

Community Seeds

Building Community through
Gardening

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2006

Revised, 2008



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Community Seeds is a beginning. A place for community members, church members, young people, schools, and others to get some basic information on gardening and starting a community gardening project.

The first part provides the lay of the land: definitions and how to get started with community gardening. In the second part, the handbook looks at basic gardening skills: garden design, composting, and vegetable gardening. The third section teaches how gardening can be used to build a community, from farm-to-school programs and community-supported agriculture to marketing produce and reconnecting with nature. Each newsletter has Internet and readings listed as resources. There is a wealth of information on gardening in community settings. Also, take a look at the information the Good Neighborhoods Technical Assistance Center provided on how to access vacant lots that are in your neighborhood.

Community Seeds advocates for organic farming methods. "Organic" means that plants and food are grown without chemical fertilizers or pesticides. These methods seek reconnecting with the environment, harmony with nature, and healthy food for all individuals. Remember, the organic movement is ultimately about social justice — the basic right to clean, nutritious, and adequate food sources.

A few ideas for using the newsletters in this manual:

- Have group members find out about national and international community gardening projects and share that information. You could explore projects mentioned in this manual or add other projects to these pages.
- Create a list of vegetables, fruits, herbs, flowers, and trees as well as information the group would like to have about these crops. It could be plant varieties, uses, planting requirements, growing guidelines, pest and disease considerations, and harvesting methods. Divide the list among group members and collect the information to learn about each crop. These reports will be an excellent addition to the *Community Seeds* newsletters.
- Don't forget about the Community Connections Small Grants offered through Good Neighborhoods. Plenty of money to get a project started.
- Organize a visit to local community gardening projects as well as some hands-on activities. The only way to learn how to garden is to get dirty!

Most of all, enjoy yourself and enjoy connecting with others through something so basic and necessary to all of us: food.

— Kristin McGee



Definitions

Annual: A plant that germinates, grows, flowers, sets seed, and dies in one growing season. Versus a perennial plant that grows over multiple seasons.

Biodynamic Gardening: Developed during the 1920s by Rudolph Steiner to help people work with nature to grow more healthful food. Bio-dynamics shares many goals with organic gardening. Both methods avoid the use of synthetic chemicals. The recycling of nutrients through composting is also common to both methods, along with raised beds, crop rotation, and companion planting. What sets bio-dynamics apart is *the philosophy* behind it. Biodynamic gardeners attempt to understand the true nature of their crops and livestock – what each plant and animal needs to grow to its potential. In biodynamic terms, an ideal farm is a self-supporting system. Rather than emphasizing measurable yields, biodynamic farmers seek a healthful product produced with minimal environmental impact. The biodynamic concept also incorporates planetary influences on plant growth; for example, calendars of cosmic rhythms guide farmers.

Blight: A bacterial or fungal disease in which leaves or branches suddenly wither, stop growing, and die. Examples include fire, early (alternaria), late (phytophthora), and bacterial blights.

Canker: A fungal disease that forms on woody stems and may be cracks, sunken areas, or raised area of dead or abnormal plant tissue.

Cold Frame: Rectangular, boxlike structure with a glass sash on top. Most have slanting sash “roofs,” with the high end toward the north, so that the sun’s rays strike the glass at about a 90 degree angle, and water and snow slide off the lids easily. A lid with a slope of 35-40 degrees catches the most sunlight year-round, while a 55-degree slope maximizes autumn’s low sun. Cold frames create an area of close-to-ideal conditions, enabling gardeners to stretch the seasons and to grow plants accustomed to warmer climates.

Community Garden: A gathering of individuals willing to share time, space, and labor to garden; a garden owned by a city, university, or civic organization; individual plots rented to gardeners for a small fee.

Community-Supported Agriculture: A relationship of mutual support and commitment between local farmers and community members who pay the farmer an annual fee to cover the production costs of the farm. In turn, members receive a weekly share of the harvest during the local growing season.

Companion Planting: Locating plants close to each other in order to take advantage of a plant’s natural ability to attract beneficial insects, repel harmful ones, aid or discourage growth, and take advantage of certain chemical reactions among plants.

Composting: The art and science of combining organic materials under controlled conditions so that the original raw ingredients are transformed into humus.

Cooperative Extension Service: A unique partnership between college and government, the extension service was established in 1914 to provide an educational link between the public, the US Department of Agriculture, and land-grant colleges. Extension offices provide gardening advice tailored to your particular climate, soil, and growing conditions through publications, classes, and workshops. It also offers Master Gardeners programs.



Definitions

Cotyledon: The leaf (or leaves), present in a dormant seed, that is the first to unfold as the seed germinates. Cotyledons often look different than the “first true set of leaves” that follow them.

Cover crop: A crop grown to protect and enrich the soil or to control weeds.

Crop rotation: The practice of shifting crop locations in the garden from year to year to avoid crop-specific diseases and pests and to balance soil nutrients.

Division: Separating a plant into several smaller new plants, used with groundcovers, clump-forming perennials, bulbs, tubers, ornamental grasses, and suckering shrubs.

Double-digging: A soil preparation method in which you remove a spadeful of topsoil from a garden bed, loosen the soil layer below the topsoil, and then restore the topsoil layer. During the process, you can incorporate organic matter into the soil. Double-digging improves the structure and fertility of the top 2 feet of soil.

Edible Landscaping: A form of gardening that produces food and makes yards or green areas attractive at the same time.

Fertilizer: Materials that feed growing plants. Common organic fertilizers include alfalfa meal, blood meal, bonemeal, coffee grounds, compost, eggshells, fish emulsion, fish meal, grass clippings, kelp meal, peat moss, rock phosphate, wood ash, and worm castings.

Foliar-feed: To supply nutrients by spraying liquid fertilizer directly on plant leaves.

Green manure: A crop that is grown and then incorporated into the soil to increase soil fertility or organic matter content.

Heirloom plants: Cultivars of plants grown in the eighteenth, nineteenth, and early twentieth centuries, essential for maintaining a vast and diverse pool of plant genetic characteristics. Heirloom tomatoes are popular, such as Brandywine and Striped German.

Horticultural therapy: The cultivation and appreciation of plants and nature to relieve an illness or disability. Horticultural therapy is practiced in such diverse settings as rehabilitation and mental health centers, assisted living and nursing homes, schools, and hospitals.

Humus: A dark-colored, stable form of organic matter that remains after most of the plant and animal residues in it have decomposed. When soil animals and microbes digest organic matter, such as chopped leaves or weeds, humus is the end product.

Inoculant: A seed treatment medium that contains the symbiotic rhizobial bacteria to capture nitrogen when in contact with legume roots.

Legume: A plant whose roots form a relationship with soil bacteria and can capture nitrogen available in the atmosphere.

Loam: Soil that has moderate amounts of sand, silt, and clay. Loam soils are generally considered the best garden soils.

Meadow gardens: A full-sun garden that mimics the beauty of a natural meadow, composed of native warm-season grasses and flowering annuals, biennials, and perennials that will spread and self-sow to create a self-maintaining field of flowers and foliage.



Definitions

Native plants: Plants that grow in the specific habitat in which they evolved.

Natural landscaping: Designing all or part of your yard/green space with the aim of re-creating the feel of a natural scene. After choosing a natural landscape that has the strongest appeal for you, analyze that scene in nature to determine the topography, exposure, and soil. Identify dominant species and the way plants are arranged or layered.

Nitrogen fixation: The capture and conversion of atmospheric nitrogen gas into nitrogen compounds, stored in the soil, that can be used by plants.

NPK ratio: A ratio of three numbers that identifies the percentage of three major nutrients in fertilizers — nitrogen (N), phosphorus (P), and potassium (K).

Organic certification: A process that assures consumers that foods labeled “organic” have been grown, processed, and/or handled in compliance with standards designed to keep the food as well as the agricultural workers and environment free of harmful contaminants. Food and livestock sales earning more than \$5,000 annually must be certified if they are to call or label their products “organic”.

Organic Farming and Gardening: Organic farming uses nature’s cycle of growth, death, and decay. As plants and animals die, rodents, insects, earthworms, and microscopic soil creatures consume their bodies, and nutrients are released. These nutrients feed new generations of plants. There is no need for synthetic pesticides in a natural ecosystem. In organic gardening, similar cycles and natural balances exist. However, gardeners harvest and remove crops from the garden, breaking the cycle. To keep the natural processes that feed plants working, they add organic materials (compost, organic fertilizers). By encouraging biological diversity, they can minimize the need for artificial pest control. When organic gardeners do intervene, they choose control tactics that have little impact on natural systems.

If you are new to the organic method, here are some basic suggestions to get you started:

- Read
- Use a plan and keep records
- Learn more about your soil
- Start a compost pile
- Prevent pest problems before they happen
- Learn to identify weeds and eliminate them when they are small

Organic matter: Various forms of living or dead plant and animal material. Adding organic matter to soil supplies nutrients to plants; facilitates better drainage; stores water in the soil; helps increase air drainage; increases soil micro-organisms; decreases plant disease; and encourages earthworms.

Organic pest management: An approach to pest control that combines cultural, biological, physical, and certain chemical control measures to prevent problems or to keep them in check. Organically acceptable chemical controls are a last resort used only when all other methods are not adequate.



Definitions

Perennial: A plant that flowers and sets seed for two or more seasons. Short-lived perennials may live 3-5 years while long-lived perennials may live 100 years or more. Versus an annual plant that grows for only one season.

Permaculture: Coined in the mid-1970s by Australians Bill Mollison and David Holmgren, permaculture is a design system for creating sustainable human environments. The aim is to create systems that are ecologically sound and economically viable, which provide for their own needs, do not exploit or pollute, and are therefore sustainable in the long term. Permaculture uses the inherent qualities of plants and animals combined with the natural characteristics of landscapes and structures to produce a life-supporting system for city and country, using the smallest practical area.

pH: The measure of acidity (acid) or alkalinity (base); pH affects plant growth by influencing the how easily soil nutrients can be used by plants.

Propagation: Making new plants from existing ones. Propagation methods include using seeds, spores, plant division, cuttings, layering, grafting, and budding.

Raised bed gardening: Garden beds are higher than ground level and separated by paths. Plants cover the bed area and gardeners work from the paths. The beds are 3-5 feet across to permit easy access and may be made any length.

Rot: Diseases that decay roots, stems, wood, flowers, and fruit

Rust: A specific type of fungal disease, usually requiring two different plant species as hosts to complete their life cycle, that manifests with a powdery tan to rust-colored coating. Examples include asparagus, wheat, cedar apple, and white pine blister rust.

Sand, silt, and clay: Tiny fragments of rock or minerals that make up nearly half the material in the soil. They are distinguished from one another by size. Sand particles are the biggest, measuring from 0.05-2.0 millimeters in diameter; followed by silt particles from 0.002-0.05 millimeters; followed by the smallest, clay particles, which measure less than 0.002 millimeters in diameter.

Seed: A plant embryo and its supply of nutrients, often surrounded by a protective seed coat.

Seedling: A young plant grown from a seed.

Side-dress: To apply fertilizer alongside plants growing in a row.

Soil structure: The arrangement of soil particles in the soil.

Soil texture: The relative proportions of sand, silt, and clay in the soil.

Top-dress: To apply fertilizer evenly over a field or bed of growing plants.

Transplanting: Moving a rooted plant from one place to another. You can transplant plants to containers or to the garden.

Wilt: A fungus or bacteria that attacks or clogs a plant's water-conducting system, causing permanent wilting and often followed by death of all or part of the plant. Examples include Stewart's, Fusarium, and Verticillium wilt.

Getting Started on Community Gardens

This newsletter will share the history of community gardens, ways to begin your own community garden, and considerations for urban gardeners.

The History of Community Gardens from Rodale's

Encyclopedia of Organic Gardening & Garden Mosaics

Special points of interest:

- At peak production in 1944, 20 million victory gardens grew 44% of America's fresh produce.
- A community garden starts as a gathering of individuals willing to share time, space, and labor.
- Urban gardeners must keep in mind space, light, soil, theft and vandalism, and soil contaminants.

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From the late 1800s through the 1940s, the main purpose of community gardens in the United States was growing food.

- **Potato Patch Movement (late 1800s):** Cities were growing rapidly and many people were out of work. Across the country, cities began offering garden plots to so residents could grow their own food
- **Liberty Gardens (early 1900s):** The U.S. government recruited people to grow gardens during World War I as a way to contribute to the war effort.
- **Relief Gardens (1930s):** With the Great Depression affecting the nation, these gardens were promoted to improve people's spirits as well as to provide work and food.
- **Victory Gardens (1940s):** Growing food in World War II's "victory gardens" was a patriotic duty. At peak production in 1944, 20 million victory gardens grew 44% of America's fresh produce.

From the late 1960s to the present, community gardens have served many different purposes. Renewed interest in energy and environmental conservation, rising food prices, and growing concern about chemical additives and residues in processed foods have made homegrown produce more appealing. Gardens are also used to:



- **Improve neighborhoods:** People in cities turn vacant lots into beautiful gardens.
- **Express cultural traditions:** Many immigrant and heritage groups bring plants and cultural traditions to the gardens, creating multicultural mosaics.

The American Community Gardening Association (ACGA), a national not-for-profit organization of gardening and open space volunteers and professionals, was started in 1979 to encourage community gardening and greening. The ACGA offers guidelines to help gardeners understand how community gardening works. Check them out at <http://www.communitygarden.org>.

What is a community garden?

Since there is no real agreement on what makes a community garden, let's hear what the gardens themselves have to say:

Green Thumb, New York City, USA: "Community gardens provide green space and easily accessible recreational opportunities in the areas that need them most.

Vancouver Urban Agriculture, British Columbia, Canada: "Community gardens are part of the "commons" where people can

go to grow food either collectively or on their own plot of land. An essential element is that they are developed and run by the community in a process where people and nature learn from each other to grow food and steward the land.

Denver Urban Gardens, Colorado: "Community gardens are not just for growing vegetables. While tending a garden may be the initial goal, empowerment, self-sufficiency, and pride in the neighborhood are the true, and

valuable, ends.

Inuvik Community Greenhouse, Northwest Territories, Canada: "We began by converting a decommissioned building into a community greenhouse as a focal point for community development. The objective was to utilize this space to allow for the production of a variety of crops in an area where fresh, economical produce is often unavailable.

Finding & Acquiring Land from Rodale's Encyclopedia of Organic Gardening

Finding land is often a matter of persistently pursuing a variety of sources. If you see a potential site for a garden, find out who owns it and convince them that gardens make great tenants.

City and county agencies that may grant access to garden space include park commissions and public housing and community development offices. State departments of transportation, agriculture, or housing may also have land to offer.

Schools, churches, railroads, nature centers, community colleges and universities, utility companies, senior centers, and other community centers are other potential garden site providers.

Look for a site that will contribute to gardening success. Desirable features include:

- Full sun with nearby shade (for weary gardeners);
- A water source;
- Neighborhood support;

- Visibility for safety and publicity;
- Safe soil (not polluted by former uses);
- Long-term availability;
- Access for gardeners, volunteers, and possibly delivery trucks; and
- Nearby restrooms, telephone, and parking.



**First Quincy Street Garden
New York City, NY**

Few sites will have all of the amenities, so decide which are most important to your gardening group.

Once your group finds a site, get permission and a written lease to use it. If your garden plan includes physical improvements such as fencing, creating raised beds, or adding soil, try to obtain at least a 3-year lease. Your group should be able to use the site long enough to justify the investment.

Your group may need to have public liability insurance before a lease is granted. Garden insurance is new to many insurance carriers, and their underwriters hesitate to cover community gardens, despite their risk-free history. Decide what you want before talking to agents, and use an agent who handles several carriers. Best results have also been found when several gardens get liability insurance together (much like group health insurance) and with local insurance carriers.

Forming a Garden from Rodale's Encyclopedia of Organic Gardening

A community garden starts as a gathering of individuals willing to share time, space, and labor to garden. Make the most of human resources such as knowledgeable mature gardeners and energetic kids. A planning committee allocates group resources and should accomplish these tasks:

- Identify the need and desire for a garden
- Involve the people who are to benefit from the garden in all phases of the program
- Organize a meeting of interested people
- Select a well-organized garden coordinator
- Approach sponsors, if needed

Once a committee has addressed the initial issues, involve all participants in setting rules, electing officers, and determining dues and their uses. Community gardens run best when managed by the gardeners. New gardening groups need structure, especially the first year, to make sure work is divided equally and responsi-

bilities are clear. Topics covered by garden rules may include conditions of membership, assignment of plots, maintenance of common areas, and even ways of enforcing the rules. Leave room for rules to grow along with membership.

Analyze what the group wants before touching the site. Develop a clear plan, including plot sizes, common area maintenance, and group activities. Evaluate what your group's resources are — what do you have? What do you need? Assign members to gather missing elements *before* gardening begins.

A few final tasks will improve garden relations during the growing season. Plan a work day for site cleaning and plot assignments. Keep records of plot locations and users; mark plots clearly with gardeners names. Identify and prepare common paths and common areas, then open for planting. Use a bulletin board to hold announcements and a garden map. — make sure it is sheltered or rainproof



Our purpose is to improve the neighborhood and provide a place to garden for food and recreation.

Membership is open to everyone in the neighborhood. People within a 2 block radius will be given priority, if there is a waiting list. Our 3 leaders are elected annually, 2 months before the garden season begins. Meetings are held 3 times a year and decisions are made by majority. Attendance at spring and fall work days is mandatory for all members.

If you cannot attend, you must send a friend or complete a task assigned by the officers. Membership dues are \$10 per year for a 10' x 20' plot

*Green Chicago, Chicago
Botanic Garden*

Tips for City Gardeners from Rodale's Encyclopedia of Organic Gardening

Urban gardeners face different challenges than their rural and suburban counterparts. Urban gardeners need ingenuity to garden in spaces with blocked sunlight, poor soil, and unreliable water sources. Soil and air pollutants, theft, vandalism, and politics further complicate city gardening. On the other hand, the near absence of wildlife damage and a frost-free season as much as a month longer than surrounding areas are some of the advantages of urban gardening. City gardeners can also turn yards, rooftops, fire escapes, and a variety of containers into fields of plants.

Space: Design your garden to maximize growing area while preserving living space. Make the most of your garden space by growing compact cultivars. Build trellises and fences to utilize vertical space. Inter-plant fast- and slow-growing vegetables.

Light: Select plants and a design to suit each location, based on the total light it receives. Most plants need at least 6 hours

of daily sunlight to produce flowers and fruit.

Soil: Most urban soils are compacted and clayey, and have a high heavy-metal content. Improve soils by adding compost, peat moss, aged sawdust, or other types of organic matter. Many cities make compost or mulch from tree trimmings and leaf pickups. Contact local parks or street departments about these often free soil amendments. Another alternative is to bring in soil for raised beds or containers.

Theft & vandalism: Most urban gardening takes place in densely populated or publicly accessible places. While fences keep honest people honest, involving area youth and adults in gardening is a more effective tactic. Make a sign for the garden and let folks know that it is a community project. Create a shady meeting area and spend time there. Plant “less popular” vegetables along sidewalks and fence lines. Share garden space and knowledge with your neighbors. Keep your garden well-

maintained, repair damage immediately, harvest ripened vegetables daily, and plant more vegetables than you need.

Plant a portion of the garden for others and make it with a sign: “If you must take food, please take it from here”.



Soil contaminants: Excessive lead, cadmium, and mercury levels are common in urban soils. Sources of such pollution include leaded paint, motor vehicle exhaust, and industrial waste. Poisoning from eating contaminated produce can affect all gardeners, especially young children. See the article below for more information on this important topic

What's in your dirt?

If your yard is too small or too shady or your free time too little, there are alternatives.

Consider container gardening, shopping at local farm stands and farmers' markets, u-pick farms, community-supported agriculture, or food cooperatives.

Environment pollutants and contaminants are a real possibility for many community gardens. Gardens close to major roads are effected by motor vehicle exhaust, while lead paint chips from older homes and buildings are harmful to our health.

The first step for any city gardener is to get to know the history of your garden site and to get your soil tested. City and county land offices can help you figure out what your land has been used for in the past. Likewise, Michigan State University's Wayne County Extension office will

be able to tell you where you can get soil testing done. Contact the laboratory and ask for any specific instructions that may be required. Be sure to note that you want an “organic garden” analysis and testing for heavy metals to get more detailed feed-

back on your soil.

If after having your soil tested you find you have contaminated soil, avoid planting root crops and leafy greens, which tend to concentrate the worst bits of

the pollution. Instead, it is safer to grow fruiting vegetables, like tomatoes, peppers, squash, and peas. If contaminant levels are excessively high — meaning highly concentrated, garden in containers and raised beds filled with clean soil and wash crops thoroughly before eating them.

You can reduce the amount of contaminants that the plants absorb from the soil by adding organic matter and mulching heavily. In addition, planting food crops away from streets and keeping soil pH levels at 6.7 or higher will help prevent plants from taking up

Soil Lead Level (total Sorbed lead test) mg/kg or ppm	Level of Contamination
Less than 150	None to very low
From 150 to 400	Low
From 400 to 1,000	Medium
From 1,000 to 2,000	High
Greater than 2,000	Very high



RESOURCES

American Community Gardening Association:
<http://www.communitygarden.org>

City Farmer: <http://www.cityfarmer.org/>

Community Gardening in South Australia Resource Kit:
http://www.canh.asn.au/community_gardening/

Detroit Agriculture Network:
<http://www.detroitagriculture.org>

Garden Mosaics: <http://www.gardenmosaics.cornell.edu/>

Green Guerillas: <http://www.greenguerillas.org/>

GreenNet Chicago: <http://www.greennetchicago.org>

Green Treks Network:
http://www.greentreks.org/allprograms/roughterrain/urban_gardening/index.asp

Land Trust Alliance: <http://www.lta.org>

National Sustainable Agriculture Information Service:
<http://attar.ncat.org>

Neighborhood Gardens Association:
<http://www.ngalandtrust.org/>

NeighborSpace: <http://neighbor-space.org/about.htm>

Philadelphia Green:
<http://www.pennsylvaniahorticulturalsociety.com/phlgreen/>

Land Trusts: Not Just for the Countryside from the Land Trust Alliance and NeighborSpace

A land trust is a non-profit organization that, as all or part of its mission, actively works to conserve land by undertaking or assisting in land or conservation easement acquisition, or by stewardship of such land or easements. Land trusts are independent, entrepreneurial organizations that work with landowners who are interested in protecting open space. However, land trusts often work cooperatively with government agencies.

Local and regional land trusts, organized as charitable organizations under federal tax law, are directly involved in conserving land. Land trusts can purchase land, accept donations of land, accept a bequest, or accept the donation of a conservation ease-

ment. A conservation easement is a legal agreement between a landowner and a land trust or government agency that permanently limits uses of the land in order to protect its conservation values.

Land trusts are not just for rural communities. Many cities and urban neighborhoods recognize land trusts as a vital method for protecting their land from poor planning and sprawl. For example, NeighborSpace, in Chicago, IL, works to acquire and own land on behalf of local partners (community groups) who have created urban “Edens” in their neighborhoods. Once NeighborSpace comes into ownership of these sites, residents and local community leaders feel confident

that the environment they worked so hard to create will no longer be vulnerable to redevelopment. The community group remains the “site manager” with a local non-profit organization serving as fiduciary. NeighborSpace provides basic liability insurance.

While it may seem complicated, there are many organizations available to walk you through the process — including **Detroit’s Community Legal Resources**.

The important thing to remember is that land trusts support community control of open spaces, including our precious community gardens.

Garden Design

This newsletter explains basic design principles & those specific to vegetable gardening

Design Styles and Principles from Rodale's Encyclopedia of Organic Gardening

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Formal vs. Informal: Formal gardens exhibit classical symmetry. Flower beds, terraces, pools, and other features are generally rectangular, or sometimes round. Walks are straight. Formal garden need not be large; even small garden spaces can be formally designed. Informal gardens have curved, free-form beds that follow the land's features. Shapes are irregular. If the lay of your land is irregular, it will lend itself to an informal design. All well-designed gardens make use of three essential principles:

Balance: When elements on two sides of a central point are similar in size or visual weight, they are balanced. This doesn't mean your garden has to be symmetrical. Several good-sized clumps of a plant can balance one large one

Proportion: Garden features (plants, flowers, beds, terraces, etc) are in propor-

tion when their scale is in a good relationship to their surroundings. For example, a large clump of 9 ft. reed planted in a bed with low-growing 3 ft. perennials would be out of proportion. As would a huge shed in a small yard.

Repetition: Repeating an element — color, texture, shape, building materials — throughout a garden adds unity to a design. The parts of the garden will fit more closely together. For example, repeating the color red at intervals in a flower bed leads the eye through the design. You can repeat the same plant or use different species with similarly colored blooms to achieve the same effect.

Plant characteristics are also important to consider, especially since all plants change season to season and year to year.

Color: Strive for a balanced distribution of color. Hot and warm colors appear to

bring an object or scene closer. Cool colors tend to recede and push objects father away (which will make a small garden seem bigger).

Height: If planting in front of a fence or backdrop, plant the tallest plants in the back, the shortest in front. If the shape is free-form, use tall plants at the widest parts of the beds. In island beds, tall plants go in the center, with shorter plants around the edges.

Form: Form refers to shape — round, vertical, creeping, weeping, for example. Form can describe the entire plant or just the flowers. Interperse different plant forms throughout the garden for harmony and interest. Form can be used like color, although its effect is more subtle.

Texture: Plant leaves can look coarse, crinkled, glossy, fuzzy, or smooth. Flowers can be feathery or waxy. Using a variety of textures will add interest to your garden



This informal garden shows many design principles:

- Plants are in proportion to their surroundings
- Color and form is repeated throughout the design
- Tallest plants grow along the fence and in back, shorter plants in front
- The garden has a variety of forms — round, creeping — and texture — glossy, fuzzy

Planning Considerations from Rodale's Encyclopedia of Organic Gardening

Before you start buying and planting, take time to decide what role you want the garden to play in your overall landscape.

Site Characteristics: Learn everything you can about the site you've chosen. Is the soil sandy or clayey? Well-drained? Rich in organic matter or does it need improving? Is the site in full sun, part sun, or shade? Once you know about your site's conditions, you can match the plants that will thrive.



Size: Keep in mind what landscape purpose the garden is to serve. For example, if you need a shrub border to create privacy be-

tween the garden and a road or sidewalk, determine the size by walking around your space and studying where the largest plants should go in order to accomplish your purpose. Smaller shrubs and plants can connect the larger plants into a continuous border. For a flower garden that blooms in all seasons, you'll need enough space to accommodate a variety of flowering plants. About 125 square feet will give you enough room to mass flowers for a succession of color. Beds should be kept to at least 4'-5' wide for a lush effect. The beauty of having an



overall plan is that nothing is planted haphazardly.

Time & money: Consider how much time you want to devote to weeding, staking, watering, and pruning. If you want to keep these tasks to a minimum. Choose low-maintenance plants. Plants and supplies also cost money. Decide how much you want to spend before you start to dig. Plan your garden so that you will have time to enjoy it!



Selecting Plants from Rodale's Encyclopedia of Organic Gardening

Once you've decided on the type of garden that you want and studied your site, it is time to make a plant list and develop the design. For this you will need:

- Regular and colored pencils
- A tablet of paper
- Graph paper
- Tracing paper
- Eraser

To get an idea of how many plants you'll need, consider the approximate size at maturity of the types of plants you want to consider. Perennial plants generally need 2-4 square feet at maturity, meaning you can fit 30-60 of them in a 125-square-foot garden.

Shrubs and small trees may need from 9-25 or more square feet.

Selecting the plants for any garden is a challenge. There are thousands to choose from! Start with a list of favorite plants, then add ones you've admired in other gardens, nurseries, markets, books, etc. Leave plenty of space between plants for notes. Jot down the plant description, growing tips, bloom time, height, color, hardiness, and culture. Don't worry about making the list too long. You will periodically review your list and cross off plants that won't grow well in the site and don't fit your needs. If you have only shade to offer, cross off anything that needs full sun.

If you want easy-care plants, cross off those that need staking or dead-heading. If you want to save on water, cross off plants that need supplemental watering. Next, make a chart to help identify plants that will add the most to your design. The chart will capture plant name, bloom season, height, color, or other interesting characteristics. See the example below.

When you finish, look over the chart to make sure you have a fairly equal representation of Xs in each column. Will some flowers of each color be blooming in each season? Are there a variety of heights? Lastly, number the plants on your list. Use these numbers to fill in the spaces as you draw your garden design.

Plant Name & Bloom Season	Under 1'	1'-3'	Over 3'	Yellow	Red/Pink	Blue/ Lavender	White	Attractive Foliage
SPRING								
Dentaria laciniata (Cut-teethed Toothwort)	X				X		X	X
SUMMER								
Asclepias tuberosa (Butterfly milkweed)		X			X			
FALL								
Rudbeckia tribloba (Three-		X		X				

Drawing your Design from Rodale's Encyclopedia of Organic Gardening

Draw an outline of your garden to scale on graph paper. Use tracing paper over the graph paper so you can easily start over if you need to. Begin drawing shapes on the paper to indicate where each plant will grow. Instead of drawing neat circles or blocks, use ovals and oblong shapes that flow into one another. Arrange plants, especially perennials and small shrubs, in clumps of several plants. Remember balance and repetition — you'll want to repeat clumps of some species.

Beginning with the first plant on your

list, study its "profile" and decide where you want to plant it. Transfer its number to the corresponding shape(s) on your drawing. Do this with all the plants on your list. As you work, you'll have to decide how many of each plant you want to grow. Consider your budget. You may also want to follow the "rule of three" for small perennials. Three plants will make an attractive clump when matured.

Mix up heights to create interest. Let some tall plants extend forward into the middle group, and medium-sized ones up front. Mix shapes, colors, and textures.

To visualize how your garden will look at each season, put a sheet of tracing paper over your completed design. Trace the plants blooming during one particular season (e.g. spring). Then color them appropriately.

Strive for a balanced composition in every season, with color evenly distributed throughout. And expect to have to re-do your design several times before you have it right. Each time will bring you closer to a beautiful garden!

Vegetable Garden Design from Rodale's Encyclopedia of Organic Gardening

Think about these elements when designing your veggie garden:

Full or almost full sun: In warm climates, vegetables need at least 6 hours of direct sun each day. In cooler climates, they will need a full day of sun. The best sites for vegetable gardens are usually on the south or west side of a structure.

Good drainage: A slight slope is ideal. Avoid low places where water accumulates — these spots are favorites for garden diseases.

Limited competition from nearby trees: Tree roots take up huge amounts of water. Leave as much space as possible between large trees and your garden.

Easy access to water: If you can't get water to your garden site, don't plant there.

Accessibility: Your garden will need to be accessible by truck, cart, or wheelbarrow for bringing in mulch, manure, or other bulk materials.

Hidden Problems: Don't locate your garden over septic-tank field lines, buried utility cables, or water lines.

Once you've decided on a site, think about the type of vegetable garden you want. Possible layouts range from traditional row planting to intensive raised beds and container gardening.

Row planting: A row garden, in which vegetables are planted in parallel lines, is easy to organize and plant. However, it is not space efficient. You may also spend more time weeding. The design will result in less yield per acre. Row planting is generally good for large plantings of crops such as beans and corn.



Beds: These raised planting areas are enriched with organic matter so they can be intensively planted. While they require more preparation time, they save time when it comes to weeding and mulching later in the season. You'll also get a higher yield than with the traditional row garden. Beds should be no more than 4' wide so you can easily reach the center for planting, weeding, and harvesting. A fun way to make sure: when working with others, make sure you can shake hands across the bed.



Spot gardens: If your space is small, look for sunny spots where you can fit small plantings of favorite crops. Plant a

Vegetable gardens adhere to many of the principles described in these pages. And they can be designed to be visually appealing, especially if they'll be in a public space. But, vegetable gardens also have their own special considerations

small bed of salad greens and herbs near a kitchen. Tuck vegetables into flower beds. Dress up tomatoes with underplantings of nasturtiums and marigolds.

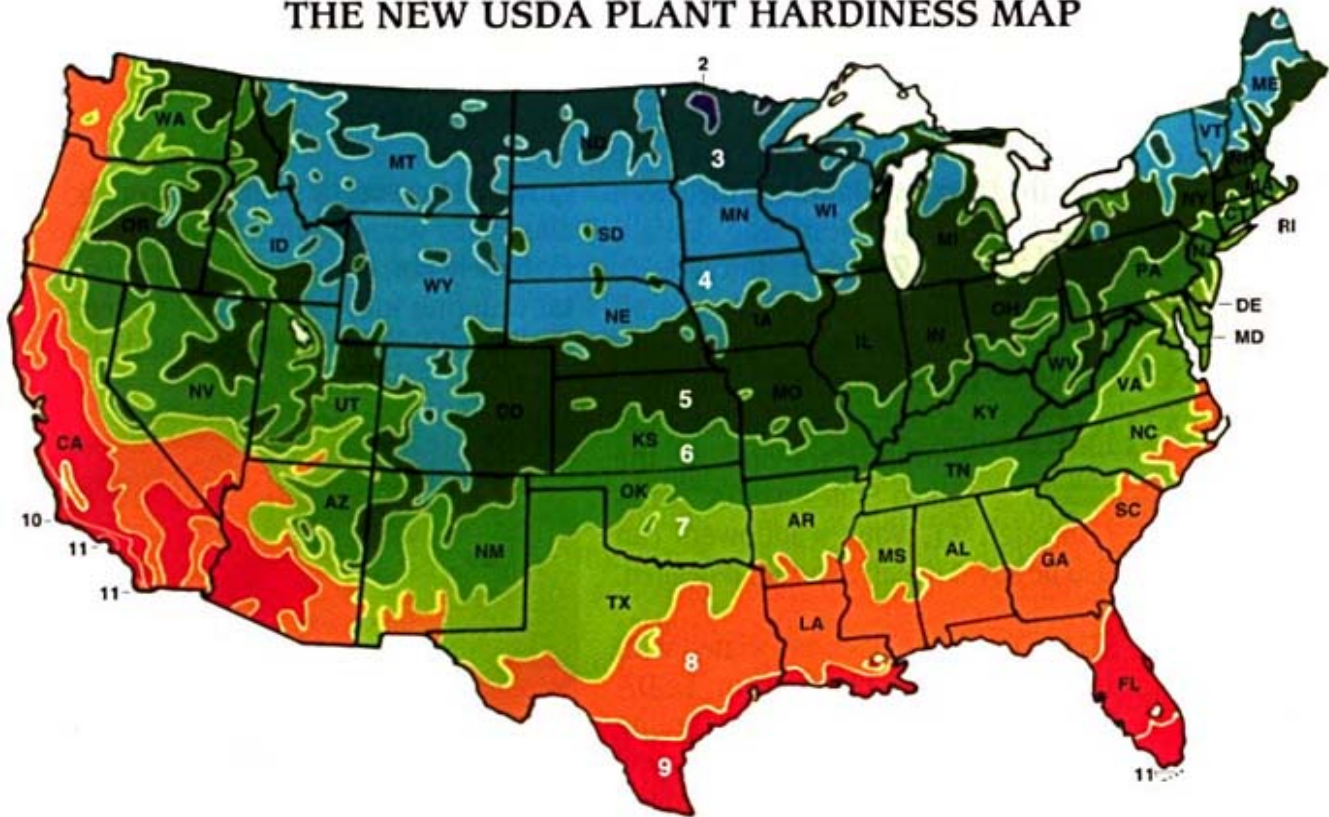


Containers: Many dwarf cultivars will grow well in pots or planters. Garden catalogs include dwarf tomatoes, cucumbers, peppers, and even squash. Vegetables that are naturally small, such as loose head lettuce, scallions, and many herbs also grow nicely in containers.



USDA Hardiness Zones

THE NEW USDA PLANT HARDINESS MAP



This map is indispensable in letting farmers and gardeners know which plants will thrive in their areas. Use average annual minimum temperatures as well as spring and fall dates to figure out what zone you are in. Most seed and plant catalogs will make reference to the zone numbers or temperature.

Zone 1 Below -50F Sow seed in early spring when soil can be worked

Zone 2 -50F to -40F Sow seed in

early spring when soil can be worked

Zone 3 -40F to -30F Spring: April 15-June 15; Fall: August 15-October 1

Zone 4 -30F to -20F Spring: April 15-June 15; Fall: September 1-October 15

Zone 5 -20F to -10F Spring: April 15-June 15; Fall: September 1-October 15

Zone 6 -10F to 0F Spring March 15-May 15; Fall September 15-November 1

Zone 7 0F to 10F Spring: February 15-April 15; Fall: September 15-November 15

Zone 8 10F to 20F Spring: January 15-March 1; Fall October 1-December 1

Zone 9 20F to 30F Spring: January 1-March 1; Fall October 1-December 1

Zone 10 30F to 40F Spring: January 1-March 1; Fall: October 1-December 1

Zone 11 Above 40F Spring: January 1-March 1; Fall: October 1-December 1

Here is how hardiness zones are used in a seed catalog (in this case, *Johnny's Selected Seeds*)

Bee Balm						<i>Monarda spp.</i>
Days to Germination	Sowing Time	Seeding Method	Light Preferences	Plant Height	Plant Spacing	Hardiness Zones
7-14 days	Spring	Direct or transplant	Sun to part shade	36-48"	8-12"	Zones 4-10

Resources



All-America Selections: <http://www.all-americaelections.org/Default.asp>

Baker Creek Heirloom Seeds: <http://www.rareseeds.com>

Johnny's Selected Seeds: <http://www.johnnyseeds.com>

Native Plant Societies of the United States and Canada: <http://www.news.org/nps.htm>

Native Seeds/S*E*A*R*C*H: <http://www.nativeseeds.org/v2/default.php>

Seed of Change: <http://www.seedsofchange.com>

USDA Plant Hardiness Zone map: <http://www.usna.usda.gov/Hardzone/ushzmap.html>

Vegetable Garden Mapping *from Rodale's Encyclopedia of Organic Gardening*

Generally, vegetables can be divided into cold weather, warm weather, and hot weather crops.

Consider the length of your growing season — the period between the last frost in spring and the first one in the fall. Consider seasonal rainfall patterns and other environmental factors. There are many fast-maturing and heat- or cold-tolerant cultivars that allow gardeners to try their favorite crops.

Have fun when choosing vegetables for your garden too. Make some of your selections for beauty as well as for flavor... Yellow wax beans, red-ribbed Swiss Chard, Chioggia and Golden Beets, Japanese eggplant...

Try some historical heirlooms. Cultivars endorsed by the All-America Selections (AAS) also are good bets.

As you fill in seed order forms, it's wise to map planned locations for your crops. Consider these points as you fill in your map:

- Are you growing just enough of a crop for fresh eating, or will you be preserving some of your harvest?
- Are you planning to rotate crops?
- Are you going to plant in spring and again later in the season for a fall harvest?

Draw your vegetable garden design in the same manner described for ornamental gardens on page 3.



Composting

This newsletter will explain the uses for and construction of a compost pile

The Basics of Compost from Rodale's Encyclopedia of Organic

The process of decomposition occurs constantly in nature. With a compost pile, the gardener simply intervenes to speed up the process and create a valuable soil amendment. Here's how composting works.

Your goal in building a compost pile is to provide the best possible conditions for hardworking micro-organisms. These organisms are introduced with a starter culture or finished compost. They need what we all need: a balanced diet, water, air, and warmth.

A balanced diet: In order to function efficiently, micro-organisms require

the correct proportion of carbon for energy and nitrogen for forming protein; this proportion is known as the **C/N ratio**. The ideal C/N ratio of 25-30:1 is easily reached by building your pile with alternating layers of high-carbon (woody) materials and high-nitrogen (green) materials. In addition, the greater the variety of items you include, the greater your certainty of creating a balanced product.

Water: All living organisms need water, but too much moisture drives out air, drowns the pile, and washes away nutrients.

Air: Supplying enough air

to all parts of a compost pile is another key element to encouraging thorough decomposition. Frequent turning is the most straight-forward way to do this. You may also consider building a base of coarse materials or poking holes in the compost with a garden fork or crowbar.

Warmth: A minimum size of 3 ft. in each dimension is needed in order for heating to occur. Given the proper C/N ratio, moisture, and aeration, your compost will heat up even in cold winter weather. A hot compost pile will produce satisfactory results if it cooks at about 120° F.

Inside this issue:

<i>Materials</i>	2
<i>Building the compost pile</i>	2
<i>Using your compost</i>	3
<i>Compost innovations</i>	4
<i>Resources</i>	4

Dos and Don'ts:

- *DO chop up long stems and big leaves.*
- *DO limit the height and width of the pile to avoid compression.*
- *DON'T use human or pet wastes — they may carry disease.*
- *DON'T use meat scraps or fatty materials — they break down slowly and attract animals.*
- *DON'T include stubborn weeds, especially those that easily sprout from small pieces of root.*
- *DON'T include diseased plant material*

Composting Advantages & Disadvantages

Composting has many advantages. It improves the structure and drainage of all soils, contributing to improved fertility, aeration, and moisture retention. Since decomposition has already occurred, compost becomes immediately available as plant food.

Composting reduces gardening costs. Good crops can be obtained without store-bought inputs. Home, yard, and garden

wastes are put to use, instead of ending up in local landfills.

Nevertheless, composting can be labor-intensive and time-consuming. The nutrient content of compost may also vary a great deal, given the materials and preparation methods used. Maybe there is not enough vegetation available in the garden's area.

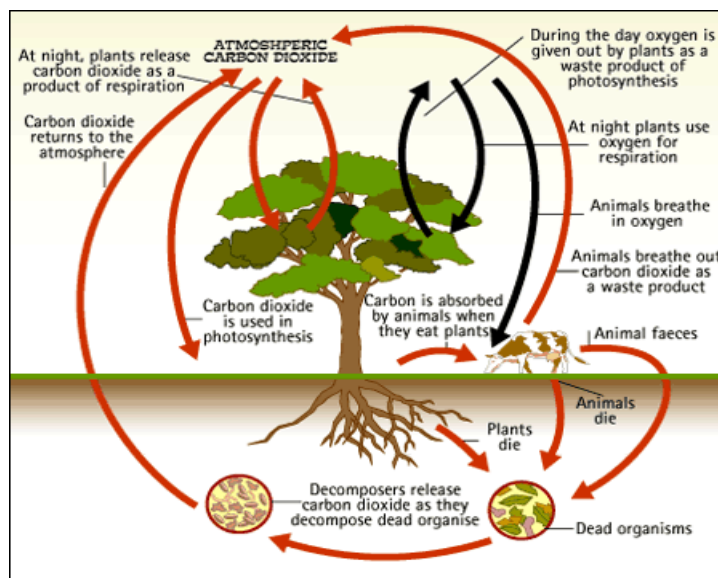
Use principles of site design (described previously in this section) and con-

sider the innovations discussed on page 4 in order to choose a composting method that compliments your garden and your gardeners.



Materials from Sustainable Agriculture Extension Manual for E. & S. Africa

- Various types of vegetative materials
- Topsoil
- Animal manure
- Prepared (old) compost
- Wood ash
- Water
- 1 long, sharp, pointed stick
- Wheelbarrow
- Watering can
- Hoe
- Large clippers



Procedure from Sustainable Agriculture Extension Manual for E. & S. Africa

1. Select a location close to where you want to use the compost. It should be sheltered from the wind, rain, sun, and runoff.
2. Measure a rectangle 4 ft. x 5 ft. It can be longer than 5 ft. depending on the amount of materials you have, but keep the width at 4 ft. You must be able to work on the compost without stepping on it.
3. Dig a shallow pit about 1 ft. deep. Put the soil to one side. You will need it later.
4. Begin to building the compost pile by putting a bottom layer of rough materials, such as corn stalks, hedge cuttings, or wood chips. This layer should be about 1 ft. thick. Chop up any materials that are too long in order to improve air circulation. Sprinkle this layer with water.
5. Add a second layer of grass, dry vegetation, or hedge cuttings. Pine needles, paper, sawdust, or straw would also work. This layer should be about 6 inches thick. Water layer.
6. Put on a 3rd layer of biogas slurry, animal manure, or prepared compost. All of these materials contain micro-organisms necessary for the decomposition process. Water.
7. Sprinkle a layer of wood ash. It contains valuable minerals, including potassium, phosphorus, calcium, and magnesium.
8. The next layer should be green materials, 6-8 inches thick. Use green leaves from high-nitrogen crops, such as pea and bean plants, clover, alfalfa hay, grass clippings, and table scraps. Water.
9. Sprinkle a little topsoil or prepared compost. Both contain bacteria that are useful in the decomposition process. With this layer, you have completed one round of the compost pile.
10. Now start over adding with adding the layers. Begin with the dry materials, then add animal manure, wood ash, green vegetation, and topsoil. Build the pile up to 5 ft. high. A well-made pile has almost vertical sides and a flat top.
11. To complete the pile, cover it all with a layer of topsoil, about 4 inches thick. This layer prevents plant nutrients from escaping the compost pile. Lastly, cover the pile with dry vegetation, such as straw or hay, in order to reduce moisture loss.
12. Take a long, sharp stick and dry it through the pile at an angle. It should pass through all layers. This stick is the compost's thermometer. After 3 days, decomposition will have started and the stick will be warm.
13. Check the pile's progress from time to time.
14. Water the pile every 3 days, depending on the weather.

Remember to water each layer.

Good compost is about as damp as a moist sponge

Procedure continued

15. After 2-3 weeks, turn the pile over. Take to keep the compost pile's shape. Do not add fresh materials. You must turn the pile if the thermometer is cold or if it has a white substance (powder) on it. Turning the pile is important because it aerates the compost, making decomposition faster and more complete.
16. The compost should be ready in 4 to 6 weeks. If the stick still feels warm, the pile is still decomposing and not ready. Finished compost should have a fresh, earthy smell and should contain no grass, leaves, or animal manure.
17. You can store the compost by covering it with a layer of straw or plastic sheeting.

Finished compost should have a fresh and earthy smell

Using Compost

In general, incorporate compost into the top 1-2 inches of all annual beds. Apply compost during the growing season as a mulch or side-dressing.

Consider these techniques too.

- **For trees and shrubs:** Top-dress with compost around the root zone and bore plugs of compost into the soil around the drip line. To determine the "drip line", imagine a circle drawn on the ground where the tree or shrub branches end.
- **For potting mixes:** Screen your compost to remove large pieces and mix the fine compost with sand, peat moss, or other amendments to create a custom mix.
- **With double-digging:** Apply 3 wheelbarrows of compost per 10 m² of bed.
- **As compost tea:** Soak a cloth bag full of compost in a watering can or barrel for a couple of days. Dilute the resulting solution to a weak tea color. Reuse your "tea bag" a few times, then apply the remaining solids to your garden.
- **In-garden:** Many well-known organic gardeners are firm advocates of no-digging gardening. Start with finished compost. Spread the compost evenly on your garden plot, sprinkle with high-nitrogen substances (manure tea, feathermeal), and water. Mix with a garden fork, or till shallowly, and

simply let rot. Other gardeners don't even till the compost into the soil. They continue to apply it in strips, forming raised beds. They then plant seeds or transplants into the beds, and cover them with finished compost or a heavy mulch.



Resources

There is so much to learn about composting. This list will help you get started.



Biodynamic and Organic Farming Resource Site: <http://www.biodynamic.net>

City Farmer: <http://www.cityfarmer.org/>

How to Compost.org: <http://www.howtocompost.org>

National Sustainable Agriculture Information Service (ATTRA): <http://www.attra.ncat.org/>

US Composting Council: <http://www.compostingcouncil.org>

Worm Digest: <http://www.wormdigest.org>

Composting Innovations

Compost systems range in size from small, home-built bins to industrial systems capable of handling municipal waste. Your choice of composting method depends on what materials you plan to use, how much money you are willing to spend, how much space you have available, and how much time and effort you want to devote to it.

Wood and wire compost bins: Construct a 3' x 3' portable bin using sides made of wood and wire hardware cloth. Hinge one of the sides and place hooks and eyes on the edge opposite the hinges, creating a door for your bin. Set the bin up close to your garden. When it is full, move it to another convenient location and begin a new pile. Wooden pallets can also be used to make this type of compost bin

Compost pens: A 10' length of 4' welded wire fencing forms a circular pen slightly larger than 3' in diameter. Fasten the ends with wire or reusable clips. Turn the pile by unfastening the pen and setting it up next to the free-standing pile. Turn into the now-empty pen.

Pit composting: This method is useful in areas with low rainfall and a long dry season. Dig a pit 4' wide, 2' deep, and as long as you need the pile to be. Build a pile in the pit, using the method described above. Turn every 2 weeks. You can produce a regular supply of compost by digging 3 pits side by side.

Community-supported compost: Create a community compost collection initiative. Families contribute the materials and get finished

compost for their homes and gardens.

Worm bins: Kept in a cool, dark place, a worm bin provides a composting system for kitchen scraps. You can raise earthworms indoors in a modified garbage can, washtub, or wooden box. Make a drainage area in the bottom of the bin, separate from the worms' living quarters. Fill the bin with 2 parts cow manure, 2 parts sawdust, and 1 part shredded leaves. Garden soil may also be added. Mix well and dampen thoroughly. If the mixture heats up, wait a few days before adding worms. Introduce the worms to their new homes. Feed them chopped vegetations mixed with water. After 60 days, your bin should be full of rich compost.



Veggies 101

From Rodale's Encyclopedia of Organic Gardening

All the basics to get your vegetable gardening started

Preparing the Soil

Inside this issue:

Planting	2
To direct seed or to transplant?	2
Companion planting	2
Care during the	3
Off-season maintenance	3
Organic pest	4
Crop rotation	4
Rotating veggie families	5



Points of interest:

- *Not all insects are bad for the garden.*
- *Over a number of years, you can actually reduce the number of weed seeds present in your vegetable garden*
- *To learn more about the growing preferences of specific crops, use the resources on page 5*

Most vegetables are fast-growing annuals. They need garden soil that provides a wide range of nutrients as well as loose soil that roots can easily penetrate.

Start by testing your soil. Most vegetables prefer soil with a pH of 6.5-7.0. A soil test will reveal soil pH and any nutrient imbalances. Most Cooperative Extension Service offices offer soil testing free or for a small fee.

If you are starting a new garden, you'll probably be tilling under sod or bare ground. If you are working with an established site, you can take steps to replenish soil nutrients and organic matter. In late fall, sow seed of a green manure crop or cover the garden with a thick layer of organic mulch. In the spring, simply incorporate the green manure or mulch and start planting. Alternatively, you can spread as much as 6" of compost or well-rotted manure over the garden in the spring. Work it into the soil and then wait a few weeks before planting.

Use care when cultivating the soil. If the soil is too wet or too dry, cultivation can ruin soil structure. For example, working with wet soil, especially those with a high clay content, will compact it instead of aerating it. Similarly, excess cultivation introduces large amounts of oxygen, which can speed the breakdown of soil organic matter.

See the composting newsletter to learn about this fundamental gardening skill.



Green manure is a crop grown and then incorporated into the soil to increase soil fertility or organic matter content. Green manure crops are an excellent supplement to your garden if you can't get animal manures or if your compost is in short supply.

A green manure crop is

planted in the fall, grown throughout the winter, and tilled under in the spring (3-4 weeks before planting). Alternatively, if your area typically has a wet spring, till the crop under in the late fall and let it decompose over the winter.

Green manure legume crops include alfalfa; clovers (crimson, red, white/Dutch); hairy vetch; soybeans; white sweet clover; and yellow sweet clover. Non-legume crops include annual ryegrass; buckwheat; oats; rape; Sudan grass; and winter rye.

Choose a green manure that is best suited to your garden. Consider using inoculants with legume crops.

Remove all crop residue and rake the soil free of crops. If possible, sow seed when rain is forecast. Seed can easily be broadcast by hand. Rake the seedbed to cover fine seed or cover larger seeds with 1/4-1/2" of soil. After seeding, tamp the soil with the back of a hoe or spade to ensure good contact between seed and soil

Planting

Planting is the busiest time for a vegetable gardener. To help you remember what you have planted and how cultivars perform, keep written records. Fill in planting dates on your garden map. Make notes of harvest dates. If you would like to keep more detailed records, use a journal to detail when the soil warms up, when problem insects emerge, and when space becomes available for replanting.

Once the soil is prepared, lay out your garden paths. Rake the loose soil from

the pathways into the raised beds or rows. Mulch the paths with leaves or straw to keep down weeds.

The ways to arrange your planting is practically limitless. In traditional row gardens, a single species of crops is planted in a single row. Other methods (raised beds, permaculture) interplant crop varieties and use a variety of spacing patterns. Trellis beans and peas in a double row. Matrix planting — rows of 2 and 3 — is good for leafy crops (lettuce, spinach) as well as root crops

(carrots, onions). Vegetables and flowers can be interplanted in a zigzag pattern.

You can also practice succession cropping — growing two vegetable crops in the same space in the same growing season. You'll plant one early crop, harvest it, and then plant a warm- or hot-season crop afterward. To avoid depleting the soil, make sure one crop is a nitrogen-fixing legume (e.g. peas, snap beans, shell beans, lima beans) and the other a light feeder (spinach, beets, radishes, squash).

To direct seed or to transplant?

Some vegetable crops grow best when seeded directly in place. Other crops will benefit from being grown in a sheltered state during the seedling and then transplanted into the garden.

Direct seeding: Direct-seeded crops often germinate too well or not well enough. When germination is excellent, thin plants. Plan for poor germination by setting some seeds aside so you can go back and replant empty spaces.

Soil temperature and moisture play important roles in the germination of vegetable seeds. Very few vegetable

seeds will sprout in cold soil. If soil is too wet, seeds can rot before germinating. Be sure to plant seeds at the recommended planting depth and firm the soil with your fingers or hand tool after planting to ensure good contact between the soil and seed.

Starting seeds indoors: If you want to get a head start on the season, provide optimal conditions for certain vegetable crops, or try rare and unusual cultivars, start your seeds indoors. Tomatoes, peppers, eggplant, cabbage, broccoli, cauliflower, Brussels sprouts, onions, celery, and head lettuce are almost always handled this way.

Since seedlings are not exposed to wind, fluctuating temperatures, and intense sunlight, they need to be “hardened off” before transplanting outside. One week before planting, move them outside to a protected place outdoors.

Follow these soil temperature guidelines for seed-sowing times:

45-60F Sow beets, carrots, peas, parsley, radishes, spinach

65-80F Beans, corn, cucumbers, melons, squash

80-90F Field peas, okra, peanuts, shell beans

Companion Planting

We can use other plants to support our vegetable production. Here's how:

- Masking or hiding a crop from pests
- Producing odors that confuse or deter pests
- Serving as trap crops that draw pest insects away from other plants
- Acting as “nurse plants” that provide breeding grounds for beneficial insects
- Providing food to sustain beneficial insects as they search for pests

- Creating a habit for beneficial insects
- Common sources of repellent (masking) fragrances include the following plants: Use **French marigold** (*Tagetes patula*) and plant them as thickly as you can in a vegetable garden. Cabbage pests and aphids dislike **catnip**, **mint**, **and other members** of this fragrant family. Use potted mint plants set in your garden since they can grow out of control. Interplant **sweet basil** (*Ocimum basilicum*) in gardens to repel

aphids, mosquitoes, and mites. It also acts as a fungicide and slows the growth of milkweed bugs. **Nasturtiums** deter whiteflies and squash bugs and can be used to trap aphids.

Host plants that provide shelter and food for beneficial insects too. **Yarrow** (*Achillea spp.*) attracts bees, parasitic wasps, and hover flies. **Morning glory** (*Ipomoea purpurea*) attracts lady beetles. **Goldenrod** (*Solidago spp.*) will attract lady beetles predaceous beetles, and parasitic wasps.

Care During the Growing Season

Get in the habit of taking regular garden walks to thin crops, pull weeds, and check for signs of insect and disease problems.

Weeding: Start weed control early. Remove all weeds within 1' of your plants. When hoeing around young corn, potatoes, tomatoes, and squash, scatter loose soil over the root zones of the plants. Once the garden soil has warmed, mulch around plants to suppress weeds

Watering: Supplemental watering will be needed from midsummer to fall. Most vegetables need 1/2-1" of water each week. How can you tell when your plants need water? Leaves that droop at mid-day are a warning sign. If the leaves wilt at mid-day and are still wilted the next morning, plants are suffering. If this happens, replenish soil moisture gradually over 3 days. In terms of water usage and economy of labor, drip irrigation is the best way to water. You can even make your own irrigation lines by punching holes into short lengths of garden hose or plastic pipe. You can also punch holes into plastic jugs and position over the plant's root zones.

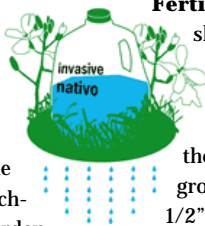
Staking: Without the support of wooden

stakes, wire cages, and the like, the leaves and fruits of many plants easily become diseased. Vining plants as well as top-heavy, single-stemmed plants benefit from staking. Choose stakes and supports that match the plant's needs. They must be tall enough and strong enough to support the entire mature plant when wet or wind-blown. They also must be firmly inserted into the soil. Take care not to damage plant roots while inserting the stake. If you are growing plants from seed, install the support before planting. In the flower garden, choose supports that are as inconspicuous as possible. In the vegetable garden, sturdiness is more important than appearance.

Fertilizing: Vegetables that mature slowly (more than 50 days) often benefit from a booster feeding in midsummer. Plan to fertilize tomatoes, peppers, and corn just as they reach their reproductive stage of growth. Rake back the mulch, spread a 1/2" layer of compost or rotted manure over the soil, and then put the mulch back in place. Liquid fertilizer, such as manure tea or fish emulsion, can also be used every 2-3 weeks throughout the season. Foliar fertilizing — spraying liquid fertil-

izer on plant leaves — is another option. Kelp-based fertilizers contain nutrients, enzymes, and acids that enhance reproduction. They are most effective when plants are already getting a good supply of nutrients at their roots.

Harvest: As a general rule, harvest your vegetables early and often. Many common vegetables, such as broccoli, garden peas, lettuce, and corn, are harvested when they are at a specific and short-lived state of immaturity. Also be prompt when harvesting crops that fully mature on the plant, as do tomatoes, peppers, melons, and shell beans. Use the "days to maturity" listed on seed packets as a general guide to estimate when vegetables will be ready to pick. In summer, harvest vegetables in mid-morning, after the dew has dried but before the heat of midday. Dig potatoes, carrots, and other root crops on a mild and cloudy day so they won't be exposed to the sun. To make sure your home-grown greens are as nutritious as possible, harvest and eat them on the same day whenever possible. Remember that there are also plenty of crops that "wait for you": onions, leeks, potatoes, garlic, many herbs, kale, beets, popcorn, hot peppers (for drying), pumpkins, winter squash, carrots, and shell beans (for drying). Plan your garden accordingly and you'll never be frustrated by missing your special crop's peak moment!



Off-Season Maintenance

After you harvest a crop in your vegetable garden, either turn under or pull up the remaining plant debris. Many garden pests will over-winter in the skeletons of vegetable plants. If you suspect that plant remains are housing pests or disease organisms, put them in sealed containers for disposal in your trash, compost them in a hot compost pile, or burn the plant residue and compost the resulting ash.

As garden space becomes vacant in late summer and fall, cultivate the empty spaces and allow birds to gather grubs and other larvae hidden in the soil. If several weeks will pass before the first hard freeze is expected, consider planting a green manure crop such as crimson clover, rye, or annual ryegrass.

Another rite of fall is collecting leaves, which can be used as a winter mulch over garden soil or as the basis for a large winter compost heap. If possible, shred the leaves and wet them thoroughly to promote leaching and rapid decomposition. You can also till shredded leaves directly into your garden soil.

Organic Pest Management (OPM)

Organic pest management is an approach to pest control that combines cultural, biological, physical, and certain chemical control measures to prevent problems or to keep them in check. Organically-acceptable chemical controls are a last resort only when all other methods are not adequate. Some definitions to help:

Cultural controls: Gardening practices that reduce pest problems, including keeping plants healthy, selecting well-adapted cultivars, and keeping the garden clean. Proper spacing, staking, and pruning will also help keep pests and disease away.

Biological controls: Pest control measures that use living organisms to fight other living organisms, including releasing, attracting, and protecting natural insect predators (insects, birds, and animals) and using microbial spray to control infections (*Bacillus thuringiensis* varieties). Learn to identify your helpers and what they like. Provide food and nesting sites. You can also buy beneficial insects and introduce a small population, which will become permanently established to suppress future generations of pests. Remember to release only native species!

Physical controls: Control measures that prevent pests from reaching your plants or remove them if they do. Floating row covers, fences and nettings, cutworm collars, root fly barriers, and tree bands are some examples of barriers to prevent pests. Traps include colored sticky traps, apple maggot traps, cherry fruit fly traps, yellow water traps, food traps, and trap crops. Many of these methods can be made at home. Insects and diseased plants can also be removed through weeding, handpicking insects, using a strong spray of water to knock pests from plants, pruning diseased shoots, and pulling up diseased plants.

Chemical controls: Control methods that involve substances that kill pests. Organically acceptable chemical controls are naturally occurring minerals or plant products and they tend to break down into harmless substances faster than synthetic pesticides. However, they do have toxic side effects and are used only as a last result.

An organic pest management program starts with a plan. The first step is to identify the problems you have had in the past or that are common to your area/crop. Make a list of these problems. Learn as much as you can about each one. By knowing how pests and diseases overwinter and when they attack your plants, you will be

able to pick effective control measures. Add possible control methods to your list. Also add what times during the pest's life cycle each control is most effective. Once you have all of your options in front of you, make a comprehensive plan. Start by noting when cultural controls are effective, and when they need to be done. Follow with biological and physical controls. Note what chemical controls are available in your local garden store, in the event that they become necessary.

Make a habit to walk through your garden at least once a week — daily is best. Look at the entire plant and those around it. Is just one plant affected by pest or disease or the entire row? Is the whole plant affected or just part of it? Does it seem to be random or is there a distinct pattern? Check the undersides of leaves and the stems, flowers, and roots for insects, eggs, webs, or damage. Examine the affected areas with a hand lens looking for tiny insects or fungal growth. Collect sample insects or damaged leaves for later identification. Look for all the signs and symptoms you listed, and go over your list to see what steps you need to take. If you are not sure what is causing the problem, there are many excellent reference books (see Resources). Keep notes during the season, including what works and what doesn't, what controls you used, how much you used, and where.

Crop Rotation

Crop rotation is the practice of shifting the locations of crops within the garden each season so that the same crop does not grow in the same place year after year. This technique helps manage soil fertility and helps avoid or reduce soilborne diseases and pests.

Nutrient balance: Leafy and fruiting crops are heavy feeders and rapidly use up nitrogen. Root vegetables and herbs are light feeders. Peas, beans, and other legumes add nitrogen to the soil but need a lot of phos-

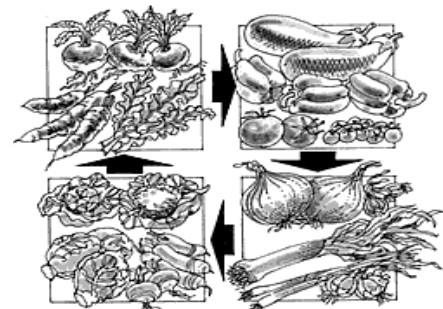
phorus. Follow a soil-building crop with a heavy-feeding crop, and follow a heavy-feeding crop with a root crop or another soil builder to balance nutrients.

Disease and pest prevention: Many diseases and pests are host-specific: they attack only a certain plant or family of plants. Although it may be difficult in a small garden, it is best to avoid planting the same plant family in the same location each year.

Green manure crops can be included in

a rotation plan to discourage specific types of pests and to rebuild soil.

The next page lists the seven family groups most often planted in vegetable gardens and ideas for rotating them.



Resources

Recipe

Marigold or Hot Pepper Spray

Fill 2/3 of a small container with the cut-up leaves and flowers of marigolds or the fruit of hot chili peppers. Fill the rest of the container with water. Cover and let sit for 5-7 days. Filter the contents and add 1 ounce of liquid dish soap (organic) for every 5 quarts of water.



Use diluted. For young plants you can dilute one part of this solution with 5 parts water. For older plants, dilute one part solution with one part water.

CAUTION: WEAR GLOVES WHEN HANDLING PEPPERS

This website should be your first stop:

ATTRA's Resource Guide for Organic and Sustainable Vegetable Production: <http://www.attra.org/attra-pub/vegetable-guide.html#a25>

Michigan State University Extension: <http://www.msue.msu.edu/portal>

Ohio State University, College of Food, Agricultural, and Environmental Science: <http://ohioline.osu.edu>

University of Georgia Entomology: http://www.ent.uga.edu/pmh/Horticultural_Crops/Organic_Pesticide_Guide/Organic_Pesticide_Guide.htm#vegetable

USDA Cooperative State Research, Education, and Extension Service: <http://www.csrees.usda.gov>

Rotating Vegetable Families

<i>Family Name</i>	<i>Common Crops</i>	<i>Rotation Relations</i>
Cruciferae	Broccoli, Brussels sprouts, cabbage, cauliflower, kale, turnips, radishes	High level of soil maintenance required for good root health. Heavy feeders. Precede with legumes; follow with open cultivation and compost.
Cucurbitaceae	Cucumbers, melons, squash, pumpkins, water-melons	For improved weed and insect control, precede with winter rye or wheat. Follow with legumes.
Gramineae	Wheat, oats, rye, corn	Plant before tomato- or squash- family crops to control weeds and improve soil's ability to handle water.
Leguminosae	Beans, peas, cloves, vetches	Beneficial to soil and have few pest problems. Rotate alternatively with all other garden crops whenever possible.
Liliaceae	Onions, garlic	Rotate with legumes, but avoid planting in soil that contains undecomposed organic matter.
Solanaceae	Eggplant, peppers, potatoes, tomatoes	Heavy feeders with many fungal enemies. Precede with cereal grain or grass; follow with legumes.
Umbelliferae	Carrots, parsley, dill, fennel, coriander	Moderate feeders. Precede with any other plant family, but condition soil with compost before planting. Follow with legumes or heavy mulch.

Using Your Garden to Build Community

This newsletter will explore different ways your neighborhood garden can be used to build your community

Gardening for Social Justice *from www.gardeners.com*

Inside this issue:

Reconnecting with Nature	2
Your Garden as a Local Food Source	2
Why Support Locally Owned Businesses	3
Start a "Buy Local First" Campaign	3
Organizing Field Visits	4
Getting Young People Involved!	4
Resources	5

Sean Phelan first got involved in an urban community garden for the same reason many people do: to grow flowers and vegetables. But soon he discovered an even better reason.

"There were all of these different people in the neighborhood - older white women, African Americans, gay men - who wouldn't look at each other on the street," Phelan said. "But when they were in their gardens, all of a sudden they were talking," Phelan said. "They just had to know what kind of tomato that was or what had been done to those cucumbers. The garden was the bridge."

From those first experiences 15 years ago, Phelan has continued to use gardening as the medium to get people to talk to each other. Since 1997, Phelan has been the coordinator of the Judkins Park P-Patch, a tiny community garden in an inner-city section of Seattle. And he has shown what is possible even in an area most people would not

think is conducive to gardening. When Sean took over the Judkins Park P-Patch, the garden was overgrown and many plots lay fallow. In four years, Phelan has led the garden to a rebirth. In an area the size of three city lots, Judkins Park boasts over 100 gardeners, programs for school-children, extensive plantings of native shrubs, a greenhouse constructed from reused materials, worm bins and compost piles. . . Sean is a Master Gardener, a Master Composter and a Native Plant Steward. . . He leads a special program at Judkins Park about beneficial insects. He even finds time to help youth centers and nonprofit groups around Seattle plan gardens at their facilities.

"Sean lives and breathes for sharing organic gardening with the community of the world. One could say he has green shoes, leaving his organic print everywhere he goes," wrote Sandy Pernitz when nominating him for the Garden Crusader Award. For Sean, gardening is a tool for so-



cial justice. Gardeners at the Judkins Park Pea Patch include people from different ages, backgrounds, races and a dozen different countries. And, most important to Sean, they talk to each other and learn from each other.

"The garden provides a common interest for the everyone," he said. "And proves what a community can do when they care deeply about something."

Gardens — Centers for Neighborhood Change

Community gardens have always been about a lot more than food. As we've seen in the previous pages, gardens produce nutritious food, reduce family household budgets, preserve green space, and beautify neighborhoods.

However, community gardens often fulfill even more important roles. They improve the

quality of life for neighborhood residents, provide a catalyst for neighborhood and community development, stimulate social interaction, encourage self-reliance, reduce crime, create income opportunities and economic development, and provide opportunities for intergenerational and cross-cultural connections.

This newsletter will highlight different ways neighborhoods can connect their gardens to broader community issues — making them centers for neighborhood change. Many of these ideas come directly from Good Neighborhood residents who participated in our Eliminating Food Deserts in Detroit seminar held March 2008.

Reconnecting with Nature *from Training for Transformation*

When working with your gardening group, neighborhoods residents, or youth, one first step could be to think about the role nature plays in our everyday life. Try out this simple activity

Begin with a field trip to the most beautiful and fertile place within reach. Even if transport is a problem, many cities have beautiful parks, lakes, or quiet places — like your own community garden. Advise everyone to wear their most comfortable shoes and clothes.

Find a comfortable meeting place in the shade where participants can leave their things. Ask them to divide into groups, each of which will focus on one of the following topics: Water, Air, Earth, and Trees. There should be 2-5 people in each group.

Give them time (30-60 minutes) to wander about in their group thinking about and discussing the following questions about



their topic:

- Why is this thing (Water, Air, Earth, Trees) so important in our lives?
- In what ways do we depend on it?
- In what ways do we show that we value it?

- What have human beings done to destroy or pollute it?
- Why have humans been devaluing it in this way?
- What will be the consequences if we continue to devalue it?
- What could we do to save this crucial element now and for our grandchildren?

When the group re-gathers, ask each group to choose a spokesperson. Anyone in the group can add things they thought about. Give each group a chance to report, but keep the atmosphere conversational. Though the observations of the groups are usually extremely interesting, it is important that the facilitator keeps the process moving.

Ask participants to share any songs or poems they remember about nature.

Time: 2 hours

Materials: Transport, poems, and songs.

Your Garden as a Local Food Source *from Institute for Agriculture and Trade Policy*

Community gardens are at the front line of improving access to healthy foods for neighborhood residents. As your garden gets established and you are thinking of expanding the scope of your project, consider the following options and check out the websites listed on the last page of this newsletter.

Neighborhood Farmer’s Markets — Growers sell directly to the public and typically operate weekly during the growing season. Farmers benefit from establishing face-to-face relationships with their customers while the consumers get fresher, healthier food than they often find in the supermarket.

Community Supported Agriculture — Known as CSA, this method involves residents investing in a particular farm or group of farms. Through the initial purchase of farm “shares”, the farm is able to pay for up-front costs and be guaranteed an income. In return, residents (or share members) receive fresh produce from the farm each week. See the entire newsletter dedicated to Community Supported Agriculture

Cooperative Grocery Stores — A cooperative grocery store is equally owned and controlled by each of its members. Co-op members support it with their purchases, are actively involved in decision-making, and share in the store’s profits. Cooperatives are often a source of new jobs, buy from local farmers, and support community activities.

Connecting with Neighborhood Convenience Stores — Neighborhood convenience stores work with local growers to incorporate fresh produce into their stores. Store owners cut “middlemen” costs while getting the freshest produce. Growers supplement their incomes with another sales location for their produce.

Neighborhood Churches and Community Centers — Neighborhood churches and community centers could purchase local produce to be sold to congregants and members following service or community events held at their facilities.

Community Clinics — Community clinics could provide access to patients during clinic visits as part of a nutrition education program. Fruits and vegeta-

bles could be used as tools to educate patients about healthy habits, nutrition, and staying healthy.

Emergency Food Providers — Emergency food providers are increasingly struggling to obtain produce. Many have turned to local gardens and growers to provide for their needs.

Mobile Stores — Mobile stores serve neighborhoods by bringing local meat, produce, and dairy products to drop spots or right to your doorstep. Mobile stores could be full-service market providers or just sell fruits and vegetables in an ice cream truck fashion.

**NO NEED TO START BIG!
1/10 OF AN ACRE (THAT’S ABOUT 4,000 SQ. FT.) CAN PRODUCE 6,000 POUNDS OF FRUITS AND VEGETABLES A YEAR AND SUPPORT OVER 350 DIFFERENT PLANT SPECIES!!**

Why Support Locally Owned Businesses? *from the Institute for Local Self-Reliance*

Supporting locally-owned businesses — including local gardens! — has a lot of long-term advantages:

Local character and prosperity — Communities that preserve their one-of-a-kind businesses and distinctive character have an economic advantage

Community well-being — Locally-owned businesses build strong communities by sustaining community centers, linking residents, and contributing to local causes

Local decision-making — Important decisions are made locally by people who live in the community and who will feel the impact of those decisions

Keeping dollars in the community — Compared to chain stores, locally-owned businesses recycle a larger share of their revenue back into the local economy

Jobs and wages — Locally owned business create more jobs locally, and in some sectors, provide better wages and benefits

Entrepreneurship — Entrepreneurship fuels economic innovation and serves as a key means for families to move out of low-wage jobs

Public benefits and costs — Local stores in neighborhood centers require comparatively little infrastructure and make more efficient use of public services relative to big box stores and strip malls

Environmental sustainability — Local stores help to sustain vibrant, compact, walkable neighborhood centers — which in turn are essential to reducing sprawl, automobile use, habitat loss, and air and water pollution

Competition — A marketplace of tens of thousands of small businesses is the best way to ensure innovation and low prices over the long term

Product diversity — A multitude of small businesses, each selecting products based, not on a national sales plan, but on their own interests and the needs of their local customers, guarantees a much broader range of product choices.

Start a “Buy Local First” Campaign

Many people give little consideration to where they buy. They do not know the benefits to the city's economy of choosing local businesses and are unaware of the many hidden costs of opting for a the big box stores. Broadening awareness of the consequences of our shopping choices is an essential strategy to turning the tide of chain retail expansion and rebuilding our local economies.

By far the most effective “buy local” campaigns are those that have been started by local business alliances and associations. These associations include hundreds of business owners and citizens working together to prevent the displacement of local stores by chains. Their campaigns have focused on:

- Building support for locally owned businesses through educational campaigns
- Making “locally owned” a strong brand that can counter chain store advertising
- Engaging citizens in shaping the future economic development of their city
- Influencing city officials and shaping policies that support local enterprise
- Stimulating more media coverage and providing a strong voice for independent businesses in local news stories
- Working with banks, developers, community organizations and others to create opportunities for local business development

Here are the steps for getting started on your “Buy Local” campaign:

Form a steering committee — Talk with key business owners about the benefits of launching a buy local campaign. Identify those who would like to be involved and ask them to join a steering committee. The committee should include 6-15 people, mostly

local business owners, along with a few individuals and leaders of relevant organizations

Set a date for a kick-off event — This will give the committee an initial concrete goal. Press conferences work the best, but the event might be a gathering or a workshop

Devise a name, slogan, and logo — Your group's name and slogan should be positive and proactive, and your logo should be professionally designed. Consider asking local designers if they might volunteer their services in exchange for free membership. Your logo could incorporate recognizable features of your community.



Develop a campaign kit — This is the packet of materials that businesses receive when they join. It might include a welcome letter, a window decal with the logo for their storefront, tips for promoting the campaign, frequently asked questions, a list of participating businesses, and a poster. Again, ask local print shops and web developers to volunteer their services in exchange for membership

Define membership — You should determine which business are eligible to participate in the campaign. Contact the American Independent Business Alliance (AMIBA) for examples for how other buy local efforts define “locally owned” and “independent”. Also, you'll need to decide how much it will cost businesses to join. Some alliances start out

with fairly substantial dues rates while others opt for a modest initial membership fee and raise it in subsequent years

Hold your kick-off event — Consider having a large poster made of your logo that you can unveil at the event. As many committee members as possible should be there, ideally wearing campaign t-shirts. Send out a media advisory a few days in advance and a press release the day before. A few committee members should speak briefly at the event about the importance of local businesses and the goals of the campaign.

Begin recruiting members — You might start by sending out a letter, signed by one or more prominent members of your steering committee, inviting businesses to join the campaign. The steering committee should each take on the task of contacting a dozen business owners — perhaps those they know personally or whose businesses are located in the same part of town

Once you reach a critical mass of businesses, the campaign needs to focus on two areas of work: organizational development and spreading the campaign's message. Organizational development involves incorporating the organization, forming a board, adopting bylaws, drafting a budget, and other tasks that will establish a firm foundation as the campaign grows and develops. With spreading the campaign's message, the more people learn, see, and hear, the greater the impact. You will want to create posters, advertisements, banners, shirts, thank-you cards, bumper stickers, flyers, and more. You will also want to organize events and develop a website with an online searchable directory of local businesses.

Organizing Field Visits *adapted from the Sustainable Agriculture Extension Manual*

Field visits involve a group of gardeners visiting other gardeners, either within the same locality or far away, in order to share information about a specific technology or idea. If done after a training course, the main aim may be to enable farmers to see the methods taught during the course. Field visits are particularly useful in building confidence and motivation and establishing garden networks.

Field visits are often part of a broader extension program. They may be organized by an outside group, such as the extension service or social service agency, or by the community members themselves.

Advantages: Community members learn by seeing and doing. Seeing successful examples motivates visiting gardeners to try out ideas themselves. The visits help build relationships and networking among community gardeners. The visits also build the confidence of the gardeners hosting the field visit. The visitors can see and learn many things other than the specific technologies they came to see.

Disadvantages: The costs for training and transport may be high. Community members may be unable to bear some of the costs. Gardeners may hesitate to

share their experiences with others.

To organize a field visit:

1. Become familiar with the specific socio-economic, cultural, and environmental issues where both communities live.
2. If the field visit will be part of a training course, plan the course and develop training materials relevant to the issues identified.
3. Work with community members to determine when and where to implement the course and field visit. Include both successful and not-so-successful gardens in the visit. Make sure that the gardeners being visited are willing and ready to receive visitors and to explain what they are doing in their gardens. Avoid organizing these events during busy times of the year or growing season. Make sure the timing suits both the hosts and the guests.
4. Invite community gardeners to participate in the course and field visit.
5. Carry out the training. It should be short and simple, focusing on 2-3 main things that the visitors will see during the field visit.

6. Implement the visit. Ensure that the objectives are clear to all people involved. As much as possible, facilitators should keep in the background, allowing host gardeners to describe their experiences and the visitors to ask questions.
7. Immediately after the trip, get feedback on the visit from participants (hosts and guests). Ask about logistics and what they have learned. Identify ideas or techniques that community members can try in their own gardens. When necessary, brainstorm about modifications to the techniques to suit local conditions. Encourage participants to discuss what they have learned with other community or family members, especially to avoid misunderstandings.
8. Provide information and support to gardeners as they try out the new techniques.
9. After a determined length of time, evaluate the results to find out whether the techniques have actually been adopted. If yes, which ones? If no, why not?

Getting Young People Involved!

Gardens are an excellent opportunity to get youth involved in their communities.

Check out some of these programs taking place across the country:

- **Seattle Youth Garden Works** empowers homeless and underserved youth through garden-based education and employment. It is a market gardening program for youth ages 14-22 and its goals are to connect youth to housing, health care, education, jobs and community.
- **Moab (Utah) Youth Garden Project** cultivates personal growth, self responsibility, and community awareness in youth through organic gardening, experiential education programs, and community service.

It sits on 2 acres of land, offers a wide variety of programs, and houses a community kitchen

- **The Food Project** (metro Boston area) has a mission to grow a thoughtful and productive community of youth and adults from diverse backgrounds to work together to build a sustainable food system. It grows food for local shelters and for sale at CSA farm shares and at area farmers' markets. They market their own value-added products and work with other urban growers to remediate lead-contaminated soil
- **Growing Hope** (Ypsilanti, MI) offers a Roots & Shoots after-school program for middle-schoolers where they learn about nutrition, leadership, entrepreneurial skills, and local history



RESOURCES

Healthy Corner Stores Network:
www.healthycornerstores.org

Community Food Security Coalition: www.foodsecurity.org

Minnesota Farmers Market Association: www.mfma.org (find information on how to start your own farmer's market)

HOPE CSA — www.hopecsa.org

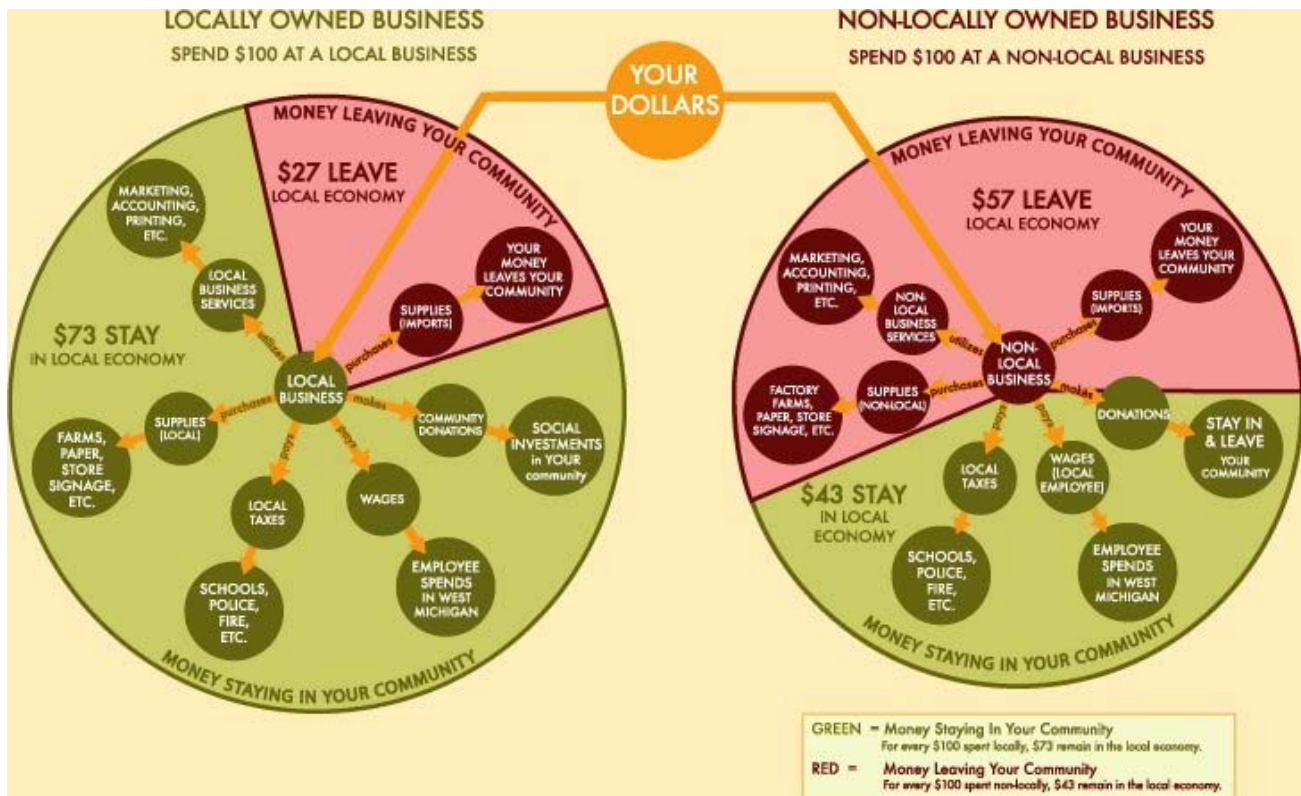
People's Grocery — www.peoplesgrocery.org (This is an amazing organization in Oakland, CA — check out how they got their mobile market started)

Big Box Toolkit — www.bigboxtoolkit.com

Institute for Local Self-Reliance — www.ilsr.org

American Independent Business Alliance (AMIBA) — www.amiba.net

Business Alliance for Local Living Economies (BALLE) — www.livingeconomies.org



The Community Supported Agriculture Model

Adapted from *Sharing the Harvest: A Guide to Community Supported Agriculture*

A simple equation

CSA =
Food Producers +
Food Consumers +
An Annual Commitment
to each other

The CSA model is pertinent to community building as a way to restore a community's connection to food, provide a source of fresh and nutritious foods, support local businesses, and maintain environmental health for future generations.

This newsletter will discuss forming a CSA as well as creative applications of the model and will provide resources for learning more.

Inside this issue:

Steps to Forming a CSA	2
CSA Voices	2
Nurturing a Solid Core	2
CSA harvest	3
CSA models	4
Resources	5

What is Community-Supported Agriculture?

Community-supported agriculture (CSA) is a connection between a nearby farmer and the people who eat the food that the farmer produces. The essence of the relationship is the mutual commitment: the farm feeds the people, the people support the farm and share the inherent risks and potential bounty.

For the masses of people in the United States, this connection between community and farmer has been broken. Most people do not know where or how their food is grown. Meanwhile, farmers alone have been shouldering the risks of the increasingly ruthless global market, which has forced millions of them from the land. CSA offers one of the most hopeful alternatives.

The design of a CSA is as varied as the farmers and communi-

ties they serve. No two are exactly alike.

First and foremost, the level of member participation in either growing or distributing the food varies tremendously from farm to farm. At one extreme are CSAs that require all sharers to do some work as part of their share. At the other are what have come to be known as "subscription" CSAs, where the farm crew does all the work and members simply receive a box or bag of produce each week.

Most CSAs range somewhere in between, with members volunteering for special work days on the farm, helping with distribution, or defraying part of their payment with "working shares".

Similarly, CSAs vary by geography, by size of the farm, by type

of project (e.g. work required or not, with a core group or not, mechanized or worked by hand/horse, weekly share delivered or picked up, etc.), and by years of operation.

Lastly, CSAs have many reasons for becoming what they are. Some CSAs present an alternative to agribusiness. Others seek to reconnect people to the land and create community, while some hope to heal the earth.



Everyone Wins: Benefits of CSA

The shareholders receive fresh, contamination-free vegetables and herbs, pay close to (and sometimes less than) supermarket prices, know where and how their food is grown, have an opportunity to partake in growing food, are provided with a structure through which they can contribute to a healthy, local economy, and become

more aware of their relation to the land, farm life, and processes that make our life possible.

The farmers are given the opportunity to make a viable income and have the pleasure of knowing who their product is going to.

The farms are preserved from development, harmful

farming practices, and are nurtured into fertile land.

The greater community benefits from having open spaces, is strengthened by the bringing together of people who are concerned about our future, and gets an economic boost when food dollars remain within the community.

Steps to Forming a CSA

1. Initiators — either farmers or a group of non-farmers — issue a call to form a CSA.
2. Hold exploratory meeting of prospective sharers and farmers. The agenda may include: What is a CSA? Why eat locally grown food? Why do small farms need support? What is the level of commitment among participants?
3. At this meeting or a subsequent meeting, come to agreement on the group's values. Does the group want to eat organic food? Local food? Does the group want racial, ethnic, and economic diversity among members? Is it important to involve children?
4. Organize a core group to: decide on farmer, growing site, and how food will be distributed; divide up member responsibilities; approve the budget; set fee policy and payment schedule; clarify expectations; set guidelines for youth participation; decide who owns any equipment purchased.
5. The core group recruits members for the first season.
6. Members make a commitment to pay in advance of receipt of food, regardless of quantity or quality due to weather conditions and to participate in CSA work (if required).
7. Establish the legal status of the CSA. Think about consumer cooperatives, proprietorships, corporations, nonprofits, and farmer-owned co-ops.
8. Determine capitalization of the farm. Options include: farmer capitalizes, members capitalize through fees, the group seeks grants, or the group seeks loans. Options for land tenure include private holding, land trust, or lease agreement.

A CSA share member speaks: *For four hours we worked. We picked broccoli, corn, beans, and greens. We hand-weeded and hoed, making a way through the clumps of earth for tiny seedlings. The sun beat down, the mosquitoes bit, the sweat ran. It was wonderful!*

During the week as I prepared meals, I noticed a different feeling, a change in perspective. I found myself preparing the vegetables in a loving manner. I planned with passion so nothing would go to waste. I began to compost. When, for the first time, I ate what I had harvested, it was both an awakening and yet, a deepening of the mystery. I clearly understood how this food was becoming a very part of me... The old liturgical declaration — fruit of the vine, work of human hands — took on new meaning. I understood that the Earth was alive and that it gave and sustained other life. I knew that the vegetables and myself were both children of it, joined in a wonderful kinship. Food would never be the same for me again.



Nurturing a Solid Core Group

For CSAs to be more than just another direct marketing scheme, the growers and the eaters need to work together to build an institution they can share. “Core group” is the name given to the grower-member council that runs a CSA.

Here are some considerations for building a strong core group:

Designate the group's power — what role will the grower have versus the member? Keep in mind that letting go of some of the responsibility

may be a challenge to many farmers.

Develop an outline of clear work responsibilities — Have a job description for every function of the core group.

Develop a decision-making process.

Keep meetings short, efficient, and fun.

In situations where the farm is located far from members, CSAs really depend on their city core groups to

handle distribution. Each core determines its own budget, oversees work shifts, recruits new members, handles fee collections, and does bookkeeping.

Remember to celebrate — many CSAs have summer and fall festivals, pot luck dinners, and other community events.

Matching Biodiversity with Social Diversity

Social justice is embedded in the movement for sustainable food systems. Many CSAs are finding creative ways to include members who have little money to spend on food. The simplest way to make sure some CSA food reaches low-income community members is to donate leftover shares to food pantries. Some food banks have even established their own farms.

CSAs will also develop a sliding scale for farm shares, accept food stamps, or set up scholarship funds. Buddy systems, where long-term members are paired with new CSA members, are helpful in retaining members over sev-

eral seasons. Similarly, CSAs are joining forces with community food security programs.

The Hartford Food System (HFS) is one of the nation's oldest and most successful food security endeavors. To help save area farmland by improving the earnings of local farmers, while increasing the supply of fresh, nutritious food for city residents, HFS rallied Hartford city agencies and community organizations to establish the Downtown Farmer's Market.

To enable low-income people to shop at these markets, HFS worked with WIC,

the Connecticut Department of Agriculture, and other agencies to develop the Connecticut Farmers Market Nutrition Program. Organic foods are being incorporated into public school lunches. Supermarkets have been established in low-income neighborhoods.

Last but not least, HFS created a 16-acre CSA in which half of fruits and vegetables cultivated went to low-income Hartford residents. HFS's ambitious plan exemplifies all that is possible with the CSA model.

Case Study: New York City's Just Food

Just Food assists community-based organizations and regional farmers to create viable, dynamic CSAs.

Just Food partners a city group with a regional farmer. During the winter and spring, the CSA farmer sells shares in her/his farm's upcoming harvest to individuals, families or institutions. The share price goes toward the cost of growing and distributing a season's worth of produce and paying the farmer a living wage.

Each week, from June through November, the CSA farmer delivers the week's share to a central neighborhood distribution site in NYC—usually a community center or house of worship. Members collect their food at their neighborhood sites. Typically, each week's share

consists of 7-10 types of vegetables, enough for a family of 2-3 people. Over the course of a season members get at least 40 different types of vegetables, usually organic, always fresh-picked and changing with the seasons.

The exact share price varies with each farm. Factors including soil quality, farm location, available equipment, labor costs and mortgage payments affect the share cost. Share prices will vary according to sliding scale arrangements worked out between the communities and farmers. CSA members must commit to the entire CSA season. Payment Options include: Food stamps, Revolving loans, Installment plans, Sliding-scale share fees, Scholarship shares, and Work shares.

*IN PEACE WITH THE LAND,
JUSTICE AMONG
OURSELVES, MARTY
STRANGE ASKS, "WOULD
WE BE COMFORTABLE WITH
A DUAL FOOD SYSTEM IN
WHICH THE RICH PAID A
PREMIUM FOR FOOD GROWN
BY AGRONOMICALLY
WHOLESOME MEANS, WHILE
THE POOR ATE CHEAP FOOD
PRODUCED BY MAKING WAR
ON THE LAND?"*

CSAnything

CSSeeds — Traditionally, farmers have selected, saved, and traded their own seeds. Yet, saving seed for an entire farm is a major undertaking. For organic and Biodynamic growers, buying seed that is not treated with chemical fungicides has been an ongoing problem. "Terminator Technology" allows industrial seed companies to sell seeds that do not reproduce. In order to take back farmers' control of seeds, Thresh-

old Farm in New York began Community Supported Seeds. Within 4 years, 21 farms were contributing over 100 varieties of vegetables, herbs, and flowers. In exchange, they received seed credits. Several hundred growers, from home gardeners to farm-scale operations participate by paying a small subscriber fee.

CSA Compost — Quail Hill Farm wanted to create a practical on-farm

composting model as a demonstration to other farmers and as a service to their community. To make member participation easy and odorless, the farm distributed 1.5 gallon biodegradable bags so that food scraps could be returned to the farm. Two local restaurants that feature the farm's produce also return scraps. 15-18,000 pounds of organic matter are returned to the farm each year.

Resources

Alternative Farming Systems Information Center: <http://afsic.nal.usda.gov>
Appropriate Technology Transfer for Rural Areas: <http://attra.ncat.org>
Biodynamic Farming and Gardening Association: <http://www.biodynamics.com>
Community Food Projects: http://www.csrees.usda.gov/nea/food/in_focus/hunger_if_competitive.html
Community Food Security Coalition: <http://www.foodsecurity.org>
Community-Supported Agriculture in Michigan: <http://www.csafarms.org>
E.F. Schumacher Society: <http://www.schumachersociety.org/>
Equity Trust: <http://www.equitytrust.org/index.html>
Garden City Harvest: <http://www.gardencityharvest.org/index.html>
Hartford Food System: <http://www.hartford.org>
Leopold Center for Sustainable Agriculture: <http://www.leopold.iastate.org>
Local Harvest: <http://www.localharvest.org>
Robyn Van En Center for CSA Resources: <http://www.csacenter.org>
Seed Savers Exchange: <http://www.seedsavers.org>
Smokey House Center: <http://vermontel.net/~shc/index.htm>
Sustainable Agriculture Research and Education Program: <http://www.sare.org>
World Hunger Year: <http://www.worldhungeryear.org>

Publications

Farms of Tomorrow Revisited: Community Supported Farms, Farm Supported Communities, T. Groh and S. McFadden (1997).

A FoodBook for a Sustainable Harvest, Elizabeth Henderson and David Stern (1994)

Sharing the Harvest: A Guide to Community-Supported Agriculture, E. Henderson and R. Van En (1999).

How to Set up a Vegetable Box Scheme. Briefing Paper. Soil Association, 2002. Full-text available online.

Taking Food from Garden-to-School

This newsletter will lay out the major concepts of garden-to-school programs as well as helpful tips for how you can start one in your neighborhood.

Benefits and Constraints of Farm-to-School *from* *ATTRA's Bring Local Food to Local Institutions*

Inside this issue:

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Selling to schools provides small-scale farmers and community gardens with dependable markets. Since consumers are essentially disconnected from their food sources, as farmers enter these new markets, consumers gain access to higher-quality, more healthful food. As a consequence, more food dollars are invested in the local community.

Local produce means fresh food from a known source. Breakfasts and lunches provided at school are often a major source of nutrition for children. Consumers who have access to local food at school may become more aware of the local food system and may be encouraged by the superior taste and quality to increase their purchase of local foods at farmers' markets, mobile mar-

kets, and other venues. This has a positive ripple effect on the community. These programs also provide opportunities for students in related educational and community-based activities, such as composting, recycling, and harvesting.

While schools a generation ago relied heavily on local products for meal planning and preparation, the majority of today's schools use food obtained through national distributors. Many schools don't even have kitchens! Most of the food is processed and prepared by food service companies, thus eliminating the need for cooking staff and kitchen facilities. Simultaneously, the huge growth of fast foods industry has affected food preferences for both children and adults. Students often reject



The farm-to-school salad bar at Malcolm X Middle School in Berkeley, CA shows that the fresh taste of local produce appeals to all ages

the introduction of fresh salads, fruit plates, and other dishes prepared from local produce.

To be successful, farm-to-school programs must have a good buying, selling, and distribution

Buying, Selling, and Distributing Produce *from* *ATTRA's Bring Local Food to Local Institutions*

Food service buyers want to make their purchases using a one-stop shopping approach that allows them to order, receive, and pay for produce in a fast and cost-effective way. Farmers want a dependable buyer who pays them a reasonable price, while not requiring them to absorb excess processing or distribution expense.

Here are several distribution methods that have worked for farm-to-school programs:

- A farmers' cooperative acts as a distributor and broker, collecting produce from individual farmers
- A nonprofit organization acts as distributor and broker, serving as liaison between farmers and

schools

- Farmers' markets serve as central locations where schools pick up farm product
- A local wholesaler acts as distributor and broker, picking up, processing, and distributing food to schools

Getting a Farm-to-School Program Started *from ATTRA's Bring Local Food to Local Institutions*

While specific steps in implementing a successful farm-to-school programs will differ from school to school, the common theme in all steps is building a trusting relationship between buyers and sellers.

These concepts can be used to get local food into any community institution — hospital, clinic, prison, college, and more

To build trust, it often helps to start small — one school, one cafeteria, or even one type of food (like a salad bar) — and then build on successes.

Often the first step involves

forming a food advisory committee. For a farm-to-school program, the committee could include farmers, school food purchasers, kitchen personnel, school board members, representatives from any coordinating organization, parents, and students. This committee begins by:

- Examining logistics and management of school meals, such as type of food served, cooking and preparation facilities, food preparation skills of kitchen personnel, amount of produce school can use, etc
- Addressing issues identified in a feasibility study
- Identifying or establishing a coordinating position/structure
- Assisting schools to identify and obtain exemptions to standard competitive bidding requirements

- Assisting farmers to diversify their produce selection and extend their growing season
- Ensuring the program maintains professionalism, accountability, and strict adherence to food safety and quality standards
- Helping integrate food appreciation into school curriculum

From here, farmers and food service directors wanting to establish a farm-to-school program can learn from the experience of established programs. The remainder of this newsletter will focus on successful farm-to-school programs

Case Study: Edible Schoolyard, Berkeley CA *from their website*

The Edible Schoolyard, in collaboration with Martin Luther King Jr. Middle School, provides urban public school students with a one-acre organic garden and a kitchen classroom. Using food systems as a unifying concept, students learn how to grow, harvest, and prepare nutritious, seasonal produce. Experiences in the garden and kitchen foster a better understanding of how the natural world sustains us, and promote the environmental and social well-being of our school communities.

This cooking and gardening program grew out of a conversation between chef and author Alice Waters and former principal Neil Smith. Planning started in 1995 and within three years, a garden was growing and the 1930s kitchen had been refurbished.

Garden classes teach the Principles of Ecology, the origin of food, and respect for all living systems. Students work together to shape and plant garden beds, amend soil, turn compost, and harvest flowers, fruits, and vegetables. The acre garden is planted with seasonal produce, herbs, vines, berries, and flowers. It also included a seed propagation table, chicken coop, tool shed, and pizza oven.

Student participation in all aspects of the Seed to Table experience occurs as they prepare beds, plant seeds and seedlings, tend crops, and harvest produce.

In the kitchen classroom, students prepare and eat delicious seasonal dishes — it is an experiential classroom that focuses on the relationship between food and life. Daily educational opportunities are designed to integrate culture, history, biology, language, ecology, and other

subject areas into the preparation of food from the garden. The kitchen program integrates students' recipes and strives to include food from their rich variety of ethnic background.

Through engaging activities, students understand the cycle of food production. Vegetable, grains, and fruits, grown in compost from last year's harvest, are elements of seasonal recipes prepared by students in the kitchen. Students and teachers sit together and eat at tables decorated with flowers from the garden, adults facilitate conversation, and clean-up is collective. They complete the Seed to Table cycle by taking vegetable scraps back to the garden at the end of each kitchen class. The Seed to Table experience exposes children to food production, ecology, and nutrition, and fosters and appreciation of meaningful work and of fresh, natural food



Case Study: The Food Trust's School Market Program *from their website*

The Food Trust is based in Philadelphia, PA. The Food Trust is responding to the contemporary epidemic of diet-related disease and malnutrition by working to increase access to affordable and nutritious food and helping people to improve their diets. Founded in 1992, the Trust's mission is to ensure that everyone has access to affordable, nutritious food.

The Food Trust provides nutrition education services to communities through seasonal farmers' markets and school markets. The Trust also helps to expand the supply of food resources available to low-income communities through advocacy, by creating model programs, and by undertaking research studies on food disparities and disseminating their findings to government officials and policy-makers.

One of The Food Trust's most innovative programs is the School Market Program.



Through the School Market Program, students create, own and operate markets in their schools, where they sell fruit and vegetable products to fellow students and teachers during the school year.

The School Market Program is a hands-on learning curriculum that teaches students to: improve their diets, develop employment and entrepreneurial skills, and educate themselves about issues that affect their health and the health of their com-

munities. In its simplest form, this school-based food market is based on a 'lemonade stand' model, where children sell fresh fruits and vegetables to their friends, teachers, parents and neighbors.

Students:

- Own and operate the market
- Make business decisions
- Learn about nutrition, agriculture, and healthy foods

In the classroom, students learn from a proven curriculum that inspires budding entrepreneurs, increases knowledge about the food system from production to consumption, teaches good nutrition, and gives practical business experience in a student-run, for-profit fresh food market.

Case Study: Agrarian Adventure, Ann Arbor MI *from their website*

The Agrarian Adventure partners with K-12 schools to enrich students' connection between the foods they eat, their personal health, and the health of their communities and the environment. Through experiential education in sustainable food and agriculture, local food, and healthy learning in the cafeteria, we connect students to the sources of their food and empower them to transform their lives and the food culture in positive ways.

Our program areas are:

Organic Schoolyard Food Production — We have been creating and sustaining a bountiful and diverse school garden, used as an educational community and school resource throughout the last four years. We have built a large, production style, passive solar greenhouse as an extension of the garden to extend schoolyard food production and grow fresh food throughout the coldest months of the year. The garden & greenhouse serve as an educational resource for students, teachers, and community members within the district.

Farm-to-School — One effective way of increasing student access to healthy foods is to connect students with local farmers by serving locally produced, fresh fruits and vegetables in the school lunch program. The Agrarian Adventure has been leading efforts locally, and networking regionally and nationally, through the creation and implementation of Farm-to-School efforts in public schools.



Curricular Integration & Teacher Partnerships — We provide essential resources to make the food system and health a part of the academic curriculum and school day throughout the school year. We help integrate experiential and agricultural lessons into the curriculum by working with interested teachers, focusing on specific lessons, units of study, or classes to supplement and enhance core learning objectives. Over the years, these partnerships have impacted the school and classes at Tappan Middle School in Ann Arbor throughout all of the disciplines including Language Arts, Social Studies, Science, and Math, and electives such as foreign language, physical education, health, and music.

After-School Enrichment — We continue to develop and support a vibrant after-school enrichment program focused on developing middle school student skills

in food preparation, gardening, and leadership. This program meets weekly throughout the school year and students form the core student leadership of the school garden.

Educational Events & Community Outreach — We develop, sponsor, and participate in collaborative educational food-related events for students and the local community to cultivate school and community interaction, authentic learning opportunities for youth, and generate awareness and support for local initiatives to improve the school learning environment. We organize these food-related educational events alongside youth and use them as a vehicle to welcome and include community participation in our public schools. In the past, this has included: hosting renowned chef and food activist Alice Waters for a community presentation; sponsoring two annual school garden harvest dinners in which students cultivated, harvested, prepared, and served a family-style dinner to over 120 community and school members featuring school-grown and local foods; and two spring festivals which engaged students in creating and hosting a community event which had over 25 local organizational and business sponsors.



RESOURCES



National Sustainable Agriculture Information Service (ATTRA): www.attra.ncat.org

Edible Schoolyard: www.edibleschoolyard.org

Community Food Security Coalition: www.foodsecurity.org (LOTS of resources, including case studies and funding sources)

The Food Trust: www.thefoodtrust.org (check out info on their School Market Program)

Agrarian Adventure: www.agrarianadventure.org

Food Circles Networking Program: <http://foodcircles.missouri.edu>

National Farm-to-School Program: www.farmentoschool.org

Cooking with Kids: www.cookingwithkids.com

Michigan's Farm-to-School Programs *from National Farm-to-School website*

A 2004 Michigan farm-to-school survey showed that 73% of Michigan school food service directors that responded were interested in purchasing food directly from local producers; this interest increased to 83% (or nearly 300 food service directors) if local food products were available through their current vendors (Izumi et al., 2006). Over 10% (nearly 40) of the food service directors reported that they had already purchased foods from a local farmer.

Schools and school districts, farmers, food service professionals and providers, and distributors are working together in several areas of the state to overcome the challenges of farm to school and improve the distribution of local products and availability of seasonal produce for school meals programs. State government agencies, agricultural commodity groups, and community organizations such as the [Michigan Land Use Institute](#) and the [Food System Economic Partnership](#) are supporting their efforts, and state legislators have begun showing interest as well. The [C.S. Mott Group for Sustainable Food Systems at Michigan State University](#) is developing tools to help support farm to school initiatives and

working to link farm to school initiatives throughout the state in order to improve communication, build policy support, share resources, and learn from each other.

Current farm-to-school programs in Michigan include:

- **Brighton Area Schools:** Brighton schools have purchased fresh fruits and vegetables from local farmers since 2006. Schools also run gardens on school sites, waste management and recycling programs, and in-class education sessions in the 9 area schools
- **Elk Rapids Schools:** Elk Rapids Schools have purchased fresh fruits and vegetables directly from local farmers since 2005. The produce is served in all 4 schools of the district.
- **Grand Rapids Public Schools:** The Michigan Integrated Food & Farming Systems Food Secure Futures Project has co-sponsored a summer garden and school project with Grand Rapids Public Schools and will be pursuing an expanded effort through a W.K. Kellogg grant.
- **Mixed Greens — A Children's Vegetable Project:** The mission of Mixed Greens: A Children's Vegetable Project is to teach the children of the Grand Rapids area the value of health and Michigan agriculture through the growing, preparing and sharing of food using school gardens and kitchen classrooms.
- **The Food Systems Economic Partnership:** FSEP is a non-profit collaboration of urban and rural community and business leaders that exists to catalyze change in the food system of a five county region of Southeastern Michigan. FSEP is coordinating a pilot farm to school project in three school systems, a large, contracted school district, a small, self-operated school district and an urban charter school.
- **Traverse City Public Schools:** The Broccoli, Books, and Bread Project is a partnership between the Michigan Land Use Institute and the Traverse City Area Public Schools. The project goals are to improve child nutrition and eating habits while developing a new market for local farms.

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- Hope, A. & Timmel, S. (1999). *Training for Transformation: A handbook for community workers*. London, UK: ITDG Publishing.
- Mollison, B. (1991). *Introduction to Permaculture*. Harare, Zimbabwe: Fambidzanai Training Centre.
- Recording and Using Indigenous Knowledge: A manual* (1996). Silang, Cavite, Philippines: International Institute of Rural Reconstruction.
- Sustainable Agriculture Extension Manual for Eastern and Southern Africa* (1998). Nairobi, Kenya: International Institute of Rural Reconstruction.

Additional Resources

Additional Reading

Berry, Wendell – The Unsettling of America: Culture and Agriculture; What are People for?; The Art of the Commonplace: Agrarian Essays by Wendell Berry; The Way of Ignorance: And other Essays; The Collected Poems of Wendell Berry; A Place on Earth: A Novel; Given: Poems;

Diamond, Jared – Collapse: How Societies Choose to Fail or Succeed; Guns, Germs, and Steel: The Fate of Human Societies

Pollan, Michael -- The Omnivore's Dilemma; The Botany of Desire; A Place of My Own

Shiva, Vandana – The Violence of the Green Revolution: Third World Agriculture, Ecology, and Politics; Earth Democracy: Justice, Sustainability, and Peace; India Divided: Democracy and Diversity Under Attack; Water Wars: Privatization, Pollution, and Profit; Stolen Harvest; Bioprivacy: The Plunder of Nature and Knowledge;

Additional Internet Websites

Food First: www.foodfirst.org

Michael Pollan: www.michaelpollan.com

Navdanya: www.navdanya.org

Food Routes: www.foodroutes.org

Local Resources

Gardenworks Organic Produce and Sprouts: <http://www.localharvest.org/farms/M5602>

Tantre Farm: <http://www.localharvest.org/farms/M5684>

Frog Holler Farm: <http://www.froghollerorganic.com/index.htm>

Community Farm of Ann Arbor: <http://www.communityfarmofaa.org>

Growing Hope: <http://www.growinghope.net/>

Project Grow: <http://www.projectgrowgardens.org/index.htm>

Washtenaw Community College Organic Gardener Certificate: <http://www.wccnet.edu/>

Slow Food of Huron Valley: <http://slowfoodhuronvalley.com/sfhv.php>

Food Gatherers: www.foodgatherers.org

Detroit Agriculture Network: www.detroitagriculture.org

Detroit Garden Resource Program: <http://www.geocities.com/detroitag/>

Detroit Summer: <http://detroitsummer.blogspot.com/>

Earth Works Gardens: <http://www.earth-works.org/>

The Greening of Detroit: <http://www.greeningofdetroit.com/>

Sustainable Detroit: <http://www.sustainabledetroit.org/home/index.php>