.*

Brainstorm a list of goals. Remember to continually refer back to your statement of purpose to determine your goals. Choose from the list those goals that the group is most excited about. Prioritize them into short-term, medium-term, and long-term goals.

Resource used:

- American Community Gardening Association's Rebel Tomato: <http://communitygarden.org/rebeltomato/>

Getting Your Group Ready

Additional Resources



- ❖ Antioch University New England, Environmental Studies *Group Dynamics Module 2009* (found on Sakai)
Included are: “10 Steps to Hold Meetings With Results,” “Project Management Tools,” “Effective Groups/Teams,” & “Stages of Group Development.”
- ❖ <http://www.burlingtongardens.org/gardenorganizer.html>
Friends of Burlington Gardens, Toolkit for Community & School Garden Organizers, Publications & Plans
Related resources include: sample community garden guidelines, sample gardener agreement, and *Keys to success: how to develop a sustainable school, youth, or community-based garden*.
- ❖ http://ceadmin.unh.edu/soils/fees/soils_fees_home.cfm?review=6
University of New Hampshire Cooperative Extension, Agriculture, Home Grounds & Gardens
http://www.umass.edu/soiltest/list_of_services.htm
University of Massachusetts Amherst, Soil & Plant Tissue Testing Laboratory, Services
Soil test applications are available on both of the above sites. The UMass website is included because their prices are very affordable.
- ❖ <http://learningstore.uwex.edu/Assets/pdfs/G3658-02.pdf>
University of Wisconsin Extension, Program Development & Evaluation, *Questionnaire Design: Asking questions with a purpose*
Included within this document are tips on constructing, wording, and formatting surveys.

Community Gardening Manuals

- ❖ <http://www.gardeningmatters.org/sites/default/files/startupguide.pdf>
Gardening Matters, *Community Garden Start-up Guide*
- ❖ <http://www.cacscw.org/downloads/Handbook%20for%20starting%20a%20garden%202008.pdf>
Community Action Coalition of South Central Wisconsin, Inc, *Handbook for Starting a Community Garden*
- ❖ <http://fyi.uwex.edu/peopleplants/publications/>
University of Wisconsin Extension, *Starting a Community Garden: How to Put Your Plot on the Path to Success*
- ❖ <http://extension.missouri.edu/explorepdf/miscpubs/mp0906.pdf>
University of Missouri Extension, *Community Gardening Toolkit*

Site Design & Planning

Jan./early Feb.

Garden Team planning

late January

Garden Teams walk the site, take photos, create base map

late January

Garden Teams send draft of statement of purpose

mid February

Site Design & Planning Workshop

late February

Garden Teams continue site design & planning

Overview

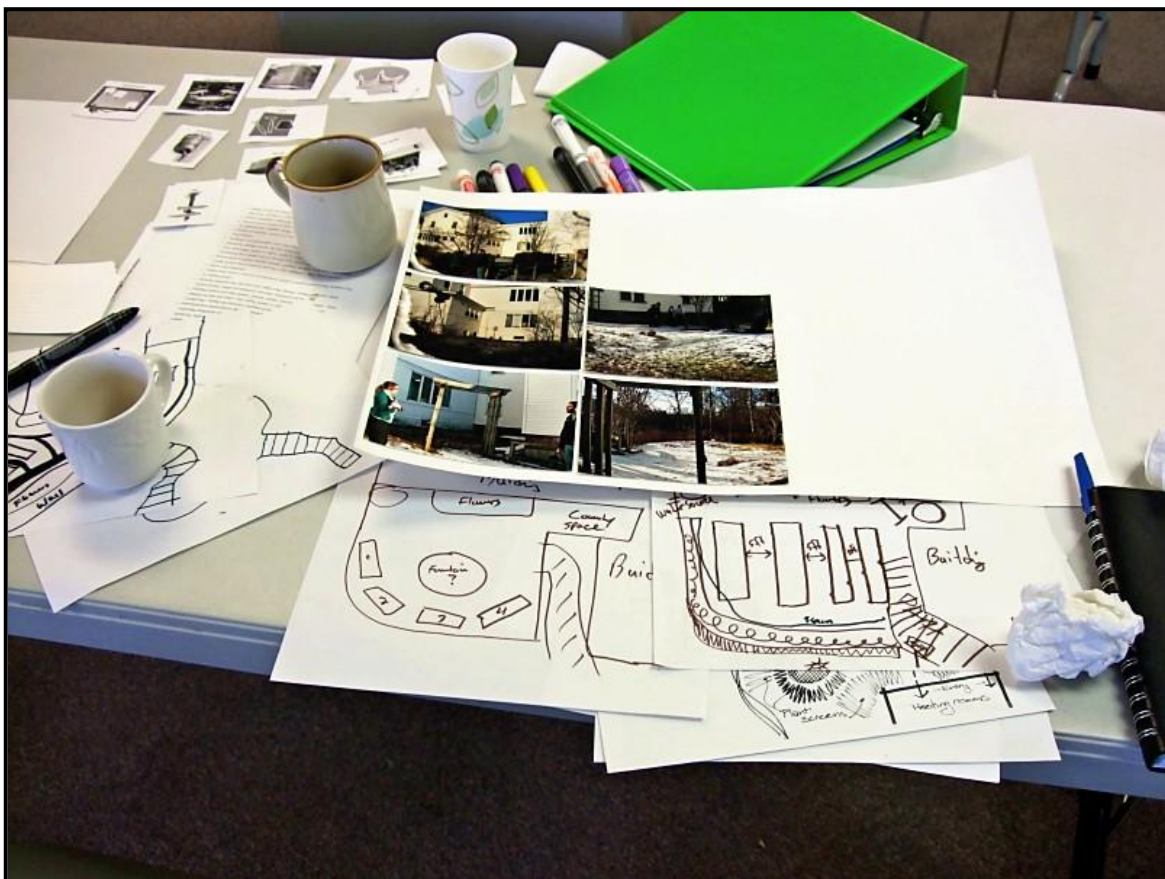
Outcomes:

- Build garden planning team skills to work together
- Create a sense of community among garden sites
- Inspire groups to think creatively about garden design
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- Develop initial ideas on site design to refine throughout the weeks following the workshop
- Increase awareness of local resources (people & places, mostly) that can be useful in starting out
- Increase awareness of potential challenges & opportunities in the upcoming season, and in doing so increase individual and group preparedness for the upcoming season.

Found in this section...

- ❖ Garden Team Site Assessment
 - Creating a Base Map handout
 - Garden Site Considerations checklist
- ❖ Site Design & Planning Workshop Overview
 - Workshop Prep Action Plan
 - Workshop Program Plan
 - Slideshow notes
- ❖ Workshop Lesson Plans
 - Site Considerations & Design Basics lesson
 - Design Charrette activity
- ❖ Workshop Appendices
 - Workshop planning checklist
 - Sample agendas (participant & staff)
 - Sign-in sheet & Evaluation
 - Garden Resource handout
 - Lesson Materials (visuals, handouts, etc.)
- ❖ Additional Resources
 - Various tools for site design & planning, & workshop planning, design, & facilitation.

Garden Team Site Assessment



Garden Site Considerations

When picking your garden site, there are several site conditions you should take into account early in your planning process. Even if your site does not have all of the following optimal site conditions it is important to consider the site's potential for meeting plant, participant, and programming needs.

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- Size:** Space large enough for the number of participants and garden tools, and a diversity of activities
- Availability & Sustainability:** Site available for garden construction by April & will remain available into the foreseeable future

Creating a Base Map

Once you've picked your garden site it can be helpful to create a base map for your site. This will help you to identify what features are already there and analyze how best to fit your garden into the existing landscape.

Step 1: Learn your *pace*.

To simplify measuring your garden site and determining various distances it is helpful to first learn your *pace*. Start by laying a measuring tape out on the ground. To determine your *pace* start at one end of the measuring tape with your feet together, take one normal walking step with your left foot, then your right; bring your feet together. Wherever your feet land equals one *pace*.

Step 2: Measure your garden site boundary.

Pace the length of your potential garden site. Count the number of paces you walked, then multiply the number of paces by the length of one pace. This should give you your boundary length measurement.

Step 3: Create a map scale.

Draw the length of the boundary on a piece of paper. Create a map scale by dividing the actual length of the boundary by the length of the boundary line drawn on the paper.

Step 4: Continue to measure and record.

Pace the next boundary of the property from the end point of the first boundary measured. Roughly estimate the angle between one boundary and the next. Record both measurements on your base map. Repeat until all the site's boundaries are recorded.

Step 5: Record cardinal directions.

Stand at a junction of one of the boundaries and use a compass to determine the direction of magnetic north. Record this on your base map.

Step 6: Fill in the site.

Walk the site; as you go, mark the various landscape elements you notice (some examples are given below). You may want to loosely *pace* out the location of these elements in relation to the closest garden site boundary. Use symbols to record all significant elements on your base map.

- Vegetation (bushes, trees, grasses, etc.)
- Rocks
- Wet areas, streams
- Sloped areas (rough degree & direction slope is facing)
- Buildings
- Parking areas
- Sidewalks and pathways
- Playgrounds
- Playing fields
- Water sources
- Drains and sewers
- Fences
- Movement through landscape (signs of foot traffic outside of designated walkways)
- Wildlife habitat
- Signs of wildlife
- Sunny areas
- Shady areas
- Potential problem areas (erosion, poor drainage, heavy foot traffic, use of herbicides, pesticides, or other pollutants)
- Other elements (fire hydrants, lampposts, trash cans, etc.)

Resource used: Kiefer, J. and Kemple, M. (1998). *Digging Deeper: Integrating youth gardens into schools and communities: A Comprehensive Guide*. Montpelier, VT: Food Works, Common Roots Press.

Site Design & Planning Workshop



“Inspiration, openness to learning and collaboration.”—CGC program participant

Site Design & Planning Workshop Action Plan

Project: Site Design & Planning Workshop		Purpose of Project: Provide beginner garden groups with the planning skills, knowledge, and confidence to design their garden sites. Also introduce gardeners to a greater gardener community. This workshop was designed to be the 1 st in a series of 3 winter/spring workshops, preparing garden groups for the first season of their garden and garden program.			
Time Frame for Completion: November – mid February (example below is based on a workshop date of Feb 13 th)		Date Today:			
Members of Task Group:					
Critical Steps	Who will be involved & make decisions (Names)	Resources Needed	Information and Assistance Needed	Time to do task (include completion date)	How we'll know we've successfully accomplished task
Collect, analyze, and summarize data from survey for garden sites		Survey Monkey	Surveys complete	November 26-December 7	Data summary
Collect, analyze, and summarize data from survey for education partners		Survey Monkey	Surveys complete	November 26-December 7	Data summary
Determine & announce workshop dates (may involve additional polling)		Survey Monkey, contact info, & maybe Doodle	Survey, phone & email contact	December 10-December 20	Sites contacted with workshop dates
Check-in meeting with garden sites (Garden Team planning, updates, etc.)		CGC Education Manual tips/handouts	Set-up meeting ahead	Sometime between December 10-December 20	Clarity of tasks & timeline
Revisit CGC Education Manual for information on the Site Design & Planning Workshop		CGC Education Manual	Advice from past educators/coordinators	December 10-December 20	Understanding of program plan & tasks to be completed
Based on info discovered in gardener survey, make any necessary additions or changes to the Site Design & Planning Workshop		Survey Monkey, CGC Education Manual	Advice & approval from CGC Co-coordinators	December 10-December 20	Updated program plan outline approved

Critical Steps	Who will be involved & make decisions (Names)	Resources Needed	Information and Assistance Needed	Time to do task (include completion date)	How we'll know we've successfully accomplished task
Identify and confirm location of Site Design & Planning Workshop (appropriate space, number of tables & chairs, projector, chalk/white board)		Space available	Call around & make reservation request	January 7- January 18	Sites contacted with workshop location
Meet with Garden Teams to discuss garden purpose & goals		CGC Education Manual tips/ handouts	Set-up meeting ahead; Garden Team contact info	Sometime between January 14-18	Garden Teams understand task
Follow-up with Garden Teams about garden statement of purpose & goals		CGC Education Manual tips	Garden Team contact info	January 21- January 25	Draft of statement of purpose & goals
Meet with Garden Teams for garden site assessment/walk-about & garden site base map creation		CGC Education Manual tips/ handouts	Set-up meeting ahead; Garden Team contact info	Sometime between January 28- February 1	Site assessment complete & garden site base map created
Identify and confirm logistics (e.g., food, equipment, materials, etc.) for Site Design & Planning Workshop		Funds for food and materials	Availability of resources; list of needed resources	January 14- January 25	List of what resources to get where & when
Purchase/pick-up needed materials		Funds for materials	List of resources to get where & when	February 4- February 8	All materials purchased/acquired
Create workshop materials (e.g., ppt, handouts, evaluations, other materials)		Funds for materials copying & printing	CGC Education Manual—material templates	February 4- February 8	All materials created
Purchase/pick-up needed food & other later logistics		Funds for food	List of food items needed	February 11- February 12	All food purchased/acquired
Workshop site prep (setting up room, etc.)		All materials & equipment needed	CGC Education Manual—checklist	February 12- February 13	Room ready for workshop
Conduct Site Design & Planning Workshop		Venue, equip., materials, food	Volunteers	February 13	Complete Workshop #1
Compile and analyze evaluation results to inform future workshops and other efforts			Complete workshop evaluations	February 13 th - 15 th	Summary of workshop evaluations

Site Design & Planning Workshop

Tools for promoting design confidence & planning foresight in new garden groups

Presenters Preview:

The intent of this workshop is to provide beginner garden groups with the planning skills, knowledge, and confidence to design their garden sites. This will be achieved through a variety of visual and verbal presentations, hands-on activities, and group discussions. Also as a part of the experience, the different participating garden groups will have a chance to meet and network with each other. Participants should leave with an initial design for their garden sites and the information and resources to continue their site planning.

This workshop was designed to be the first in a series of three workshops for groups starting garden programs. However, the workshop can be used separately as long as facilitators prepare groups ahead and follow-up with them on various activities.

The Program will:

- Build garden planning team skills to work together
- Create a sense of community among garden sites
- Inspire the groups to think broadly & creatively about garden design
- Inspire the groups to think intentionally about program design
- Promote confidence in individuals to begin the garden planning process
- Develop an understanding of how garden site goals relate to site design & program design
- Increase knowledge of basic design considerations
- Develop initial ideas on site design to refine throughout the weeks following the workshop
- Increase awareness of local resources (people & places, mostly) that can be useful in starting out
- Increase awareness of potential challenges & opportunities in the upcoming season, and in doing so increase individual and group preparedness for the upcoming season.

Location: A convenient location, with access to projection equipment, instruction materials, tables, and chairs. It would also be good to have space for both large group gathering and break-out groups. Separate space for lunch set-up and lunch preferable.

Room Set-up Time:

3 hours

Teaching Time: 4 hours

Equipment, Supplies, Materials & Food

Items: See attached list

Participants Bring:

- Statement of purpose & goals for garden program
- A few copies of the site base map
- Site binders

Program Outline/Facilitators Notes:

Welcome & Agenda (5 minutes) 9:00-9:05

- Thank you
- Primary purposes of today:
 - ❖ Give you the mental tools to inspire confidence in your group to start planning your garden site.
 - ❖ Help you begin to develop a connection between your garden site's purpose and your garden site's design (what it might look like based on who's using it and how it's being used).
 - ❖ Give you all a chance to get to know one another, so that we can begin to build a community of gardeners that will continue to see each other as resources and partners in this work far into the future.
- Processes to achieve purposes today:
 - ❖ Introductions
 - ❖ Community-building activity
 - ❖ Gardens with Purpose—slideshow
 - ❖ Garden with Purpose—sharing activity
 - ❖ Site Considerations & Design Basics—presentation
 - ❖ Break & Shake—snack & bathroom break
 - ❖ Design Charrette—hands-on activity
 - ❖ Lunch with informal Q&A with older garden sites
 - ❖ Wrap-up, Evaluations, & Opportunities

Introductions (15 minutes) 9:05-9:20

- Explain that these are *our* goals, but we'd like to hear what you want to get out of the day.
- Share name, what garden site/organization representing today, and one thing most like to get out of today.

Community Building Activity (10 minutes) 9:20-9:30

- Pair share—turn to neighbor and take turns sharing; change partner with different questions
OR
Inner & outer circle—make two circles, one inside the other; even numbers for inner and outer; rotate to left or right several spaces for each question; take turns with inner or outer sharing
- 1 minute per person, per question
- Questions:
 1. When was the first time you realized that food came from the land or water?

2. What are you most excited about growing in your new garden?
3. What's something you bring to this project that you think will make it successful?
4. If you had to come back to life as a fruit or vegetable plant what would it be and why?

Gardens with Purpose—slideshow (5-10 minutes) 9:30-9:40

- Explain that we'll have a few minutes at the end of the slideshow to discuss what they've seen and heard.
- Questions to think about as we head into the slideshow:
 - ❖ What ideas or visuals inspire you?
 - ❖ What ideas or visuals surprise you?
 - ❖ What ideas or visuals make you want to learn more?
- Slideshow PowerPoint (found on Sakai) & Slideshow notes (attached)
- Take questions

Gardens with Purpose—activity (20 minutes) 9:40-10:00

- Ask all sites to come with their garden program's statement of purpose and goals. (You may want to have them email this to you ahead so that you have a copy too.)
- Provide each Garden Team with ½ sheet of poster board, 4 photos of the site, glue, tape, & markers. Each Garden Team will have a break-out space to work in (separate table and chairs).
- Tell the sites that they will have 5-10 minutes in their Garden Teams to write their statement of purpose on the poster board, decorate with photos and other visuals that represent their garden site, and discuss how and what they want to present. If the Garden Teams don't include their goals on their poster, they may want to include them in the presentation in another way.
- During this break-out time it would be helpful to have facilitators available to answer questions and move the groups along.
- Garden Teams will have a total of 10-15 minutes to present (divide the total time by the number of Garden Teams to give each group their allotted presentation time).

Site Considerations & Design Basics—presentation (35 minutes) 10:00-10:35

- See associated lesson plan and handout

Explain Design Charrette (2-5 minutes) 10:35-10:40

- Ask all sites to come with a few copies of their base map for their garden site. (You may want to have a copy of this too or make the copies yourself.)
- Explain to participants that now's their chance to work more on their site plan, using everything they've seen and learned about garden design elements and considerations, and keeping in mind their garden's statement of purpose and goals.

- Explain that they will be using their base map to give them a sense of what is already on the site and adding layers of design based on what they learn. Suggest that they first take a little time to brainstorm with the group about what they want.
- Show some of the tools they have to use during the Design Charrette.
- Clarify that while it is good for groups to think broadly about they want to include in their garden site, it may be that only some of the ideas will be covered by current funding available (depending on how ambitious). Once all of the ideas are incorporated it will be wise to think about the project in terms of phases—what can be accomplished this year, next year, and into the future.
- Explain that after the break they can go to their break-out space with their Garden Team and begin brainstorming and designing.
- There should be at least 1 facilitator per group to explain further how to use the various tools and guide Garden Teams through the Design Charrette process.

Break & Shake (5-10 minutes) 10:40-10:50

- Snack, drink, and bathroom break

Design Charrette (1 hour) 10:50-11:50

- See associated lesson plan and handout

Lunch w/ informal Q&A (50 min.) 11:50-12:40

- Try for one big table, so that there can be some group discussion
- Allow groups to visit and eat
- When timing is right introduce guests (older garden sites)
- Invite guests to talk about what their experience was like getting started as a garden site/program, how they've grown, and any advice they might have for new gardeners; Invite new gardeners to ask questions of guests.

Wrap-up (20 minutes) 12:40-1:00

- Thank you
- Ask all participants to share 1 take-away from today's workshop (record these—they make for great assessments)
- Pass out workshop evaluation
- Share any upcoming opportunities & next steps

Site Design & Planning Workshop

Equipment, Supplies, Materials, & Food Items List

Equipment

- Coffee maker
- Tea boiler/kettle
- LCD projector
- Extension cord
- Laptop computer
- Chalk or white board
- Tables—enough for participants in large group & break-out groups; 1 for sign-in; 1 for breakfast/snacks; enough for lunch
- Chairs—enough for participants in large group & break-out groups; enough for lunch

Supplies

Workshop-related

- Easels (1/group)
- Big chart paper (1/group)
- Pencils, colored pencils, markers
- Poster board (1—1/2 sheet/group)
- Glue bottles
- Tape rolls
- Additional paper
- Scissors

- Paper bags (1/group)
- Trace paper
- Dry erase markers or chalk & erasers
- Pens
- Name tags

Food-related

- Coffee filters
- Coffee & hot water carafes
- Spoons
- Small plates
- Napkins
- Mugs/hot cups
- Cold cups
- Pitchers for water
- Baskets, bowls, plates & utensils for displaying breakfast food
- Table cloths
- Table decorations (i.e. vases of flowers)
- Lunch serving dishes & utensils
- Knives
- Cutting boards

Materials

- Copies of workshop evaluation

Food Items

- Cream/milk
- Sugar
- Coffee
- Tea
- Juice
- Breakfast/snack foods & associated spreads
- Lunch foods

Other

-
-
-
-

Gardens with Purpose Slideshow Notes

- Explain that we'll have a few minutes at the end of the slideshow to discuss what they've seen and heard.
- Questions to think about as we head into the slideshow:
 - ❖ What ideas or visuals inspire you?
 - ❖ What ideas or visuals surprise you?
 - ❖ What ideas or visuals make you want to learn more?
- Time for questions/discussion at end of slideshow

Slideshow:

- ❖ Slide 1: Many of us are a part of organizations with purposes, goals, & visions that guide the work we do and how it's done. Many of us also are the recipients of these visions and know that without them our needs wouldn't be met.
 - For all of us, our experiences tell us that the same goes for our gardens—to be successful and meet the needs of the people who will be using them, planning for these gardens should be grounded in this purpose or vision.
 - For this slideshow I've tried to include as many pictures of local garden sites as possible, with the idea that these are places that you can visit or think of as resources as you start out.
 - Gardens themselves serve numerous purposes and these purposes dictate how the garden itself should be designed. Some of these purposes include...
- ❖ Slide 2: Food Production...growing lots of food to increase access to healthy food in our communities.
- ❖ Slide 3: Beautification & Habitat Enhancement...we can think of our gardens as another way to spruce up our surroundings & in doing so make considerations for increasing the biodiversity of your location.
- ❖ Slide 4: Relaxation...not just a place for work...can be thought of as a place to go and unwind...providing the shade and seating for people to do so.
- ❖ Slide 5: Expression & Reflection...look for opportunities in design to encourage creativity & reflective practices...some of the same principles used in Relaxation.
- ❖ Slide 6: Recreation...where we locate our gardens & the spaces we create within them can encourage the idea that this can be a place to play & be for fun.

- ❖ Slide 7: Knowledge-building...wonderful places for learning...formally & informally.
- ❖ Slide 8: Skills-building...create opportunities & tools that build peoples' skills around gardening...often extend far past the garden...lead to a sense of empowerment & self-sufficiency.
- ❖ Slide 9: Developing Healthy Eating Habits...again and again we've seen that people who grow their own food are more inclined to try new foods.
- ❖ Slide 10: Community-building & Socializing...think about creating events, space, and opportunities for bringing people together to build community around your garden.
- ❖ Slide 11: As I mentioned earlier, who is participating in or being served by the gardens should also be central to garden site planning and design.
- ❖ Slide 12: (Early Childhood) Understanding how people learn at different ages, what gets them excited...
- ❖ Slide 13/14: (Elementary Youth) Think about how to set up the space so that they can explore, participate, have the experience they want. In certain situations this might involve having the garden participants design the gardens themselves to develop ownership over the gardens.
- ❖ Slide 15: (Older Youth) This may involve assigning more responsibility...thinking about how older participants can serve as mentors for younger participants.
- ❖ Slide 16: (Seniors) Very important to think about how you set up the site to be useful for your participants.
- ❖ Slide 17: (Accessibility) And that it meets the needs of all potential participants.
- ❖ Slide 18: (Residents, Neighbors, Clients, Parents) We need to think about what our primary participants' relationship to the garden will be...also think beyond our primary audience to others who may be involved or affected by the garden site.
- ❖ Slide 19: Garden Should Be A Place For Everybody...welcoming, accessible, fun, useful, & full of purpose.

Site Design & Planning Lesson Plans



Site Considerations & Design Basics

Overview:

Gardeners learn about site considerations and design basics through a simple presentation and some opportunities for participation.

Objectives:

Gardeners will

- Think intentionally about program & garden design
- Develop confidence to begin the garden planning process
- Understand how garden site goals relate to site & program design
- Increase their knowledge of basic design considerations

Activity Time:

30 minutes with 5 minutes for questions.

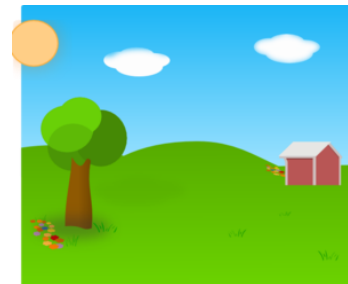
Materials:

- Chalk or white board & chalk or dry erase markers
- Garden Design Elements worksheet (A2)

Introduction

This lesson was designed to be a part of a workshop on garden planning and design. However, the concepts are independent enough to be used on their own.

The content is for garden groups who are beginning to design their garden site. While gardens widely vary in size, shape, location, and purpose, there are several elements that are universally wise to consider for the development of a successful garden site. These elements can be divided into two categories: 1) natural elements: these affect plant growth and garden success; 2) human elements: these affect how your participants as well as other people use and interact with the garden.



Lesson Description

1. Explain to the group that there are many variations on how gardens look and the purpose they serve. However, for all gardens there are universal elements that are important to consider in developing a successful garden site.

These elements can be divided into two categories: 1) natural elements: these affect plant growth and garden success; 2) human elements: these affect how your participants as well as other people use and interact with the garden.

2. Divide the chalk/white board into two parts: one side with the heading “Natural Elements,” the other side with the heading “Human Elements.” Divide each side of the board into four more sections. On the

“Natural Elements” side, write the subheadings of “Light,” “Space,” “Soil/Drainage,” and “Slope/Exposure.” On the “Human Elements” side, write the subheadings of “Physical Access,” “Ease of Use,” “Communication,” and “Aesthetic Elements.” (To save time you may want to prepare this grid ahead.)

Hand out the *Garden Design Elements* worksheet (A2), which has the same format, headings, and subheadings as seen on the chalk/white board. Suggest to your participants that they follow along on their worksheets by filling in design elements and considerations where space is provided below the subheadings.

3. For each subheading discuss the various elements to consider when designing a garden. Start with the “Natural Elements” category. I have provided discussion points below, but as an example, for the subcategory “Light” you will want to cover the amount of direct sun needed for vegetables to grow and thrive. Feel free to add other points you find useful. Also, you may want to ask your participants if they are any other “Light” considerations that they would like to add. Record points on the board as they are mentioned. Once all points are made for the particular subcategory, ask the group how this might affect garden design. In a different color make note of any design consideration within that particular subcategory. For “Light” you could write “bed location” and “bed orientation.” For a visual of the above explanation see *Garden Design Elements lesson guide* (A1).

4. Repeat Step 3 until all subcategories are filled-in. No matter how you choose to lead this lesson, keep it simple. Perhaps even consider providing some visuals (photos to illustrate or drawing as you go). Leave time for questions.

Design Elements & Considerations

NATURAL ELEMENTS

Light

Elements: At least 6 hours of direct sun on your garden is recommended. Things that affect light include buildings, vegetation, and other structures.

Considerations: The amount of sun available affects the location of garden beds, the need to remove structures, and the orientation of beds (the wide side of the bed receiving the most sun exposure).

Space

Elements: Make sure there is adequate space for gardens, room for plants to grow and spread. Things that affect space include walkways, fences, buildings, vegetation, and other structures. Also pay attention to the presence of wildlife in the site that might be a later disturbance. If wildlife are an issue you may want to consider if there is space for fencing.

Considerations: The amount of space available affects the size/dimensions of the beds you build, the location of beds, and the need for trellising or fencing.

Soil/Drainage

Elements: Most plants don't like to have "wet feet," so avoid areas with standing water or poor drainage. If you are planting directly in the ground you will want to know what nutrients you have and/or are lacking. Also, particularly important for urban gardens is a test for soil contaminant to make sure there you are not adding toxins to your plants.

Considerations: The presence or absence of the above elements will determine whether all or some of your beds are higher raised beds or lower, in-the-ground beds. This will also determine if soil needs to be amended for in-ground plantings.

Slope/Exposure

Elements: Ideally your garden site will be as level as possible. However, if you must work with slope look for ways to terrace the slope (take into account cost and labor). Also, if you are growing on a slope it is best to look for a south-facing slope for greater sun exposure. It is best also to avoid low lying areas that tend to hold cold air and frost longer. If possible, avoid exposed, high wind areas.

Considerations: The slope and exposure of your site affects location of garden beds, orientation of beds, and various landscaping considerations (i.e. terracing, wind blocks).

HUMAN ELEMENTS

Physical Access

Elements: Depending on your participant population it is important to make sure there is universal access to the garden site from buildings, sidewalks, and the parking lot. It may be wise to consider wheelchair and walker accessibility (i.e. hard surfaces, space, etc.). Consider physical needs of your specific population. Safety is another element of garden design, which includes proximity to vehicle traffic and supervision, as well as presence of unsafe equipment or tools. Rather than fighting the natural flow of foot traffic it may be wise to take into account the current patterns of walking through the site before designing your site.

Considerations: Looking at the physical accessibility of the site affects how and where you construct your garden pathways (placement, width, material) as well as where you locate the part of the garden that gets the most activity.

Ease of Use

Elements: Within your garden site you want to ensure that the garden can be used easily by all potential participants. Elements that affect this include bed height and dimensions (no wider than 4ft., no longer than 10ft., and about 2-3ft. high), proximity of water (no more than 100 ft.; ideally within 25 ft.), proximity of tool storage, presence of shade, availability of seating, and space for various gardening activities.

Considerations: Consider in your design the above elements so that your participants are able to use the site with ease.

Communication

Elements: Communication is a valuable element to any communal garden site, but becomes particularly important when education is involved. An important element that affects communication is signage (easy to read and understand) that provides information, direction, and education. It may be useful for your garden site to have a weather-protected writing space for gardeners to communicate with each other and with staff. To ensure that your gardeners are interacting create communal spaces to encourage gathering.

Considerations: Consider the presence of the above elements in your design. Other valuable considerations are location and content of these elements.

Aesthetic Elements

Elements: Valuable for their psychological and morale benefits, aesthetics should not be ignored. Elements to consider: habitat enhancement, murals, materials used. Visibility of the garden site and proximity to neighbors is good thing to think about as well.

Considerations: Consideration of materials used, decoration, and arrangement of site is valuable.

Resources

- ❖ American Community Gardening Association, Rebel Tomato
<http://www.communitygarden.org/rebeltomato>
- ❖ Community Action Coalition of South Central Wisconsin, Inc, Community Gardens, Special Needs Resources, *Madison's Inclusive Community Gardens*
http://www.cacscw.org/special_needs_resources.php

Overview:

Gardeners participate in a hands-on activity to combine ideas of garden purpose and garden design.

Objectives:

Gardeners will

- Develop Garden Team skills for working together
- Be inspired to think broadly & creatively about garden design
- Gain confidence to begin garden planning process
- Understand how garden site goals relate to site design
- Increase understanding of basic design considerations
- Develop initial site design ideas to refine over the following weeks

Activity Time: 1 hour

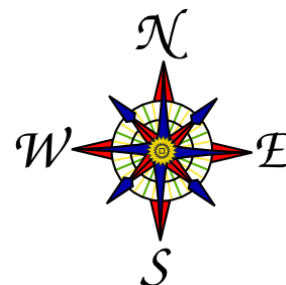
Materials:

- Big chart paper & markers
- Easel stand
- Pencils, colored pencils
- Trace paper
- Cardboard cut-outs of garden beds
- Garden Feature Cut-outs (A3)
- Copies of each Garden Team's base map (they bring)
- Tape
- Additional paper
- Scissors

Garden Design Charrette

Introduction

This lesson is a hands-on activity designed to be a part of a workshop on garden planning and design. The lesson can be used outside of the workshop context as long as groups prepare ahead by creating a base map (see “Garden Team Site Assessment” section) and receive some basics on site design considerations (appropriate information provided in Site Considerations & Design Basics lesson). Also, the charrette should be followed-up with further design planning until a complete design is agreed upon.



The content of this lesson is for garden groups who are beginning to design their garden site. A design charrette is a process that allows non-designers to provide their input into design and play around with various ideas. While it may be tempting to get into lots of detail in this stage, encourage your group to use this as a brainstorming session, where lots of different ideas can be tried out, and the group leaves with a pile of ideas, rather than a finalized design.

Lesson Description

1. Advise groups to begin with a brainstorming session. Encourage the group to think broadly and advise that there will be time later to refine site details and prioritize various features within the design.* Remind the group to stay flexible and open during this part of the process—a diversity of ideas should be encouraged. Chart paper and an easel can be helpful for this.

*In the case of CGC, depending on the scope of the design, funding may only be provided for certain

features. Additional features will need to be funded through separate fundraising by the individual group. The reason for starting with a broader vision is so that all desired design features will easily fit into the site's space in the future.

Questions that could be helpful to jump-start the process:

Natural Element Considerations:

- ❖ How could we best use light coming into the site?
- ❖ How could we best make use of the available space on the site?
- ❖ Is there potential for both in-ground and raised bed plantings? Based on current knowledge of the site is one style more appropriate than another?
- ❖ What does the slope tell us about landscaping, design, and location of beds?

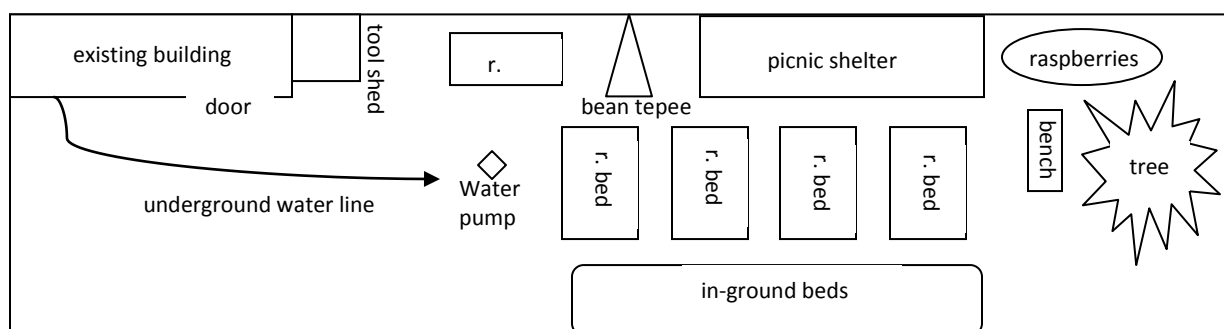
Human Element Considerations:

- ❖ What features are important to include in your garden based on the needs of your population? Based on the goals of the program?
- ❖ What bed dimensions (within given perimeters**) are most appropriate for what you already know about your participants?
- ❖ How should walkways be arranged to make the site most accessible to any potential participants?

**See Site Considerations & Design Basics lesson for more information. Also provide information on what CGC is able to offer in terms of design perimeters.

2. Once the group is satisfied with the brainstorming process they can move on to the hands-on design. Let them know that they can always go back to brainstorming if they get stuck on the design.

3. Show the group how to use tracing paper to overlay the base map. If you have a few copies of the base map, depending on the size of the group, several versions of the design can be worked on at once. Participants can use any of the tools available to begin to play around with various ideas. One suggestion to keep ideas general rather than detailed is for groups to do a “bubble drawing” on the trace paper. Bubble drawings allow you to visualize how different use areas fit together into the landscape and garden area. The “bubbles” roughly correspond to the shape and size of planned use area, and are labeled with their intended use. A “bubble drawing” should look something like this:



4. Once various features have been included on trace paper, add a second layer of trace paper with arrows that link up different features to indicate the connection between various features and how people will move through the site.
5. If time allows, groups can begin to narrow down the design by pointing out common features and features that stand out to them amongst the various design versions.
6. If time allows, groups should next step back and take a look at their latest draft of the site design. This is a good time to ask some of the following helpful questions:
 - ❖ Do the included design features fit within the space available? Is it cluttered?
 - ❖ Is there adequate space for any imagined activities?
 - ❖ Is the site accessible to all potential participants?
 - ❖ Is proximity to water and storage appropriate?
 - ❖ Are spaces wide enough for both access and maintenance purposes?
 - ❖ Does the site provide opportunities for learning and engaging?
 - ❖ Is the site welcoming? Does it make you want to participate?
7. Before the end of the session, the group should decide on next steps for finishing the design plan, including when to meet next, any information they need and anything to be done before the next meeting, and the general goal for the next meeting.

Extensions

1. What happens in the following sessions will be determined by what was accomplished during the 1st session. Repeat any or all of the above steps as needed. Make changes based on answers to questions in step 6. As the group gets closer to the final design, there can be more specific details added, including spacing and more creative details.
2. Once the final design is agreed upon (by majority vote, consensus, or other method), the group should detail all of the materials and quantities needed. In the case of CGC, coordinators should sit down with groups to develop this list and determine costs. See the *Seasonal Planning Meeting* agenda and associated tools to help with this process (found in the Building & Planting section). According to this timeline, this meeting will take place in mid-late March; however, it could happen earlier if groups are ready.
3. Also at this time, the group should prioritize various aspects of the design. Remind the group that starting small is often a good idea to be sure that the design fits the program as well as to avoid overwhelming themselves their first year. For

example, 6 raised beds, a tool shed, and a watering system might be enough for the first year. In the second year the group might want to add a compost pile, some in-ground beds, and a bench. In future years the group might add on larger projects such as a shelter area, a cob oven, or fruit tree plantings. In the case of CGC, these later projects most likely will not fit into the scope of the funding provided and will need to be accomplished through additional fundraising by the individual group.

4. Once the design is final and divided up into phases, materials can be purchased and the site can be prepared for building!

Keep in mind...

- ❖ Things will change over time based on site constraints, budgets, participant and programmatic needs. Emphasize being flexible.
- ❖ Remind the group to always keep the garden's purpose and goals at the forefront of the entire design process.
- ❖ Advise the group to keep earlier drafts of their design—they may find them useful later.
- ❖ Promote creativity and enjoyment of the process!

Resources

- Kiefer, J. and Kemple, M. (1998). *Digging Deeper: Integrating youth gardens into schools and communities: A Comprehensive Guide*. Montpelier, VT: Food Works, Common Roots Press.
- Holmes, M. V. and Rebek, K. (n.d.) *Home Owner Design Series: Planning the Landscape*. Oklahoma State University Cooperative Extension Service. Publication HLA-6440. Retrieved 8/16/12 from <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-7355/HLA-6440web.pdf>

Site Design & Planning Appendices

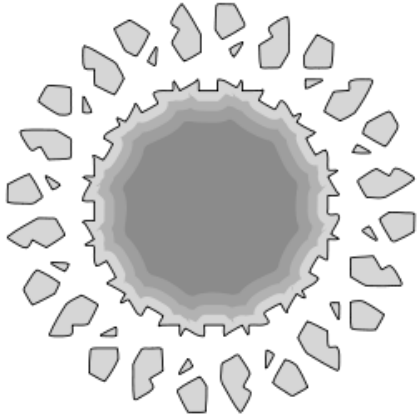
Workshop Planning Checklist.....	p. 58
Sample Agenda—Participant.....	p. 59
Sample Agenda—Staff.....	p. 60
Sign-in Sheet.....	p. 62
Evaluation.....	p. 64
Garden Resources handout.....	p. 66

Lesson Materials

A1—Garden Design Elements lesson guide.....	p. 69
A2—Garden Design Elements worksheet.....	p. 71
A3—Garden Feature Cut-outs.....	p. 73

Site Design & Planning Workshop Checklist

- Hang signs** for directions to room
- Set up tables & chairs**
 - 1 big group area (“U”) with space for projector
 - several break-out areas—1 for each Garden Team
- Set up projector**
 - projector, laptop, extension cord, wall space
- Prepare coffee & boil hot water**
 - coffee & filters
 - coffee-maker & hot water kettle
- Last minute prep of breakfast/snack food**
 - knives
 - cutting boards
- Set up breakfast/snack table**
 - table cloth
 - coffee & hot water carafes
 - tea bags, cream, sugar, spoons
 - small plates & napkins
 - mugs/hot cups
 - cold cups
 - juice
 - pitchers of water
 - breakfast/snack foods & associated spreads
 - baskets, bowls, plates & utensils for displaying food
- Set up sign-in table**
 - agendas
 - sign-in sheet
 - photo waivers
 - pens
 - name tags
 - handouts
- Prepare break-out areas** (per area)
 - easel w/ big chart paper
 - pencils, colored pencils, markers
 - ½ sheet of poster board
 - glue & tape
 - 4 photos of planned garden site (site specific)
 - if desired, copies of garden statement of purpose & goals (site specific)
 - additional paper
 - scissors
 - Bag set aside for Design Charrette at each break-out area:
 - trace paper
 - cardboard cut-outs of beds
 - garden feature cut-out sheets
- Prepare for presentation**
 - access to chalk or white board
 - dry erase markers & erasers
 - worksheet copies
 - if time & desire, draw out grid & headings on board
- Prep lunch area**
 - if separate room available, set up tables & chairs so they make 1 big table
 - table cloths
 - table decorations (i.e. vases of flowers)
 - set up buffet area (tables, etc.)
 - lay out stacks of plates/bowls, flatware, cups, napkins
 - serving dishes & utensils
 - prep food as necessary
 - stack of workshop evaluations



Site Design & Planning Workshop

[day, date, time]

[location]

[organization]

Agenda

8:45 **Morning Snack, Coffee, & Tea**

9:00 **Agenda overview & Community Building Activity**

Gardens with Purpose

- ❖ Inspirational slideshow with local highlights
- ❖ Group activity—This is your chance to share your garden site's purpose & goals with other groups!

10:00 **Site Considerations & Design Basics** — mini lesson on garden design

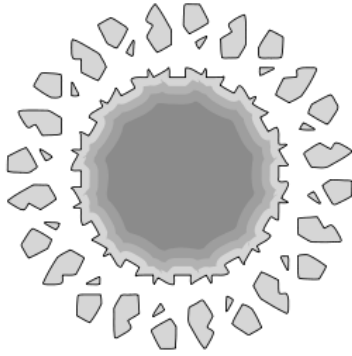
10:40 **Break & Shake**

Site design planning activity — Hands-on activity in Garden Teams

11:45 **Break for lunch**

During Lunch—Informal Q&A with past garden sites

12:45 **Wrap-up, Evaluations, & Opportunities**



Site Design & Planning Workshop

[day, date, time]

[location]

[organization]

Staff Agenda

Evening
Before:
2hrs.

Prep for workshop (see Workshop Checklist for details)

7:30

Prep for workshop (see Workshop Checklist for details)

8:45

Morning Snack, Coffee, & Tea

9:00

Agenda overview & Community Building Activity

- Start in large group space

9:30

Gardens with Purpose

Inspirational slideshow with local highlights (leave a few minutes for questions)

- In large group space

9:40

Group activity — Garden Teams share their garden's statement of purpose & goals

- Garden Teams spend 5-10 minutes in their break-out areas
- One facilitator per group to guide activity
- Each Garden Team presents to larger group w/ a total of 10-15 minutes for all groups

10:00

Site Considerations & Design Basics — mini lesson on garden design

- In large group space
- Hand out worksheets

10:35

Explain Design Charrette

- Ask each Garden Team to bring their statement of purpose poster and their garden site base map to their break-out area
- Explain that after the break groups can head straight to their break-out area

10:40**Break & Shake** – snack, drink, bathroom break

- During this time add materials for Design Charrette to break-out areas
- If any further lunch prep needs to be done, designated staff should start thinking about starting

10:50**Site design planning activity** — Hands-on activity in Garden Teams

- In break-out areas
- One facilitator per group to guide activity

11:45**Break for lunch**

- Overview of what's for lunch, process, and mention of special guests

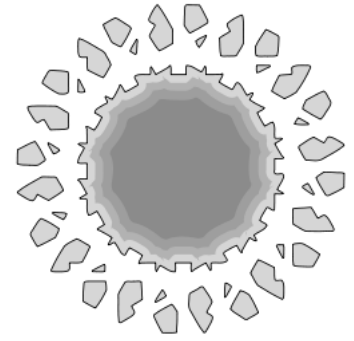
12:00**During Lunch—Informal Q&A with past garden sites**

- Everyone can participate in dialogue—if participants are without questions, staff can get the conversation going with questions

12:45**Wrap-up, Evaluations, & Opportunities**

- Wrap-up with “take-aways” from the workshop—everyone shares 1 thing
- Pass out evaluations & pens
- Reminder to sign photo waiver
- Announcements for upcoming events and next steps

Site Design & Planning Workshop
[date]
Sign-In & Contact Sheet



Please include your contact information if you'd like to be included in future CGC updates, workshops, etc.

Name	Garden Site / Organization	Contact Information

Name	Garden Site / Organization	Contact Information

**Keene Community Garden Connections (CGC)
Site Design & Planning Workshop
Feedback For Growth (date)**

Thank you for spending your morning learning with us! We value your feedback so that we can support your efforts, your interests, and improve the quality of our future workshops. All comments will remain confidential. Only respond to those questions you feel comfortable answering.

1. Garden Site: _____

2. Please use the space below to comment on your experiences today and to share suggestions for improvement:

+

(Positive Things about this Workshop)

△

(Things You Would Change About this Workshop)

3. Please check one answer for each of the following statements:

Today's workshop offered opportunities to...

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Begin planning our garden design					
Clarify the purpose of our garden project					
Network with others interested in gardening					
Gain new ideas for our garden					

4. What is one thing you learned today that will help you as you move forward with your garden project?

--

5. Would it be helpful to you to have a way to share information between the different CGC garden sites? Yes No

If yes, please check the likelihood that you will use the following formats:

	Will not use	Somewhat likely	Likely	Very likely
Email				
Email listserv				
Facebook page				
Blog				
Newsletter				
Phone				
Face-to-face				
Something else _____ (please describe)				

6. Is there anything else you would like us to know?

Thanks for your feedback!

Resources for Educators & Gardeners

Community Garden Connections
40 Avon Street
Keene, NH 03431
www.antiochne.edu/cgc
communitygardens@antioch.edu

New England, National & International Organizations

- University of New Hampshire Cooperative Extension: <http://www.extension.unh.edu>
- Northeast Organic Farming Association: <http://www.nofa.org/index.php>
- American Community Gardening Association: <http://www.communitygarden.org>
- Community Food Security Coalition: http://www.foodsecurity.org/cfa_home.html
- The Worldwide Permaculture Network: <http://www.permacultureglobal.com>

Sample Garden Programs

Local

- Early Sprouts (Keene, NH): <http://www.earlysprouts.org>
- Cornucopia Project (Hancock, NH): www.cornucopiaproject.org
- Stonewall Farm (Keene, NH): <http://www.stonewallfarm.org>
- The Sustainability Project (Gilsum, NH): <http://www.emersonbrookforest.org>
- Tracie's Community Farm (Fitzwilliam, NH): www.traciesfarm.com/Pages/education.html
- Discover more local projects in Monadnock Farm & Community Connections' Farm & Garden Education Toolkit: [http://www.cheshireconservation.org/sites/all/files/PDF/FEI Toolkit 11 3 10.pdf](http://www.cheshireconservation.org/sites/all/files/PDF/FEI_Toolkit_11_3_10.pdf)

Not-so-Local

- Friends of Burlington Gardens (VT)
- Seeds of Solidarity (MA): <http://www.seedsofsolidarity.org>
- The Food Project (MA): <http://thefoodproject.org>
- East New York Farms! (NY): <http://www.eastnewyorkfarms.org>
- Garden Mosaics (Ithaca, NY): <http://www.gardenmosaics.cornell.edu>
- Civic Garden Center of Cincinnati (OH): http://www.civiggardencenter.org/garden_files/gardens.htm
- Healthy Works (CA): <http://www.healthyworks.org/healthy-foods/school-and-community-gardens>
- Youth Farm & Market Project (MN): <http://www.youthfarm.net/history>
- Accessible Gardens For All (MA): <http://accessiblegardens.blogspot.com>
- Community Groundworks (WI): <http://www.troygardens.org>

Program Start-up and Site Design & Planning Resources

Websites

- Rebel Tomato – American Community Gardening Association
<http://communitygarden.org/rebeltomato>
- Accessible Gardens For All blog
<http://accessiblegardens.blogspot.com/p/components-of-accessible-garden.html>
- Center for Excellence in Disabilities
<http://greenthumbs.cedwvu.org/factsheets/accessorize.php>
- Home & Community Food Gardening Resources – UNH Cooperative Extension
http://extension.unh.edu/hcfg/Get_Started.htm

Web-publications

- *Community Gardening Toolkit* – University of Missouri Extension
<http://extension.missouri.edu/publications/DisplayPub.aspx?P=MP906>
- *Garden Organizer's Handbook* – Community Action Coalition for South Central Wisconsin, Inc.
http://www.cacscw.org/garden_handbook.php
- *Got Dirt?: Garden Toolkit for Implementing Youth Gardens* – Wisconsin DHS, DPI, & UWCE
http://www.dhs.wisconsin.gov/health/physicalactivity/pdf_files/GotDirt_09.pdf
- *People & Plants: Starting a Community Garden* – UW Cooperative Extension
<http://fyi.uwex.edu/peopleplants/publications>
- UNH Cooperative Extension Publications
<http://extension.unh.edu/resources>

A Handful of Popular Gardening Resources

Books

- Massingham, R. (2011). *Vertical vegetables and fruit: creative gardening techniques for growing up in small spaces*. North Adams, MA: Storey Publishing
- Coleman, E. (1995). *The New Organic Grower: A Master's Manual of Tools and Techniques for the Home and Market Gardener*. White River Junction, VT: Chelsea Green Publishing Co.
- Krupp, R. (2001). *The Woodchuck's Guide to Gardening*. Milton, VT: Villanti and Sons, Printers, Inc.
- Homeyer, H. (2007). *The New Hampshire Gardener's Companion: An Insider's Guide to Gardening in the Granite State*. Guilford, CT: Globe Pequot Press.

Community Garden Connections

Our Garden Site Partners:

Harper Acres Apartments' Garden of Eatin'

Keene Recreation Center CATCH Gardens

Woodward Home

Keene Senior Center

Keene Family YMCA and Monadnock Family Services' InSHAPE Program

Keene Housing Authority's Building Bridges Clubhouse Youth Program

Stay in touch with what we're up to by following us at:

Blog: <http://keenecommunitygardenconnections.wordpress.com>

Facebook: <http://www.facebook.com/pages/Keene-Community-Garden-Connections/277691318927822>

Website: <http://www.antiochne.edu/cgc>

Compiled by CGC, Antioch University New England, 6/30/12

A1

NATURAL ELEMENTS***LIGHT***

- At least 6 hours direct sunlight (affected by buildings, vegetation, structures)
- Bed location
- Bed orientation
- Removal of structures

SPACE

- Room for plants to grow & spread (affected by walkways, fences, buildings, vegetation, structures)
- If wildlife present, consider space for fencing
- Bed location
- Bed size & dimension
- Trellising
- Fencing

SOIL/DRAINAGE

- Avoid standing water and/or poor drainage
- For in-ground plantings, helpful to know nutrient make-up of soil
- Particularly for in-ground plantings, wise to test for soil contaminants
- In-ground vs. raised beds and bed height
- Soil amending for in-ground plantings

SLOPE/EXPOSURE

- As level as possible
- If dealing with slope, look for ways to terrace (cost & labor)
- South-facing slope over north-facing slope
- Avoid low-lying areas (frost)
- Avoid high wind areas
- Bed location
- Bed orientation
- Landscaping considerations (terracing, wind blocks)

HUMAN ELEMENTS

PHYSICAL ACCESS

- Universal access to garden site from buildings, walkways, parking lots
- Wheelchair & walker accessibility—hard surfaces, space, etc.
- Physical needs of your specific participant population
- For safety, proximity to vehicle traffic, supervision, maintenance equipment
- Natural flow of foot traffic
- Garden activity location
- Walkway placement, width, & material

EASE OF USE

- Beds an accessible dimensions (no wider than 4ft., no longer than 10ft., and about 2-3ft. high)
- Close proximity to water (no more than 100 ft.; ideally within 25 ft.)
- Close proximity to tool shed
- Presence of shade
- Availability of seating
- Space for various gardening activities
- Location of the above elements
- Bed dimensions
- Availability of shade & seating
- Space for movement, gathering, etc.

COMMUNICATION

- Availability of signage for information on garden purpose, and to provide direction to guide participants & visitors through the garden—easy to read & understand
- Availability of signage to provide education, as needed/desired—easy to read & understand
- Weather-protected writing space for gardeners, staff, and others to communicate about garden
- Communal spaces that encourage interaction
- Presence, location, material, and content of the above signage
- Presence of communication areas
- Presence of communal/gathering spaces

AESTHETICS

- Murals & other decoration of garden site
- Materials used environmentally & aesthetically sound
- Habitat enhancement—flowers, other landscaping
- Proximity to neighbors—for their sake & yours (sounds, sights, etc.)
- Visibility of garden site—Who sees the site & how does that affect its design?
- Materials used
- Decoration
- Additional landscape plantings
- Location of different garden elements based on visibility & proximity to other activities

A2

NATURAL ELEMENTS

LIGHT

SPACE

SOIL/DRAINAGE

SLOPE/EXPOSURE

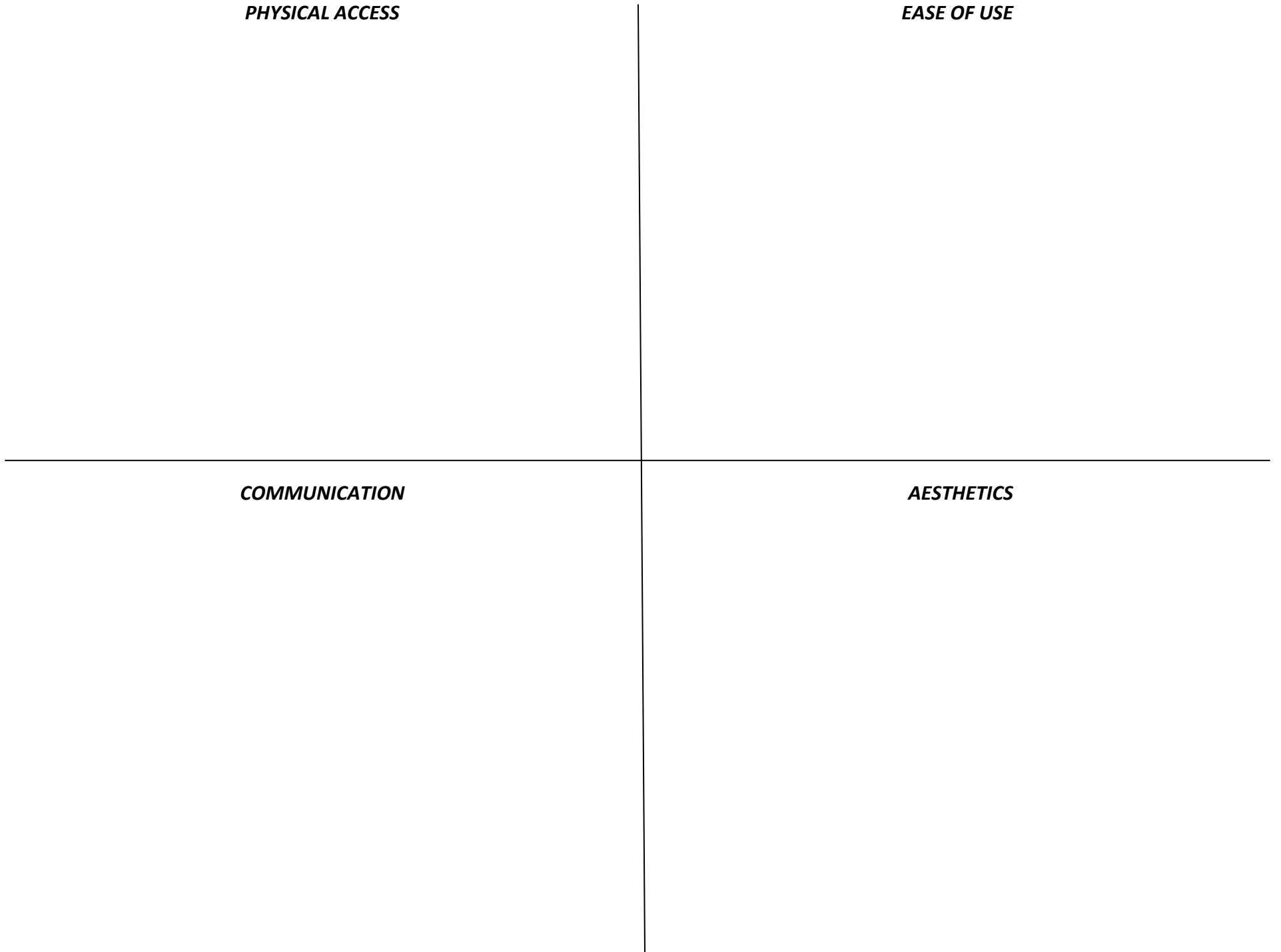
HUMAN ELEMENTS

PHYSICAL ACCESS

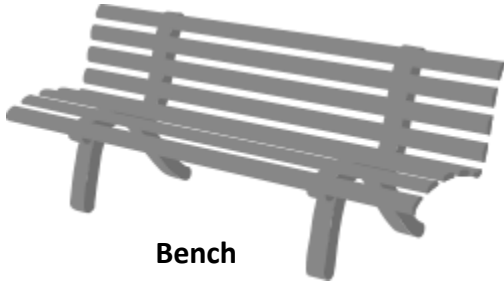
EASE OF USE

COMMUNICATION

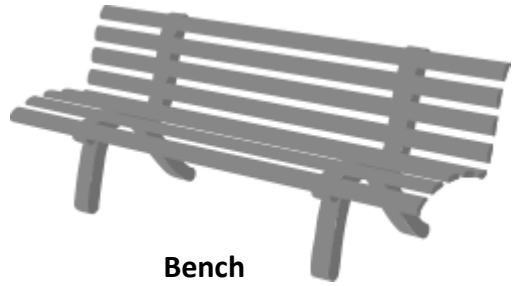
AESTHETICS



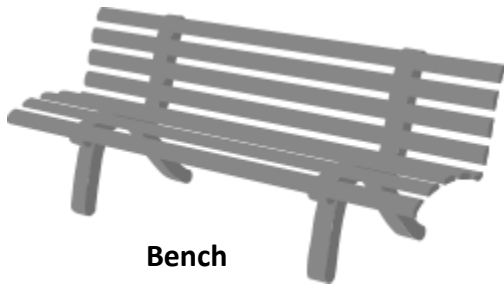
A3



Bench



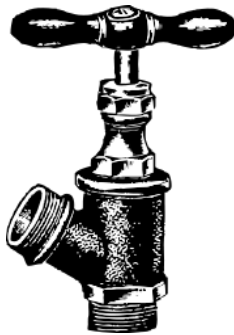
Bench



Bench



Storage



Water Source



Community Space



Compost Bin



Sign



Sign



Sign



Communications



Raised Bed



Raised Bed



Raised Bed



Raised Bed



Raised Bed



Raised Bed



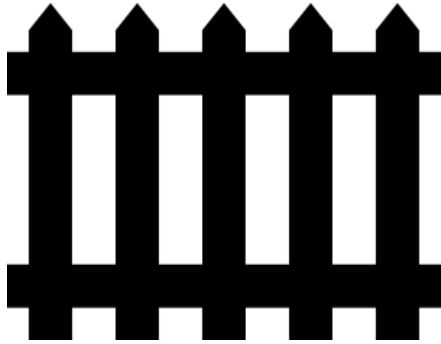
Raised Bed



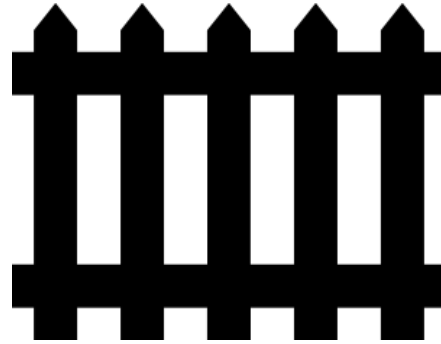
Raised Bed



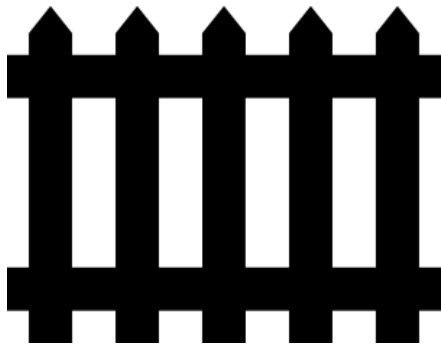
Shelter/Shade Area



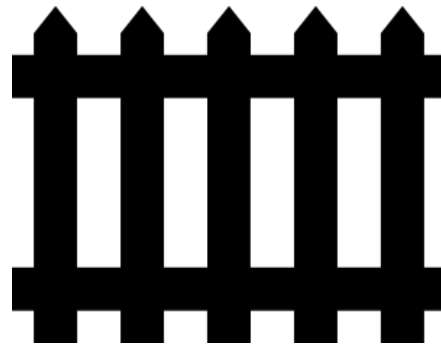
Fence



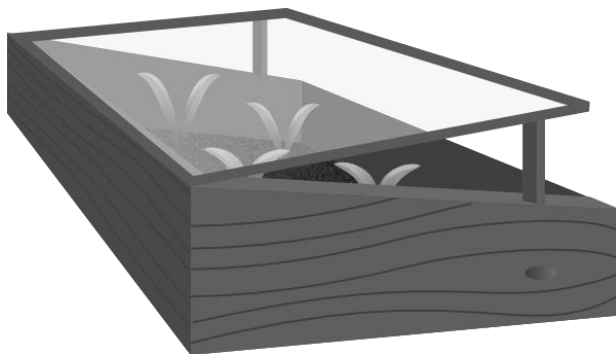
Fence



Fence



Fence



Cold Frame



Rain Barrel

Site Design & Planning

Additional Resources



- ❖ http://www.cacscw.org/special_needs_resources.php
Community Action Coalition of South Central Wisconsin, Inc, Community Gardens, Special Needs Resources, *Madison's Inclusive Community Gardens*
This document outlines Universal Design principles as they related to gardens.
- ❖ http://communitygardennews.org/gardenmosaics/pgs/action/Action_4.pdf
Garden Mosaics, Action Projects, *Garden Design Action Project*
This website is full of garden project ideas for all ages. This project is particularly relevant for groups working with kids who are interested in doing hands-on garden design.
- ❖ <http://kiwanisteambuilding.wikispaces.com/file/view/Personalities.pdf>
Kiwanis, Kiwanis Team Building Wikispace, Documents and Files, *Tips for working with volunteers*
Learn more about how to work well with volunteers and different personalities/work styles.
- ❖ <http://workshopuniversity.com/toolstemplates.asp>
Workshop University, Tools & Templates
This website has a wealth of information on workshop development and facilitation, including some helpful, free tip sheets on the following topics: *Ensuring Successful Design & Development, Designing Interaction & Experiential Learning, Mentally Prepare for Your Workshop, A Successful Delivery: Tips & Common Pitfalls to Avoid, The Workshop Delivery Process, and Creating & Administering the Workshop Evaluation Form.*

Planning Your Garden

Feb./early March

Garden Teams complete site plan

late Feb./ early March

Garden Teams generate list of what vegetables, fruits, & herbs participants want to plant & eat

early-mid March

Garden Planning Workshop

early-mid March (a week after the workshop)

Order Seeds for garden sites

Overview

Outcomes:

- Foster confidence in groups' ability to design & plan their garden
- Increase understanding of what, when, & where to plant various vegetables.
- Increase understanding of various vegetable needs.
- Build comprehension of plant relationships
- Prepare Garden Teams for garden season planning.
- Foster learning between garden sites.
- Develop skills so that groups can independently start seeds indoors.

Found in this section...

- ❖ Planning Your Garden Workshop Overview
 - Workshop prep Action Plan
 - Workshop Program Plan
- ❖ Workshop Lesson Plans
 - Your Garden: What to grow lesson
 - Your Garden: When to grow lesson
 - Plant Relationships lesson
 - Indoor Seed Starting lesson
 - Garden Planning activity
- ❖ Workshop Appendices
 - Workshop planning checklist
 - Sample agendas (participant & staff)
 - Sign-in sheet & Evaluation
 - Lesson Materials (handouts, worksheets, visuals)
- ❖ Additional Resources
 - Various resources on icebreakers, small plot and raised bed growing, and garden planning

Planning Your Garden Workshop



A piece of advice: “Don’t get overwhelmed with the details.”

—CGC program participant

Planning Your Garden Workshop Action Plan

Project: Planning Your Garden Workshop		Purpose of Project: Provide beginner garden groups with vegetable growing knowledge and planning foresight to plan their garden plantings. Also continue to foster connections between gardeners. This workshop was designed to be the 2 nd in a series of 3 winter/spring workshops, preparing garden groups for the first season of their garden and garden program.			
Time Frame for Completion: January – early March (example below is based on a workshop date of March 6 th)		Date Today:			
Members of Task Group:					
Critical Steps	Who will be involved & make decisions (Names)	Resources Needed	Information and Assistance Needed	Time to do task (include completion date)	How we'll know we've successfully accomplished task
Identify and confirm location of Planning Your Garden Workshop (appropriate space, number of tables & chairs, chalk/white board)		Space available	Call around & make reservation request	January 7-February 8	Sites contacted with workshop location
Garden Teams continue and complete site design and planning started at 1 st workshop		All tools used in Site Design & Planning Workshop	Information from Site Design & Planning Workshop; Assistance from CGC Team	February 14-March 1	Complete site plan
Identify and confirm logistics (e.g., food, equipment, materials, etc.) for Planning Your Garden Workshop		Funds for food and materials	Availability of resources; list of needed resources	February 18-March 1	List of what resources to get where & when

Critical Steps	Who will be involved & make decisions (Names)	Resources Needed	Information and Assistance Needed	Time to do task (include completion date)	How we'll know we've successfully accomplished task
Garden Teams generate list of what vegetables, fruits, & herbs garden participants want to plant & eat			Ideas from garden participants	February 25- March 8	List of things to plant from garden participants
Create workshop materials (e.g. handouts, evaluations, other materials)		Funds for materials copying & printing	CGC Education Manual—material templates	February 25- March 1	All materials created
Purchase/pick-up needed materials		Funds for materials	List of resources to get where & when	February 25- March 1	All materials purchased/acquired
Purchase/pick-up needed food & other later logistics		Funds for food	List of food items needed	March 4- March 5	All food purchased/acquired
Workshop site prep (setting up room, etc.)		All materials & equipment needed	CGC Education Manual—checklist	March 5- March 6	Room ready for workshop
Conduct Planning Your Garden Workshop		Venue, equipment, materials, food	Volunteers	March 6	Complete Workshop #2
Compile and analyze evaluation results to inform future workshops and other efforts			Complete workshop evaluations	March 6-8	Summary of workshop evaluations
Order seeds for all garden sites		Common catalogue for all sites	List & numbers of seed varieties from each site	March 6- March 13	Seeds ordered

Planning Your Garden

Tools for promoting vegetable growing knowledge & planning foresight in new garden groups

Presenters Preview:

The intent of this workshop is to provide beginner garden groups with the skills, knowledge, and confidence to plan their 1st garden season. This will be achieved through a variety of visual and verbal presentations, hands-on activities, and group discussions. Also as a part of the experience, the different participating garden groups will have a chance to network with each other. Participants should leave with a complete Garden Planning Chart, which includes the amount and varieties of seeds to order and with a bed grid that shows the arrangement of the various plants within their garden site. Information and resources to continue their garden planning throughout the season will be provided.

This workshop was designed to be the second in a series of three workshops for groups starting garden programs. However, the workshop can be used separately as long as facilitators prepare groups ahead and follow-up with them on garden planning.

The Program will:

- Foster confidence in groups' ability to design & plan their garden & site
- Increase understanding of what, when, & where to plant various vegetables.
- Increase understanding of various vegetable needs.
- Build comprehension of plant relationships
- Prepare Garden Teams for garden season planning.
- Foster learning between garden sites.
- Develop skills so that groups can independently start seeds indoors.

Location: Site should have access to the appropriate number of tables and chairs and have space for both large group gathering and break-out groups.

Room Set-up Time:
3 hours

Teaching Time: 4 hours

Equipment, Supplies, Materials & Food Items: See attached list

Participants Bring:

- Their group's final site design plan
- List of garden vegetables & fruits participants are interested in growing & eating
- Site binders

Program Outline/Facilitators Notes:

Welcome & Agenda (5 min.) 9:00-9:05

- Primary purposes of today:
 - ❖ Give you the mental tools to better understand the what, where, and when of planting various vegetables and fruits in your garden.
 - ❖ These tools along with some other planning resources will help you to develop your garden plan—actually plan out what you want planted, where it will go in your garden, and when you will plant it. Our hope is for you to leave with a garden plan and us to leave with a list of seeds to order.
 - ❖ Give you all another opportunity to get to know one another, and learn from each other’s experiences of developing a new garden site.
- Processes to achieve purposes today:
 - ❖ Community-building activity
 - ❖ Share final garden site plans—each Garden Team share with larger group
 - ❖ Your Garden: What to Grow—mini-lesson
 - ❖ Your Garden: When to Grow—mini-lesson
 - ❖ In small groups:
 - Your Garden: Where to Grow (Plant Relationships)—mini-lesson & activity
 - Seed Starting—hands-on mini-lesson
 - ❖ Break & Shake—snack & bathroom break
 - ❖ Garden Planning—hands-on activity in Garden Teams
 - ❖ Lunch with Q&A
 - ❖ Wrap-up, Evaluations, & Opportunities

Community Building Activity (10 min.) 9:05-9:15

Introduce & play Head, Heart, Hands or other icebreaker that gets people up and moving. For instructions and other ideas see Additional Resources.

Share final garden site plans (10-15 min.) 9:15-9:30

- Explain that each Garden Team will have 2-3 minutes to share their final garden plan.
- Garden Teams take turns sharing.

Your Garden: What to Grow—mini-lesson (10-15 min.) 9:30-9:45

- See associated lesson plan and handout

Your Garden: When to Grow—mini-lesson (10-15 min.) 9:45-10:00

- See associated lesson plan and handout

Break group into 2 and spend 20 minutes per station, then swap.**➤ Your Garden: Where to Grow (Plant Relationships)**

—mini-lesson & activity (20 min., 2x) 10:00-10:45

- See associated lesson plan and handout

➤ Seed Starting—hands-on lesson (20 min., 2x) 10:00-10:45

- See associated lesson plan and handout

Explain Garden Planning activity (2-5 min.) 10:45-10:50

- Ask all Garden Teams to come with their final garden site plan. (You may want to have a copy of this too or make the copies yourself.)
- Explain to participants that now's their chance to develop their garden plan, using everything they've seen and learned about the what, when, & where of growing garden vegetables, and keeping in mind information they know about their site, their program, and participant needs and interests.
- Show some of the tools they have to use during their Garden Planning.
- Explain that after the break they can go directly to their break-out space with their Garden Team and begin brainstorming and planning.
- There should be at least 1 facilitator per group to explain further how to use the various tools and guide Garden Teams through the Garden Planning process.

Break & Shake (10 min.) 10:50-11:00

- Snack, drink, and bathroom break

Garden Planning (1 hour) 11:00-12:00

- See associated lesson plan and handout

Lunch w/ informal Q&A (45 min.) 12:00-12:45

- Handout box lunches, start buffet line, or serve lunch
- Allow groups to visit and eat
- When timing is right offer Q&A

Wrap-up (15 min.) 12:45-1:00

- Thank you
- Ask all participants to share 1 take-away from today's workshop (record these—they make for great assessments)
- Pass out workshop evaluation
- Share any upcoming opportunities & next steps

Planning Your Garden Workshop

Equipment, Supplies, Materials, & Food Items List

Equipment

- Coffee maker
- Tea boiler/kettle
- Chalk or white board
- Tables—enough for participants in large group & break-out groups; 1 for sign-in; 1 for breakfast/snacks; 1 for seed starting
- Chairs—enough for participants in large group & break-out groups
- Lunch tables and chairs, if needed
- Pens
- Name tags
- Tarp for catching messes
- Growing medium
- 2-3 ½ inch deep peat/manure pots
- 3-4 seed varieties
- Spray bottle
- Plastic wrap or old plastic bag
- Popsicle sticks
- Toilet paper rolls
- Newspaper
- Single serving yogurt container
- Seed Catalogues
- Table decorations (i.e. vases of flowers)
- Knives
- Cutting boards

Materials

- Copies of workshop evaluation
- Copies of agenda
- Copies of handouts & worksheets
- Sign-in sheet
- Copy of final site plan (for each group)
- Laminated Companion Planting Activity visuals
- Large 3-Sisters Garden visual (laminated, if possible)

Supplies

Workshop-related

- Easels (1/group)
- Big chart paper (1/group)
- Pencils, colored pencils, markers
- Trace paper
- Graph paper
- Additional drawing paper
- Masking tape
- Calculators
- Highlighters
- Permanent markers
- Dry erase markers or chalk & erasers
- Food-related*
- Coffee filters
- Table cloth
- Coffee & hot water carafes
- Spoons
- Small plates
- Napkins
- Mugs/hot cups
- Cold cups
- Pitchers for water
- Baskets, bowls, plates & utensils for displaying breakfast food (and lunch, if needed)

Food Items

- Cream/milk
- Sugar
- Coffee
- Tea
- Juice
- Breakfast/snack foods & associated spreads
- Lunch foods

Planning Your Garden Lesson Plans



Your Garden: What to Grow

Overview:

Gardeners participate in mini-lesson on considerations for deciding what to plant in their gardens.

Objectives:

Gardeners will

- Understand that there are things to consider when picking what plants to grow in their gardens
- Understand some basic differences in vegetable varieties
- Know where to look to find out more about vegetable varieties

Activity Time:

15 minutes

Materials:

- Chalk board, white board or big chart paper
- Chalk, dry erase markers & erasers, or chart paper markers
- Several seed catalogues
- What to Grow—Considerations handout (B1)

Introduction

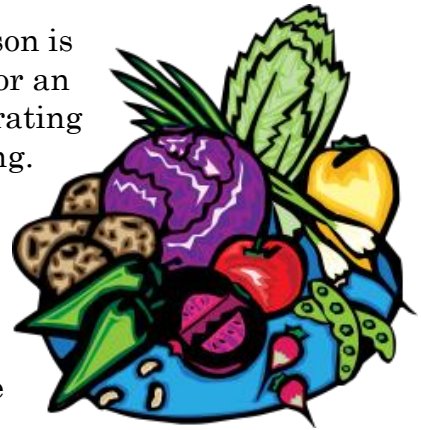
This lesson was designed to be a part of a workshop on garden planning. However, the concepts are independent enough to be used on their own.

The content of this mini-lesson is for beginner gardeners and/or an organization that is incorporating gardens into its programming.

Deciding what to plant in your garden seems to be one of the most basic of tasks a gardener faces.

While this may be true, it is a good idea to give it some careful thought and

consideration before the season begins so that you end up with a bounty of plants that people are eager to eat or excited to try. Doing this early also allows for early seed ordering, for those who are interested in starting their own seeds indoors, a money-saver and fun activity for the early spring! (For more information on seed starting see the “Indoor Seed Starting” lesson.)



Lesson Description

1. (~1-2 min.) Explain that the important first step in garden planning is picking what you want to grow. This can be a lot of fun—you’re also picking what you get to eat! However, it’s not a bad idea to give it a little thought ahead, especially if it is your first time growing.

First rule of thumb when you’re starting out—Keep it Simple. Relate: When you’re flipping through a garden catalogue, it may be tempting to pick

everything in sight. Pick vegetables and fruits you’ll be excited to eat, maybe try a few new things, but also think about the amount you will be able to manage during the growing season.

2. (~8 min.) Particularly for beginner gardeners, some basic considerations can be helpful to get gardeners started. As you discuss the following considerations, write up the headings of each consideration in addition to highlights, possibly including short lists of vegetables associated with considerations. Depending on time available, engage participants further by asking them prompting questions relating to the various categories. Some basic considerations:

- **Amount and size of space available**
 - ❖ Some vegetables need lots of space: squash, melons, pumpkins
 - ❖ Others are ideal for small growing spaces: bush varieties, leafy greens, vegetables that are easy to trellis (peas, beans, etc.)
- **Intended use of produce**
 - ❖ Snacks: cherry tomatoes, sugar snap peas, beans, carrots
 - ❖ Cooking & Preserving
 - ❖ Donation—ask your local food pantry what they need and what they are already getting too much of
- **Favorites of those who will be consuming the produce**
 - ❖ If you haven't yet, just ask!
- **Nutritional/Dietary needs of those who will be consuming the produce**
 - ❖ Sensitive teeth/gums: soft vegetables or vegetables that still taste good when cooked
 - ❖ Sensitive stomach: less acidic vegetables
- **Vegetables and fruits that have the highest value compared to the grocery**

Tomatoes, green onions, leaf lettuce, summer squash, cucumbers, peppers, broccoli, eggplant, brussel sprouts, cauliflower, asparagus, rhubarb

*Many more vegetables and fruits than mentioned above pay off when planted in your garden, as opposed to bought at the grocery store.
- **Varieties that are easy to grow (not too finicky)**

Tomatoes, lettuce, zucchini and other summer squash, cucumbers, sugar snap and snow peas, green beans, peppers, radishes, spinach and other leafy greens.
- **How long the space will be available**
 - ❖ Annuals—re-plant every year: most garden vegetables
 - ❖ Perennials—will come back year after year: asparagus, strawberries, rhubarb, many herbs
- **Excitement!**
 - ❖ Look for varieties with color, spice, and exotic shapes!

3. (~2 min.) Explain that once gardeners have developed a basic list of what vegetables and fruits they want to include in their garden, it is time to look at varieties. For first season gardeners it may be a good idea to stick to basic varieties. However, if you're up for it, feel free to experiment!

This is where the garden catalogue comes in! You can order lots of copies of the catalogue, so that there are several to pass around and some to take home—usually for free. Show a few different catalogues. Explain that it is a good idea to purchase your seeds from a relatively local source—varieties will be better adapted to your unique climate. Good sources for New England include Johnny's Selected Seeds (located in Maine, <http://www.johnnyseeds.com>), Fedco Seeds (located in Maine, www.fedcoseeds.com) and High Mowing Seeds (located in Vermont, www.highmowingseeds.com). Mention the highlights of whatever catalogue you will be using for ordering. Helpful information to look for: growing information, how many seeds/packet, and any special details about a particular variety.

4. (~3 min.) Leave a few minutes for any questions or additional comments. Pass out the handout, *What to Grow—Considerations* (B1).

Resources

- ❖ Albert, Steve (posted April 26, 2009) *Vegetable Garden Quality Yield, Savings Comparisons*, Harvest to Table. Found at: http://harvesttotable.com/2009/04/vegetable_garden_quality_yield
- ❖ Emily (posted March 5, 2011) *Easiest Vegetables to Grow for Gardening Success*, My Square Foot Garden. Found at: <http://www.mysquarefootgarden.net/easiest-vegetables-to-grow>
- ❖ University of Maryland Extension, *Starting a Vegetable Garden*, a part of *Grow It Eat It: Maryland's Food Gardening Network*. Found at: <http://extension.umd.edu/gardening/growit/Gardening%20Basics/index.cfm>

Overview:

Gardeners participate in mini-lesson to learn about factors that help to determine when to plant in their gardens.

Objectives:

Gardeners will

- Understand that the difference between cool and warm season crops
- Understand that some plants do better when planted outside as transplants and others when planted outside as seeds
- Understand that some plants can be planted more than once in a season
- Be given the tools to begin to plan the timing of their various plantings

Activity Time:

15 minutes

Materials:

- Chalk board, white board or big chart paper
- Chalk, dry erase markers & erasers, or chart paper markers
- Sample Garden Season Calendar (B3)
- Growing Season Chart handout copies (B2)

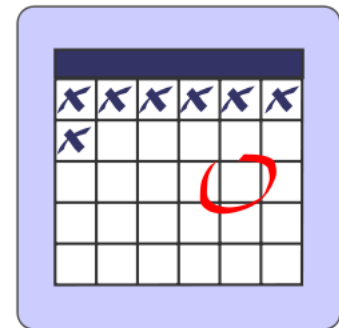
Growing Season Chart handout (B2).

Your Garden: When to Grow

Introduction

This lesson was designed to be a part of a workshop on garden planning. However, the concepts are independent enough to be used on their own.

The content of this mini-lesson is for beginner gardeners to start thinking about timing their vegetable plantings. Much of the information of what to plant when can be found on planting charts. (The number and variety of



which can make your head spin!) While one of these useful tools will be provided, this lesson goes further to try to help gardeners understand *why* plants are grown at different times throughout the season. Thinking about these things early in garden planning is important, so that seeds can be ordered on time, gardeners can choose to start their own seeds indoors if they wish, and plants get growing on time—all elements that lead to success for beginner gardeners!

Lesson Description

1. (~1 min.) Explain to gardeners that once they have decided on the plants they want to grow in their gardens, the next step should be figuring out when you need to plant them.

A wealth of resources exists around what to plant when—various planting charts that provide information on a variety of plants. Pass out

Explain that to have a better understanding of why certain plants are grown at different times throughout the season and to see first-hand the value of planning your plantings early, there are 4 factors to consider.

2. (~6 min.) **1st Factor:** *Is this plant a **Cool Season Crop** or a **Warm Season Crop**?*

Write “Cool Season Crops” and “Warm Season Crops” on the board. Leave room for writing under each heading.

What does this mean? Simply, some plants grow best when temperatures are cooler and others when it’s warmer.

Cool Season Crops grow best when temperatures are cooler and loose quality in mid-summer heat. (Ideal temperatures for these plants are 60-80 degrees Fahrenheit, but as low as 40 for daytime temperatures.) Some plants can tolerate a little frost, in fact a few of them even thrive when exposed to frost; others prefer it cool, but are less tolerant of a frost.

To illustrate this point, below the large heading of “Cool Season Crops” write “Hardy Vegetables” (those that can tolerate a little frost) and “Semi-hardy Vegetables” (those are not as tolerant of frost, but like it cool). Ask the group if they can think of vegetables that they think might be “cool crops.” As you take vegetable names, put them in the correct sub-category. Add as you see fit. Note: this doesn’t have to be a comprehensive list, just something to get them started on the concept. Also, don’t get stuck on dividing the category in two; if you group is mostly beginners you may even one to stick to one general category—“Cool Season Crops.”

Some **Cool Season Crops** you might want to mention:

Hardy Vegetables: broccoli, cabbage, onion, lettuce, peas, radish, spinach, turnips

Semi-hardy Vegetables: beets, carrots, cauliflower, parsley, parsnips, potatoes, Swiss chard

As for **Warm Season Crops**, they like it hot and will not survive a frost. Some of these plants can handle daytime temperatures of down to 55 degrees Fahrenheit; others do best when daytime temperatures stay above 60 degrees.

Illustrate this point, by adding the subheadings of “Tender Vegetables” and “Very Tender Vegetables” under “Warm Season Crops.” Do the same as before, remembering that keeping things short and simple is best.

Some **Warm Season Crops** you might want to mention:

Tender Vegetables: beans, celery, corn, cucumbers, summer squash

Very Tender Vegetables: tomato, watermelon, cantaloupe, eggplant, pepper, winter squash, pumpkin

3. (~2 min.) **2nd Factor:** *Can these vegetables be planted only once or multiple times throughout the season?*

Write key words (those in bold) on the board as you discuss.

This is dependent on how early in the season you do your 1st planting and how late into the fall the vegetable can tolerate—whether it is a cool or warm season crop. To determine your 1st planting date you need to know your **average last spring frost date**. (This is typically May 27 for the Keene, NH area.) To determine the length of your growing season, know your **average first fall frost date**. (This is typically October 9 for the Keene, NH area.) These typical frost dates are continuing to shift; with this in mind, observation is one of the best tools you have.

It is also is dependent on how long the vegetable takes to grow. On planting charts you might see this as “**Weeks from Seed to Harvest**” (on the *Growing Season Chart* handout), “Weeks to Maturity,” “Days to Harvest,” or “Average 1st Harvest Date.” Even though succession plantings happen later in the season, it is helpful to think about it early so that these later plantings fit into your garden plan.

4. (~2 min.) **3rd Factor:** *Do these vegetables grow best when started indoors or direct seeded in the garden?*

Write key words (those in bold) on the board as you discuss.

This mostly has to do with fact that many of our favorite garden vegetables are not native to our climate (that’s known for its relatively short growing season). Warm season crops like tomatoes don’t like to be out in the garden until it’s hot out; however, they take a while to grow to maturity (so you can harvest the tomatoes). Therefore plants like tomatoes need to be planted in pots indoors to get a head-start on growing. Then, when they’re a little bigger and it’s hot out they can be planted in your outdoor garden as **transplants**.

Some plants actually prefer to be **direct seeded** in the garden because they can’t handle being disturbed (pulling them up and re-planting them—a.k.a. transplanting) in the middle of their development.

5. (~1 min.) **4th Factor:** *Are you going to start your own seeds indoors or are you planning on buying plants from the garden store?*

This is important to think about early because it affects the number of seeds you order as well as the timing of when you need to plant them indoors, so that they will be ready for planting in your garden when the time is right. The next lesson in the workshop —“Indoor Seed Starting”—will cover this topic.

6. (~1 min.) Bring out sample *Garden Season Calendar* (B3). Explain to the group that you will send an electronic version of the *Garden Season Calendar*; that once they have considered these factors they can begin filling it in. This will help to keep their group on task for planting & harvesting, inform when seeds need to be started, and serve as a record for next year when their trying to remember what happened and when. They can also add events and other important tasks to their calendar so everything is in one place.

7. (~2 min.) Leave a few minutes for any questions or additional comments.

Resources

- Colorado State University Extension (2012) *Vegetable Planting Guide*, CMG Garden Notes #720
<http://www.ext.colostate.edu/mg/gardennotes/720.html>

Overview:

Gardeners learn what plants need as they grow and how plant relationships can assist in meeting plant needs and determining the placement of plants in a garden.

Objectives:

Gardeners will

- Understand what plants need as they grow
- Begin to understand how different plants grow
- Know how to arrange plants in their garden beds in a beneficial way

Activity Time:

15-20 minutes

Materials:

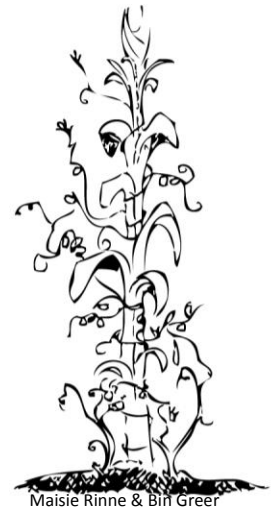
- Chalk board, white board or big chart paper
- Chalk, dry erase markers & erasers, or chart paper markers
- Large 3-Sisters Garden visual (B4)
- Laminated Companion Planting Activity visuals (B5)
- Masking tape
- Plant Relationships handout copies (B6)
- 3-Sisters Garden/ Companion Planting handout copies (B7)

Plant Relationships

Introduction

This plant relationship lesson is designed to be a part of a workshop on garden planning for beginning gardeners; however the lesson can easily be expanded, adapted, and taught separately.

Learning about plant relationships is a topic for beginner and experienced gardeners alike. Understanding how plants grow together is a life-long learning process. This lesson introduces the topic as a way for beginners to think about what to grow where in their garden.



To help gardeners understand the importance and nature of plant relationships this lesson uses the 3-Sisters Garden example. 3-Sisters Gardens are traditional Native American gardens that interplant corn, beans, and squash for their combined beneficial properties. (See Resources for more background information.)

Lesson Description

1. (2-3 min.) Introduce the idea that when planning your garden it is important to think about what your plants will need as they grow to maturity. Ask the group to name some of these things that plants need as they grow. (Examples of things plants need as they grow: space, nutrients, sun/shade, water.) It might be helpful to write their answers on the board to provide the visual. Explain that some of these needs can be met by thinking about what you plant where in your garden, and particularly which plants you grow next to each other. People often call this companion planting or interplanting, and some of it is really just common sense.

2. (~3-5 min.) Explain that a great example of interplanting is the traditional Native American garden called the 3-Sisters Garden. 3-Sisters Gardens interplant corn, beans, and squash for their combined beneficial properties. Use large 3-Sisters Garden visual (see B4 for template) to explain how the different plants help each other grow. (See Resources for more information on this.) As discussed, write the words in bold (below) on the board. The basics of 3-Sisters Gardens:

Corn—**supports** the upward growth of the pole beans

Beans—make nitrogen available in the soil for both plants

Squash—**shades** the soil for both plants and provides some pest protection with spiny stem

All—promote **diversity**, which is valuable for preventing the spread of pests and disease

Other factors to think about when interplanting are **space** and shading. If you have two plants side-by-side that take up a lot of space—like winter squash and tomatoes—both plants will struggle to grow. Look for combinations of plants of different sizes and growth patterns (climbing vine, creeping, bush, stalk). To avoid large plants shading out smaller plants, place tall plants (like tomatoes) and trellising plants (like pole beans) on the north and west sides of your garden.

Lastly, when interplanting, grow plants together that share **common preferences** for site, soil, and season. By growing plants together that have early planting and harvesting dates, you can easily create space for second plantings around mid-summer. (You may choose to leave this information out for beginner gardeners.)

This part of the lesson should be kept basic and relatively short, using the 3-Sisters Garden as an example to get gardeners thinking about what relationships they should consider with plants they hope to plant in their own gardens.

3. (10 min.) **Companion Planting activity:**

This activity uses laminated visuals of various vegetable plants (see Companion Planting Activity Visuals, B5). In addition to providing a visual of the vegetable, each picture indicates what type of plant it is in terms of the space it takes up (climbing vine, ground creeper, stalk, bush, leaf, or root/tuber), its typical height (tall, medium, or short), and its plant family.

Ahead of time or with assistance from another facilitator: Either on a piece of paper or the board draw a rectangular garden bed (roughly 2x3 feet). Divide the rectangle into 6 equal squares. Write on the four sides, N, E, S, and W, indicating the orientation of the bed.

Explain to the group that now we're going to do an activity that helps them apply some of these companion planting principles to vegetables and fruits they will be planting in their gardens. Ask gardeners to give you names of some of the vegetables they hope to plant in their gardens. Pull out 6 vegetable visuals. Explain the information on the visuals and then arrange the vegetables in an order that uses the principles of **support, space, shading, and diversity**. Use masking tape to place the visuals in the squares. It may be helpful for you to start by placing the tallest vegetables to the North side of the bed and go from there. Explain why you arranged the plants the way you did. If there are any plants that don't fit into this bed arrangement, make note, explain why, and set aside.

Ask for a few more examples of vegetables they plan to grow. This time ask the gardeners to think about how *they* would arrange these vegetables in the garden bed based on what they just learned. (If time allows, have gardeners place the visuals themselves.) Do this for as long as the group needs to understand the principles or for the amount of time you have remaining in your lesson. Take clarifying questions.

4. (~1 min.) Explain that guides are available that go deeper into specific plant relationships, looking into nutrient and pest-protection associations. If they are interested there are books and worksheets to assist with this. Send home with *Plant Relationships* handout that provides basic guidance (B6). Also offer *3-Sisters Gardening/Companion Planting* handout (B7).

Resources

3-Sisters Garden

- ❖ Renee's Garden <http://www.reneesgarden.com/articles/3sisters.html>

Companion Planting

- ❖ My Square Foot Garden <http://mysquarefootgarden.net/companion-planting/>
- ❖ ATTRA *Companion Planting: Basic Concepts & Resources*
<https://attra.ncat.org/attra-pub/summaries/summary.php?pub=72>
- ❖ Riotte, Louise. (1998) *Carrots Love Tomatoes*. North Adams, MA: Storey Publishing.
- ❖ GrowVeg.com: The Smart Way to Your Garden. Blog post from Friday, July 3rd, 2009. <http://www.growveg.com/growblogpost.aspx?id=92>

Overview:

Gardeners learn how to start their own seeds indoors.

Objectives:

Gardeners will

- Understand what plants need as they grow
- Begin to understand ideal conditions for germination of various plants
- Know how to plant seeds indoors

Activity Time:

15-20 minutes

Materials:

- Table
- Tarp to be placed under table for catch spills
- Seeding mix/Growing medium
- 3-4 varieties of seeds than can be started indoors
- 2-3 ½ inch deep peat/manure pots
- Single serving yogurt container
- Toilet paper rolls
- Newspaper
- Tray to hold planted pots
- Spray bottle
- Plastic wrap or old plastic bag
- Popsicle sticks
- Permanent marker
- Seed Starting handout copies (B8)

Indoor Seed Starting

Introduction

This indoor seed starting lesson is designed to be a part of a workshop on garden planning for beginning gardeners; however the lesson can easily be expanded, adapted, and taught separately.

For plants with long growing seasons and cold-intolerance it is necessary (particularly in regions with short growing seasons) to first establish plants indoors early in the spring and bring plants out to the garden when the danger of frost is past. These plants are called transplants and can be found at your local garden store/nursery when the season is right and plants are large enough to be moved. Many beginner gardeners stick to store-bought transplants to optimize chance for success. However, some gardeners prefer to start their own seeds indoors. While this takes time and indoor space for growing, it is certainly a money-saver and fun activity for the early spring!



For the lesson to go smoothly, you will want to set up your table for the lesson ahead of time.

Lesson Description

1. (~2-3 min.) Share with the gardeners: Indoor seed starting is not for all beginner gardeners, as the task of planning and starting your first garden is enough for some. However, if you're feeling adventurous, hoping to save money, or looking for an early spring activity, starting your own seeds indoors can be a good idea for your group.

Some essentials your site needs for indoor seed starting to work are related to what most seeds need to germinate (you can have the group make some

educated guesses): water access, light (either in the form of a bright, wide south-facing windowsill or a suspended fluorescent light), oxygen, and heat (most plants germinate between 65-75 degrees Fahrenheit, which may require a consistent heat source, such as a radiator, on top of a refrigerator, or near a wood stove). For this set-up to work you also must have the space and approval from those who maintain the building.

2. (~ 2-3 min.) Review what plants *must* be transplanted, those that *can* be transplanted, and those that are *not recommended* to transplant. Ask group to tell you, based on what they learned in the “Your Garden: When to Grow” mini-lesson and information on their *Growing Season Chart* (B2). Clarify that on the chart, where there both T (transplant) and DS (direct seed) are indicated, the first listed is the often preferred method.

3. (~ 2 min.) Show “growing medium” that will be used for seeding. Have them feel it. Ask them how it feels. Point out that it is fine, uniform, well-aerated, and loose. Explain that a soil-less mix is recommended, equal parts peat moss and vermiculite or perlite. This you can purchase in a garden store/nursery or make yourself. These mixes should also not have any fertilizer in them. Explain that they should not just use regular garden soil or compost for indoor seed starting because it often dries out and compacts more quickly and it can contain weed seeds and disease.

4. (~2 min.) For small amounts of plants, it’s best to plant your seeds in individual pots (as opposed to seed trays). Any 2-3 ½ inch deep containers with drainage holes can be used. Some common examples: peat pots, manure pots, cleaned-out single-serving yogurt containers (with holes punched in the bottom), and pots made out of newspaper or toilet paper rolls. Have some examples available to show them.

5. (~ 5 min.) Remind the group to check the outdoor planting date and how many weeks between seeding and transplanting for each plant, before they start seeding. Take participants through the following steps to teach how to seed plants indoors. Steps:

- 1) Moisten growing medium
- 2) Fill container to within ¾ inch from the top
- 3) Read seed packet to determine how deep to plant and any particular heat or light requirements.
- 4) Plant seeds. Plant a few per pot in case some don’t come up.
- 5) For very fine seeds, sprinkle seeds on top of soil and sprinkle on top ¼ inch of screened mix or vermiculite
- 6) Label pots with the name and variety of plant.
- 7) Place seeds on a tray and cover with clear plastic. This will help bring up the heat for germination.
- 8) Place in a warm spot. The seeds don’t need as much sunlight now, but do need the heat.

6. (~2 min.) Before seeds have germinated, water with a spray bottle/mister and keep in a warm place.

Once the seeds have germinated (the sprouts are showing), immediately remove the plastic covering and move to a light place. This light place can be a south-facing windowsill or, if such abundance of light is not available, a growing lamp that can be raised and lowered. The lamp should consist of 2 40-watt, cool, white fluorescent bulbs or full-spectrum bulbs. Lamps should be lowered to about 6 inches above the seedlings and should be kept on about 16 hours per day. The lights should be raised as the seedlings grow.

After the seedlings are established, thin out the extra seeds so that there is no more than 1 seedling per inch. Continue to water, but be sure not to overwater.

7. (~1 min.) Explain that you know that seedlings are ready to go outside when they have their first few true leaves (regular plant leaves) beyond their seed leaves (the first 2 that form after germination) and somewhat established roots. Remind them that the “# Weeks from seeding to setting out” information is also available on the *Growing Season Chart* handout.

About 2 weeks before the “setting out” date plants should be taken outside for “visits.” They call this “hardening off” your plants and it is the process of acclimating the plants to the outdoors. Start by setting them in the outside for a couple of hours in the shade once temperatures are 45 degrees Fahrenheit or higher. Gradually increase the amount of time and sunlight until it is time to put the plants in the ground.

8. (~2 min.) Leave time for questions. Pass out *Seed Starting* handout (B8).

Resources

- ❖ UNH Cooperative Extension (2001). *Starting Plants Indoors From Seed*. Found at: http://extension.unh.edu/resources/resource/495/Starting_Plants_Indoors_From_Seed
- ❖ The University of Maine Cooperative Extension (2008). *Starting Seeds at Home*. Found at: <http://extension.umaine.edu/publications/2751e/>

Overview:

Gardeners participate in activity for planning what, when, and where to plant in their gardens.

Objectives:

Gardeners will

- Further their understanding of what, when, and where to plant
- Be provided with practical tools to assist in garden planning
- Gain confidence in the garden planning process

Activity Time:

~ 1 hour

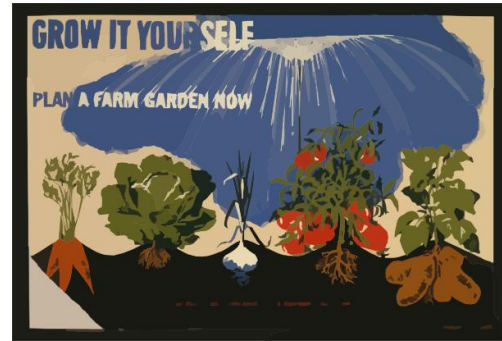
Materials:

- Big chart paper
- Easels
- Markers
- Pencils
- Highlighters
- Calculators
- Trace paper
- Graph paper
- Additional drawing paper
- Seed catalogues
- Growing Season Chart handout copies (if don't already have) (B2)
- What to Grow—Considerations handout copies (if don't already have) (B1)
- Garden Planning Chart worksheet copies (B9)
- *Square Foot Garden Visual* (C5)

Garden Planning

Introduction

This activity was designed to be a part of a workshop on garden planning. If used separately, it is not necessary, but would be helpful to incorporate some of the mini-lessons from the original workshop, including: “Your Garden: What to Grow,” “Your Garden: When to Grow,” and “Plant Relationships.”



The purpose of this activity is for beginner

gardeners to start planning what vegetables to plant, when to plant them, and where to plant them in their gardens. To get the most out of this activity, gardeners should come prepared with a complete garden site plan, so that they are aware of the space available, the number of beds they want to include, and other important site details.

Provided for this lesson is a *Growing Season Chart* (B2) that includes much of the information gardeners will need to know to begin planning. The hope is that gardeners will go home with a complete or nearly complete garden plan and ready to order seeds.

Lesson Description

1. This activity should happen in Garden Teams (including all those involved in the garden planning process). If the Garden Team does not represent the potential garden participants, Garden Team members should take the time to

collect a list of things participants are interested in growing and eating prior to this planning session. All groups should also come prepared with their final garden site plan (map), as it will be used for this activity.

(~1-2 min.) One facilitator should be present in each group to assist in the planning process. Each group should receive a *Growing Season Chart* handout (B2) (if they don't already have one) and a *Garden Planning Chart* worksheet (B9). Someone in the group should be appointed to record all decisions on the Garden Planning Chart worksheet.

2. (~10 min.) Using the big chart paper available, groups make a list of all of the potential vegetables and fruits they would like to grow in their garden. The list should start with the list of garden participant preferences and then take into consideration the various questions found on the *What to Grow—Considerations* handout (B1). The facilitator may need to remind the group of the central principle—keep it simple and manageable, especially in the first year.

This is a good time also for Garden Teams to think about how much of each plant they will want to grow. For example, if they are planning a pizza-themed garden, the group will most likely want a decent number of tomatoes, but fewer sugar snap peas and pumpkins. The group will want to make note of this on their vegetable and fruit list, as they will need this at a later step in planning.

3. Once the list is complete, someone in the group should highlight (using the provided highlighter) the vegetables and fruit and their accompanying information on the *Growing Season Chart*. Based on the information provided, the appointed recorder should fill in the following categories on the *Garden Planning Chart*: a. Name of vegetable/fruit/herb, b. Direct Seed or Transplant (DS/T), and d. # of Plants per square foot.

4. (~3-5 min.) While this information is being recorded, Garden Teams should take a few minutes to decide whether or not they would like to start their own seeds indoors. Based on what the group decides, fill in yes or no (Y/N) on the *Garden Planning Chart* (c.) beside those vegetables indicated as transplants (T).

5. (~5 min.) The next step Garden Teams can choose to accomplish in a number of ways, depending on the size of their complete garden site plan. Some possibilities:

a) Using their complete garden site plan as a base map, place trace paper on top. Outline the planned beds on the trace paper. Then divide each bed into equal square feet. (For example: a 3x8 ft. bed would be divided into 24 squares.)

b) Using graph paper, draw the shape and dimensions of the beds (as seen on the complete garden site plan). Divide each bed into equal square feet. Label the sides of the bed as North, South, East, and West (also based on the orientation of the beds on the complete garden site plan). In pencil, number the beds on your

complete garden site plan, and match those numbers to the beds drawn on graph paper.

c) Garden Teams could also choose to do the same as described in b, but instead use big chart paper.

While the group is drawing out their bed grid is a good time to give a brief explanation of Square Foot Gardening. The facilitator should explain that dividing a garden bed up into square feet is one easy way to plant and organize your garden. The *Square Foot Garden Visual* (C5) is a good example of this. The number of plants per square foot (as seen on the *Garden Planning Chart*) is determined by the spacing needed for each plant. Because using Square Foot Gardening in planning makes it easy to determine what goes where, how much space it needs, and how many you can plant, explain that you will be using this method today for planning purposes. When it comes to planting, explain that they can choose to use any method they most prefer (Square Foot Gardening, row planting, scatter seeding—these will all be taught in the 3rd workshop in the series, “Building & Planting Your Garden”).

6. (~20-25 min.) Based on what participants learned in the “Plant Relationships” mini-lesson, groups can begin to fill in each bed grid. Things to consider: plant height, space, north vs. south facing, trellising, # of plantings, and, if necessary annual vs. perennial. The facilitator can play an important role in answering any clarifying questions about plant needs. You may want to have additional reference materials available in the case that you don’t have the information you need for a particular plant.

*A great place to start, especially for beginner gardeners, is to arrange their plants by heights. Using the *Growing Season Chart* as a reference, write in all of the short (S) plants in the squares on the south side of the beds, the medium (M) plants in the center, and the tall (T) plants on the north side of the beds.

Make sure the group marks multiple squares for the larger plants, such as tomatoes or summer squash. For plants that will need to be trellised, make note of the trellis on the bed grid, which should be placed on the north or west side. Take special consideration of large, sprawling plants such as winter squash and pumpkins. Groups may want to plant these outside of raised beds, in their own section of the garden if the space is available.

7. (~5 min.) Once the bed grid is filled with the names of vegetables/fruits/herbs the Garden Teams want to grow, fill in the *Garden Planning Chart* columns: e. the # of Squares/Blocks of each plant you are planning to plant, f. whether or not you plan to do an additional mid-summer planting*, and g. the # of Seeds used to equal 1 plant**. Once these columns are complete, calculate: $d \times e \times f \times g = h$. Use this calculation to fill in the Total seeds/plants needed.

*You may want to explain that some plants can handle a mid-summer planting, while others cannot. Also, some plants that can be planted at mid-summer do best when transplanted because they have difficulty germinating in the hot weather. Both of these things are indicated on the *Growing Season Chart*. On this chart, this is indicated as a second planting once the first crop is harvested.

**You may also need to explain what this category means. For most vegetables, when planting it is a good idea to plant more than one seed, as some seeds may not germinate. This is partly related to the age of your seeds—newer seeds will have a higher germination rate. However, the number shown on the *Growing Season Chart* indicates the number of seeds suggested for planting based on the size of the seed. Smaller seeds tend to wash away or get buried too deep; while larger seeds tend to be more reliable with staying put. Explain also that if all of the seeds come up, they can “thin out” the extras, so that their plants are still spaced appropriately.

8. (~5 min.) Using the catalogue available, Garden Teams need to determine the varieties of vegetables they would like to grow and the number of seeds per packet. Based on this information, fill in the final categories, i and j.

9. If the group was unable to finish their garden plan in the time allotted or would like to run the plans by other members of their Garden Team and/or garden participants, the facilitator should instruct the group to do so in the next week, so that seeds can be ordered.

The facilitator should also emphasize that the next step in the planning process is to fill in their *Garden Season Calendar* (that will be sent electronically) with the planting and harvesting dates, as well as any other garden tasks, events, and other significant dates. It may be helpful to give the Garden Teams a deadline for filling in their *Garden Season Calendar*, so that it is completed early in the planning process. Additional meetings may be needed to assist with this task.

Resources

- Lesson adapted from The Food Project’s “Growing Guide,” found at <http://thefoodproject.org/sites/default/files/GrowingGuide2010.pdf>

Planning Your Garden Appendices

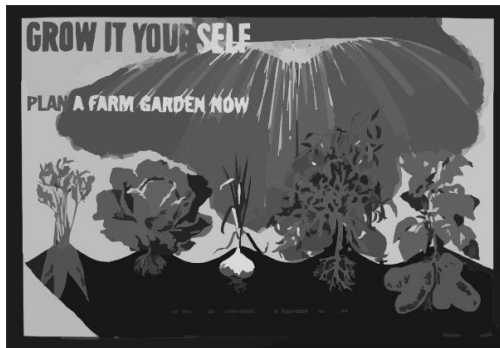
Workshop Planning Checklist.....	p. 105
Sample Agenda—Participant.....	p. 106
Sample Agenda—Staff.....	p. 107
Sign-in Sheet.....	p. 109
Evaluation.....	p. 111

Lesson Materials

B1—What to Grow—Considerations handout.....	p. 113
B2—Growing Season Chart.....	p. 115
B3—Sample Garden Season Calendar.....	p. 117
B4—3-Sisters Garden Visual template.....	p. 118
B5—Companion Planting Activity visuals.....	p. 119
B6—Plant Relationships handout.....	p. 135
B7—3-Sisters Gardening/Companion Planting handout.....	p. 136
B8—Seed Starting handout.....	p. 138
B9—Garden Planning Chart.....	p. 139

Planning Your Garden Workshop Checklist

- **Hang signs** for directions to room/building
- **Set up tables & chairs**
 - 1 big group area (“U”) oriented facing a white/chalk board or easel
 - several break-out areas—1 for each Garden Team
 - table set up away from big group area
- **Prepare coffee & boil hot water**
 - coffee & filters
 - coffee-maker & hot water kettle
- **Last minute prep of breakfast/snack food**
 - knives
 - cutting boards
- **Set up breakfast/snack table**
 - table cloth
 - coffee & hot water carafes
 - tea bags, cream, sugar, spoons
 - small plates & napkins
 - mugs/hot cups
 - cold cups
 - juice
 - pitchers of water
 - breakfast/snack foods & associated spreads
 - baskets, bowls, plates & utensils for displaying food
- **Set up sign-in table**
 - agendas
 - sign-in sheet
 - photo waivers
 - pens
 - name tags
 - handouts
- **Prepare break-out areas** (per area)
 - easel w/ big chart paper
 - pencils, colored pencils, markers
 - highlighter
 - trace paper
 - calculator
 - trace paper
 - graph paper
 - additional drawing paper
 - seed catalogues
 - worksheet copies
- **Prepare for mini-lessons**
 - access to chalk or white board or easel w/ big chart paper
 - chalk/marker/dry erase markers & erasers
 - worksheet copies
 - if time & desire, draw out garden bed grid w/ cardinal directions on board
 - masking tape pieces ready for Companion Planting Activity visuals
 - Indoor Seed Starting table prepared w/ tarp under, growing medium, pots, seeds, filled spray bottle, etc.
- **Prep lunch area**
 - if separate room available, set up tables & chairs to make 1 big table
 - table cloths
 - table decorations (i.e. vases of flowers)
 - if space available, set up buffet area (tables, chairs, etc)
 - lay out stacks of plates/bowls, flatware, cups, napkins
 - serving dishes & utensils
 - prep food as necessary
 - stack of workshop evaluations



Planning Your Garden Workshop

[day, date, time]

[location]

[organization]

Agenda

8:45 Morning Snack, Coffee, & Tea

9:00 Agenda overview & Community Building Activity

Site Plan Sharing — Share your final garden site plan with other groups!

9:30 Your Garden: What & When to Grow — Mini lessons for learning about garden planning and plant needs

10:00 Small group Activities

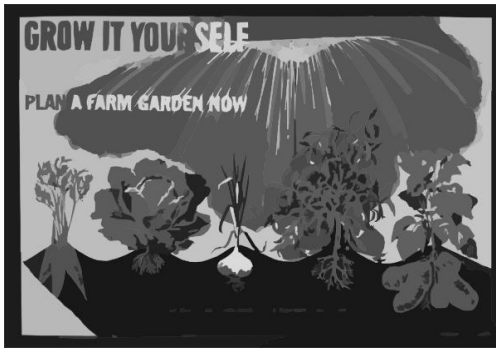
- ❖ **Plant Relationships** — Mini-lesson and hands-on activity for what to grow where in your garden
- ❖ **Seed Starting** — Hands-on lesson for how to start seeds indoors

10:45 Break & Shake

Site design planning activity — Hands-on activity in Garden Teams

12:00 Lunch — During lunch time for informal Q&A

Wrap-up, Evaluations, & Opportunities



Planning Your Garden Workshop

[day, date, time]

[location]

[organization]

Staff Agenda

Evening

Prep for workshop (see Workshop Checklist for details)

Before:

2hrs.

7:30

Prep for workshop (see Workshop Checklist for details)

8:45

Morning Snack, Coffee, & Tea

9:00

Agenda overview & Community Building Activity

- If possible and appropriate, try to get groups up and moving.

9:15

Site Plan Sharing — Share your final garden site plan with other groups!

- If time allows, give groups a chance to ask each other questions.

9:30

Your Garden: What & When to Grow — 2 Mini lessons for learning about garden planning and plant needs

10:00

Small group Activities

- At this time split the group in two and send one group to each activity. After 20 minutes swap groups, so that all participants get to each mini-lesson.
- ❖ **Plant Relationships** — Mini-lesson and hands-on activity for what to grow where in your garden
- ❖ **Seed Starting** — Hands-on lesson for how to start seeds indoors

10:45 **Explain Garden Planning activity****Break & Shake**

- During break make sure sites have everything they need, including a copy of their final site plan and list of garden vegetables and fruits (from participant interest).

Garden Planning activity — Hands-on activity in Garden Teams

- 1 Facilitator per group to help use tools, to answer questions, and to move the process along.
- While Garden Teams are meeting 1 facilitator can be setting up Seed Starting table & lesson

12:00 **Break for lunch****During Lunch—Informal Q&A****12:45** **Wrap-up** — with take-aways**Evaluations** — pass out evaluations**Opportunities** — announce upcoming opportunities

Keene Community Garden Connections (CGC)
Planning Your Garden Workshop
Feedback For Growth (date)

Thank you for spending your morning learning with us! We value your feedback so that we can support your efforts, your interests, and improve the quality of our future workshops. All comments will remain confidential. Only respond to those questions you feel comfortable answering.

1. Garden Site: _____

2. Please use the space below to comment on your experiences today and to share suggestions for improvement:

+ <i>(Positive Things about this Workshop)</i>	△ <i>(Things You Would Change About this Workshop)</i>

3. Please check one answer for each of the following statements:
Today's workshop offered opportunities to...

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Begin planning our garden plantings					
Better understand what various plants need to grow					
Better understand what, when, and where to plant various vegetables					
Network with others interested in gardening					

(SEE OVER)

4. What is one thing you learned today that will help you as you move forward with your garden project?

6. Is there anything else you would like us to know?

Thanks for your feedback!



What to Grow?



Considerations for picking what you want to grow

Before you get too far with your garden planning, it may be a good idea to keep in mind a few considerations about what you want to grow. Below are a few questions to help you get started.



How will the produce be used?

- ❖ Do you want food that is good for garden munching (cherry tomatoes, peas, beans, carrots, etc.), or are you going to cook or preserve most of the produce?
- ❖ Are there specific activities you want to do with the produce (carving pumpkins, canning tomatoes, bean vine tepee, etc.)?
- ❖ Do you want a theme garden (pizza, salad, stir-fry, soup, etc.)?
- ❖ Will you want to be harvesting throughout the season, or do you want to concentrate on a large fall harvest (for school-year programming, for example)?
- ❖ Are you donating any of your produce? If so, are there any special requests from your local food pantry concerning what they need and what they are already getting too much of?



How much space do you have?

- ❖ Are there things that you would like to plant outside of the raised beds that take up a lot of space (squash, rhubarb, melons, pumpkins, etc.)?
- ❖ Are you interested in trellising some vegetables (peas, beans, squash, tomatoes)?
- ❖ If you are sticking to small spaces for growing, look for vegetables and varieties that grow well in small spaces, such as: bush varieties and leafy greens.



Is your group mostly made up of beginner gardeners?

- ❖ If so, it's not a bad idea to consider planting vegetables that are easier to grow, manage, and harvest, such as: cucumbers, tomatoes, zucchini and other summer squash, sugar snap and snow peas, green beans, peppers, radishes, lettuce, spinach and other leafy greens.

Are there any specific dietary needs of your garden participants?

- ❖ For example, for those with dental sensitivity—softer vegetables or those that are easily cooked; or for those with sensitive stomachs—less acidic vegetables.

Is expense a consideration for your garden participants?

- ❖ If so, it may be a good idea to pick vegetables that are less affordable at the grocery store, such as: tomatoes, green onions, leaf lettuce, summer squash, cucumbers, peppers, broccoli, eggplant, brussel sprouts, cauliflower, asparagus, and rhubarb.



Will the space be available for a number of years to come?

- ❖ If so, you may want to consider planting some perennials (that will come back year after year), such as: asparagus, strawberries, rhubarb, and many herbs.

What will make people happy and keep them involved?

- ❖ What are the favorites of those who will be consuming the produce?
- ❖ Do you want to grow standard and familiar vegetables, or experiment with less well-known varieties (kohlrabi, bok choy, daikon, tomatillos, orange tomatoes, purple beans, purple carrots, etc.)?



***Of course, you don't need to have the answers to all of these questions—gardening is a learning process! If you have gardeners who are excited about growing corn or melons, but you have your doubts, give it a try and see how it goes.

Whatever the results, you will all learn something!***

Resources Used:

- Harvest to Table http://harvesttotable.com/2009/04/vegetable_garden_quality_yield
- My Square Foot Garden <http://www.mysquarefootgarden.net>
- University of Maryland Extension <http://extension.umd.edu/gardening/growit/Gardening%20Basics/index.cfm>

Name of Vegetable	Transplant or Direct Seed (T/DS)	Hardiness (Tender=T; Very Tender =VT)	# Weeks from indoor seeding to setting out transplants	Spacing (# plants per square foot)	Height (S/M/T)	Full (6+ hrs. sun) or Partial Sun (4-6 hrs.)	# Weeks from seed to harvest	Ability to plant mid-summer (Y/N)	Avg. # Seeds used to equal 1 plant (viability)
Fruit	{ }=possible, but not preferred							(Y-T=transplant)	
Herb								(Y-DS=direct seed)	
Cool Season Crops									
Beets	DS	SH	-----	9-16	S	Partial-Full	8	Y-DS	3-4
Broccoli	T {DS}	H	5-7	1	M	Full	16	Y	3-4
Cabbage	T {DS}	H	5-7	1	M	Full	16	Y	3-4
Carrots	DS	SH/VH	-----	16	S	Partial-Full	10	Y-DS	4-5
Cauliflower	T {DS}	SH	5-7	1	M	Partial-Full	14	N	3-4
Swiss Chard	DS {T}	SH	-----	2-4	S-M	Partial-Full	8	Y	3-4
Collards/Kale	DS {T}	H/VH	4-7	1-4	M	Partial-Full	8	Y	3-4
Dill	DS	H	-----	4	T	Full	10-13	-----	3-4
Garlic*	DS (bulb)	VH	-----	9-16	M	Full	see below	N	1
Leeks	T {DS}	H	10-12	4-9	M	Full	17	N	3-4
Lettuce, leaf	DS/T	H	4-10	4-16	S-M	Partial	7	Y-T	4-5
Lettuce, head	DS/T	H	4-10	4	S-M	Partial	7	Y-T	4-5
Onions	T/DS (bulb)	H	4-6	9-16	S	Partial-Full	20	N	1
Parsley	T	SH/VH	6-10	2-4	S-M	Partial-Full	14	Y	3-4
Parsnips	DS	SH/VH	-----	9	S	Partial-Full	10	Y-DS	4-5
Peas, bush	DS	H	-----	8	T	Partial-Full	10	Y-DS	1-2
Peas, climbing	DS	H	-----	12	T	Partial-Full	10	Y-DS	1-2
Potatoes	T (seed potatoes)	SH	-----	1	M	Partial-Full	18	N	1
Radishes	DS	H	-----	16	S	Partial-Full	4	Y-DS	3-4
Spinach	DS	H/VH	-----	9	S	Partial	7	Y-DS	3-4
Turnips	DS	H	-----	4-9	S	Partial-Full	7	Y-DS	3-4
Perennial Crops									
Chives	DS/T	SH	6-8	1	S-M	Full	-----	-----	4-5

Hardiness

Very Hardy: Will over-winter if protected. (Some plants need warmer temps to germinate, but are also able to over-winter.)

Hardy: May be planted as early as 2-4 weeks before the date of the average last spring frost.

Semi-Hardy: May be planted as early as 0-2 weeks before the date of the average last spring frost.

*Garlic: Plant after the first light frost in the fall & harvest after the leaves begin to die back with some green remaining (typically in June or early July). Alternately, plant in mid-May & harvest in September before the first frost.

B2

Name of Vegetable	Transplant or Direct Seed (T/DS)	Hardiness (Tender=T; Very Tender =VT)	# Weeks from indoor seeding to setting out transplants	Spacing (# plants per square foot)	Height (S/M/T)	Full (6+ hrs. sun) or Partial Sun (4-6 hrs.)	# Weeks from seed to harvest	Ability to plant mid-summer (Y/N) (Y-T=transplant) (Y-DS=direct seed)	Avg. # Seeds used to equal 1 plant (viability)
Warm Season Crops									
Basil	T	VT	6-8	2	M	Full	-----	N	3-4
Beans, bush	DS	T	-----	4-9	M	Full	8	Y-DS	1-2
Beans, pole	DS	T	-----	8	T	Full	8	Y-DS	1-2
Cilantro	DS	T	-----	2	M	Partial – Full	-----	N	3-4
Corn	DS/T	T	2-4	1-2	T	Full	9-13	N	1
Cucumbers	DS/T	VT/T	3-4	2	S	Partial	9	N	2-3
					T (if trellised)				
Eggplant	T	VT	6-9	1	M	Full	19	N	4-5
Melons	DS/T	VT	2-3	1	M	Full	12	N	2-3
					T (if trellised)				
Peppers	T	VT	6-8	1	M	Full	19	N	4-5
Summer Squash, vine	DS/T	T	2-3	3 per 1x4 ft. block	M	Full	8	N	2-3
					T (if trellised)				
Summer Squash, bush	DS/T	T	2-3	1 per 3x3 ft. block	M	Full	8	N	2-3
Winter Squash	DS/T	T/VT	2-3	1 per 1x4 ft. block	M-T	Partial	12	N	2-3
Tomatoes, bush	T	T/VT	5-7	4 per 4x4 ft. block	T	Full	17	N	4-5
Tomatoes, vine	T	T/VT	5-7	1	T	Full	17	N	4-5
Perennial Crops									
Oregano	T/DS	T	6-10	1	S-M	Full	-----	-----	4-5

Resources Used:

- The Food Project "Growing Guide" <http://thefoodproject.org/sites/default/files/GrowingGuide2010.pdf>
- H.C. Harrison, UW Extension "The Vegetable Garden" <http://learningstore.uwex.edu/assets/pdfs/A1989.pdf>
- UNH Cooperative Extension "Timing Vegetable Transplants" http://extension.unh.edu/resources/files/Resource000620_Rep642.pdf
- UFL Cooperative Extension "Starting the Garden with Transplants" <http://edis.ifas.ufl.edu>
- CO State Extension "Vegetable Planting Guide" <http://www.ext.colostate.edu/mg/gardennotes/720.html>
- NH Garden Solutions "Vegetable Planting Guide" http://www.nhgardensolutions.com/A_Room_Full_Of_Secrets/Veggies/NH_Vegetable_Planting_Guide.pdf
- Gardener's Supply Company "Kitchen Garden Planner" <http://www.gardeners.com/on/demandware.store/Sites-Gardeners-Site/default/Home-LearnAndShare>
- Old Farmer's Almanac "Growing Herbs" http://www.almanac.com/sites/new.almanac.com/files/garden_guide_growing_herbs.pdf
- Nicholas Garden Nursery "Vegetable Planting—How Much to Plant Per Person" <https://www.nicholsgardennursery.com/store>
- Growing Vegetable Gardens "Cool & Warm Seasons" http://www.growingvegetablegardens.com/care_cool-warm.html
- Seed Savers Exchange "Growing Garlic Guide" http://www.seedsavers.org/garlic_guide.htm
- Weekend Gardener "Official Seed Starting Home Page" <http://www.chestnut-sw.com/seedhp.htm>

Hardiness

Tender: May be planted (from seed) around the date of the average last spring frost.

Very Tender: Typically planted 2 plus weeks after the date of the average last spring frost.

April 2013

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1	2	3	4	5 start Pepper and Tomato seeds inside	6
7	8	9	10 CGC Building & Planting Your Garden Workshop	11	12	13
14	15	16	17 Bed-building work party	18 plant Carrots and Kale seeds outside	19 transplant lettuce seedlings into outdoor hoop house	20
21	22	23	24	25	26	27 plant Beets, Chard, Peas, Turnips and Spinach seeds outside
28	29	30				

B4



B5

Photo by Maisie Rinne

TOMATO – Solanaceae Family

Climbing Vine or Bush

Some varieties grow to a moderate size; others grow tall & continue until killed by frost.

Tall



CARROT – Umbelliferae Family

Root

Short



Photo by Jolán Dénes

CUCUMBER – Cucurbitaceae Family
Ground Creeper (or Bush)

Some varieties grow more like a bush;
others grow like a vine with tendrils.

Short (Tall if trellised)



Photo by Jolán Dénes

SUMMER SQUASH/ZUCCHINI

Cucurbitaceae Family

Ground Creeper or Bush

Some varieties grow more like a bush;
others grow like a vine with tendrils.

Medium (Tall if trellised)



Photo by JS

PEA – Leguminosae Family
Climbing Vine
Tall



Photo by Mike Peel (www.mikepeel.net)

SWISS CHARD – Chenopodiaceae Family
Stalked Leaf
Short-Medium



Photo by Rameshg

LETTUCE – Compositae Family
Leaf

Some varieties grow in a round head; others
grow in loose bunches.

Small-Medium



Photo by [FASTILY](#) ^(ITALY)

BASIL – Lamiaceae Family

Small Bush

Medium



Photo by Kumon

WATERMELON – Cucurbitaceae Family
Ground Creeper
Medium (Tall if trellised)



BROCOLLI – Brassicaceae Family
Broad Stalked Leaves & Flower Head
Medium



CABBAGE – Brassicaceae Family
Low Broad Leafy
Medium



Photo by Maisie Rinne

POLE BEANS – Leguminosae Family
Climbing Vine
Tall



BELL PEPPER – Solanaceae Family
Stalked Bush
Medium



Photo by Maisté Rinne

PUMPKIN – Cucurbitaceae Family
Ground Creeper
Medium-Tall



Photo by wanko

BUSH BEANS – Leguminosae Family

Low Bush

Medium



Photo by Rainer Haessner

ONION – Amaryllidaceae Family

Bulb

Small

Plant Relationships

Interplanting your garden plants can be useful to promote plant, soil, and overall garden health. Below are outlined 4 basic principles that can be used to help you take the burden off of yourself and let your plants help each other!



Maisie Rinne & Bin Greer

Support: Plants can serve as living trellises! Interplant vining plants with tall, sturdy stalked plants.

Vining plants: peas, beans

Sturdy stalks: corn, sunflowers

Shade: Some plants need full sun, while others prefer a little shade. In these circumstances you'll want to look for tall sun-loving plants to help shade shorter plants that are seeking a little shade.



Maisie Rinne & Bin Greer

Shade-giving sun-lovers: tomatoes, corn

Short shade-seekers: lettuce, spinach, carrots, beets, radishes

Some plants can also act as living mulch. Look for plants with broad low leaves or cover crops to provide ground cover for tall stalked or vining plants.

Living mulch: cucumbers, squash, cover crops (clover, alfalfa, hairy vetch, rye grass)



Maisie Rinne & Bin Greer

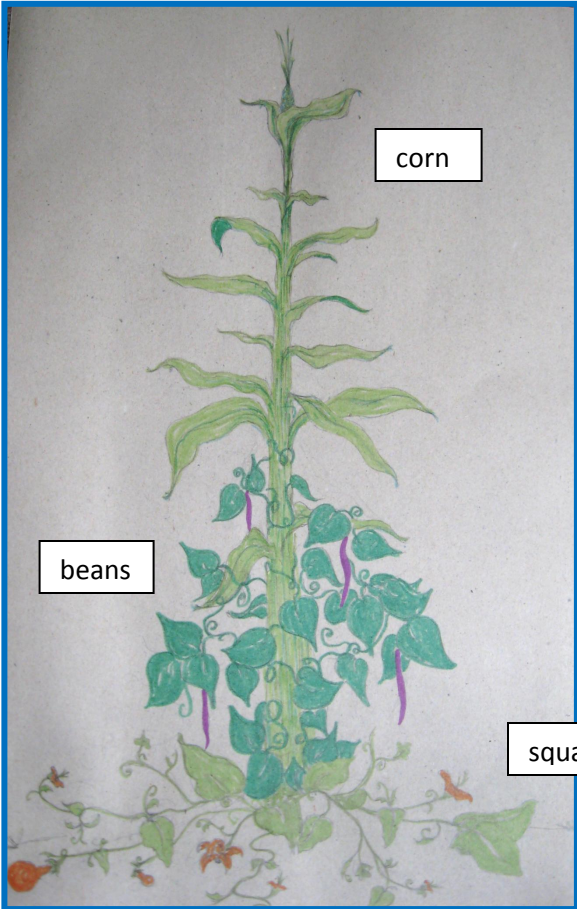
Space: Thinking carefully about the amount of space your plants will take up once full-grown will help you know how to maximize the space in your garden without overwhelming any of your plants!



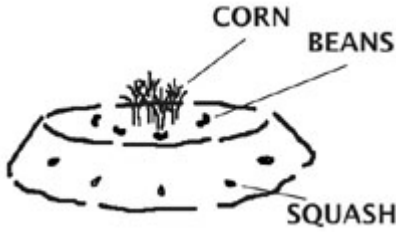
Diversity: Diversity in your garden promotes plant health by preventing the take-over of pests and disease. Plant diversity supports soil health by using and promoting the availability of different nutrients in the soil.

Companion Planting

Three Sisters Garden



According to Iroquois legend, corn, beans, and squash are three inseparable sisters who only grow and thrive together. This tradition of interplanting corn, beans and squash in the same mounds, widespread among Native American farming societies, is a sophisticated, sustainable system that provided long-term soil fertility and a healthy diet to generations. Growing a Three Sisters garden is a wonderful way to feel more connected to the history of this land, regardless of our ancestry.



1. In late May or early June, hoe up the ground and heap the earth into piles about a foot high and about 24 inches across. The centers of your mounds should be about four feet apart and should have flattened tops.
2. In the center of each mound, plant five or six corn kernels in a small circle.
3. After a week or two, when the corn has grown to be five inches or so, plant seven or eight pole beans in a circle about six inches away from the corn kernels.
4. A week later, at the edge of the mound about a foot away from the beans, plant seven or eight squash or pumpkin seeds.
5. When the plants begin to grow, you will need to weed out all but a few of the sturdiest of the corn plants from each mound. Also keep the sturdiest of the bean and squash plants and weed out the weaker ones.
6. As the corn and beans grow up, you want to make sure that the beans are supported by cornstalks, wrapping around the corn. The squash will crawl out between the mounds, around the corn and beans.

Companion Planting Table

Veggie	Plays well with:	Rather not be with:
Asparagus	basil, tomato, nasturtium, parsley	Onion, garlic, potato
Bush Beans	Beets, carrot, cabbage, cauliflower, cucumber, marigold, chard, corn, celeeriac, celery, eggplant, leek, lettuce, parsnip, pea, potatoe, radish	Chives, leek, garlic, fennel, kohlrabi, onion
Pole Beans	Carrots, cauliflower, chard, corn, cucmber, eggplant, lettuce, pea, potato, radish,	Beets, cabbage, fennel, kohlrabi, onion, radish
Beets	Brassicas, lettuce, onion, sage, bean, radish	Bean (pole), mustard
Broccoli	Celery, chamoile, dill, rosemary	Oregano, strawberry
Brussel Sprouts	Potato, thyme	Strawberry
Cabbage Family	Beetroot, potato, oregano, sage, beans, beet carrot, celery, cucumber, lettuce, mint, nasturtium, onion, rosemary, spinach, thyme, marigold	Strawberry, tomato, pole bean
Carrot	Bush beans, pole beans, lettuce, onion, pea radish, tomato	Chives, dill parsnip, radish
Cauliflower	Beans, celery, oregano	Nasturtium, peas, potato, strawberry, tomato
Celery	Cabbage, leek, onion, spinach, tomato	Parsnip, potato
Corn	Bean, cucumber, melon, pea, potato, radish, parsley, squash	Tomato
Cucumber	Bean, celery, lettuce, pea, radish	Cauliflower, potato, basil
Eggplant	Bean, capsicum, potato, spinach, peppers	Fennel
Leek	Carrot, celery, strawberry	
Lettuce	Carrot, radish, garlic, strawberry	Beans, beetroot, parsley
Onion	Bean sprout, broccoli, cabbage, lettuce, strawberry, tomato	Bean, pea
Pea	Beans, carrot, corn, cucumber, radish, celery, chicory, eggplant, parsley, spinach, strawberry, turnips	Onion
Potato	Bean, corn, cabbage, pea, marigold, onion, parsnip	Cucumber, pumpkin, squash, sunflower, turnip, fennel, kohlrabi
Spinach	Celery, cauliflower, eggplant, corn	
Strawberry	Bush beans, lettuce, nasturtium, onion, radish, spinach	Cabbage, potato
Tomato	Asparagus, celery, carrot, parsley, marigold	Corn, fennel, potato
Zucchini	Nasturtium	

Sources: Renee’s Garden: <http://www.reneegarden.com/articles/3sisters.html>

ATTRA: <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=72>

Seed Starting: The Basics



What you need

- ❖ Indoor space with plenty of sunlight or indoor growing tables with lamps
- ❖ Mild heat source (top of refrigerator, radiator, near heat source)
- ❖ 2-3 1/2 inch Seedling pots (look for biodegradable or recycled containers)
- ❖ Soil-less growing medium
- ❖ Seeds
- ❖ Spray bottle

Planting Steps

- 1) Moisten growing medium
- 2) Fill container to within ¾ inch from the top
- 3) Read seed packet to determine how deep to plant and any particular heat or light requirements.
- 4) Plant seeds. Plant a few per pot in case some don't come up.
- 5) For very fine seeds, sprinkle seeds on top of soil and sprinkle on top ¼ inch of screened mix or vermiculite
- 6) Label pots with the name and variety of plant.
- 7) Place seeds on a tray and cover with clear plastic. This will help bring up the heat for germination.
- 8) Place in a warm spot. The seeds don't need as much sunlight now, but do need the heat.

Growing Process

- ❖ Before seeds have germinated, water with a spray bottle/mister and keep in a warm place.
- ❖ Once the seeds have germinated (the sprouts are showing), immediately remove the plastic covering and move to a light place. This light place can be a south-facing windowsill or, if such abundance of light is not available, a growing lamp that can be raised and lowered. The lamp should consist of 2 40-watt, cool, white fluorescent bulbs or full-spectrum bulbs. Lamps should be lowered to about 6 inches above the seedlings and should be kept on about 16 hours per day. The lights should be raised as the seedlings grow.
- ❖ After the seedlings are established, thin out the extra seeds so that there is no more than 1 seedling per inch. Continue to water, but be sure not to overwater.
- ❖ Seedlings are ready to go outside when they have their first few true leaves (regular plant leaves) beyond their seed (the first 2 that form after germination) leaves and somewhat established roots.

Resources Used:

- UNH Cooperative Extension (2001). *Starting Plants Indoors From Seed*. Found at: http://extension.unh.edu/resources/resource/495/Starting_Plants_Indoors_From_Seed
- The University of Maine Cooperative Extension (2008). *Starting Seeds at Home*. Found at: <http://extension.umaine.edu/publications/2751e/>

B9

Garden Planning Chart

Garden Site/Organization: _____

a. Name of Vegetable Fruit Herb	b. Direct Seed or Transplant? (DS/T)	c. Will we be starting our own seeds indoors? (Y/N)	d. How many plants per square foot?	e. How many squares/blocks of each plant do we want to plant? X	f. Do we plan on doing an additional mid-summer planting? (Y/N) X (if yes, x2)	g. How many seeds should we use to equal 1 plant? (NA if no seeds) X	h. Total seeds/plants needed =	i. How many seed packets do we need of each plant? (info in seed catalogue) (NA if no seeds)	j. What variety do we want to order? (variety # from seed catalogue)
Example 1: Tomato	Example: T	Example: N	Example: 4 per 4x4ft. block	Example: 2 blocks	Example: N	Example: NA	Example: 8 plants	Example: NA	Example: (leave blank for now)
Example 2: Carrots	Example: DS	Example: N	Example: 16	Example: 2 squares	Example: Y	Example: 4-5	Example: 256-320 seeds	Example: 1	Example: 2414
Example 3: Broccoli	Example: T	Example: Y	Example: 1	Example: 6 squares	Example: N	Example: 3-4	Example: 18-24 seeds	Example: 1	Example: 2812

Garden Planning Chart Continued...

Garden Site/Organization: _____

a. Name of Vegetable Fruit Herb	b. Direct Seed or Transplant? (DS/T)	c. Will we be starting our own seeds indoors? (Y/N)	d. How many plants per square foot?	e. How many squares/blocks of each plant do we want to plant? X	f. Do we plan on doing an additional mid-summer planting? (Y/N) X (if yes, x2)	g. How many seeds should we use to equal 1 plant? (NA if no seeds) X	h. Total seeds/plants needed =	i. How many seed packets do we need of each plant? (info in seed catalogue) (NA if no seeds)	j. What variety do we want to order? (variety # from seed catalogue)

Planning Your Garden

Additional Resources



- ❖ <http://www.plant-materials.nrcs.usda.gov/pubs/mipmcot9407.pdf>
 US Department of Agriculture, Natural Resources Conservation Service,
Community Garden Guide: Vegetable Garden Planning & Development
 This document is a comprehensive guide, included here for its unique “Family Garden Planning” section.

- ❖ <http://thefoodproject.org/food-project-toolbox>
 The Food Project, Toolbox
 This page includes The Food Project books, manuals, activities, and curriculum.
 Some highlights:
 - Head, Hands, & Heart icebreaker:
<http://thefoodproject.org/sites/default/files/HeadHeartHands.pdf>
 - *Growing Guide: Making the most of your raised bed garden*
<http://thefoodproject.org/sites/default/files/GrowingGuide2010.pdf>

- ❖ <http://www.extension.iastate.edu/publications/pm870a.pdf>
 Iowa State University Extension, *Small Plot Vegetable Gardening*
 This document provides some plant selection and growing technique tips for small space growers.

- ❖ http://extension.unh.edu/hcfg/Home_Com_Garden.htm
 University of New Hampshire Cooperative Extension, Home & Community Food Gardening
 This site provides all sorts of tips; for the purposes of this section the most useful resources are found under “Getting Starting: site, soil, seeds, and more” and “Planting & Transplanting.” A few choice documents are: *Planting & Maturity Dates of Vegetables in New Hampshire*, *Timing Vegetable Transplants*, and *Starting Seeds at Home* (from The University of Maine Cooperative Extension).

Building & Planting

mid-late March

Seasonal Planning Meeting
with Garden Teams

mid-late March

Order wood, compost, soil,
and other materials for new
garden sites

mid March-early April

Groups starts seeds indoors

early-mid April

Raised Bed Building &
Planting Workshop

mid-late April

Raised bed building & filling
workparties at new garden
sites

Overview

Outcomes:

- Promote gardener confidence to build raised beds independently
- Develop understanding of what seeds & plants need based on seed packet information
- Promote gardener confidence to plant a variety of vegetables independently
- Increase knowledge of how to water seeds and plants appropriately to ensure successful growth
- Develop understanding of Square Foot Gardening basics
- Develop understanding of what plants need as they grow
- Develop understanding of the way in which different plants grow
- Develop understanding of plants that grow better when trellised
- Promote gardener confidence and provide tools and inspiration to create successful trellising structures
- Promote gardener confidence to a build mini-hoop house

Found in this section...

- ❖ Seasonal Planning Meeting
 - Seasonal Planning Meeting—Staff Agenda
 - Supply Check Sheet
- ❖ Ordering Materials
 - Tips for ordering materials from past years
- ❖ Building & Planting Your Garden Workshop Overview
 - Workshop prep Action Plan
 - Workshop Program Plan
- ❖ Workshop Lesson Plans
 - Planting Seeds lesson
 - Transplanting with Square Foot Gardening lesson
 - Vertical Gardening lesson
- ❖ Workshop Appendices
 - Workshop Planning Checklist
 - Sample agendas (participant & staff)
 - Sign-in sheet & Evaluation
 - Lesson Materials (handouts, visuals)
- ❖ Additional Resources
 - Various resources for figuring costs, tools needed, planning garden events, and building raised beds

Seasonal Planning Meeting



Community Garden Connections

Seasonal Planning Meeting

[mid-late March]

Staff Agenda

- **Overview**
 - Agenda overview:
 - Check-ins: How is the site moving along? Any bumps in the road? Questions that have come up? Anything excited to share?
- **Materials purchasing**
 - Check on material needs for site (beyond bed construction materials & soil/compost) If helpful use Supply Check Sheet.
- **Upcoming Building & Planting Your Garden Workshop**
 - Build beds & learn some techniques for planting and caring for your plants
 - After the workshop, you will have the skills necessary to build your own garden beds!
- **Your Own Bed-Building Work Party**
 - What we can offer: order and deliver supplies; assist with facilitation
 - What we need from you: decide on date; type of event; primary organization of event; recruit volunteers
 - Ideas for types of events: ideas & tips from past years; opportunity to promote program; brainstorm ideas
 - Date: mid-late April (so your group can get spring plantings in on time)
 - Time: typically 3-4 hours
 - Volunteers: depending on size of project, 15-30 people total is ideal; opportunity to involve garden participants, their families, and reach out to wider community
- **Garden Season Calendar** (provide electronic version—found on website under Downloads)
 - Add next workshop date: Building & Planting Your Garden Workshop
 - Add date for Bed-building Work Party (once decided upon)
 - Assist with any timing questions for planting/harvesting (see *Planting & Harvest Timeline—Keene* on website under Downloads)
- **Thanks and Site Walk**
 - Take another site walk to make sure site is ready/will be ready for site development, including the building of the beds
 - Tasks, next steps, & next meeting

Supply Check Sheet

✓ (Check it) = Have it

☆ = Need it

☺ = Want it

Building Garden Beds

Lumber and screws

Compost

Soil

Seeds

Plants

Big Tools

Shovels/Spades

Pitch Forks

Hoes

Rakes

Hand Tools

Trowels

Hand forks

Gloves

Grounds

Soil Test

Mulch for pathways

Wheel barrow

Compost bin

Watering

Hose with nozzle

Watering can

Sprinkler system

Other Ideas

Ordering Materials



2012 Garden Bed Building Process efficiencies and recommendations

From Allan Pearce (CGC Co-Coordinator)

What did CGC do to build garden beds this season? Well, first of all, Tom W. recommended working with Great Brook Forest Products as they were under new ownership and doing a great job. They were happy to help us and were very accommodating. They delivered everything to us for a small fee. They were able to produce rough cut hemlock with quite a quick turnaround. They typically produce larger pieces of wood than what we need; however, they were able to cut these pieces as by-products of their normal timbers. So, we ended up with lots of rough cut hemlock that we had to fine tune.

Let me back up a little. First I had to figure out how much wood we needed. For this we had to determine what size beds would work at each site. At our first workshop, we encouraged all sites to dream and imagine how they would like their gardens to look. We didn't put any constraints on type or size. This was a challenge as we ended up with different lengths, heights, sizes, and even some triangular shaped beds. All of this is great to support creativity but very challenging logistically. I made a spreadsheet that was broken down per garden site with the number and length of each type of board needed. This was quite logistically challenging.

Back to Great Brook Forest Products. From the spreadsheet I told them over the phone the exact quantity of each lumber needed. It is important to keep in mind with a mill like this that they can't cut boards shorter than 8'. This means that for the 3' long end boards on our gardens, I had to order 12' boards that we could cut into 3' lengths. All of this is amounting to lots of individual sawing that we had to do at Antioch. Basically, I did a lot of this in my head, which meant when we were sawing the lumber, I would remember that we need 28 10' boards for the YMCA and 28 3' boards which had to come from specific lumbers. If we had a standard bed size, this would be much simpler, and require much less work on our part.

Finally, Great Brook sent a quote for the lumber which was used to get a P.O. from Debbie Williams in accounts payable. Great Brook then sends an invoice which gets paid a couple of weeks later by Debbie. Saves you from having to front the money and get reimbursed.

Another critical factor on our part was the timeframe for this. We let the sites wait until early April to give us their final design, which meant we couldn't order lumber until then, at which point we needed it for our workshop the following week. My recommendation for the future is to make sure you have the designs (if you are allowing flexibility) in early March. This would allow you a month to order lumber, and the mill plenty of time to rough cut it, so you have plenty of time to fine cut it. This was probably still the most cost effective measure however there were probably over 20 hours of CGC coordinator time devoted just to sawing with a borrowed circular saw. We were fortunate to have this saw to borrow; without it we would have many more challenges.

Another important consideration is where to store the lumber until the gardens are actually built. We were able to use the “Tombs” at Antioch, which was a great provision, but not necessarily the best working space. Although it is a sizeable stack of lumber, another, more ergonomic working location would be recommended.

So, look at the spreadsheet that shows what was done this year, and work from that. There are probably also some other lumber mills around (Fitzwilliam, NH, among others).

For the actual building logistics, it is pretty simple to build. We used 3” decking screws and power screwdrivers to drill them together. They require a square drill bit, but with the screws that we used, one drill bit came with them. With all power tools, the more power the better. We were able to beg/borrow nice tools, but they need to be outdoor caliber, so that they have plenty of power to drive the screws in. We also used 4”x4” hemlock in the corners to screw the sides of the bed into. This all worked well and was easily done by everyone. Hmm...it would be interesting to make a Youtube video of this process—might be something to consider for next year.

The beds are heavy, but can be lifted by a group of 4-6 people and moved into place if they are not quite assembled directly where they are built.

One final logistic that I am thinking of is moving the boards to the site. We were able to find people with trucks but it was a little bit difficult at times. Make sure you coordinate this aspect ahead of time or it will become a headache.

Soil/compost was purchased through Ground UP. They are flexible and can deliver for those of us without trucks. It was a little bit more expensive that way, but the convenience was sorely needed at this point. They are good about delivering on short notice. We also used a great soil calculator to determine how many yards were needed for each site. The link is below. We also recommend putting a tarp down under the soil so it keeps it more condensed and easier to use all of it.

<http://www.gardeners.com/Soil-Calculator/7558,default,pg.html>

Building & Planting Your Garden Workshop



“I feel more prepared to start our garden.”—CGC program participant

Building & Planting Your Garden Workshop Action Plan

Project: Building & Planting Your Garden Workshop		Purpose of Project: Provide beginner garden groups with raised bed building, vegetable planting, and general growing knowledge and skills to establish their garden sites. Continue to foster connections between gardeners. Provide opportunities for check-in and problem-solving about site progress. This workshop was designed to be the 3 rd in a series of 3 winter/spring workshops, preparing garden groups for the first season of their garden and garden program.			
Time Frame for Completion:		Date Today:			
Members of Task Group:					
Critical Steps	Who will be involved & make decisions (Names)	Resources Needed	Information and Assistance Needed	Time to do task (include completion date)	How we'll know we've successfully accomplished task
Identify and confirm location of Building & Planting Your Garden Workshop (New garden site with appropriate space, indoor & outdoor, & desire for assistance)		Space available	Call around & make reservation request	February 20- March 6	3 rd workshop location announced at 2 nd workshop
Garden Teams who are starting their own seeds indoors start planting		Tools used in Planning Your Garden Workshop (Garden Planning Chart)	Info from Planning Your Garden Workshop	March 25- March 29	1 st Seeds planted
Seasonal Planning Meeting with Garden Teams (calendar planning, work party planning)		Tools used in Planning Your Garden Workshop (charts & calendars)	Info from Planning Your Garden Workshop	March 18- March 22	Complete site plan

Critical Steps	Who will be involved & make decisions (Names)	Resources Needed	Information and Assistance Needed	Time to do task (include completion date)	How we'll know we've successfully accomplished task
Order wood, compost, soil, and other materials for all new garden sites (with a priority on the garden site serving as the location for the Building & Planting Your Garden Workshop)		Funds for materials & supplies	Amounts needed by sites; determined by site plan	March 18- March 22	Materials & supplies ordered for all garden sites
Cut/prepare wood for the garden site serving as the location for the Building & Planting Your Garden Workshop		Wood either delivered or picked up	Measurements of beds needed by sites; determined by site plan	March 23- April 5	Wood cut for Building & Planting Your Garden Workshop
Identify and confirm logistics (e.g., food, equipment, materials, etc.) for Building & Planting Your Garden Workshop		Funds for food and materials & Lending of tools, etc.	Availability of resources; list of needed resources	March 25- April 5	List of what resources to get where & when
Create workshop materials (e.g. handouts, evaluations, other materials)		Funds for materials copying & printing	CGC Education Manual—material templates	April 1- April 5	All materials created
Purchase/pick-up needed workshop supplies		Funds for materials	List of resources to get where & when	April 1- April 5	All materials purchased/acquired
Arrange for soil/compost to be delivered		Funds for soil/compost	Amounts needed by sites; determined by site plan	April 8- April 9	Soil/compost delivered
Purchase/pick-up needed food & other later logistics		Funds for food	List of food items needed	April 8- April 9	All food purchased/acquired
Workshop site prep (setting up room, etc.)		All materials & equipment needed	CGC Education Manual—checklist	April 9- April 10	Room ready for workshop

Critical Steps	Who will be involved & make decisions (Names)	Resources Needed	Information and Assistance Needed	Time to do task (include completion date)	How we'll know we've successfully accomplished task
Conduct Building & Planting Your Garden Workshop		Venue, equipment, materials, food	Volunteers	April 10	Complete Workshop #3
Compile and analyze evaluation results to inform future workshops and other efforts			Complete workshop evaluations	April 10-12	Summary of workshop evaluations
Cut wood for other sites		Wood either delivered or picked up	Measurements of beds needed by sites; determined by site plans	March 23- April 19	All wood cut for new garden sites
Work parties at all other sites		Supplies & materials delivered to sites	Garden Teams organize w/ assistance from CGC Team	April 13- May 5	Work parties happen & beds built & filled

Building & Planting Your Garden

Tools for promoting skills in garden bed building and planting in new garden groups

Presenters Preview:

The intent of this workshop is to provide beginner garden groups with the skills, knowledge, and confidence to build and plant their 1st gardens. This will be achieved primarily through a several demonstrations and hands-on building and planting activities. This is yet another opportunity for the different participating garden groups to network with each other. In addition, experienced gardeners will be invited to share their knowledge and skills. Participants should leave with the knowledge and information to organize their own bed-building work parties and begin planting their gardens.

This workshop was designed to be the third in a series of three workshops for groups starting garden programs. However, the workshop can be used separately as long as facilitators prepare groups with appropriate information ahead.

The Program will:

- Promote gardener confidence to build raised beds independently
- Develop understanding of what seeds & plants need based on seed packet information
- Promote gardener confidence to plant a variety of vegetables independently
- Increase knowledge of how to water seeds and plants appropriately to ensure successful growth
- Develop understanding of Square Foot Gardening basics
- Develop understanding of what plants need as they grow
- Develop understanding of the way in which different plants grow
- Develop understanding of plants that grow better when trellised
- Promote gardener confidence and provide tools and inspiration to create successful trellising structures
- Promote gardener confidence to a build mini-hoop house

Location: This workshop should take place at one of the new garden sites. This is an opportunity for the site's organization to share their site and be provided assistance with building and planting their first few beds.

It is important that this site has adequate outdoor space for building and gathering. The site should be able to accommodate the physical needs of all workshop participants.

Also, the site should have access to the appropriate number of tables and chairs for the large group to gather indoors.

Room Set-up Time:
3 hours

Teaching Time: 4 hours

Equipment, Supplies, Materials & Food Items: See attached list

Participants Bring:

- List of garden vegetables & fruits planning to grow
- Site binders

Program Outline/Facilitators Notes:

Welcome & Agenda (5 min.) 9:00-9:05

- Primary purposes of today:
 - ❖ Give you the tools to organize your own bed-building work parties and to begin planting your garden.
 - ❖ Give you an opportunity to meet and learn from an experienced gardener (from a garden site that has a year or two under its belt).
 - ❖ Give you all another opportunity to get to know one another, and learn from each other's experiences of developing a new garden site.
- Processes to achieve purposes today:
 - ❖ Check-in
 - ❖ Hands-on bed building & filling
 - ❖ Break & Shake—snack & bathroom break
 - ❖ Garden-based Stations
 - Seed Planting
 - Transplanting
 - Vertical Gardening
 - ❖ Mini Hoop House building
 - ❖ Lunch with Q&A and Discussion
 - ❖ Wrap-up, Evaluations, & Opportunities

Check-in (15 min.) 9:05-9:20

- Ask participants to share 1 thing they are most proud of, excited by, or surprised by with their garden project so far.

Hands-on bed building & filling (40 min.) 9:20-10:30

- Split group in two: 2 group leaders per group (group leaders: experienced garden site participants & project coordinators)
- Raised bed-building demo with some hands-on led by group leaders
- Group leaders assist participants in building 2nd raised bed
- Group leaders direct participants to fill the beds with soil/compost—Bucket Brigade (lots of 5-gallon buckets, shovels, and people, filling and dumping the soil into the beds; groups tend to self-organize)
- If needed, mix soil and compost in beds with shovels
- The end result is a total of 4 raised beds built and filled
- It is, of course, important to check & plan ahead with the hosting site as to bed dimensions, bed placement, and bed orientation
- Raised bed hand-out available

Break & Shake (10 min.) 10:30-10:40

- Snack, drink, and bathroom break

Introduce Stations & upcoming demos/activities (5 min.) 10:40-10:45

- Overview of how activity will work & what will be learning (All demo & hands-on; rotating stations—15 min. each; two separate projects—20 min.)
- Split the large group into 2 groups evenly

Garden-based Stations—Rounds 1&2

- **Seed Planting Demo/Activity** (15 min., 2x) 10:45-11:20
 - See associated lesson plan and handout
- **Transplanting Demo/Activity** (15 min., 2x) 10:45-11:20
 - See associated lesson plan and handout

Garden-based Stations—2 groups at the same time

- **Vertical Gardening Demo/Activity** (20 min.) 11:20-11:40
 - Half of the group works on one project; the other half works on another
 - See associated lesson plan and handout

Mini Hoop House Building Demo/Activity & Large Group Gathering (15 min.) 11:40-12:00

- Re-group as a whole group around the bed with the recently planted transplants
- Follow the steps for building a Raised Bed Mini Hoop House (found on the associated handout)—demonstrate & ask for assistance
- Take whatever time is left for questions and take aways (record these—they make for great assessments)

Lunch w/ informal Q&A (45 min.) 12:00-12:45

- Handout box lunches, start buffet line, or serve lunch
- Allow groups to visit and eat (maybe even outside)
- When timing is right offer Q&A, an opportunity to share about further successes & challenges, and some time for group problem-solving

Wrap-up (15 min.) 12:45-1:00

- Thank you
- Ask all participants to share 1 take-away from today's workshop (if it hasn't already happened)
- Pass out workshop evaluation
- Share any upcoming opportunities & next steps

Building & Planting Your Garden Workshop Equipment, Supplies, Materials, & Food Items List

Equipment

- Coffee maker
- Tea boiler/kettle
- Port. chalk/white board
- Tables—enough for participants in large group; 1 for sign-in; 1 for breakfast/snacks
- Chairs—enough for large group

Supplies

Workshop-related

- Vertical gardening visuals (using books or other pictures found)
- Supplies for chosen trellising structures, including demo and hands-on construction
- Pre-made trellising structure examples
- 2-4 early plant varieties
- Enough transplants for 1/gardener
- String & tacks for grid
- Hammer
- Measuring stick
- 1-2 Trowels
- 3 seed varieties
- Enough seed packets for one/gardener
- 2 Watering cans
- Popsicle sticks
- Permanent marker
- Laminated seed marker

- Stakes: 10—1/2 inch x 12 inches (Rebar or sturdy wooden stakes)
- Hoops: 5—3/4 inch (inside diameter of pipes) x 5 feet lengths (flexible PVC pipes or other sturdy, yet bendable material)
- Cover: 8 x 12 feet (Remay agri. cloth or 4 mil translucent plastic)
- Scissors
- Industrial stapler
- Gardening books
- Johnny's catalogues
- Name tags
- Pens/markers
- Chalk/dry erase marker

Bed-building-related

Materials:

- Wood
- Screws
- Soil/Compost
- Cardboard
- Galvanized brackets

Tools:

- Power screw drivers
- Screw bits
- Buckets
- Shovels
- Tarp
- Levels
- Gloves
- Box cutters

Food-related

- Coffee filters
- Table cloth
- Coffee & hot water carafes
- Spoons
- Small plates
- Napkins
- Mugs/hot cups
- Cold cups
- Pitchers for water
- Baskets, bowls, plates & utensils for displaying breakfast food (& possibly lunch)
- Table decorations
- Knives
- Cutting boards

Materials

- Copies of evaluation
- Copies of agenda
- Copies of handouts
- Sign-in sheet
- Laminated Square Foot Gardening visual

Food Items

- Cream/milk
- Sugar
- Coffee
- Tea
- Juice
- Breakfast/snack foods
- Lunch foods

Building & Planting Your Garden Lesson Plans



Overview:

Gardeners learn how to plant seeds and read seed packets and also learn what plants need to grow.

Objectives:

Gardeners will

- Understand what plants need based on seed packet information
- Have the confidence to plant a variety of plants independently
- Know how to water seeds appropriately to ensure successful growth

Activity Time:

As a part of 2 lesson stations, this lesson takes about 15 min. If participants need to learn about plant seasonality, plan for an extra 10 min. If you have more time, you might want to spend more time planting and making row markers.

Materials:

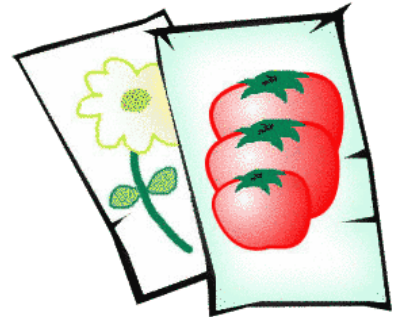
- 3 seed varieties
- Enough seed packets for one/gardener
- Seed Packet Definitions handout (C1)
- Row Marker handout (C2)
- Watering can
- Popsicle sticks
- Permanent marker
- Laminated seed marker

Planting Seeds

Introduction

This planting seeds lesson is designed to be a part of a workshop on bed building and planting for beginning gardeners; however the lesson can easily be expanded, adapted, and taught separately.

This lesson is for learners who are particularly new to gardening. Planting seeds is one of the most basic lessons in gardening. In fact, it may seem so basic that you might wonder why it needs to be taught. However, without some hands-on experience and planting instruction many gardeners lack the confidence to even get started.



One of the best ways to know how to plant different seeds is to look at the packet that they came in. This is helpful because it is readily available. It is also useful because different varieties have different planting needs that are important to pay attention to. Some seed packets are easily read and understood, while others take a little more decoding. This lesson teaches how to read a seed packet and pay attention to various plant needs.

This lesson also includes seeding demonstrations for a few different vegetable varieties. Finally it offers a few tips for watering seeds (different from watering plants).

The lesson starts with the assumption that learners will already have learned about what vegetables to plant at what point in the season. If your learners do not have this information, you will

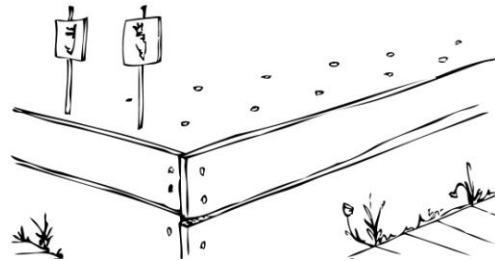
want to start the lesson with an overview of this topic.

Lesson Description

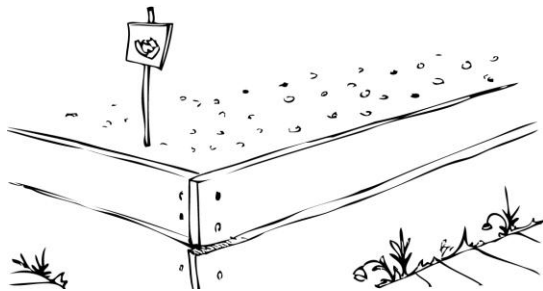
1. Ask group about their familiarity/experience with planting seeds. Introduce (or revisit) the idea that some plants grow best when started inside and some grow best when started outside. Ask group if anyone knows any plants that start best outside. (Examples of outside starters: beans, peas, carrots, beets, kale, lettuce, spinach, radish, Swiss chard.) Follow-up with question about which of these plants can be started early in the season. (Examples of early starters: peas, carrots, beets, kale, lettuce, spinach, Swiss chard.)

2. Show the seeds that are going to be planted (3 different plants from the early starter list). Ask the group what things we need to know before we can plant seeds. (Some examples of what they might mention: how deep to plant your seeds, how far apart to plant them, whether they need shade or sun, when to plant them.) Explain that a great place to find this information is on the packet the seeds came in, especially because it gives specific instructions for different varieties. Explain that every seed company organizes their information a little differently and that some are simpler than others. Hand out a few different seed packet to your gardeners (so that they can see the differences) and ask them to see what information they can find. Address any difficulty with words and fill in the gaps with the *Seed Packet Definitions* handout (C1).

4. Based on seed packet instructions, demonstrate planting early vegetables (other than lettuce) using row method. Allow gardeners to try out row seeding.

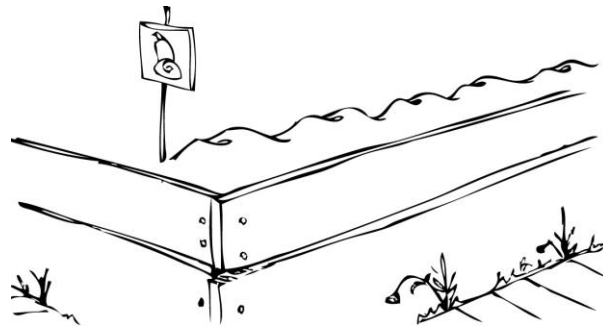


5. Explain that they can make simple row markers with seed packets. Send home *Row Marker* handout (C2). Show example laminated seed markers. Brainstorm other ideas. For now make row markers by writing plant name with permanent marker on popsicle sticks.



6. Demonstrate planting lettuce seeds using the scatter method. Allow gardeners to try out scatter seeding.

7. Also mention that some seeds grow best in mounds (squash, potatoes, etc.). Demonstrate seeding in mounds.



8. Demonstrate watering seeds. Give tips, such as:

- ❖ Gentle watering—If you shower your seeds with too much force they will be driven further into the soil or washed away, lowering the germination rate. Using a spray bottle, the gentle setting on your hose, or a watering can allows for some control.
- ❖ Warm water—If possible, it is best not to shock your newly planted seeds with cold water. Again, using a watering can for your first few waterings is a good idea to control temperature.
- ❖ Regular watering—Keep the soil moist—although not soaked—before your plants germinate. Regular morning watering is better than mid-day watering, when the soil dries out most quickly.

Allow gardeners to try out watering.

Other Ideas and Extensions

- ❖ Row Markers Seed Packets post at <http://voices.yahoo.com/row-markers-seed-packets-6852024.html?cat=32>

Resources

- ❖ Gardener's Supply Company: Vegetable Encyclopedia
<http://www.gardeners.com/on/demandware.store/Sites-Gardeners-Site/default/Page-Encyclopedia>
- ❖ Johnny's Selected Seeds: Online Catalogue
<http://www.johnnyseedsonlinecatalog.com/WebProject.asp?CodeId=7.4.3.7&BookCode=jse11flx&from=2#>

*Planting demo drawings created by Maisie Rinne and Bin Greer.

Transplanting with Square Foot Gardening

Overview:

Gardeners learn how to transplant and the basics of the Square Foot Gardening method.

Objectives:

Gardeners will:

- Understand the basics of Square Foot Gardening
- Have the confidence to plant a variety of plants independently
- Know how to water plants appropriately to ensure successful growth

Activity Time:

As a part of 2 lesson stations, this lesson should take about 15 min. If you have more time, you might want to use it for transplanting.

Materials:

- 2-4 early plant varieties
- Enough transplants for 1/gardener
- Laminated Square Foot Gardening visual (C5)
- Square Foot Gardening handout (C3)
- String & tacks for grid
- Hammer
- Measuring stick
- Watering can
- 1-2 Trowels

Introduction

This transplanting lesson is designed to be a part of a workshop on bed building and planting for beginning gardeners; however the lesson can easily be expanded, adapted, and taught separately.

This lesson is for learners who are new to gardening or for those who are interested in learning different planting techniques. Many gardeners choose to transplant vegetable seedlings (young plants) into their garden beds. Some start their own seeds indoors in late winter/early spring; while others purchase their seedlings from local garden stores. For new gardeners, transplants can be a great boost to plant growth success and therefore new gardener success.



Numerous guides give instructions for planting vegetable varieties. (See Resources for some good examples.) For this lesson we've chosen to teach transplanting through the method of Square Foot Gardening. (For background information on this method see Resources.) Square Foot Gardening is known for its effectiveness in growing large numbers of vegetables in a small amount of space. While we won't get too deep into the method for this lesson, we will use its handy gridlines and counting techniques to simplify transplanting for new gardeners.

You will want to leave time ahead of your workshop for setting up the Square Foot Gardening gridlines over your garden bed. (See *Square Foot Gardening* handout, C3, for an example layout.)

Lesson Description

1. (~2 min.) Introduce (or revisit) the idea that some plants grow best when started outside and some grow best when started inside. Ask group if anyone knows any plants that start best inside. (Examples of inside starters: broccoli, cabbage, tomatoes, peppers, eggplant, leeks, some herbs.) Follow up by asking which of these plants can be started early in the season. (Examples of early starters: broccoli, cabbage, leeks, some herbs.) Explain that there are few plants that transplant well this early in the season (mid-April), so if they transplant now they will need to construct some kind of cover for the plants. Let them know that they will learn how to build a mini hoop house in the next round of stations (see C4).

2. (~1-2 min.) Show the plants that are going to be transplanted (2-4 different plants from the early starter list). Ask the group if they know when plants are ready to go outside. Explain that once a plant has multiple “true leaves” beyond the “seed leaves” (1st heart-shaped leaves that come up) and some significant roots it is ready to head outside.

Explain that ideally you want to “harden off” plants before planting them in your garden. This involves taking them for 1-3 hour garden visits per day, increasing the amount of time outside and amount of sun-exposure over a 1-2 week period. Advise that when planting in the garden, you should try to avoid planting in the heat of the day, and preferably plant on a shady day.

3. (~2-3 min.) Introduce the idea of Square Foot Gardening as another technique for planting both seeds and transplants. Explain that Square Foot Gardening is known for its effectiveness in growing large amounts of vegetables in a small amount of space. Explain that it can also be a great way to simplify the planting process. Show bed with square foot gridlines. Use Square Foot Gardening visual (C5). Explain that depending on how much space each plant needs to grow you will want to plant a certain number of plants/per square foot. Pass out *Square Foot Gardening* handout (C3).

Explain that to calculate how many plants per square, look on the back of the seed packet (if using your own transplants), the plant tag (if store-bought) or other planting guide (such as Johnny’s Selected Seeds catalogue with “Growing Information”)—totally ignore the row spacing, just look at the plant spacing. Divide your total inches available across a square foot—12 inches—by the number of inches your plants should be spaced apart. Square that number and you will get the number of plants per square foot. For example:

- 12" apart, plant 1 per square
- 6" apart, plant 4 per square
- 4" apart, plant 9 per square
- 3" apart (or less), plant 16 per square

4. (~4-5 min.) For the plants being transplanted, have the group determine how many plants per square foot. Emphasize that it doesn't have to be exact, just to give a rough idea of the appropriate spacing. Demonstrate transplanting. Highlight: digging hole, gently breaking up roots (particularly if "root-bound"), planting depth, etc. Allow gardeners to try out.

5. (~3 min.) Demonstrate watering. Give tips, such as: 1 inch per week (place 5 oz. empty tuna can in the center of your garden bed as a visible measure of what 1 inch per week of water looks like), avoid watering during peak sunshine hours to prevent burning leaves, etc. Allow gardeners to try out.

Resources

Square Foot Gardening

- ❖ The Square Foot Gardening Foundation <http://www.squarefootgardening.org>
- ❖ My Square Foot Garden <http://mysquarefootgarden.net>
- ❖ Discover Square Foot Gardening
<http://www.discover-square-foot-gardening.com>
- ❖ Gardener's Supply Company: The Kitchen Garden Planner
http://www.gardeners.com/Kitchen-Garden-Planner/kgp_home.default.pg.html

Guides For Planting & Growing Vegetable Varieties

- ❖ Gardener's Supply Company: Vegetable Encyclopedia
<http://www.gardeners.com/on/demandware.store/Sites-Gardeners-Site/default/Page-Encyclopedia>
- ❖ Johnny's Selected Seeds: Online Catalogue (plant information found throughout)
<http://www.johnnyseedsonlinecatalog.com/WebProject.asp?CodeId=7.4.3.7&BookCode=jse11flx&from=2#>

Vertical Gardening

Overview:

Gardeners learn about vertical gardening, what vegetables benefit from this method, and get hands-on experience with building a trellising structure.

Objectives:

Gardeners will

- Understand that some plants grow better when trellised.
- Have the confidence, tools, and inspiration to create successful trellising structures

Activity Time:

This lesson should take about 20 min. If you have more time, you might want to build multiple or more complex trellising structures.

Materials:

- Vertical gardening visuals (using books or other pictures found)
- Supplies associated with chosen trellising structures, demo and hands-on construction
- Vertical Gardening handout (C6)
- Pre-made trellising structure examples

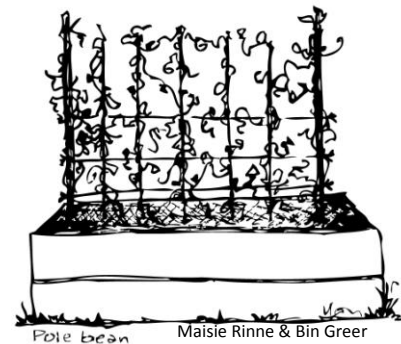
Introduction

This vertical gardening lesson is designed to be a part of a workshop on bed building and planting for beginning gardeners; however the lesson can easily be expanded, adapted, and taught separately.

Vertical gardening is a method that helps save space by growing your plants up or down.

This method is typically used for vines or trailing plants. The most common plants that benefit from

vertical gardening include tomatoes, peas, pole beans, squash, melons, and cucumbers.



Vertical gardening is a fun method to experiment with because you can get creative and there is no right or wrong way to do it. However, there are more or less successful projects and we hope that this lesson will help to inspire and equip gardeners with the most successful practices.

For this lesson you'll want to pre-construct 2 different trellising structures to be used as examples. Also this lesson works best when you have beds ready for anchoring your trellising structure.

Lesson Description

1. (~2 min.) Introduce the concept of vertical gardening. You could also call it trellising, a word with which people might be more familiar. Ask the group if they could describe some of the plants that benefit from this method of gardening. Fill in the blanks for them (most common: peas and pole beans; also useful: tomatoes, various squash, melons, and cucumbers).

2. (~2 min.) Explain that vertical gardening is a chance to get creative in the garden. Many people use found materials to help their vegetables climb; others take on elaborate construction or art projects—it's up to you. Show creative and basic visuals of trellising structures (examples in *Vertical Gardening* handout, C6, or look in Resources). Explain that their trellising structure can look like anything; it just needs to properly function—in other words, stay in-tact and allow plants to grow in the direction you want them to grow. Some basics include: the materials are sturdy/strong, the structure's base is anchored, the materials used won't contaminate your soil (contaminants could include treated wood or other materials that might have chemical residues), and the size of the structure suits the size of the plant at maturity (if not, make sure that you can add to your structure as your plants grow). Also remind gardeners that tall trellising structures should go on the north and west sides of your garden beds, so as not to shade out other plants.

3. (~13 min.) If teaching this lesson in 2 sections, each group takes a different structure to build. Pick two projects that would serve different plants. See Resources for various trellis structure instructions. Show pre-constructed trellis for an example. Construct trellis structure as a group. If extra time, try out building other structures.

5. (~2-3 min.) Show gardeners other structure (the one they didn't pick to construct). Brainstorm other trellis ideas. Send gardeners home with *Vertical Gardening* handout.

Resources

- ❖ Vegetable Gardener: Trellis Projects
<http://www.vegetablegardener.com/projects/tag/trellis>
- ❖ Kiddie Gardener: Make a Bean Teepee
http://www.kiddiegardens.com/bean_teepee.html
- ❖ The Green Mountain Gardener: Grow Vertical Vegetables
<http://pss.uvm.edu/ppp/articles/vertgard.html>
- ❖ University of Minnesota Extension: Trellises & Cages to Support Garden Vegetables
<http://www.extension.umn.edu/distribution/horticulture/m1263.html>
- ❖ Massingham, R. (2011). *Vertical vegetables and fruit: creative gardening techniques for growing up in small spaces*. North Adams, MA: Storey Publishing

Building & Planting

Your Garden

Appendices

Workshop Planning Checklist.....	p. 167
Sample Agenda—Participant.....	p. 168
Sample Agenda—Staff.....	p. 169
Sign-in Sheet.....	p. 171
Evaluation.....	p. 173

Lesson Materials

C1—Seed Packet Definitions handout.....	p. 175
C2—Row Marker handout.....	p. 176
C3—Square Foot Gardening handout.....	p. 177
C4—Mini-Hoop House Instructions handout.....	p. 178
C5—Square Foot Gardening visual.....	p. 179
C6—Vertical Gardening handout.....	p. 180
C7—Building Raised Bed Gardens handout.....	p. 181

Building & Planting Your Garden Workshop Checklist

- **Hang signs** for directions to room/building
 - sign-in sheet
 - photo waivers
 - pens
 - name tags
 - handouts
 - gardening books
- **Write out agenda** on portable chalk or white board (use for intro & carry out to garden area)
- **Set up tables & chairs**
 - 1 indoor big group area (for morning check-in & lunch)
- **Prepare coffee & boil hot water**
 - coffee & filters
 - coffee-maker & hot water kettle
- **Last minute prep of breakfast/snack food**
 - knives
 - cutting boards
- **Set up breakfast/snack table**
 - table cloth
 - coffee & hot water carafes
 - tea bags, cream, sugar, spoons
 - small plates & napkins
 - mugs/hot cups
 - cold cups
 - juice
 - pitchers of water
 - breakfast/snack foods & associated spreads
 - baskets, bowls, plates & utensils for displaying food
- **Set up sign-in table**
 - agenda ½ sheets
- **Prepare outdoor learning areas**
 - bucket & shovels next to pile of soil/compost
 - building materials & tools set out in the bed-building area
 - if time, arrange boards as they will be put together
 - have materials for raised bed mini hoop house in one area & accessible
- **Prep learning station materials**
 - label bags for each learning station and put materials needed in bags (handouts, visuals, supplies for Seed Planting, Transplanting with Square Foot Gardening, & Vertical Gardening)
- **Prep lunch area**
 - table cloths
 - table decorations (i.e. vases of flowers)
 - if space available, set up buffet area (tables, chairs, etc)
 - lay out stacks of plates/bowls, flatware, cups, napkins
 - serving dishes & utensils
 - prep food as necessary
 - stack of workshop evaluations

Building & Planting Your Garden Workshop Agenda [day, date, time]

- (9:00-9:20am)** **Open with coffee/tea, overview & check-in**
- (9:20-10:30am)** **Hands-on raised bed building and filling**
- (10:30-10:40am)** **Break & Refreshments**
- (10:40am-11:40pm)** **Learning Stations**
Station 1: **Planting Seeds**
Station 2: **Transplanting**
Stations 3&4: **Vertical Gardening**
- (11:40-12:00pm)** **Mini Hoop House Building & Group Wrap-up**
- (12:00-1:00pm)** **Lunch with Discussion: Sharing Successes & What's Next?**



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Building & Planting Your Garden Workshop

[day, date, time]

[location]

[organization]



Staff Agenda

(Day before:

2 hours)

Prepping the site

- Set down tarp for soil
- Meet (and possibly help unload) soil/compost truck
- Level out garden site where necessary
- Deliver some materials, if possible

Materials

- Bkfst/Snack food & drink
- Bkfst supplies
- Lunch food & drink
- Lunch supplies
- White board w/ markers
- Lesson supplies
- Handout copies
- Gardening books
- Construction materials
- Construction tools
- Soil/Compost
- Bucket Brigade tools

(8:00-9:00am)

Getting ready

- Lay out morning snack food & drink
- Make coffee & boil hot water
- Write agenda on chalk white board
- Organize supplies (boxes/piles for stations)
- Prep sign-in table

(9:00-9:20am)

Open with coffee/tea, overview & check-in

- Coffee/tea time
- Agenda overview
- Check-in

(9:20-10:30am)

Hands-on bed building, filling, and mixing

- Carry chalk/white board to outdoor learning area for reference
- Group split in two: 2 group leaders per group
- Bed-building demo & some hands-on led by group leaders
- Group leaders direct participants to build 2nd bed
- Group leaders direct participants to fill the beds with soil/compost—Bucket Brigade

(10:30-10:40am)

Break & Refreshments

- Have ready coffee, tea, water pitchers, & snack
- Arrange supplies at stations

(10:40-10:45am) Overview of Learning Stations

- Overview of how activity will work & what will be learning (Demo/hands-on; rotating stations—15 min. each; 2 separate projects—20 min.)
- Split the large group into 2 groups evenly

(10:45-11:20am) Learning Stations

- Someone preps lunch during learning stations
- Split into 2 groups
- Rounds 1&2—rotate (15 min. each)
Station 1: **Planting Seeds**—reading seed packets & direct seeding
Station 2: **Transplanting**—transplanting w/ square foot gardening

(11:20-11:40am) Learning Stations

- 2 groups work on 2 different trellising projects at the same time
Stations 3&4: **Vertical Gardening**—building trellis structures

(11:40am-12:00pm) Mini Hoop House Building & Large Group Wrap-up

- Demo/hands-on building of raised bed mini hoop house
- Ask for take-aways from the day
- Explain will have a chance for questions & more discussion over lunch

(12:00-12:45pm) Lunch with Discussion

- Celebrate successes / Assess needs / Trouble-shooting / Lingering Questions

(12:45-1:00pm) Wrap-up

- Thank you
- Ask all participants to share 1 take-away from today's workshop (if it hasn't already happened)
- Pass out workshop evaluation
- Share any upcoming opportunities & next steps

**Keene Community Garden Connections (CGC)
Building and Planting Your Garden Workshop
Feedback for Growth [date]**

Thank you for spending time with us today! We value your feedback so that we can support your efforts and interests, and improve the quality of future workshops. All comments will remain confidential. Only respond to those questions you feel comfortable answering.

1. Garden Site (optional): _____

2. Please check one answer for each of the following statements:

As a result of today's workshop, I know more about how to...

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Plant seeds in our garden					
Build raised bed gardens					
Transplant plants into our garden					
Take advantage of vertical growing techniques					
Water my plants and seeds					
Comments, if any:					

3. What is the most helpful thing you learned today?

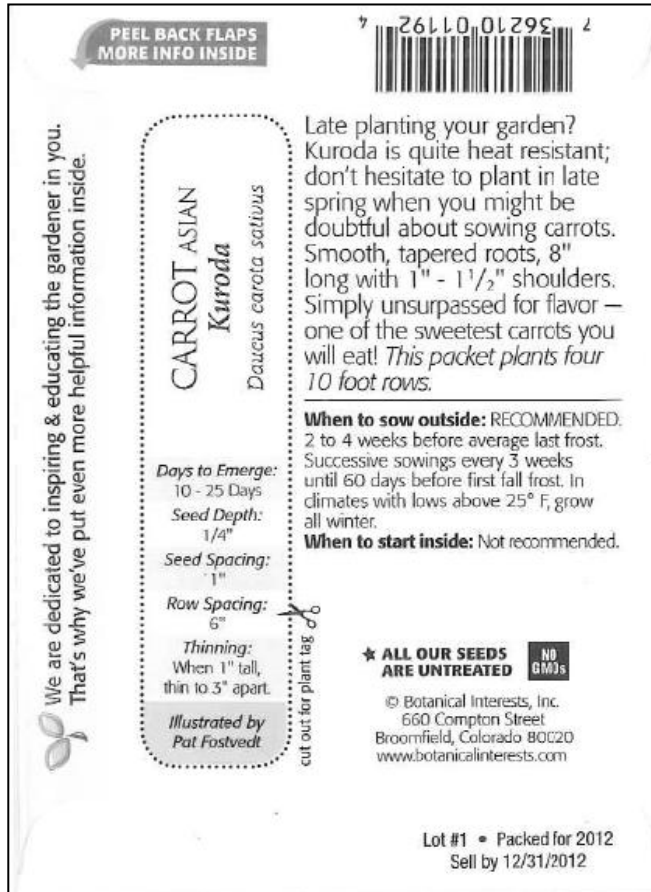
4. What would you change about this workshop to make it better in the future?

5. Is there anything else you would like us to know?

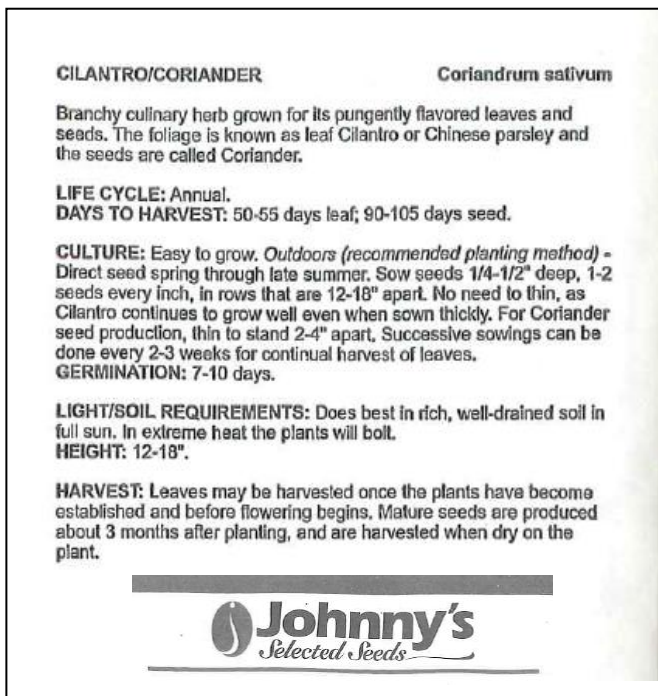
Thanks for your feedback!

SEED PACKET DEFINITIONS

Check out the back of your seed packet to learn how to plant your seeds!



Backside of Botanical Interests seed packet



Backside of Johnny's Selected Seeds seed packet

GOOD WORDS TO KNOW:

Variety = Latin name found near plant name

Life Cycle:

Annual = plants that grow, bloom, and die in one growing season

Biennial = plants that bloom the 2nd year after planting and generally die after they bloom

Perennial = plants that come up year after year

Culture = this includes information on how and when to plant, including the number of days to seed germination, days to harvest, and other growing considerations

Date = packed by & sell by date; best to use seeds that have been packed for the current year; if stored in a cool, dry location it is possible to use seeds from the previous year

Direct seed = for plants that grow best when seeds planted outside

Start inside = for plants that grow best when seeds planted inside; then later transplanted into outdoor garden

Successive sowings = plants with a shorter life cycle, that can be re-planted throughout the season for optimal harvest

Germination/Days to Emerge = when you first see signs of your seeds sprouting and popping up out of the soil

Thinning = after seeds germinate & turn into seedlings (young plants), selectively pull up excess plants to make room for growth of others

Days to Harvest/Days to Maturity:

Days leaf/Days seed = # of days until you can harvest the leaf of the plant/seed of the plant



Row Markers from Seed Packets

Marking planted rows of seeds can be as easy as placing a stick or stone at the ends of your rows. However, for those gardeners who want to keep track of what has been planted where and have information accessible such as germination and harvest times, the following simple activity is for you.

Getting Ready

- ❖ When opening your seed packet, be sure to open or cut it carefully across the *bottom*. This is important so that your seed packet will be placed in the ground right-side-up.
- ❖ Remove the seeds and plant as usual, setting the packet aside in a dry, clean place until time to make the row marker. Once the seeds are in the ground (temporarily marking them, so you know what you have planted where) take the packet back in the house, and get ready to assemble your row marker.
- ❖ For assembling your seed packet row markers you will need clear contact paper and jumbo size popsicle sticks (about 6-inch length). The jumbo size popsicle sticks are recommended to give your stick extra length and width for sturdiness. The contact paper is available at your local dollar store, at craft stores, or in larger rolls at office supply big box stores. The popsicle sticks can be found in various colors and sizes at craft stores or on-line.

Materials & Supplies Needed:

- ❖ Seed packets
- ❖ Jumbo (6-inch) popsicle sticks
- ❖ Contact paper
- ❖ Scissors
- ❖ Ruler

Assembling the Seed Packet

- ❖ Insert the popsicle stick about $\frac{1}{2}$ way into the bottom of the empty open seed packet. About 3-4 inches of your popsicle stick should be left showing out the bottom. These extra inches will give your row marker the length it needs to be inserted into the ground.
- ❖ Cut the piece of contact paper leaving at least one inch of material beyond the seed packet edges. This allows enough material for the plastic to stick to itself and make a perfect water-tight seal. Be careful to make sure the seams do seal completely, or the whole packet will get wet and mold. A good technique to prevent this is to put the packet in the middle of the contact paper, and fold the contact paper over the top of the packet. Where the bottom of the packet meets the popsicle stick you will need to add extra contact paper to close any gaps in the seal.

Conclusion

- ❖ Now take your complete row marker out to the garden, and replace the temporary row marker with your beautiful new creation. Happy gardening!
- ❖ When your plants are harvested you can remove your row markers, clean them off, and store them in a clean dry place to be used again next year.

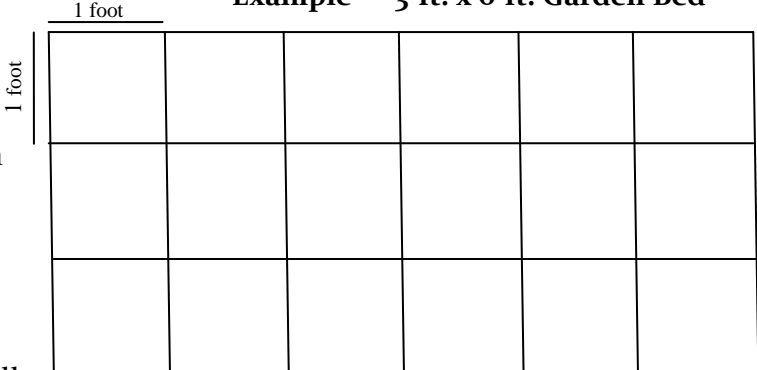
*Craft directions adapted from Yahoo! Voices article by Gordon James, September 29, 2010, found at <http://voices.yahoo.com/row-markers-seed-packets-6852024.html?cat=32>.

Square Foot Gardening

Square Foot Gardening is a method of gardening termed by Mel Bartholomew (see link below to The Square Foot Gardening Foundation). It is useful for gardeners growing in a relatively small space and is known for its highly productive harvest. It's also a method of gardening that's easy to understand—great for beginner gardeners.

The most basic element of Square Foot Gardening is to break down your garden plan into square foot areas. This method works particularly well when growing in raised garden beds. To divide up your bed you can use string stretched across your bed and attached to your garden bed frame with tacks.

Example — 3-ft. x 6-ft. Garden Bed



When planting you can choose to either fill several square foot areas with one vegetable variety or plant a different variety in each square foot.

To calculate how many plants per square, look on the back of the seed packet—ignore the row spacing, just look at the plant spacing:

- 12" apart, plant 1 per square
- 6" apart, plant 4 per square
- 4" apart, plant 9 per square
- 3" apart (or less), plant 16 per square

Extra Large 1 Plant 12 inches apart	Large 4 Plants 6 inches apart	Medium 9 Plants 4 inches apart	Small 16 Plants 3 inches apart
●	● ● ● ●	● ● ● ● ● ● ● ● ●	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●

Useful Resources on Square Foot Gardening

- ❖ The Square Foot Gardening Foundation <http://www.squarefootgardening.org>
- ❖ My Square Foot Garden <http://mysquarefootgarden.net>
- ❖ Discover Square Foot Gardening <http://www.discover-square-foot-gardening.com>
- ❖ Gardener's Supply Company: The Kitchen Garden Planner http://www.gardeners.com/Kitchen-Garden-Planner/kgp_home,default.pg.htm

C4

Raised Bed Mini Hoop House

1st Step: Insert stakes at about 2-foot intervals, opposite each other, along the inner edge of both long sides of your raised bed. Each stake should go about 4-6 inches into the soil to ensure the stability of your structure—this is your anchor.

2nd Step: Bend your pre-cut hoops and insert a stake into each end until the hoop touches the soil. This is your hoop house frame.

3rd Step: Place the roll/bulk of your cover material on one long side of your raised bed. Secure one long end of the cover material to the edge/side of the raised bed. This can be done with rocks or other heavy materials, but is most effective when secured with industrial staples or heavy-duty tacks. If using staples or tacks, you will want to fold the edge of the cover material over several times before securing to lessen the possibility of tearing.

4th Step: Unroll/unfold the cover material so that it covers the hoop house frame, with 1-2 feet over-hang. The cover material at the short ends of the bed should cover the ends of the frame, also with 1-2 feet over-hang. Any extra cover material can be cut and used for your next mini-hoop house. (If possible, try to arrange and cut your cover materials to maximize its use. The extra cover material can be tucked into the sides of the bed, so that you can easily lift it to access your plants. You now have a mini-hoop house for your new raised bed garden!

Materials (for one 3x8 foot raised bed):

Stakes: 10—1/2 inch x 12 inches

Rebar or sturdy wooden stakes

Hoops: 5—3/4 inch (inside diameter of pipes) x 5 feet lengths

Flexible PVC pipes or other sturdy, yet bendable material

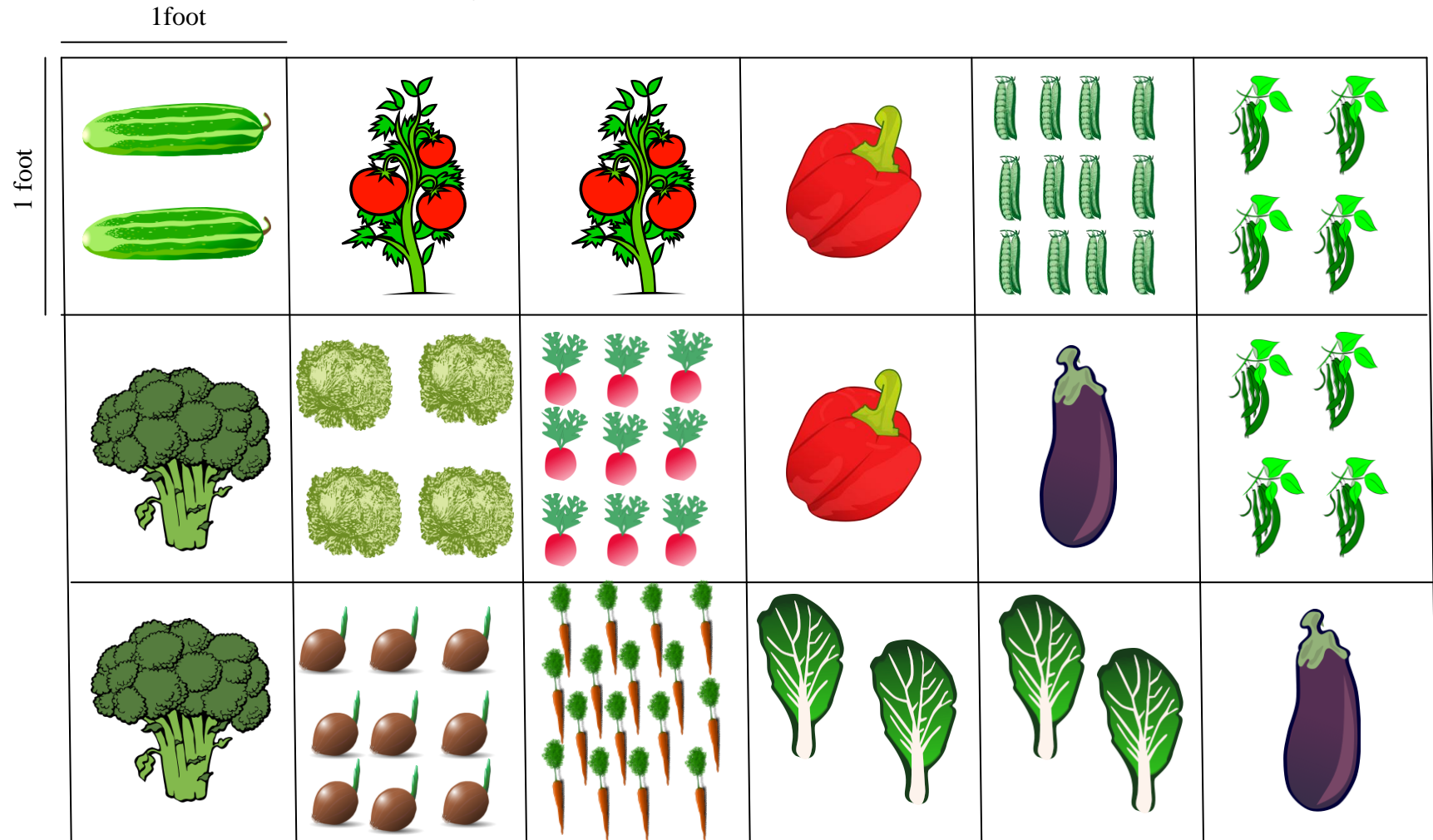
Cover: 8 x 12 feet Remay agri. cloth or 4 mil translucent plastic

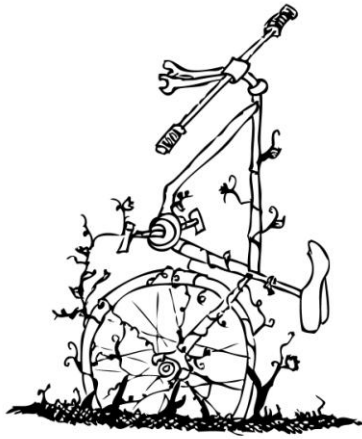


Deb Habib, co-founder of Seeds of Solidarity, demonstrates building a raised bed mini-hoop house at a CGC spring 2011 workshop.

C5

SQUARE FOOT GARDENING



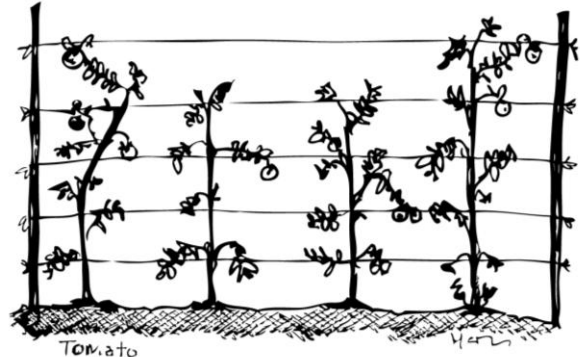


Vertical Gardening: Creative Trellising for your Garden

Building trellises for your garden is an opportunity to maximize your space, get creative, and involve everyone! You can certainly buy trellises, but you can also make them out of sticks, wire, string, even bicycle wheels. Trellises can be built in raised beds, against existing walls, or free standing in the earth. Be creative with it!

Who Needs a Trellis Anyway?

Beans and Peas
Cucumbers and Melons
Tomatoes
Squash and Gourds
Sweet potatoes
Berries



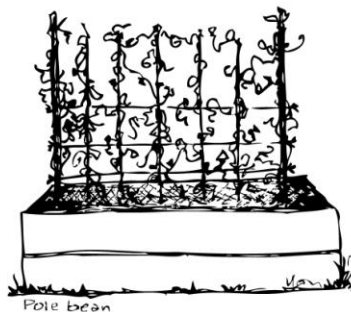
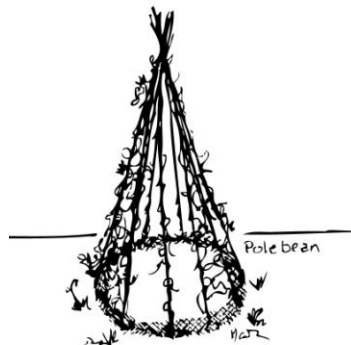
Structure Tips and Materials

It has been said that one man's garbage is another man's trellis material.
The essentials, however, include:

- **Framework Material:** rigid material that can free stand or be staked into the ground such as wood, sturdy sticks, metal poles, bamboo, or existing fences or walls.
- **Twine, String, or Rope:** for connecting framework pieces
- **Wire or Mesh**
- **Ties, Clips, and Slings:** for training your plants upward.
Careful not to tie them too tight!

Types of Structures

Use your imagination! However, some more traditional types include:



Useful Resources

- ❖ Bean Teepee instructions:
Kiddie Gardens.com
http://www.kiddiegardens.com/bean_teepee.html
- ❖ Multiple trellis project plans, including instructions for lashing: Vegetable Gardener.com
<http://www.vegetablegardener.com/projects/tag/trellis>
- ❖ A super helpful book full of vertical gardening tips:
Vertical Vegetables & Fruit: Creative Gardening Techniques by Rhonda Massingham Hart

*Drawings created by Maisie Rinne & Bin Greer.

Building Raised Bed Gardens

Raised bed gardens have multiple benefits, including less soil compaction, fewer weeds, and higher vegetable production, to name a few. The following plans are for 2-foot high raised bed gardens, which add yet another important benefit—accessibility. This model allows gardening to be an accessible activity for people of all ages and abilities.

The raised bed garden plans used by Community Garden Connections (CGC) were developed by the Community Gardens Division of Community Action Coalition for South Central Wisconsin, Inc. of Madison, Wisconsin. These garden plans can be found at <http://www.cacscw.org/downloads/Accessible%20Raised%20Beds.pdf>. We've chosen these plans for their clear outline of the building steps and great visuals. However, CGC staff has made a few changes based on our own experiences.

Based on our experiences:

- ❖ Make beds 3-feet wide rather than 4-feet. In our experience, a 3-foot width provides greater accessibility, especially for people with back issues or who are in a wheelchair.
- ❖ Even though the document says that ACQ wood is FDA approved, we found that the additional chemicals in contact with food-growing soil are unnecessary. This is something to be particularly careful with when growing food used by children and seniors. The following Consumer Safety Information provides an overview of any concerns: <http://www.ptw-safetyinfo.ca/acq.htm>.
- ❖ We use hemlock for its relative longevity, decent price, and ability to be found at local mills in New England.
- ❖ Lag screws and washers aren't necessary—deck screws work just fine. Also, pre-drilling holes is just extra work and is not necessary.

Beyond considering those few changes, we hope you find the plans useful.

Happy building!

Sincerely,

The CGC Team



Building & Planting Your Garden

Additional Resources



- ❖ <http://www.antiochne.edu/cgc>
Maisie Rinne, Community Garden Connections, Antioch University New England
Planting & Harvest Timeline—Keene (see Downloads)
This is a great visual resource for determining the timing for seeding, transplanting, and harvesting of vegetables. Also includes harvest techniques.
- ❖ <http://www.antiochne.edu/cgc>
Community Garden Connections, Antioch University New England
Garden Season Calendar (see Downloads)
This is an Excel document for Garden Teams to use for filling in their own planting, event, and harvest dates. It provides notes for each month to help groups get started.
- ❖ <http://www.communitygarden.org/rebeltomato>
American Community Gardening Association, Rebel Tomato
This website is a valuable resource for those starting up community gardens. For the purposes of this section, the most helpful resources are:
 - Under “Roots,” “Figuring Costs” with several helpful documents: *Cost Estimate Worksheet* and *Garden Cost Checklist*.
 - Under “Shoots,” “Necessary Tools” with printable document: *10 Tools Every Community Garden and Gardener Needs*.
 - Under “Fruits,” “Planning Garden Events”
- ❖ http://www.cacscw.org/special_needs_resources.php
Community Action Coalition of South Central Wisconsin, Inc, Community Gardens,
Special Needs Resources, Accessible Raised Beds
This document outlines in clear steps and images instructions for building raised garden beds. CGC uses this model, with some minor changes (see C7).
- ❖ http://thefoodproject.org/sites/default/files/DIY-bag-manual-2012_2.pdf
The Food Project, *The Food Project’s Do-It-Yourself Raised Bed Building Manual*
Another manual for building raised bed gardens. This document has some different and less traditional methods that are worth checking out.

Tending Throughout the Season

late April - early June

Planting parties & activities at garden sites

May

Garden Evaluation mini-workshop w/ activities

June

Garden Bed Management mini-workshop w/ activities

July

Harvesting & Mid-Season Planting mini-workshop/activities

August

Cooking with Veggies mini-workshop/activities

September

Composting mini-workshop/activities

October

Putting the Garden to Bed mini-workshop/activities

Overview

Outcomes:

- Continue to build garden-based knowledge and skills
- Increase awareness of local gardening resources (people, curriculum, etc.)
- Provide inspiration & tools for planning garden program (for different age groups & different ways to use garden)
- Provide tangible resources for garden programming
- Promote learning between garden sites
- Develop & promote community networking

Found in this section...

- ❖ Mini-Workshop Series Overview
- ❖ Mini-Workshop Resource Sheets
 - Garden Evaluation
 - Garden Bed Management
 - Harvesting & Mid-Season Planting
 - Nutrition Information & Recipes
 - Composting
 - Putting the Garden to Bed
- ❖ Appendixes
 - Lesson Plans
 - Templates
 - Handouts
- ❖ Curricular Resources
 - Curricular Resource Sheet



Mini-Workshop Series

Overview: Garden Learning

Once gardens are built and seeds planted, the opportunities for gardeners to learn continue to grow right alongside the plants. This happens first and foremost with the great teacher of *experience*. Many seasoned gardeners will still say that they learn something new every time they step into their gardens—it's a rich place! A wealth of learning also happens between gardeners—between experienced and beginner gardeners; between gardeners using different techniques; between gardeners with different skill-sets.

While these two types of learning are central to what make communal gardens such unique places, there is also a welcome place for community educators to continue to deliver fresh, up-to-date information on gardening. The topics included in this section are just a few of the basic subjects that beginner gardeners will want and need to know about in their first season. Associated with each topic are resources that can be used for teaching or can be given directly to gardeners for their own use. This can be a great opportunity to bring in community educators outside of your organization—those who do this for a living, like Cooperative Extension Agents (Nutrition & Agriculture/ Horticulture) and other garden-related organizations. Volunteers, such as Master Gardeners or knowledgeable community or family members, can also play a role in teaching. It may also be wise to check out what other seasonal workshops are happening in your area—rather than duplicating efforts, join events that someone else has already put time into!

In addition, for gardeners of all ages it is a good idea to keep it fun! There is so much great garden activity curriculum out there already; there was no attempt to try to create more in this manual. The Curricular Resource Sheet should offer plenty of ideas to get garden groups started.





Garden Evaluation

Evaluating your garden program provides your Garden Team with valuable information on what is going well, what needs to be improved, and what outcomes can be shared. To measure the success of your garden program, it is best to return to your Garden Team's goals/purpose/objectives. Based on this information, for example, you may wish to measure the success of the gardens by looking at the production of the gardens themselves; you may want to assess the acquisition of skills or knowledge for your participants; and/or you may hope to capture the level of satisfaction and personal well-being brought about through the gardens. Provided below are some basic ideas for tools to measure the success of your garden program. Also offered are templates and resources to help you to get started.



Basic tools:

- **Produce scale**—weighing garden harvest (*Harvest Chart* templates)
- **Garden Journal** (either personal or group)—gardeners take notes on when crops were planted, how crops grew, when crops were harvested, and other things about what they saw, thought, felt, and learned in the gardens (*Garden Journal Activity*)
- **Photo Journals**—gardeners document all of the above in photos
- **Taste Tests**—vegetables, fruit, or herb tastings; gardeners can vote on favorites or comment on the flavor, texture, etc.
- **Written Surveys or Verbal Interviews**—ask specific questions to get gardeners to share about their experiences
- **Observation**—pay attention to what's happening out in the gardens—What's growing & how? How many, how often, & when are gardeners spending time in the gardens? What's changes do you notice in attitude, participation, and responsibility?

Useful sites to check out:

- Cornell University Cooperative Extension, Cornell Garden-Based Learning, *Evaluation Toolkit* <http://blogs.cornell.edu/garden/grow-your-program/evaluation-toolkit>
- American Community Gardening Association, Rebel Tomato, Tools for Evaluation <http://www.communitygarden.org/rebeltomato/harvest/tools-for-evaluation.php>



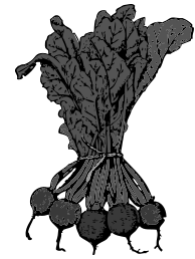
How much did you harvest?



Today's Date								Notes



Harvest Chart



What is the date today?	What did you harvest today?	How much does it weigh?	Comments

Garden Journals

Overview:

Gardeners write or draw in a journal throughout the season as they visit and work in the garden.

Objectives:

Gardeners will

- Make observations about the garden
- Express themselves through writing and drawing
- Create a record of their learning and reflections

Activity Time:

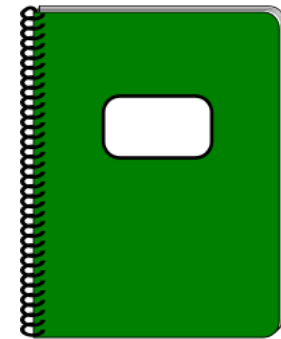
Most journal sessions will last about 30 min. The initial session may take up to 60 min. It is helpful to allow 15 min. at the end of each session for sharing.

Materials:

Notebooks, binders, or scrapbooks
 Pens and pencils
 Crayons or markers
 Clipboards
 Camera
 Photos
 Glue sticks
 Other objects to add:
 pressed flowers/plant parts, newspaper/magazine clippings, recipes

Introduction

Many gardeners keep journals to record what they planted, how the plants grew, what pests or diseases caused trouble, and other information that would be useful for them in future years of gardening. These kinds of records are extremely helpful for improving your gardening skills and knowledge.



The journals in this activity, however, are more reflective and serve to record the gardeners' experiences in the garden. By taking the time to observe and record what is happening in the garden, as well as their own thoughts and feelings, the gardeners will

develop a relationship with the garden. You may wish to ask the gardeners to choose a special spot to sit in each time they journal, or perhaps a specific plant to "adopt" and watch closely. Doing this will make it easier for the gardeners to notice changes in the garden.

It is helpful to add to the journals regularly—maybe as often as 2-3 times a week. Regular entries will document not only changes in the garden, but the learning and shifts in feelings and attitudes of the gardeners themselves. Gardeners can record their entries in individual journals or all contribute to a group journal.

Activity Description

1. Introduce the idea of garden journals to the gardeners. Let everyone share what they might like to include in the journals.
2. Make cover pages for the journals.
3. Go out to the garden and find a spot to sit. Spend the first 5-10 minutes experiencing the garden without writing or drawing. What do you see, hear, smell, feel, taste? Pay attention to tiny things and big things, things that change and things that stay the same.

4. Write or draw about your experiences in the garden.

Some things to think about:

- What do you see? Look close up and far away.
- What do you hear? Listen for loud sounds and really quiet sounds.
- What do you feel? Feel the big, small, soft, and hard things around you.
- What do you smell? How do the plants smell? The soil? Sticks? Insects?
- How do you feel when you sit in the garden?
- Which is your favorite plant in the garden? Why?
- What has changed since you last sat in the garden?
- What is your favorite thing to do in the garden?
- What is something you did today for the first time in your life?

5. Return to the large group and share your thoughts with your fellow gardeners.

Other Ideas and Extensions

- Make your own journals out of recycled paper!
- Use some pages like a scrapbook—glue in photos, recipes, pressed plant parts, or other objects that help tell the story of the garden. Don't forget to add captions!
- Use the journals to record weather and garden events such as the first sprouts, first flowers, first and last harvest, etc.
- Write a poem or story about the garden.

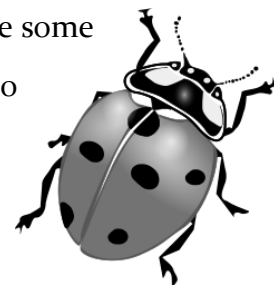
Resources

- Easy instructions for a simple homemade garden journal using paper, a rubber band, and a stick: <http://bringinguplearners.com/2008/01/28/homeschool-hacking-tips-make-your-own-nature-journal/>
- This lesson plan from the U.S. Fish and Wildlife Service describes a session of nature journaling with elementary-aged students. It has good background information on the benefits of nature journaling, much of which applies to garden journals for gardeners of all ages!
<http://www.fws.gov/midwest/PWLC/documents/NatureJournal.pdf>
- This is another lesson plan, but it is from the Smithsonian Institution. It contains excellent information about professionals from the past and the present who use nature journals in their work. The activities focus on the craft of journaling and developing observational skills.
http://www.smithsonianeducation.org/educators/lesson_plans/journals/smithsonian_siyc_fall06.pdf



Garden Bed Management

What happens after your plants and seeds are in the ground? Of course you need to water, and all of these plants start sprouting...Do you know which ones to pull and which ones to keep? Once your plants start to get a little bigger they start attracting all kinds of insects...Do you know which ones are beneficial and which ones are harmful? What can you do to keep your garden healthy? Included below are some topics that might be helpful to think about as your garden gets growing. Also provided are some useful websites and other resources to help keep you informed.



What do you know about...?

- Weeds—what's a weed & what's not; how to manage; how to prevent (*Mulching & Weed Management Techniques*)
- Insects & Disease—what's beneficial & what's not; what to be looking out for; how to manage; how to prevent (*Organic Pest & Disease Control*)
- Critters—who to be looking out for; how to manage; how to prevent (see links below)

Useful sites to check out:

- ATTRA, National Sustainable Agriculture Information Service, Pest Management <https://attra.ncat.org/pest.html>
- University of New Hampshire Cooperative Extension, Home & Community Food Gardening, Managing Plant Problems http://extension.unh.edu/hcfg/Manage_Plnt_Pr.htm
- Cornell University, Department of Plant Pathology, Vegetable MD Online <http://vegetablemdonline.ppath.cornell.edu>
- University of Minnesota Extension, Gardening Information, Garden Pests <http://www.extension.umn.edu/gardeninfo/insectgallery/garden/index.html>
- University of Wisconsin Cooperative Extension, Weed Identification & Management <http://weedid.wisc.edu/weedid.php>
- For specific questions, call your local Extension Office
UNH Cooperative Extension—Cheshire County, (603) 352-4550

Mulching and Weed Management Techniques

C&S Workplace Organic Gardens

June 2012

Annual versus Perennial Weeds

For most efficient weed control, some knowledge of the life cycles of weeds is useful. The life cycle of a weed is simply its seasonal pattern of growth and reproduction.

Annuals complete their growing cycle within a year and spread throughout the garden *by seed*. Annuals generally have a shallow root system and are easy to pull, but are notoriously sneaky and abundant. Single plants are capable of producing over 10,000 seeds!

- Consider flowering weeds a last warning – it will only be a matter of days before they go to seed!
- Weed whacking or mowing is effective for annual weeds as long as you are careful to not let them flower and go to seed. Near the end of the season plants are well adapted to put all of their energy into flowering, even if they are only an inch tall!
- Be patient and persistent. Not only are certain seeds viable for over 100 years, but they can travel long distances by wind and on animals. Weeds will always be part of your garden.

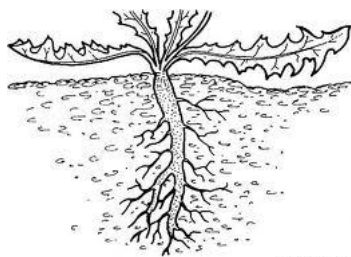


Galinsoga, or “quick weed”, can produce over 10,000 seeds per plant

Perennials grow and bloom over the spring and summer, die back in autumn and winter, and return the next spring from their *root stock*. They can also spread by seed, but more often become a nuisance by their creeping root system. They tend to be more difficult to get rid of than annual weeds.

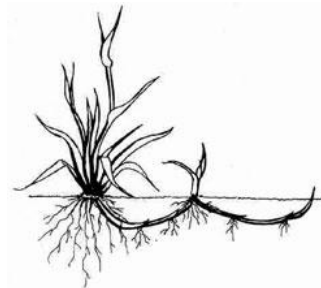
- Dig deep! Many perennial weeds can develop deep and extensive root systems and/or taproots.
- Removing only the top of the plant can actually exacerbate the problem. Plants will be signaled to put more energy into the roots and come back with a vengeance.
- Be thorough. New plants can emerge from even tiny root segments left in the soil.

Photo by sarefo



Dandelion taproot

Laurel Cook Lhouer



Weed spreading by root

Weeding Techniques

Hand pulling

Pros

- Ability to be thorough
- Good exercise
- Disturbs less soil than most other methods

Cons

- Time consuming
- Most strenuous method
- Difficult and tedious to remove deep root systems

Tilling (deep cultivation)

Pros

- Quick, efficient, and often effective
- Mechanical
- Ideal option for dealing with big weeds and grassy areas

Cons

- Difficult to maneuver around plants
- Results in more erosion, nutrient loss, and ability to store water in the soil
- Chops up perennial root systems and can make some weed problems worse

Hoeing (shallow cultivation)

Pros

- Second to mulching, it is the best means of weed prevention
- With the right tool, it can be very precise, efficient, and easy
- Deals with small weeds before they get unruly

Cons

- Easy to over cultivate, which buries seedlings and doesn't kill them
- Monotonous and tiring
- Not effective with large weeds

Herbicide (organic)

Pros

- Some household items (vinegar, corn meal gluten) can be used
- Hands off – requires only light manual labor
- Satisfying!

Cons

- Herbicides (non-organic mostly) can pose many known and unknown dangers to the health of both humans and the environment
- Herbicides can weaken crop plants and make them more susceptible to pests and diseases
- Can be expensive, and require multiple applications

Additional Reference

Weed photo library:

http://www.garden.org/weedlibrary/index.php?q=all_thumbs&keyword=Broadleaf%20Weeds

Mulching



Benefits of mulching

- Reduces the growth of weeds
- Prevents loss of water from soil by evaporation
- Helps maintain an even soil temperature
- Extends the growing season by keeping soil warmer in cooler months
- Can improve soil structure with the addition of organic matter
- Helps prevent soil compaction
- Slows soil erosion
- Provides habitat for beneficial soil organisms
- Can inhibit certain plant diseases

Types

- Straw
 - Apply 4-5 inches thick
 - Straw lets a lot of light through – not the best at weed suppression
 - Provides an attractive habitat for small rodents, which can then become pests
 - Decomposes over the course of 1-2 years
- Grass clippings
 - Apply 2-3 inches thick
 - Make sure grass hasn't been treated with fertilizers or pesticides
 - Let it dry first before applying – otherwise it will create a thick mat
 - Decomposes quickly
- Wood Chips
 - Apply 2-3 inches thick, over a layer of cardboard or newspaper
 - Better option for paths than vegetable beds
 - Tie up a lot of nitrogen from your soil in order to break down over the course of 1-2 years depending on the size
- Chopped Leaves
 - Apply 2-3 inches thick
 - Tend to acidify the soil – good for some acid loving plants
 - Decomposes quickly
- Compost
 - Apply 3-4 inches thick
 - Finished compost is free of weed seeds
 - Adds nutrients and valuable organic matter to soil

- Black Plastic
 - Very effective at moisture retention and weed suppression
 - Somewhat tedious to secure and plant through
 - Doesn't provide any organic matter to the soil, and becomes problematic when it tears and becomes trash in the soil

- Cardboard/Newspaper
 - Apply ½ inch thick under another mulch or pin down to secure in place
 - Remove any stickers and tape before using
 - Decomposes over the course of 1-2 years

- Hay
 - Hay contains grass and weed seeds, so beware! Not advisable to use as mulch.



Photos by (left to right): Dvortygirl; Kessner Photography; and public domain

Additional References

Additional mulching guides:

http://aggie-horticulture.tamu.edu/publications/easygardening/E-512_mulching.pdf

<http://www.gardening.cornell.edu/factsheets/mulch/mulchland.html#select>

Organic Pest and Disease Control Workshop

C&S Workplace Organic Gardens June 2012

Pests and diseases are a natural part of an ecosystem where predators and prey are constantly interacting and striving for balance. This is nature's way of controlling populations. Creatures that we call pests, and organisms that cause disease only become 'pests and diseases' when their activities start to damage crops and affect yields. Often the presence of pests indicates an imbalance in the ecosystem that has allowed one population to become dominant due to lack of a natural predator or other control. Although this guide highlights many common pests and natural remedies, a more holistic approach that takes into account soil health, seed quality, crop rotation, companion planting, and biological control will ultimately prevent these imbalances from presenting themselves as problems in the first place.

Some Preventative Measures and Cultural Controls

- Check on your garden often - everyday if possible, to catch problems early
- Encourage natural enemies by diversifying the habitat and their food sources
- Purchase only clean transplants from a trustworthy source, or raise your own in a hygienic greenhouse setting
- Use strategies of *timing* and *avoidance* - become knowledgeable about the life cycle of pests that you are aware of and adjust planting dates appropriately if possible
- Mulching – some pests and diseases thrive in mulch, others do not. Know your pest!
- Crop rotation
- Destroy any infected crop debris after harvest
- Sanitize pruning tools between uses
- When pruning or harvesting, cut stalks at an angle so that water cannot collect and harbor bacterial growth
- Cover young plants with row cover (be aware of pollination needs)
- Proper watering techniques – not too much, not too little. When possible, avoid wetting leaves.
- Use biological control in the form of applying parasitic nematodes or beneficial fungi to restore soil health (see references for more information)



Common Pests

SQUASH BUGS The squash bug sucks sap from the leaves and stems of squash and pumpkins and causes the leaves and shoots to blacken and die back; attacked plants fail to produce fruit. This insect can also feed directly on the fruit and cause severe damage. Winter squash are most severely affected.¹ They live through the winter in protected areas both under debris in the fields and in buildings and lay eggs on the underside of leaves in the spring and summer. The eggs hatch into light green or gray nymphs that congregate on leaves or fruit.²



Photo by Whitney Cranshaw, Colorado State University, Bugwood.org

Control: *Trapping:* Adults tend to congregate under shelter at night. Place boards on the soil surface near the squash in the evening and the next morning collect and destroy pests. Destroy egg masses on the underside of leaves.

Handpick: Scout for and destroy reddish to brown eggs and handpick all stages of squash bugs from undersides of leaves.

Protect: Avoid heavy mulch around squash – squash bugs like shelter!

TOMATO HORNWORM Two species are common pests: tomato hornworm and tobacco hornworm. Larvae of both species consume leaves, stems, and fruit of nightshade family plants. Feeding can kill young plants. In June and July, moths emerge from soil borne pupae; adults lay eggs on undersides of leaves; eggs hatch in a week; larvae feed for a month, then pupate in soil until the following summer.¹



Photo by Whitney Cranshaw, Colorado State University, Bugwood.org

Control: *Handpick* from foliage; pick off and destroy eggs. The caterpillars are well camouflaged; look for the large droppings beneath plants. Do not destroy hornworms that have white, ricelike pupae attached to their backs, as these indicate the worm has been parasitized by wasps.

COLORADO POTATO BEETLE Adults and larvae chew leaves of potatoes, tomatoes, eggplants, and related plants, including petunias. Feeding can kill small plants and reduce yields of mature plants. Colorado potato beetles overwinter as adults and hibernate in the soil close to where previous host crops were grown. They emerge in the spring and primarily crawl to new hosts where they feed and lay eggs. Females lay up to 1,000 eggs during their lifespan of several months. The resulting larvae and successive generations can quickly defoliate a crop.¹



Photo by Fritz Geller-Grimm

Control: *Trapping:* When overwintering adults begin to emerge, shake adults from plants onto a dropcloth in the early morning. Dump beetles into soapy water.

Handpick: Pick off adults and larvae and scout for eggs on undersides of leaves and destroy.

Protect: Mulch plants with a layer of straw at least 4 inches deep; cover plants with floating row cover until harvest; at last resort, spray infested plants with neem, or a bacterial insecticide, Bt (*Bacillus thuringiensis*) or spinosad.

CABBAGEWORMS Larvae eat large, ragged holes in leaves and heads of cabbage plants, soiling leaves with dark green droppings. Adults emerge from overwintering pupae in early spring to lay eggs. Larvae feed for 2 to 3 weeks, and then pupate in debris on soil surface; adults emerge in 1 to 2 weeks. Potential for 3 to 5 overlapping generations to be present per year.¹ The large white butterflies of the imported cabbageworm can easily be seen during the day feeding on nectar from wild and cultivated crops, or moving from plant to plant laying eggs. Adult flights are a good warning of later potential problems on cultivated crucifers.²



Photo by Alton N. Sparks, Jr., University of Georgia, Bugwood.org

Control: *Handpick:* Scout for and destroy eggs; handpick larvae.

Spray: Apply garlic or hot pepper spray weekly, starting when butterflies appear. As a last resort, spray with a bacterial insecticide, Bt or spinosad, when you find small cabbageworms on foliage.

CUCUMBER BEETLE In the Northeast, they pass the winter as adults sheltered under plant debris and become active in the spring as soon as cucurbits appear. The overwintered generation lives until August and feeds on all plant parts. Small seedlings are very susceptible and are often killed. Once the plants attain 4-5 true leaves, they are more tolerant of this pest. The beetles lay their eggs at the base of the plants, and these hatch into larvae, which feed below ground on the roots and crowns of the plants. The cucumber beetle also carries the organism that causes bacterial wilt, which can be more damaging than the insect. Cucumbers, summer squash, zucchini and melons are the most susceptible.²



Control: *Handpick:* Scout for and destroy eggs; handpick larvae and adults.

Protect: Cover plants and seedlings with floating row cover until flowering.

Spray: Apply kaolin clay to undersides of leaves, reapply after rain. As last resort, spray infested plants with pyrethrin.

SLUGS Slugs rasp large holes in foliage, stems, and bulbs. They feast on any tender plant or shrub and may demolish seedlings. They thrive wherever conditions are moist and where living or recently dead plant material is present. Slugs are generally worse in wet years.²



Photographed by Guttorm Flatabø

Control: *Trapping:* Trap under flowerpots or boards. Attract with pieces of raw potato or cabbage leaves set out in the garden; collect and destroy every morning. Trap in shallow pans of beer buried with the container lip flush to soil surface.

Protect: Wide bands of coffee grounds, wood ashes, or diatomaceous earth around plants can deter slugs.

Handpick: Pick off slugs and drop in soapy water.

EARWIGS Adults are wingless or have wings, but rarely fly; they also rarely pinch. Earwigs are omnivorous and primarily feed on decaying organic matter as well as some pest insects, including aphids and other insect larvae. They are beneficial in compost piles and as pest predators, but a nuisance when attracted to dark, moist areas in crevices of plants. They chew irregularly shaped holes in plant leaves and flower petals; tunnel into flower buds, and also consume seedlings.¹



Photo by Assafn

Control: *Trapping:* Earwigs love damp, dark places. You can set up a simple trap by sprinkling some oatmeal on dampened newspaper and rolling or crumpling it up. Set it out overnight in your garden, and the next morning collect and dump trapped pests in soapy water.

Protect: Bay leaves and diatomaceous earth have both been shown to keep earwigs away from your plants. Sprinkle a small amount of one or both around the base of infected plants.

Resources

¹ Bradley, F.M, Ellis, B.W., Martin, D.L., 2009. *The Organic Gardener's Handbook of Natural Insect and Disease Control*. Rodale Press, New York, NY.

² Caldwell, B., Rosen, E.B., Sideman, E., Shelton, A.M., Smart, C.D., 2005. *Resource Guide for Organic Insect and Disease Management*. New York State Agricultural Experiment Station, Geneva, NY.

Available online from: <http://web.pppmb.cals.cornell.edu/resourceguide/>

Additional references

Nonchemical Disease Control:

<http://www.ext.colostate.edu/pubs/Garden/02903.html>

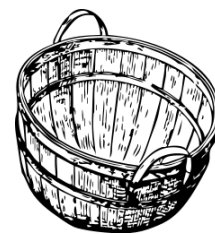
Working With Nature to Minimize Pest and Disease Problems:

<http://www.gardeners.com/Managing-Pests-Diseases/5064,default,pg.html>

Introduction to Biological Control

<http://www.inhs.uiuc.edu/research/biocontrol/>

Harvesting & Mid-Season Planting

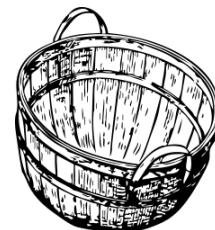


Besides a few early crops, most of your garden will start to be ready for harvest in July. You might be wondering: When do I know crops are ready to be picked? How should I harvest them? Provided below are a few resources to help you out. Also, once a given vegetable is harvested and done producing, you might want to put another round of plants and seeds in. The resources below give some guidance as to what vegetables can be planted mid-summer and when, as well as other mid-summer considerations.

- C&S Wholesale Grocers—C&S Workplace Organic Gardens & Antioch University New England *Mid-Season Plant Management* (see attached)
- University of Idaho Extension , College of Agricultural & Life Sciences, *Harvesting & Storing Fresh Garden Vegetables*
<http://www.cals.uidaho.edu/edcomm/pdf/BUL/BULo617.pdf>
- University of New Hampshire Cooperative Extension, *Garden To Table: Storing Fresh Garden Produce* http://extension.unh.edu/resources/files/Resource001095_Rep1368.pdf
- University of Minnesota Extension, *Planting Vegetables in Midsummer for Fall Harvest*
<http://www.extension.umn.edu/distribution/horticulture/M1227.html>

<http://www.antiochne.edu/cgc/>

Harvesting & Mid-Season Planting



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Mid-Season Gardening Tips

C&S Workplace Organic Gardens

July 2012



Watering

Keeping your plants hydrated in the heat of the summer is of utmost importance. Give plants a long drink several times a week when it's hot and dry to keep them from wilting.

- Use a light spray to keep from scouring holes or splashing soil out of the garden bed – water slowly enough to allow it to be absorbed fully into the soil
- Saturate the soil widely around the base of plant – the root system goes far!
- Saturate the soil to at least 6 inches deep – frequent shallow watering encourages a shallow root system
- Watering in the morning and evening is ideal on a hot day to keep the water from evaporating too quickly
- Dampen the soil, not the leaves! Keeping the leaves dry reduces risk of certain diseases.

Pruning

Plants need air circulation, and pruning helps remove excess branches to keep plants from becoming too crowded. Pruning also invigorates growth of some herbs, and helps a plant concentrate its energy towards fruit production.

- Cut off all suckers of determinate tomato plants before the first flowering stalk
- Indeterminate tomato plants require more sophisticated pruning and trellising, though most people do not choose to grow these varieties in their home gardens
- Pinch back flowers of your herbs to keep the plant from going to seed
- Pinch back basil regularly to help it bush out and stimulate new growth

Harvesting

Staying on top of harvesting ensures that you get produce at its prime and allow time for regeneration.

- Harvest greens regularly, before they start to get bitter and “bolt” (flower)
- Cut stalks at an angle to keep water from collecting
- Most plants continue to reproduce after the first harvest, so don’t wait! Harvest regularly to allow time for new growth.

Dead heading

Deadheading refers to the removal of dead or spent flowers either to encourage more flowering or to improve the general appearance of the plant.

- Pinch off spent flowers to encourage new blooms

Thinning Root Crops

Root crops, such as carrots, parsnips, beets, radishes, and turnips, are should always be planted directly in the garden. They must be thinned by pulling out some of the plants, to reduce crowding and allow enough space for each plant to develop properly.

- Thin as soon as roots get to a small, edible size - greens should be about 3 inches high
- Thin carrots, beets, parsnips, radishes, and turnips to 2-inch spacing
- Rutabagas should be thinned to 8-inch spacing.

Succession planting

Mid-July isn’t too late to plant another round of certain plants – there are still plenty of warm days ahead!

- At this point, transplants are your best option for growing another round of many vegetables. Most seeds require cooler soil temperatures to germinate than we have in July.
- It isn’t too late to direct seed beans, peas, or even pumpkins, although you might have to contend with an early frost and likely won’t get as abundant a crop.

Fertilize

Your plants are growing fast and using up a lot of nutrients in the soil. Adding some extra nutrients will give them an extra boost during the hot weather.

- Add compost as mulch
- Add organic fertilizer such as dried chicken manure or natural rock minerals to provide an extra nitrogen, potassium, and phosphorus boost



Nutrition Information, Recipes, and Educational Resources

From UNH Cooperative Extension, Program Associate—Food & Nutrition, Christine Parshall

Recipes

UNH Cooperative Extension Home and Community Gardening website: There are links to a number of recipe collections.

http://extension.unh.edu/HCFG/Use_Grow.htm

SNAP Ed Recipe Finder: These are simple, low budget recipes:

<http://recipefinder.nal.usda.gov/>

Centers for Disease Control Fruit and Veggies Matter: Fruit and vegetable nutrition information and recipes: <http://www.fruitsandveggiesmatter.gov/>

Choose MyPlate: Information about US Dietary Guidelines, including recipes and menu ideas: <http://www.choosemyplate.gov/>

American Institute for Cancer Research: Click on the link for their test kitchen:

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

Fruits and Veggies More Matters: Nutrition info, recipes, and how-to videos for purchase and preparation of fresh produce:

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

There are many other recipe sources, including the web sites of some our local CSA's and Extension in other states. The Keene Public Library has a huge collection of cookbooks in both the adult and youth departments.

Senior Resources:

What's On Your Plate? Download a copy or order a hard copy for free from the National Institute on Aging: <http://www.nia.nih.gov/health/publication/whats-your-plate-smart-food-choices-healthy-aging>

Smart Choices for Seniors: These newsletters are available for download on the UNH Cooperative Extension Publication Page:

http://extension.unh.edu/resources/category/Food_and_Nutrition#35

Eat Smart, Live Strong: USDA curriculum for seniors which focuses on increasing fruit and vegetable consumption and physical activity:

http://snap.nal.usda.gov/nal_display/index.php?info_center=15&tax_level=3&tax_subject=261&topic_id=1941&level3_id=6326&level4_id=0&level5_id=0&placement_default=0

Youth Curriculum and Resources

Early Sprouts: This is a seed to table curriculum which introduces preschoolers to a set of six target vegetables. Plans for parent take-home kits are included:

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

Grow It, Try It, Like It: <http://www.fns.usda.gov/tn/Resources/growit.html> This is a garden-themed nutrition education kit for child care center staff that introduces children to: three fruits - peaches, strawberries, and cantaloupe, and three vegetables - spinach, sweet potatoes, and crookneck squash.

Food Day Middle/High School Curriculum: This curriculum was designed for Center for Science in the Public Interest in coordination with the establishment of Food Day, Oct 24, 2012: <http://foodday.org/participate/resources>

Choose My Plate: USDA website with information for parents and educators. Posters and fact sheets are available to download or order:

<http://www.choosemyplate.gov/>

Team Nutrition: USDA website with health and wellness resources for educators:

<http://www.fns.usda.gov/tn/>

The Updated Michigan Team Nutrition Book List: The list was designed to be a resource for children in grade K-2, but may also serve younger or older children. It is arranged alphabetically by book title and by theme:

http://www.michigan.gov/documents/mde/UpdatedMichiganTeamNutritionBooklist_290287_7.pdf



Composting

There are many reasons to compost, including reducing waste and waste transportation. However, for gardeners the reasons increase ten-fold! Having your own compost pile allows you to recycle the nutrients from one year's garden into the next year's. And in doing so, you can save money on store or farm-bought fertilizers. With the many compost-enthusiasts out there, below are just a few highlights out of a pile of resources!

- US Environmental Protection Agency, Composting <http://www.epa.gov/epawaste/conserva/rrr/composting/index.htm>
- Composting101.com: A Composting Guide for the Home Gardener <http://www.composting101.com>
- Cornell University, Cooperative Extension—Tompkins County, Composting, “How To” Fact Sheets <http://ccetompkins.org/garden/composting/how-fact-sheets>
- The University of Maine, Cooperative Extension, Publications, *Home Composting* <http://umaine.edu/publications/1143e>
- Cornell Waste Management Institute, Department of Crop & Soil Sciences, *Home Composting* <http://cwmi.css.cornell.edu/compostbrochure.pdf>
- Cornell University, Cooperative Extension—Tompkins County, Composting, *Group Composting: Steps to Success* <http://ccetompkins.org/sites/all/files/158/Group%20Composting.pdf>

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- Cornell University, Cooperative Extension—Tompkins County, Composting, “How To” Fact Sheets <http://ccetompkins.org/garden/composting/how-fact-sheets>
- The University of Maine, Cooperative Extension, Publications, *Home Composting* <http://umaine.edu/publications/1143e>
- Cornell Waste Management Institute, Department of Crop & Soil Sciences, *Home Composting* <http://cwmi.css.cornell.edu/compostbrochure.pdf>
- Cornell University, Cooperative Extension—Tompkins County, Composting, *Group Composting: Steps to Success* <http://ccetompkins.org/sites/all/files/158/Group%20Composting.pdf>

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Putting the Garden to Bed

While it might be sad to see the garden season come to an end, there are steps you can take in the fall that will make your season even more productive next year. Also, if you are not ready to part with your vegetables, there are methods of gardening that can extend your season by several weeks to over a month. If you are feeling really ambitious, there are even methods out there for year-round gardening! Check out the resources below to help you decide how you want to end your garden season.

- *Raised Bed Mini-Hoop House Instructions* (see attached)
- Colorado State University Extension, *Frost Protection & Extending the Growing Season*
<http://cmg.colostate.edu/gardennotes/722.pdf>
- University of Maryland, College of Agriculture & Natural Resources, Put Your Garden to Bed
http://mastergardener.umd.edu/local/charles/Horticulture%20Know_how/index.cfm
- University of Wisconsin Extension, Brown County, Community Gardens, *Cold Frame Manual*
http://www.co.brown.wi.us/departments/page_2980c1cfboai/?department=68d3c3d55278&subdeparment=b2b33ee26bfc
- Coleman, Eliot. (1999). *Four Season Harvest: Organic vegetables from your home garden all year long*. White River Junction, VT: Chelsea Green Publishing Company.

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http://mastergardener.umd.edu/local/charles/Horticulture%20Know_how/index.cfm
- University of Wisconsin Extension, Brown County, Community Gardens, *Cold Frame Manual*
http://www.co.brown.wi.us/departments/page_2980c1cfboai/?department=68d3c3d55278&subdeparment=b2b33ee26bfc
- Coleman, Eliot. (1999). *Four Season Harvest: Organic vegetables from your home garden all year long*. White River Junction, VT: Chelsea Green Publishing Company.

<http://www.antiochne.edu/cgc/>

Resources for Educators & Gardeners

Community Garden Connections
40 Avon Street
Keene, NH 03431
www.antiochne.edu/cgc
communitygardens@antioch.edu

Curricular Activities/Program Resources

Websites

- Center for Excellence in Disabilities (accessible gardening fact sheets):
<http://greenthumbs.cedwvu.org/factsheets>
- Cornell University Garden Based Learning (activities, projects, lessons, and curriculum)
<http://blogs.cornell.edu/garden/get-activities>
- Garden Forever (gardening for all ages, abilities, and lifestyles): <http://www.gardenforever.com>
- National Gardening Association's Kids Gardening Resources: <http://www.kidsgardening.org>
- National Junior Master Gardener Program: <http://jmgkids.us>
- Rodale Institute's Youth Educational Program: <http://www.kidsregen.org>
- [The Edible Schoolyard Project](http://edibleschoolyard.org/resources-tools): <http://edibleschoolyard.org/resources-tools>
- University of Illinois Extension (school gardening):
<http://www.scoop.it/t/school-gardening-resources>
- University of Nebraska-Lincoln Garden Activities and Resources: <http://lancaster.unl.edu/hort/youth>
- Windham County Farm to School (for veggie of the month): <http://brattf2s.wordpress.com>

Web-publications

- *Got Veggies? & Got Dirt?* (curriculum & guides):
<http://www.troygardens.org/resources/publications/curricula>
- Harvard School of Public Health, *Food & Fun Afterschool*:
http://www.hsph.harvard.edu/research/prc/files/ab_about_guide_041612.pdf
- Iowa State Extension, *Growing in the Garden* (program & curricula):
<http://www.extension.iastate.edu/growinginthegarden/kids.html>
- MFCC / AUNE *Farm & Garden Curriculum Sampler*:
http://www.cheshireconservation.org/sites/all/files/PDF/Curriculum_sampler_final_smallerfile.pdf
- School Garden Wizard, *Guides*: <http://www.schoolgardenwizard.org/wizard/download>
- University of Missouri Extension, *Garden Grow Leader Handbook*:
<http://extension.missouri.edu/publications/DisplayPub.aspx?P=MP737>

Books

- Coblyn, S. (2001). *French Fries and the Food System: A year-round curriculum connecting youth with farming and food*. Lincoln, MA: The Food Project.
- David Driskell, D. (2002). *Creating better cities with children and youth: A manual for participation*. London: Earthscan.
- Deelstra, T. and Girardet, H. (1999) Urban Agriculture and Sustainable Cities. In *Growing Cities, Growing Food*. Pp. 43-65. <http://www.ruaf.org/node/56>
- Gale, G. (2001). *Growing Together: A guide for building inspired, diverse and productive youth communities*. Lincoln, MA: The Food Project
- Klindienst, P. (2006). *The Earth Knows My Name: Food, Culture, and Sustainability in the Gardens of Ethnic Americans*. Boston: Beacon Press.
- Cassidy, P. and Winwood, M. (2011). *The Illustrated practical guide to gardening for seniors: how to maintain a beautiful outside space with ease and safety in later years*. London: Lorenz Books.

Community Garden Connections

Stay in touch with what we're up to by following us at:

Blog: <http://keenecommunitygardenconnections.wordpress.com>

Facebook: <http://www.facebook.com/pages/Keene-Community-Garden-Connections/277691318927822>

Website: <http://www.antiochne.edu/cgc/>