The GreenThumb Gardener’s Handbook
GreenThumb Info

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Letter From the Director

Dear Gardeners and Garden Supporters,

I am pleased to welcome you to the 2015 edition of the GreenThumb Gardener’s Handbook. GreenThumb is the largest community gardening program in the country, and a model for community gardening organizations worldwide. We are grateful to have you as valuable partners as we continue to expand sustainable public green space, enhance community involvement and enable residents citywide to invest in real improvements to their communities.

The history of GreenThumb gardens reflects the once abandoned lots, reclaimed by community residents who refused to be mired in urban blight. Today, these gardens continue to be managed by neighborhood residents and provide communal meeting places, improving quality of life for so many New Yorkers. Gardens improve air quality, increase bio-diversity, beautify communities and enhance neighborhood well-being. Gardens also offer public programming such as educational workshops for all ages, health fairs, art exhibitions, block parties and a host of other activities that enhance and reflect the culture of the surrounding community. GreenThumb aims to help communities work together towards a safer, healthier, cleaner and more harmonious environment.

The most important piece of this puzzle, the gear that makes the whole machine function, is you—the thousands of volunteer gardeners who invest their sweat, elbow grease, time, money, heart and brainpower. Without you, there would be no GreenThumb gardens, and all of our communities would be poorer as a result. For nearly the last four decades, community gardens have grown from temporary and often unrecognized community beautification projects to stable, vital community resources. This is largely the result of everyone who tirelessly advocated for and protected the gardens politically, to the thousands of community gardeners who continue to use these community spaces, investing hour after hour, day after day, to produce benefits in their communities.

We hope that this book is helpful to seasoned and new gardeners alike, providing useful guidance for the management of community gardens as we move into a brighter future. Whether you garden on city property, at a school or on private property, the basics of good community garden management are the same. We hope this handbook will assist you to become even better stewards of our vital community garden resources.

I am personally grateful to you for your commitment to your garden and community, and I know that my staff and colleagues feel the same. You are some of the most determined, dedicated, and hardworking folks in our city. On behalf of the entire staff of GreenThumb, thank you for being the Community in our Community gardens.

Sincerely,

Nancy Kohn
Executive Director, GreenThumb
Glossary of Terms and Definitions

GreenThumb is a program under the New York City Department of Parks and Recreation. Here are some terms and definitions to help you navigate this Handbook.

**Block/Lot Number** — The block number (1 to 5 digits) indicates the precise city block upon which a garden site is located; the lot number (1 to 3 digits) indicates the lot within the block. These numbers are essential to know as they are unique to every piece of property in the city and never change, even if the garden site’s name, ownership, or membership changes.

**Community Board (CB)** — A local representative body selected by the Borough President and City Council Members. Zoning changes, building permits and other land-use issues must come before the CB for review.

**Contact People** — A garden’s main point people for GreenThumb. GreenThumb asks every garden to provide us with a Primary and Secondary Contact that will serve as liaisons. Both Contacts must provide current phone numbers, mailing address and email address, which may be shared with the public for membership inquiries.

**Department of Education (DOE) Garden** — A garden existing on Department of Education property, which may also register with GreenThumb as part of the Grow to Learn Initiative.

**Department of Environmental Protection (DEP)** — The Department of Environmental Protection delivers drinking water to all New York City residents and plays an important role in providing community gardens with seasonal access to fire hydrants for watering purposes.

**Department of Transportation (DOT) Garden** — A garden existing on city or state Department of Transportation property; many of these are registered GT gardens as well, but remain under DOT jurisdiction. City DOT gardens are licensed by DOT. State DOT gardens are not licensed at this time.

**Department of Parks & Recreation (DPR) Garden** — A garden existing on property under the jurisdiction of Department of Parks & Recreation.

**Department of Sanitation (DSNY or DOS)** — NYC’s waste collection and disposal unit helps keep sidewalks outside of gardens clean. DSNY also assists with major cleanups for garden sites in need coordinated through GreenThumb.

**Fiscal Sponsor** — A 501(c)(3), non-profit, tax-exempt organization that acts as a sponsor by receiving grants or funds for a project or group that does not have its own tax exempt status. GreenThumb is sometimes able to be a fiscal sponsor on behalf of a community garden group or greening partners.

**Greening Partner Organization** — GreenThumb works with many different groups to provide events, workshops, materials (including this handbook) and other support for community gardens. A list of some of our partners is in the back of this guide and can be found on our website.

**GreenThumb (GT)** — New York City’s community gardening program, which provides materials, technical assistance, educational workshops, and organizational and event support for public gardens throughout the five boroughs.

**GreenThumb (GT) Community Garden** — Gardens registered with GreenThumb, open to the public for visitation and participation in activities and garden membership. In order to receive supplies and services from GreenThumb, a garden must be registered and in compliance with GT license requirements. GreenThumb is not responsible for maintaining garden sites; this is the responsibility of the garden members.

**GreenThumb/LRP Compound** — Location of seasonal supply giveaways and base of operations for the Land Restoration Project.

**GreenThumb GrowTogether (GTGT)** — GreenThumb’s annual spring conference that kicks off the growing season and brings together over 1,400 GreenThumb gardeners and greening partners for special workshops, guest speakers and networking.
Harvest Fair — Annual autumn event celebrating the bounty of NYC community gardens. It includes music, harvest contests, food, children's activities, garden tours and more.

Housing Preservation and Development (HPD) — The city agency that supports the repair, rehabilitation, and construction of housing units throughout the city. Gardens on property under HPD jurisdiction may be used for development of housing following a garden review process.

Land Restoration Project (LRP) — A division of GT that works on restoring city property with most of its focus being directed at GT gardens. LRP typically takes on large-scale projects, such as compost, clean-fill and soil delivery; unauthorized garden structure removal; fence construction/repair; tree-planting and pruning; pathway construction and repair; and snow removal.

License — A signed agreement between the gardeners and the city agency under whose jurisdiction the garden falls, most commonly DPR or HPD. The license outlines the terms of use and rules and regulations for the garden.

New York Restoration Project (NYRP) Garden — A nonprofit organization that partners with individuals, community-based groups and public agencies to reclaim, restore and develop under-resourced parks, community gardens and other open spaces in New York City. NYRP gardens are owned, restored, developed, and maintained via funding from the organization, but may also register with GT if they meet the requirements.

OASIS — Open Accessible Space Information System for NYC provides an online database of all registered NYC gardens with maps, historical information, and neighborhood names and jurisdiction for each garden. (http://www.oasisnyc.net/garden/gardensearch.aspx)

Open Hours — Gardens must be open a minimum of 20 hours per week from April 1st through October 31st. Ten hours a week must be posted on the garden gate.

Operations Coordinator (OC) — GT’s point person responsible for receipt, storage, and distribution of all physical resources (supplies, tools, goods etc.) to registered GT gardens. Responsibilities also include managing garden work-order requests and ensuring they are carried out in an appropriate and timely manner.

Outreach Coordinator — GreenThumb’s field staff responsible for visiting all DPR gardens at least once each year for site inspections. OCs are also responsible for facilitating workshops, staffing events and generally assisting gardeners by delivering services or making referrals.

Parks Enforcement Patrol — Parks Enforcement Patrol (PEP) is responsible for protecting NYC parkland and ensuring safety for people who use it. They may be contacted regarding violations or offenses that occur at DPR gardens and parks.

PlaNYC — Former Mayor Bloomberg’s proposal aimed to increase the city’s green space sustainability by setting specific standards to be reached by 2030. Standards include “ensuring that every New Yorker lives within a 10-minute walk of a park or green space,” “achieving the cleanest air of any big city in America,” and “reducing greenhouse gas emissions by 30%.”

Program Guide — Quarterly guides produced and distributed by GreenThumb that include information about upcoming GT and partner events, workshops, supply giveaways, gardening news and other gardener services.

Tax-exempt Non-profit or 501(c)(3) — A legally constituted organization registered with the State of New York, whose primary objective is to support or actively engage in activities of public or private interest without any commercial or monetary profit purposes.

The Trust for Public Land (TPL) — An organization that owns over 60 gardens throughout the city. It is organized into two borough Land Trusts, Manhattan/Bronx and Brooklyn/Queens. They provide their gardens with technical support and organizing assistance, such as environmental education and programming. Many TPL gardens are also registered with GreenThumb.
Garden Regulations
Registration and License Requirements

By following these guidelines, garden groups may register as a GreenThumb Garden to become eligible for supplies and technical assistance from GreenThumb. DPR and other city owned properties must satisfy the following guidelines in order to obtain a license to operate a garden.

All GreenThumb garden groups must:

Post Correct Signage — All GT gardens must post a GT sign with information about the program and contact information. DPR gardens must post a Parks routed sign that has the garden’s name and a Parks leaf to indicate jurisdiction. (See page 12 for more information on signage).

Post and Maintain Open Hours — By definition, all community gardens must be open to the public. A minimum of 10 hours that the garden will be open must be clearly posted on the garden’s gate. Gardens must be open at the posted times. Though we encourage gardeners to keep gardens open as much as possible, we require that they be open at least 20 hours per week from April 1st through October 31st. If you are unable to make your own sign, we are happy to make a sign for you. Go to greenthumbnyc.org/signs.html and click on “Sign Request Form.”

Maintain an Active Garden Membership — All GreenThumb gardens must have at least ten active members. A complete list of garden members, including mailing addresses and phone numbers, must be given to GreenThumb at the time of garden registration and updated regularly. Keeping this list up-to-date and accurate ensures that all gardeners receive pertinent information from GreenThumb, such as program guides and event announcements. Updates to the garden membership list can be sent to GreenThumb by mail or email or called into the office between 9:00 AM and 5:00 PM, Monday through Friday.

Maintain a Safe and Attractive Garden Space — Be creative! Your garden is a reflection of your community, and we hope that you’ll have fun with garden design and layout. However, we do ask that you follow a few simple guidelines:

• Keep all fences, raised beds, tables, benches, chairs and other items clean and well maintained.

• Keep all tools tidy, in secure storage areas such as sheds or locked toolboxes.

• Keep sidewalks, walkways and curbs inside and adjacent to the garden clean and free of snow, ice, garbage and plant debris.

• Remove all trash and debris from your garden in a prompt manner. Remember, it’s easier to get rid of garbage than the rats it will attract!

• Keep all sources of water (barrels, rainwater harvesting systems, etc.) covered. Standing water attracts mosquitoes.

• Ensure that all structures (gazebos, casitas, sheds, etc.) built inside a community garden are in compliance with the Department of Building’s guidelines. For more information on these guidelines, refer to the “Structures” section or the GreenThumb Gardenhaus Guidebook, which is available on our website under the “Resources” section.

Host Public Events — All gardens must host at least one public event per year. Report your event(s) to GreenThumb. We like to know what’s going on throughout the gardens. We also post your event(s) on GreenThumb’s website and Parks Calendar. Sometimes we are able to include garden events in our quarterly program guide (see the Events section for more information and services that GT can provide).

Keep your Garden Locked at Night and Provide GreenThumb with a Key — If you decide to change the lock on your garden, please send GreenThumb a new key. GreenThumb needs to be able to get inside your garden in the event of an emergency, or for deliveries and inspections. For DPR and HPD gardens, GT reserves the right to cut locks if necessary.
Complete a New Registration Packet Every Four Years — GreenThumb requires all garden groups to complete a new registration packet every four years. We send out mailings to remind gardeners when it’s time for registration. If your garden group missed the last registration, contact GreenThumb immediately.

Have Contact Persons Sign a License — Gardens located on DPR or HPD property must have a license in order to operate. City DOT also requires gardens to be licensed. Privately owned gardens and gardens on DOE property do not require licenses; however, written permission is required from the owner to use the lot. This permission letter should include a detailed outline setting the parameters of use agreed upon between the group and property owner.
Role of Garden Contacts

Because there are so many gardeners (currently more than 20,000), GreenThumb asks each garden to select two people to serve as contacts for the garden (one as primary contact and one as secondary contact). A contact person’s responsibilities are different from, but related to the governance and leadership structure of a garden. Contacts do not necessarily hold decision-making power, nor are they the president, but simply may act as a liaison between GT and the garden group. For example, if GreenThumb needs to contact your garden group for any reason, we will call the contact people first. It will then be up to those contact people to pass information along to the rest of the garden group.

Because serving as a contact person requires extra work, we recommend that members of a garden group share this responsibility. We suggest that members rotate the responsibility on a regular basis (such as every year). We recommend this process be done at a garden group meeting. When contacts change, be sure to have both the previous contact people and the new contact people speak with someone at GreenThumb. We need to keep our contact information as accurate and up-to-date as possible.

We also ask that both garden contacts reside in New York City and that at least one resides in the community board where that garden is located. The process for electing contact people should be outlined in your garden bylaws (see page 21 for more information on bylaws).

So, what does a contact person do? A contact person is responsible for the following things:

**Fill out required paperwork** — This can vary based on what kind of garden you have, but a contact person may need to sign a license agreement and/or fill out a registration packet.

**Send a membership list to GreenThumb** — A contact person should ensure that GreenThumb has an up-to-date list of garden members, complete with addresses and telephone numbers.

**Bring new members into the garden group** — If someone is interested in joining a garden, GreenThumb will direct that person to the garden’s contact people. A contact person should be able to explain the garden’s membership procedure. Contact people are also responsible for welcoming new members into the garden, orienting them to garden rules and meetings, and providing them with bylaws and procedures.

**Ensure that someone from your garden is attending GreenThumb workshops** — GT hosts educational workshops and events every month of the year! We hope that someone from your garden is attending these events, especially since they are the access point for supplies. Knowledgeable gardeners equipped with proper tools make for a solid gardening group. When a member attends a workshop, the garden becomes eligible to receive tools or supplies being distributed at that workshop. Each year, GreenThumb gives away many different supplies, including seeds, compost bins, shovels, sheds—even greenhouses and rainwater harvesting systems! Don’t miss out! Take your turn and represent your garden at a workshop. Many gardens post GT program guides on their welcome boards along with flyers and other information.

**SERIOUS VIOLATIONS & CONSEQUENCES**

Primary contacts as well as regular garden members who are accused of serious violations including but not limited to vandalism, theft, verbal or physical abuse or trespassing will be investigated. Upon review, if found responsible GreenThumb reserves the right to remove garden members for such offenses.
Basic Resources

SIGNAGE
The following types of signs are available from GreenThumb:

• **GreenThumb sign** — A thin green sign with name and description of GreenThumb program.

• **Routed Parks sign** — A thick green sign with garden’s name and a Parks leaf engraved into it.

• **Open hours sign** — 8” x 11” laminated sheet with garden’s weekly schedule of open hours. Made on request.

Routed Parks signs and GreenThumb signs must be posted at DPR and HPD sites. Open hour signs are required at all participating sites. Please remember to contact our office if your signs are damaged or missing.

If your garden needs specialized signs not listed above, such as “Curb Your Dog,” or “No Dumping,” please use the sign request form. We also make customized laminated signs. To request a sign, visit our website (www.greenthumbnyc.org/signs.html) and click on “Sign Request Form.” Then mail or fax us the form. You can also call GreenThumb.

SUPPLIES
GreenThumb gardens are eligible to receive many different gardening supplies and resources throughout the year, but to receive them someone from the garden must attend the GreenThumb workshop for a particular supply giveaway.

There are generally two larger, seasonal supply giveaways each year, one in the winter and one in the spring/summer. Gardens must be registered and without violations to pick up supplies. All supplies are available on a first come, first served basis and while they last.

Workshops and the associated supplies are listed in the quarterly GreenThumb Program Guide. The guide is mailed or emailed to every gardener and is available on our website. Additionally, all GreenThumb workshops are listed on our website events calendar (www.greenthumbnyc.org/gardenevents.html).

Here is a sampling of supplies we have given out in the past:

**Seasonal Supply Giveaways** — Summer: Garbage bags, garbage cans, garden forks, shovels, hoes, rakes, hoses, wheelbarrows; Winter: Icebreakers, garbage bags, gloves, calcium chloride, snow shovels.

**Seasonal Workshops** — Season extension supplies and books, plant starts, garden journals, Just Food’s farmers market guide (DIY series), brick-laying hand tools.

**Soil/Compost/Cleanfill** — There are multiple workshops each year pertaining to soil health or composting where garden groups can request loads of soil to be delivered. If the workshop takes place in fall, the delivery will happen in the spring.

**HYDRANT ACCESS**
Each spring, GreenThumb mails out a letter to garden contacts with instructions on obtaining a hydrant use permit, and a list of DEP offices that will issue you a permit. Once you have a permit, contact GreenThumb to have your hydrant uncapped. Send a copy of the permit to GreenThumb and keep a laminated copy at the garden. This process can take time, especially as the season progresses, so we recommend doing this as soon as possible. Permits must be obtained each year.

Also, it is a good idea to introduce yourself to the local fire department workers in your neighborhood. Explain to them that you will be accessing the hydrant to water a GT community garden. Let them know when you will begin to access the water (in the spring) and let them know when you plan to be finished for the season (in the fall). If the fire department does not know why the hydrant has
been uncapped, they may re-cap it before you are finished using it. Sometimes the local fire department workers can also open the hydrant for you in a timelier manner than the DEP.

If you need watering supplies such as hydrant wrenches and adapters, hoses and hose splitters, or watering wands, please look in the spring program guide to see which workshop will distribute these supplies.

GreenThumb generally hosts educational workshops in the spring related to water use and conservation. Some gardens may be eligible to receive a rainwater harvesting system from GreenThumb. If you’re interested in learning more about rainwater harvesting, you can visit NYC’s Water Resources Group web-site (http://waterresourcesgroup.blogspot.com).

PORTABLE TOILETS
As a GreenThumb garden, you are eligible to rent a portable toilet through GreenThumb at a discounted rate. The garden group pays a monthly rental fee directly to GreenThumb. Delivery, pickup and maintenance are provided by the portable toilet company. If you’d like to have a portable toilet delivered to your garden, call GreenThumb to make the arrangements. Be prepared with an up-to-date membership list and events calendar.

PRUNING & TREE REMOVAL
Pruning is important for tree health; however, it must be done correctly. If you want to prune the trees yourself, we ask that you take a citizens pruning course (see Pruning in the Horticulture section of this book for more information). There are only four situations in which a tree under the jurisdiction of Parks & Recreation may be removed: (1) If the tree is dead; (2) If the tree is irreversibly diseased; (3) If the tree presents a hazard; or (4) If there is an unavoidable conflict between the tree and a construction project. In all cases, approval from GreenThumb and DPR is required before any work is done regarding the tree’s removal (anything beyond routine pruning). In these instances, please call our main office. For full tree removal protocol see page 62.

DEBRIS
If there is debris in your garden that is compostable (leaves, branches, plants), then compost it! If you don’t have enough room to compost all of the debris in your garden, call GreenThumb, and we can put you in touch with other gardens that have larger composting facilities. DPR will also pick up properly bundled branches if a request is made to 311. DSNY does not pick up woody debris.

If the debris cannot be composted (garbage, bricks, metal, etc.), you’ll need to make arrangements with GT to have it picked up. If you’re planning a garden cleanup day, contact GreenThumb at least three weeks before the event takes place to make arrangements. Depending on the time of
year, GreenThumb can sometimes pick up the debris; otherwise we will contact DSNY to arrange a pickup. Please have everything sorted and bagged in heavy, black plastic bags and placed at the curb before the scheduled pickup time.

If someone else dumps debris in your garden, call 311 immediately to report it and ask for it to be picked up. If this does not work, contact Green Thumb. We can advocate for you with the DSNY.

It can also be helpful to make a personal connection with the Sanitation workers in your neighborhood. Find out who picks up debris in your neighborhood, then introduce yourself to that person and explain how the GreenThumb gardening program works. Invite the Sanitation workers to come and visit your garden. Remember that reaching out to the community not only helps to strengthen the community, but it helps to ensure the continued success of your garden.

**DUMPSTERS**

Garden groups that need ongoing curbside pickup of their waste should contact the Department of Sanitation. Requests for collection services should be sent in writing via fax to 212.788.3915 or by mail to:

NYC Department of Sanitation
Attention: New Service
125 Worth Street, Room 700
New York, NY 10013

The service request should include the following information:

1. Full address of the premises, including block and lot numbers
2. Name and daytime phone number of a contact person
3. A letter from GT stating the current registration status of the garden with a copy of the license

The applicant will be notified of the scheduled start date of services and the days of collection approximately two weeks after the Collection Office receives the request with all the required documents. For additional information, please contact the Collection Office at 646.885.4830. For more information on the Department of Sanitation, please refer to their website (www.nyc.gov/sanitation). Garden groups that require a dumpster for a one-time cleanup should contact the GreenThumb office.

Another possibility is to fundraise and contract dumpster services from a private company. For example, you can call 1.800.433.8677 for Dumpster Rentals at Dumpster Direct or visit their website: http://www.dumpsterdirect.com.

**EVENTS**

GreenThumb Gardens are required to hold at least one public event each season, though most hold many more than that. Events are a fun way to involve the community, get to know your neighbors and increase membership.

Past events from community gardens around the city have included:

- Art Shows
- Movie Nights
- Live Music
- Coat Drives
- Children’s Halloween Celebrations
- Play Streets
- Poetry Readings
- Farmers Markets
- Harvest Festivals

We can post announcements of garden events on GreenThumb’s website. Mail or email your announcement to us, and we’ll post it as long as we receive it at least three weeks in advance. You can also make flyers for distribution in your neighborhood, post an announcement on your garden gate, and make announcements at local churches and community group meetings. Ask if you can post flyers at local cafes, laundromats, and bodegas.

If you need help making flyers, contact GreenThumb. To have us print a flyer for you, go to our website (greenthumbnyc.org/events.html) and click on “Events Listing Form.” Send us the form
by postal mail or fax at least three weeks in advance, or to greenthumbinfo@parks.nyc.gov by email. If you don’t have internet access, please call us. We are also able to mail limited amounts (10) of flyers for you. If there's a school in your neighborhood, you may also want to approach the school to see if students are interested in becoming involved with your garden.

Some gardens have created email groups, websites and even Facebook pages as a way to do outreach and keep the neighborhood and gardening group up-to-date on garden happenings. If your garden creates a website, be sure to email GreenThumb so that we can add to our website’s list!

After you’ve had your event, send us pictures! We can post them on the website or include them in the quarterly Program Guide.

PERMITS
Notify GreenThumb and your local police precinct if you plan to have an event. It is also a good idea to introduce yourself and the garden group to Community Affairs Officers. GreenThumb community gardens are not required to have the standard Parks permits for events, but if there will be amplified sound, a sound permit is still required from your local police precinct. GreenThumb can issue a letter that you can take to your local precinct to obtain a sound permit if needed.

If you need street closure, contact your local community board to get permission. Be sure to contact the community board far in advance of the event. Community boards do not meet over summer and issue all their street closure permits in the spring, regardless of when the event will take place. Listings of community boards can be found at online (http://www.nyc.gov/html/cau/html/cb/directory.shtml).

HOSTING WORKSHOPS
If your group is particularly interested in having a GreenThumb workshop take place at your garden, or if you have a great idea for a new workshop, call our office or email us!
Citywide Policies

GARDEN STRUCTURES
All structures in gardens, including casitas, sheds, and gazebos must meet the guidelines established by the Department of Buildings and must have prior approval from GreenThumb. See the GreenThumb Gardenhaus Guidebook, available on our website, for more information.

Guidelines for Creating Parks Department Approved Structures:
1. All structures built in Parks Department community gardens must meet guidelines as issued by the Department of Buildings.

   DOB guidelines specify:

   Regardless of Zoning District, sheds, greenhouses or gazebos constructed by the Parks Department, or other authorized agent, on city-owned land used as “vest pocket” gardens may be treated similar to accessory buildings for open parking lots as outlined in NYCBC S.27-297 (d). Such structures may be constructed with combustible material and work permits shall not be required if such structures are:

   • not more than one story
   • not more than 10 feet in height
   • not more than 150 square feet in area
   • at least six feet from the lot line
   • non-occupiable spaces only, such as storage if the structure is enclosed; and occupiable spaces for resting with seating if the structure is open on all sides (similar to bench seating in gazebos)

   Guidelines issued by Technical Affairs and Borough Commissioners on 2/4/2006

2. Gardens with structures out of compliance with the above guidelines must obtain building permits from the Department of Buildings or modify their structures as necessary to meet the above guidelines. Structures out of compliance with the above may also be replaced with an authorized shed or gazebo kit provided by GreenThumb, where feasible.

3. In order to request a shed or gazebo kit, gardens must be registered and in good standing with GreenThumb and have made arrangements through GreenThumb to have any existing non-compliant structures removed. GreenThumb maintains a list of requests and fulfills them as our budget allows. We have been able to purchase an average of 10-12 sheds per fiscal year.

ENCROACHMENT
When Contractors Move In: A Strategy for Dealing with Encroachment

Can I give permission to a Contractor or a building owner to use the Garden?

• No. They must contact GreenThumb office
• Get all the information for the contractor/developer and contact GT as well
• Take pictures of the garden prior to any potential activity and use them to document any damage

What should I do if a Contractor is dumping substances in my Garden and destroying the property?

• Obtain contractor contact information and Department of Buildings work permit numbers
• Obtain a complete inventory of damaged or destroyed property
• Take pictures to document if anything gets destroyed including: structure beds, bed contents, trees, shrubs, perennial plants, furniture or grills
Videotape or take pictures of the Contractor or Building Owner in action if at all possible. Contractors who damage gardens will be required to:

- Clean up and remove all fallen debris
- Immediately remove all construction materials from the garden
- Refill any excavation with clean fill
- Replant all damaged plant material

Contractors must ensure safety throughout the entire building process. They must not erect any scaffolding without a DPR-issued permit under any circumstances.

Contractors who fail to adhere to any of these policies will be fined by the City. Gardeners should not attempt to correct any damage caused by a contractor without contacting GT for advice and documenting the damage first.

Any accidents in or damage to a DPR garden requires filing of an incident report with GT. Contact our office to receive additional copies of the incident report.

In some cases, Parks may allow a contractor working on an adjacent property to do work that impacts a garden. These permit agreements will be made on a case-by-case basis and require approval from the GreenThumb Director, the Parks Borough Chief and Parks Permit Office, as well as the garden group. Under no circumstances should a contractor be allowed to enter a Parks community garden before obtaining a DPR permit. Garden groups who allow this may risk being held legally liable for any damage or injuries that occur.

ANIMALS IN GARDENS

Animals can be kept in the garden only in compliance with the New York City Department of Health and Mental Hygiene (DOHMH) and the NYC Department of Parks & Recreation regulations. Any violation of the city rules will result in a GreenThumb violation and possibly a fine.

The Rules of the City of New York (http://24.97.137.100/nyc/rcny/entered.htm) outline most of these rules in the following sections:

- Title 24: Title IV: Environmental Sanitation: Article 161 - Animals
- Title 24: Title II: Control of Disease: Article 11 - Reportable Diseases and Conditions
- Title 56: Section 1-04: Prohibited Uses

FAQS

Can I bring my dog to the garden?

Only properly licensed dogs who have been vaccinated for rabies may enter parks. They must wear collars with valid license tags, and be on a leash that is 6 feet long or less when in public places. Dogs must be under the control of their owner. It is a GreenThumb violation and illegal to leave a dog unattended in a garden or park. Dog waste must be cleaned up and disposed of promptly and properly. Individual gardens may prohibit dogs (other than service dogs) at their discretion.

Can I leave food for stray animals in the garden?

No. It is a GreenThumb violation to feed any wild/stray animal (except birds) in a park. Feeding birds can also draw rats, so it is recommended to keep bird feeding areas tidy and limited. Please recognize that it is a sanitation issue to have cats in the garden. When cats defecate in and around vegetable beds it creates a health hazard. Gardens may prohibit feeding and/or housing of feral cats at their discretion.

Can I keep chickens in my garden?

Yes, but only hens in proper living conditions, including a coop and secure run. There is no limit to how many hens you can keep; however, too many hens is likely to create “nuisance conditions,” which are illegal. It is a GreenThumb violation and not legal to keep roosters.

For more information on keeping hens in NYC, please consult the Just Food Chicken Guide
Roosters are not allowed in community gardens under any circumstances. If you do have a rooster in your garden you must relocate it, if you are unable to do so on your own you must notify GreenThumb and we will work with the Department of Health to have the rooster removed.

**Am I responsible for cleaning the area where I keep my hens?**
Yes. You must clean up after your hens regularly. It is illegal to allow your hens, or any other legal animals, to create any “nuisance conditions.” These include excessive noise, foul odors, or any other condition that constitutes a health or safety hazard. Consult the Just Food Chicken Guide (http://www.justfood.org/city-farms/city-chickens).

**Can I keep turkeys, ducks, or geese in my garden?**
No—turkeys, pigeons, ducks, geese and other fowl are illegal animals in NYC, due to the fact that they are migratory animals and can potentially spread disease (such as the West Nile virus).

**Can I keep bees in my garden?**
Yes, it is now legal to keep bees in New York City. You must register your hives and manage them responsibly. For more information, contact Just Food (www.justfood.org), or the NYC Beekeeping Group (www.nycbeekeeping.org), which offers free classes.

**Can I keep turtles in my garden?**
All snapping turtles are prohibited. It is illegal to buy or sell any turtle that is 4 inches or shorter due to risk of salmonella infection. Any turtles kept in the garden may not create “nuisance conditions.”

**Can I keep rabbits or parrots in my garden?**
Rabbits and parrots are legal as pets in NYC. They are allowed in gardens as long as they are confined and do not cause “nuisance conditions.”

**Fines for illegal animals:**
If the Department of Health and Mental Hygiene receives a complaint, a DOHMH inspector will come to assess the property. Roosters and other illegal animals will be taken from you and you will be fined. Fines for illegal animals are between $200 and $2,000; these fines increase with repeat violations.

**STRAY AND FERAL CATS IN COMMUNITY GARDENS IN NYC**
An unsterilized female cat can get pregnant at 5 months old, have up to three litters in one year with as many as six kittens per litter — that’s as many as 18 kittens a year from just one female cat! The sterilization of cats will help lessen occurrences such as fighting, mating, and males spraying foul-smelling urine. This pursuit requires a group effort by individuals, community garden groups, programs and agencies. Together we can work to humanely reduce and manage the outdoor cat population.

**What can I do if there are cats in my community garden?**

- **Locate a cat caretaker in your community**—Ask your friends and neighbors, and look for a person who is taking care of cats by putting out shelters and feeding. There may be a person near your garden who can help you to trap, sterilize, and manage cats in your garden.

- **Contact** one of these organizations for help with a cat situation:
  - **NYC Feral Cat Initiative**  
    Email: info@NYCFeralCat.org  
    Website: www.NYCFeralCat.org  
    Phone: 212.330.0033, #2
  - **Neighborhood Cats**  
    Email: headcat@neighborhoodcats.org  
    Website: www.neighborhoodcats.org  
    Phone: 212.662.5761
• Take the free TNR workshop to learn how to trap, sterilize and manage cats as well as find free- to-low-cost veterinary support, along with other resources. These are given by Neighborhood Cats and NYC Feral Cat Initiative.

How can your garden community support the colony caretaker?

• Sterilization fee per cat is $5.00. Raise money in your garden and community to pay for the sterilization of the cats in your neighborhood.

• Transportation. When necessary, drive the colony caretaker to pick up traps, bring cats to ASPCA mobile or stationary clinic to be sterilized, and help bring the cats back after surgery.

• Holding Space. Find someone in your community with a basement or garage where the cats can recover from surgery for a maximum of three days. The colony caretaker will need access to the holding space to provide food and water, change litter, and make sure that no animal is sick or injured.

What happens after the cats are sterilized?

• The cats are returned to the place where they were trapped. All sterilized cats are left ear-tipped for identification. There are so many abandoned and friendly stray cats in NYC that no-kill shelters like the ASPCA are often full.

• Get friendly sterilized cats off the streets and out of your garden. Find people in your community who can provide a temporary or permanent home for a friendly cat.

• Sadly, cats that are not friendly must remain outside and are returned to the place where they were trapped—your garden. But they will not be spraying, yowling, and having kittens.

How can I keep my garden clean if there are stray cats?

• Cover vegetable and flower beds with lattice, mesh, or branches to discourage cats.

• Install a litterbox away from the flowers and vegetables..

• Install shelters in fall/winter away from your planting beds.

• Encourage people in your community to get their pet cats sterilized and to keep them indoors.

• Work with TNR-certified people and colony caretakers in your community to sterilize cats.

• If you see a new cat without a left ear tip, it is a good idea to have the cat checked to see if it has been sterilized yet.
Group Development and Community Improvement

WRITING AND AMENDING BYLAWS
GreenThumb strongly recommends that all garden groups write bylaws. Bylaws are simply mutually agreed upon rules that a garden group creates in order to regulate its current and future practices. In other words, a garden group sits down together and decides how they want to divide up various garden responsibilities, bring in new members, change leadership, and go about event planning.

Bylaws may change and evolve as the garden group changes and evolves. The important thing is that bylaws be decided on democratically as a garden group. For example, what may have worked 10 years ago when there were 15 members may not work now when there are 30. If your garden group has bylaws, you may want to re-examine them every year or so. Decide if the current group likes the bylaws as they are written or if they would like to amend (change) certain aspects of the laws. Hopefully, there is a process written into the bylaws that states how they may be changed. Often, a vote will need to take place, with a majority of the garden group supporting the amendment in order for it to pass.

Most garden group bylaws include the following:

• The group’s stated mission or purpose
• Membership requirements and procedures
• Leadership requirements and election procedures
• The group’s decision-making process
• A meeting schedule (i.e. the garden group will meet the last Thursday of every month)
• Procedure for amending the bylaws

Each member of the garden group should receive a copy of the bylaws when he or she joins the group. The new member should read and understand the bylaws carefully, then sign off on them, indicating that they are willing to adhere to the stated guidelines. Bylaws are also required as part of the process to become a 501(c)(3) not-for-profit organization.

HANDLING MONEY
If your garden group is seeking to raise funds or solicit donations, you will need a secure place to put the funds where they can also be monitored. Groups raising a lot of funds often register as not-for-profit organizations in order to be able to receive tax-exempt status. However, because of the paperwork and fees involved, groups operating on a smaller scale often use a fiscal conduit to handle donated money. Sometimes GT is able to act as a fiscal conduit for donations to a garden. Requests are considered on a case-by-case basis by the director. It is recommended that the garden elect a treasurer and create a bookkeeping system for accountability and transparency for the allocation of funds. Please see the accounting worksheet on the following page for an example of how you can track your garden’s finances.

If your group needs help with becoming a 501(c)(3) or opening a bank account, get in contact with Citizens Committee of New York (www.citizensnyc.org), or see Partnerships for Parks’ tip sheets, available in their online library (www.partnershipforparks.org).

For more for information on bylaws and group development:

• http://www.partnershipforparks.org/library_links/index.html
• http://www.citizensnyc.org
## Sample Accounting Worksheet

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<th>Income/Expense</th>
<th>Amount</th>
<th>Purpose/Justification</th>
<th>Date</th>
<th>Account Balance</th>
</tr>
</thead>
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<td>Income</td>
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<td>3/1/2015</td>
<td>$10</td>
</tr>
<tr>
<td>Expense</td>
<td>$10</td>
<td>Garden trowel</td>
<td>3/10/2015</td>
<td>$0.00</td>
</tr>
</tbody>
</table>
Sample Garden Mission Statement and By-Laws

**Mission:** The purpose of the garden. Why is the garden important? What value does it bring to the community?

**BY-LAWS:**

I. How does one become a member of the garden? What are the requirements? Is there a minimum age requirement and/or fee to become a member? If one becomes a member what are the requirements for maintaining membership?

II. What do members have a right to once they become members?

III. How does the garden make decisions? Is there a minimum number of people required in order to vote and pass proposals? How are decisions communicated to the rest of the group? How often does the garden group meet?

IV. Is there a steering committee or other elected leadership group of the garden? What are the positions that make this up? How are its members selected? Are there special requirements for qualifying as a potential member of the steering committee? Do they have term limits? How do they make decisions? How often do they meet? Are their meetings open to the general garden membership? How are these communicated to the group? How are minutes from meetings communicated to the membership? What are the requirements/responsibilities of steering committee members? If they do not meet them how are they reviewed and removed if necessary? How do changes to the by-laws get made? How are these communicated to the group once they are proposed and voted upon? How far in advance must they be communicated before a vote takes place in order to be valid and incorporated?

V. How does the garden handle conflicts or disputes? What if one garden member accuses another garden member of breaking the rules?

VI. How are the garden's financial records maintained? How are these records communicated to the rest of the garden group? How are financial decisions made by the group and approved?

VII. In cases of an emergency, how are interim decisions made by the garden group? When will interim decisions be reviewed to determine if they become long-term or permanent?

VIII. What are the rules of membership; i.e. what must gardeners do? What are gardeners not allowed to do? What is the recourse of the garden group if a member is not complying with the rules of membership?
BY-LAWS AND GUIDELINES

MISSION
The purpose of the (Your Garden Name Here) is to provide a green, restful, beautiful, safe and congenial space for gardeners to garden, and for the community and its children to enjoy. The Garden will be open as often as possible, and will also serve as a public space for neighborhood meetings, social gatherings and other activities.

BY-LAWS

I. To become a member of the Garden, one must be at least 18 years old, pay the annual membership fee, and be responsible for keeping the Garden open for at least two sessions each season (“session” and “season” are defined below). Members will then receive a key to the Garden gate, and access to the tool shed. Members can sign up for areas of responsibility, for tasks, and to help with Garden programs and events. Members may not share, loan or give their keys to those who are not Garden members.

II. For purposes of all votes taken at regular Garden meetings, and which pertain to any Garden issue or business, a quorum of members must participate. A quorum is defined as “50% plus one” of the general Garden membership at the time an election is held or a vote is taken, in order for the results to be valid. (By-Laws and Guidelines votes are excepted; see below.) Results of any vote will be determined by a simple majority of those voting. For any given vote, the general Garden membership may cast votes via email or by proxy, if someone cannot attend a meeting. “Proxy” is defined as a Garden member in good standing giving permission for another Garden member to cast their vote. This proxy vote may be cast via email to a designated Steering Committee member (see below) or in person.

III. There will be one official meeting per calendar year—the Annual Meeting—to elect the Garden’s Steering Committee. Beginning in 2004, the date of this meeting will be determined by the Steering Committee. Members must attend this Annual Meeting. Regular, monthly pot-luck Garden meetings for the general Garden membership will be held April 30 through November 1 (the “season”); additional meetings may be held as necessary. Meeting times and dates will be posted on the Garden bulletin board, and members will be notified by email and phone at least ten days in advance of any meeting.

IV. Eight Garden members in good standing will be elected by a majority vote of general Garden members in good standing to serve on the Steering Committee for a term of two years. Any member may sit on the Committee for a total of three consecutive terms. Any Garden member can be a candidate. New Committee members will be nominated at a regular monthly Garden meeting, at least thirty days before the Garden’s Annual Meeting. The list of nominees chosen by general Garden members will serve as the ballot. The ballot will be available in the Garden within three days following the nominations, and also mailed via email and regular mail to all members. Members will vote by checking off the names on the ballot. The ballots will be submitted and the votes counted, at the Garden’s Annual Meeting. Board members are elected by a simple majority vote, and members can also vote by proxy. A member of a board of directors, or of a steering committee, or of any other governing body of any other New York City community garden under the aegis of Green Thumb and/or The New York City Parks Department, is not eligible to run for a seat on the Garden’s Steering Committee.

To ensure that the Garden represents the surrounding community, ethnic diversity is a priority for the Committee. At least two-thirds of Committee positions must be held by members of color. If a Committee election results in less than two-thirds members of color, the election will be voided, and new nominations will take place at a special meeting which will be held seven days following the voiding of the first election results.
Any consecutive vote will likewise be voided, and elections repeated, should the results not be diverse according to the definition above.

The Steering Committee will decide how often it needs to meet to effectively coordinate and oversee the work of the Garden. At a minimum, the Steering Committee agrees to meet once a month throughout the season, and also in advance of the general Garden meetings. If a member misses more than three meetings in a given season, that member is subject to be removed from the Steering Committee, according to the removal procedures in Item VI below.

V. The responsibilities of the Steering Committee include, but are not limited to:

• Maintaining a list of Garden members in good standing;
• Maintaining a list of Garden assignments;
• Organizing monthly Garden meetings and creating those agendas;
• Calling special meetings, and setting the date for the Annual Meeting;
• Acting as liaison with the City, with other gardens or greening groups, or with any other entity that seeks a relationship with the Garden;
• Coordinating proxy votes;
• Arranging clean-ups after meetings or social events;
• Adjudicating disputes between Garden members;
• Enforcing the By-Laws and Guidelines;
• Issuing warnings and reviewing grounds for possible expulsion of Garden members, or members of the Steering Committee, who violate the By-Laws and Guidelines;
• Coordinating Garden activities (one public event yearly is required by GreenThumb);
• Taking meeting minutes;
• Maintaining a book of previous minutes and other Garden information;
• Collecting dues;
• Maintaining accounts for expenses and membership dues;
• Overseeing and executing all GreenThumb requirements;
• Maintaining a waiting list for specific plots to be gardened.

If a Garden member volunteers to take responsibility for a Steering Committee task, the Steering Committee, with approval of the general Garden membership at a regular monthly meeting, may assign such task to such member-volunteer.

Any Garden member may call a special meeting as deemed necessary, but any one member may not call a special meeting more than once in a 3-month period.

VI. The Steering Committee will consist of six members: two coordinators, two secretaries and two treasurers. Tie votes on any given issue, or unresolved conflict on the Steering Committee, will be decided by the general Garden membership in simple-majority voice vote at the next regularly scheduled monthly Garden meeting, or at a specially scheduled meeting, if necessary.
If any part of the general Garden membership feels that one Steering Committee member is not carrying out responsibilities adequately, the general Garden membership may choose to remove this Steering Committee member. The member or members moving to remove this Steering Committee member would have to make the case before the general Garden membership at a regular monthly Garden meeting, and the general Garden membership would then be allowed to ask questions. The Steering Committee member being challenged will be given time to respond. A vote for removal would take place at the next regularly scheduled monthly Garden meeting, or at a specially scheduled meeting, if necessary. Members may vote by proxy.

If any part of the general Garden membership feels that the Steering Committee as a body is not carrying out responsibilities adequately, the general Garden membership may choose to disband the entire Steering Committee. The member or members moving to disband the Steering Committee would have to make the case before the general Garden membership at a regular monthly Garden meeting, and the general Garden membership would then be allowed to ask questions. The Steering Committee will be given time to respond. A vote to disband would take place at the next regularly scheduled monthly Garden meeting, or at a specially scheduled meeting, if necessary. Members may vote by proxy. Any member of a disbanded Steering Committee would be eligible to run again once three planting seasons, over the course of three years following the disbanding, had passed.

VII. Beginning in 2004, By-Laws and Guidelines may only be changed at the Annual Meeting. The required quorum for purposes of voting to amend the By-Laws and Guidelines must be a minimum of two-thirds of the general Garden membership. Results of this vote will be determined by a simple majority of those casting votes. Motions to amend the By-Laws and Guidelines must be made at the regular monthly meeting prior to the Annual Meeting. These proposed amendments will be posted in the Garden, and will be announced in a mailing (regular mail and email) to all Garden members at least ten days prior to the Annual Meeting. Members may cast votes via email or by proxy if they cannot attend the meeting.

VIII. All motions made at a regular monthly Garden meeting will be voted on at the next monthly meeting. The motions must be announced to the general Garden membership by being posted in the Garden or sent via email.

IX. A contract will be signed by each Garden member whereby she/he agrees to pay Garden dues. Starting in 2004, members will be asked to pay dues and sign their contract by June 1st, and abide by the By-Laws and Guidelines of the Garden. Members also agree to keep the Garden open (“open hours”) for a minimum of two sessions each season. The Garden’s official season runs from April 30 to November 1. A session can include a weekend session, up to four hours, or a weekday session, up to three hours. A member may opt out of their open-hours obligation by getting another Garden member to cover this responsibility. A member who misses two open-hour sessions in any given season without providing coverage will be obligated to pay the Garden $20.

X. Members agree to protect the independence of the Garden. Garden members agree to be stewards of this property, to assume the legal right to make Garden decisions and to take on the responsibilities for maintaining the Garden’s autonomous status as a legally registered GreenThumb garden. Should a Garden member threaten or challenge this independence, they will be subject to expulsion. Actions that compromise, threaten or challenge the Garden’s autonomy include, but are not limited to, advocating a merger of the Garden with any other New York City community garden or green space.

XI. If any Garden member charges a fellow garden member with violating any part of the By-Laws and Guidelines, this member would have to make the case before the general Garden membership at the next regular monthly Garden meeting, and the general Garden membership would then be allowed to ask questions. The person charged with the violation will be given time to respond. A vote for expulsion would
take place at the next regularly scheduled monthly Garden meeting, or at a specially scheduled meeting, if necessary.

XII. The Garden’s financial records must be open to examination by Garden members. Expenses must be reported to the members at all regular monthly meetings, and major expenditures over $100 must be approved by the general Garden membership at a regular Garden meeting. Any elected treasurer agrees to maintain a commitment to open and accessible financial records, and financial accountability to the general Garden membership at all times. Garden members will have access to, and ability to review, financial transactions the Garden’s financial records at all times.

XIII. Should the garden decide to incorporate at any point as a non-profit entity, the Garden will create an official Board of Directors, and/or assign officer titles, if necessary, to satisfy legal requirements for incorporation. The decision to incorporate will be voted on by the general Garden membership, which vote will follow the same voting procedures as outlined above in Paragraph 7.

XIV. In case of an emergency, the Steering Committee can make interim decisions, which are not binding. Final decisions will be made at the next monthly Garden meeting through a vote by the general Garden membership.

XV. When in the Garden (or communicating over email), all Garden members, Board members and visitors must behave in a manner that is respectful toward adults and children. Disrespectful behavior that will not be tolerated includes spitting, yelling, pushing and hitting people, throwing things, or any behavior that reasonably constitutes verbal or physical abuse, (including written insults). Should someone in the garden (or over email) be engaged in disrespectful behavior as defined here, they will be asked to leave the Garden (and stop communicating with members over email). A Garden member accused of disrespectful behavior is subject to expulsion.
GUIDELINES

All Garden members agree to abide by the following:

• Maximum dues per household will not be more than $10.

• The Steering Committee has the option of reducing or waving Garden fees each season for hardship cases, at its discretion.

• In order to encourage as much participation in the Garden as possible, only one area for planting will be assigned per household.

• All gardeners agree to keep their plants within the area assigned to them. Plants must not shade another gardener’s area. Gardeners must maintain the walkways around their areas of planting, keeping them free of weeds and trash.

• Personal belongings may not be stored in the Garden during any season. Anything left in any communal area becomes community property.

• Effective 2004, Members should have their individual plots planted by June 1st. The Steering Committee has the discretion to extend this date, due to personal-schedule or work hardship, or poor weather conditions, for any given member. Members agree to keep their areas maintained throughout the season. If there is a waiting list for plots, members who have not planted their plots by June 1st, or who didn’t maintain their plots during the previous season, or who are not maintaining their plots in the current season, may forfeit their plot. Garden members on the waiting list have priority for plots. Areas given up permanently by garden members revert to the Garden.

• Garden members must not weed, pick or harvest in anyone else’s plot without the permission of the Garden member assigned to that plot.

• Members agree to decide collectively how communal areas of the garden are planted, how and which Garden structures are built and how the garden is designed.

• Only compostable items may be put in the compost pile. Bricks or meat are not allowed. Private compost piles are not permitted. Use of the group compost is strongly encouraged.

• No worm should be removed from the soil at any time.

• In good faith, Garden members agree to help with community work in the garden every year. This work can include building and repair, general cleaning and maintenance, or helping with social gatherings or other cultural events.

• If a member wants to have a party or a meeting in the Garden, she/he is required to post a notice with a contact name and telephone number a week before the planned date on the Garden bulletin board. Parties and meetings must not restrict uninvited Garden members’ use of the Garden. All trash from the gathering must be disposed of, and noise should be kept to a minimum.

• Children under 18 visiting the garden must be accompanied and supervised at all times by a responsible guardian.

• Any member who is in the Garden must keep the gate open at all times, day or night. Public access to the Garden must be maintained, at the least, during the Garden’s official open hours.

• Dogs need to be on a leash and attended by their owners at all times. Only dogs belonging to Garden members and their guests will be allowed in the Garden. A sign stating this rule will be posted at the front of the Garden at all times. This rule will begin August 1, 2003, and will be evaluated on a trial basis during the 2003 Garden season. A final review will be conducted at the end of the 2003 season to determine the rule’s effectiveness. Because of its trial nature, the general Garden membership has the option of amending only this Guideline before the 2004 Annual Meeting.
after its final review at the end of the 2003 season. Owners are responsible for clean up of any waste. Dogs should be kept out of planted or tended areas, whether personal or communal.

• No animal of any kind may be brought into the garden to live.

• No use of drugs or other illegal substances, or selling of drugs or other illegal substances, will be permitted in the garden. Any Garden member using or selling drugs, or other illegal substances, faces immediate expulsion through a vote by the general Garden membership. This vote can take place at a regular meeting or at an emergency meeting, if necessary. If a member is present for open hours, and there is drug use or drug selling in the Garden, the member should immediately call the police.

• The Garden is committed to diversity in ethnicity, race, gender, class, sexual orientation and physical capacity in its general Garden membership and on its Steering Committee. The Garden will not condone any act of discrimination, be it based on ethnicity, race, gender, class, sexual orientation and physical capacity toward any Garden member, by any Garden member or Steering Committee member, or toward any visitor to the Garden. A Garden member or Steering Committee member who engages in any act of discrimination will be subject to expulsion by a vote of the general Garden membership.

• When in the Garden, all Garden members, Steering Committee members and visitors must behave in a manner that is respectful toward adults and children. Disrespectful behavior that will not be tolerated includes spitting at, yelling at, pushing and hitting people, or throwing things, or any behavior that reasonably constitutes verbal or physical abuse. Should someone in the garden be engaged in disrespectful behavior as defined here, they will be asked to leave the Garden. A Garden member accused of disrespectful behavior is subject to expulsion.
Building a Healthy Garden Group:  
10 Tips for Resolving and Avoiding Conflicts in Your Community Garden

By Hannah Riseley-White (Green Guerillas) and Ena K. McPherson (Vernon & Throop Community Garden and T&T Vernon Block Association Community Garden)

Want to have a healthy garden group and avoid conflicts between garden members? Want to keep everyone involved and participating to garden work? Here are 10 suggestions based on years of community gardening:

1. CREATE AN OPEN GARDEN
Create a colorful “Open Garden” sign that invites residents and passersby to come into the garden. Keep the garden gate open when working in the garden at all times; and most importantly allow visitors a sense of freedom to explore the garden on their own. People sometimes just want to enjoy the space on their own and aren’t interested in a formal tour.

Your community garden belongs to your community. Make sure people know they are welcome to get involved in whatever way is appropriate for them.

2. SHARE LEADERSHIP
All garden members should have a sense of ownership in the garden. Allow all members to take the lead in an area of interest. Do not tell them what or how to do it, let them take on responsibility and let that area of work be their own.

Everyone has something to offer; tap into members’ strengths.

Have the grace to step aside and let go of control. As a garden leader your first priority is to plan for and work towards leadership transition to others. The garden’s strength and sustainability depend on a diverse and prepared group of leaders—not just one or two individuals.

3. ACKNOWLEDGE ALL CONTRIBUTIONS
Always say “Thank you.” Give credit where it’s due, acknowledge all efforts, big and small, of all garden members.

4. BE OPEN AND FLEXIBLE
Listen and be open to the ideas each member brings. Be flexible in your expectations of members’ abilities; some of the greatest ideas come from children gardeners. Be responsive, act on all suggestions; let members try out their ideas.

5. TAKE THE ‘I’ OUT OF COMMUNITY GARDENING — EMPHASIZE THE ‘WE’
A community garden is a collaborative effort. The garden does not belong to any one person. Working towards consensus should be a core principle in how things get done. Hold garden meetings where all opinions are respected and listened to. It is important to understand what motivates an individual garden member’s participation.

6. LEADERSHIP PERFORMANCE
Are you performing in your leadership role? Leadership requires work. If you are not ready to implement initiatives or lead projects in the garden, step aside and let others take the lead.

Listen to your group—they will give you hints on what they expect from you as a leader and also on what they are prepared to do as members.

You are only as good as the people you lead. Set goals that are clear and realistic; you can’t expect members to follow through if you don’t yourself.
7. BE RESPECTFUL
The heart of a community garden is its community. Each NYC neighborhood is diverse and unique, which is reflected in its community garden. Be tolerant and respectful of the differences that make up your communities and the members in the garden by listening and remaining open to new ideas. Encourage the garden to be a safe place for your neighborhood where everyone can learn and grow.

8. COMMUNITY BUILDING EVENTS
Celebrate and enjoy the garden as a group. The more time people spend together the better they get to know and understand each other. Organizing parties, potlucks, workdays or other events builds understanding and community morale. Be sure to invite other local community groups and organizations too.

9. ETHNIC, RACIAL AND CULTURAL BIASES CAN SOW THE SEEDS OF CONFLICT
It is easy to offend others without realizing it. Language is a powerful tool—it can empower as well as diminish; use it wisely. Don’t make assumptions about others, and be sensitive to cultural differences.

Food brings people together or can tear them apart. Be respectful of various cultural cuisines. Encourage gardeners to grow ethnic foods. This can provide a learning opportunity for the whole group. Be open to ideas that will broaden your knowledge of horticulture.

Cultural observances are key in establishing a harmonious relationship with your fellow gardeners. Highlighting and observing gardeners’ ethnic and cultural holidays goes a long way towards making members feel like part of a group.

The ideas stated above will help avoid having a discontented group. What you learn from each other may surprise, enlighten and please you.

10. ADDRESS CONFLICTS
Create an open forum that encourages dialogue—this will set the groundwork for resolving conflicts. Try to avoid side discussions with a few individuals—wait for the full meeting.

Don’t let the discussion focus on earlier occurrences, stay focused on a positive solution that moves the garden group past the conflict. Look for a solution that is fair to all garden members and that sets a precedent of consensus-building and group understanding.

If you sense there is an issue between garden members, create a safe space for discussion before it turns into a larger issue. Many conflicts are easier to resolve than you may think.

Review your membership agreement for possible solutions. If it does not directly address the current issue, could the agreement be adapted to include language that would help your group avoid this problem in the future?

If you can’t resolve the conflict internally, seek help from a mediation group such as NY Peace Institute in Manhattan (212.577.1740) or Brooklyn (718.834.6671), or by email at info@nypeace.org.
Horticulture

Much of the following section has been reprinted with permission from the Just Food City Farms Tool Kit and Bronx Green-Up of the New York Botanical Garden, and covers only some of the very basics of gardening.

**Just Food** offers workshops throughout the year, tip sheets and guides, and is an all-around excellent resource for community gardens and urban farms. Additionally, they are one of the lead partners in the Farm School NYC, which offers comprehensive training in all aspects of urban agriculture through a two-year certificate program and a wide range of individual courses.

You can also join the City Farming NYC Meetup! Find out about upcoming workshops and events, post on a discussion board, and answer each others’ questions about farming in NYC (www.meetup.com/City-Farming-NYC).

For more information and tip sheets from Just Food:

Just Food  
http://www.justfood.org  
info@justfood.org  
212.645.9880 x 221

**Bronx Green-Up**, the outreach program of The New York Botanical Garden, provides horticultural advice, technical assistance, and training to community gardeners, school groups, and other organizations interested in improving urban neighborhoods through greening projects. At the heart of Bronx Green-Up are the community gardens of the Bronx and a compost education program.

For more information:

Bronx Green-Up / The New York Botanical Garden  
http://www.nybg.org/green_up  
bronxgreenup@nybg.org  
718.817.8026

Compost Information “Rotline”: 718.817.8543  
http://www.nybg.org/compost
NYC Gardener’s Calendar

This calendar is a collaboration between Molly Culver, GreenThumb; Ursula Chanse and Sara Katz, Bronx Green-Up/NYBG; Hannah Risely-White, Green Guerillas; and Roger Repohl, Geneses Park Community Garden.

Use this monthly calendar as a general guide/checklist for planning and doing garden tasks.

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<tr>
<td>□ Order seeds (See December for details)</td>
<td>□ Shovel any snow on sidewalks that border your garden.</td>
<td>□ Plan your garden for the year. Crop rotation, succession planting, interplanting, and trellis planting are just a few things to think about. <strong>Crop Rotation</strong> — Planting vegetables from the same family in the same spot every year can wear out the soil. Check your notes from last year. What and where did you plant? Plan to rotate each area to a different family every season. Below is list of plant families with examples of crops:</td>
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<thead>
<tr>
<th>Beet Family</th>
<th>Brassica Family</th>
<th>Grass Family</th>
<th>Mallow Family</th>
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<tbody>
<tr>
<td>beets, spinach, chard</td>
<td>broccoli, brussels sprouts, cabbage, cauliflower, collards, kale, kohlrabi, mustard, radishes, rutabaga, turnips</td>
<td>corn</td>
<td>okra</td>
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<thead>
<tr>
<th>Mint Family</th>
<th>Morning Glory Family</th>
<th>Nightshade Family</th>
<th>Onion Family</th>
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</thead>
<tbody>
<tr>
<td>basil, marjoram, lavender, mint, oregano, rosemary, sage, savory, thyme</td>
<td>sweet potatoes</td>
<td>eggplant, peppers, potatoes, tomatoes</td>
<td>chives, cipollini, garlic, leeks, onions, shallots</td>
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<thead>
<tr>
<th>Parsley Family</th>
<th>Pea Family</th>
<th>Squash Family</th>
<th>Sunflower Family</th>
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<tbody>
<tr>
<td>anise, carrots, celery, cilantro, cumin, dill, fennel, parsley, parsnips</td>
<td>beans, peas</td>
<td>cucumbers, gourds, melons, pumpkins, squashes</td>
<td>lettuces, salad greens, sunflowers</td>
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</table>
Succession Planting — Plan for three seasons: spring, summer, and fall. The following planting plans give examples of how to rotate crops among the families for a small space (2-foot square) during one year, and changing what is planted in that same space over three years. The goal is to rest the soil in between periods when heavy feeders, like the Nightshades, are grown, and also for pest and disease prevention. Below are a few example plans for a three-year succession planting schedule:

### THREE-YEAR SAMPLE PLANTING PLANS FOR A 2-FOOT-SQUARE AREA

<table>
<thead>
<tr>
<th>Year</th>
<th>Spring Planting (early April)</th>
<th>Summer Planting (mid to late May)</th>
<th>Fall Planting (August - September)</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>lettuces, salad greens</td>
<td>tomatoes, peppers, eggplant, or potatoes</td>
<td>spinach, beets, or chard</td>
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<td>2</td>
<td>broccoli or cabbage</td>
<td>bush beans</td>
<td>basil</td>
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<td>3</td>
<td>cilantro</td>
<td>Trellised: cucumbers, squashes, or melons</td>
<td>lettuces, salad greens</td>
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<tr>
<td>1</td>
<td>kale, collards (all season)</td>
<td>okra</td>
<td>spinach, beets, or chard</td>
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<tr>
<td>2</td>
<td>cilantro</td>
<td>okra</td>
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<tr>
<td>3</td>
<td>lettuces, salad greens</td>
<td>sweet potatoes (until fall)</td>
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<tr>
<td>1</td>
<td>onions</td>
<td>summer squash</td>
<td>brussels sprouts</td>
</tr>
<tr>
<td>2</td>
<td>peas</td>
<td>beets</td>
<td>carrots</td>
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<tr>
<td>3</td>
<td>radishes or turnips</td>
<td>potatoes</td>
<td>garlic (until following July)</td>
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</table>

Interplanting — Maximize your space by planting low-growing or fast-growing plants around tall-growing and slow-growing ones, e.g. basil around tomatoes, dill around cucumbers, or squash beneath corn. **Trellis Planting** — Also maximize space by growing vines up a trellis, e.g. cucumbers, melons, squashes, and pole beans. Even some tomatoes can be trellised!

### January to December

- Winter prune hardy fruit trees (apples, cherries, figs, plums, pears), grapevines, and shrubs.
- Maintain garden tools. Clean and sharpen pruners. Remove rust from shovels and rakes.
- Start seeds indoors for cool-season crops like broccoli, kale, cilantro, collards, and chard.

### January to April

- Turn in cover crop. Will generally take 3-4 weeks to decompose.
- Test soil for contaminants and pH level, and amend accordingly.
- Start seeds indoors for warm season crops such as tomatoes, peppers, and eggplant. (Look for the annual GreenThumb seed giveaway in Spring Program Guide.)
- Continue to winter prune hardy fruit trees.
- Move/prune dormant perennials (trees, shrubs, vines). End of March/early April is the last chance!
- Get your compost going with pruning clippings and other green trash.
- Renew your hydrant permit with DEP for accessing the fire hydrant this season.
- Organize a community workday in the garden. Recruit new members, review and revise your garden membership agreement or bylaws, designate plots for the season.
- Go to the annual GreenThumb GrowTogether Conference.
- Record! Make notes in your garden observation notebook.
### The GreenThumb Gardener's Handbook

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<tr>
<td><strong>Prepare your garden beds</strong> around the first week in April. Add compost and turn soil when thawed.</td>
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<tr>
<td><strong>Late winter prune</strong> less cold hardy fruit trees, such as peaches and apricots.</td>
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<tr>
<td><strong>Sow spring seeds outdoors</strong> (peas, spinach, beets, radishes, lettuce), and plant seedlings (kale, chard, collards, etc.).</td>
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<td><strong>Check the weather for frost.</strong> (Average last frost date in NYC is May 15). Protect new plants from frost with plastic sheeting or row cover cloth.</td>
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<td><strong>Connect rainwater harvesting system.</strong> Clean and check for repairs, if necessary.</td>
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<td><strong>Uncover cool season crops</strong> (if any overwintered under cover/cloche), but remain wary of low nighttime temperatures until last frost.</td>
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<td><strong>Refill wood chips.</strong> Call a tree trimming company to refill wood chips in pathways, play areas, and gathering areas of gardens.</td>
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<td><strong>Care for garden perennials.</strong> Compost and mulch your plants.</td>
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<td><strong>Submit</strong> your membership list, membership agreement, open hours, and a copy of your current key to GreenThumb.</td>
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<tr>
<td><strong>Record!</strong> Make notes in your garden observation notebook (e.g., Which indoor seeds are germinating? Which plants are doing well outdoors? Pests in the garden, etc.).</td>
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<tr>
<td><strong>Harvest</strong> cool season crops.</td>
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<tr>
<td><strong>Sow summer seeds</strong> and transplant summer seedlings, then <strong>fertilize transplants</strong> (fish emulsion, compost, tea, etc.).</td>
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<td><strong>Inventory market supplies</strong> (If you’re a farmers market gardener.)</td>
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<td><strong>Throw a spring community event</strong> such as a “Salad Day,” featuring your garden produce.</td>
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<td><strong>Record!</strong> Make notes in your garden observation notebook, especially notes of your crop rotation—what is planted where and in relation to the past several years.</td>
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<td><strong>Inter-sow</strong> a low growing summer cover crop (like crimson clover).</td>
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<td><strong>Begin to harvest garlic</strong> from last fall.</td>
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<td><strong>Sow late summer crops</strong> (bush beans, collards, carrots, etc.), or late summer harvest.</td>
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<td><strong>Again fertilize</strong> summer crops (fish emulsion, compost tea, compost top-dressing, etc.).</td>
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<td><strong>Record!</strong> Make notes in your garden observation notebook.</td>
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<tr>
<td><strong>Celebrate</strong> the garden with a community party or potluck.</td>
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<td><strong>Summer prune</strong> fruit trees and fertilize well with compost.</td>
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<td><strong>Sow fall crops:</strong> Start fall seeds in flats.</td>
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<tr>
<td><strong>Report to Farming Concrete</strong> how much food your garden grew. Visit <a href="http://farmingconcrete.com/">http://farmingconcrete.com/</a> for more information.</td>
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<tr>
<td><strong>Preserve!</strong> Can your pickles, beans, and other fruits and vegetables!</td>
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<td><strong>Record!</strong> Make notes in your garden observation notebook.</td>
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<tr>
<td><strong>Harvest!</strong></td>
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<td><strong>Transplant fall seedlings</strong> and fertilize (fish emulsion, compost tea, compost top-dressing, etc.).</td>
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<td><strong>Be water-wise:</strong> Water well during cooler parts of the day—morning and evening.</td>
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<td><strong>Can your tomatoes</strong> for delicious tomato sauce that will last through winter.</td>
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<td><strong>Continue planting</strong> cool season crops.</td>
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<td><strong>Record!</strong> Make notes in your garden observation notebook.</td>
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**Early September** is your last chance to plant cool season crops such as kale, spinach, beets, radishes, and lettuce. You can replace finished summer plants with these crops.

- **Start saving seeds** for next year.
- **Have a community harvest festival** and invite the neighborhood.
- **Record!** Make notes: What grew well? What didn’t?

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**Begin to harvest cool season crops.**
- **Check the weather for frost** (average first frost date is around October 20). Construct a hoop house/place your cold frame for season extension.
- **Plant cover crop**, such as winter rye, in empty beds.
- **Divide overgrown perennials** and replant for better spacing and ease of plant management.
  - Add compost around the transplants.
- **Throw a Halloween event** for kids in the neighborhood—turn your casita into a Haunted House! Give away fresh veggies!

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**Organize a community workday** to clean the garden, plant cover crops, and garlic, etc.
- **Plant garlic and ornamental bulbs** such as daffodils, tulips, and hyacinths.
- **Continue to harvest** cool season crops.
- **Prepare beds for winter.** Plant more cover crop or add 2 inches of compost on top of beds for the winter. Mulch remaining areas.
- **Mulch** perennial areas, trees, and shrubs.
- **Prune** perennials. (You could also wait until March to cut back perennials).
- **Disconnect your rainwater harvesting system.** (Clean and repair, if necessary).
- **Record!** Make notes in your garden observation notebook.

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**Record!** Capture the full season in your record-keeping system, plan your crop rotation for next year, begin to source seeds for the coming season.
- **Attend GreenThumb’s winter supply giveaway.**
- **Mulch your street trees.** Protect your trees from winter road salts by adding a fresh layer of mulch. Discard and replace this mulch in spring.
- **Order seed catalogs for next season.** Order online or call the company to request a copy. See page 85 in the Additional Resources section for some recommended seed vendors.
Soils and Soil Care

What exactly is soil, and why should gardeners make such a fuss about it?
Soil is a very complex substance, composed of solids, liquids, gases, minerals, and organic matter. Soil is actually teeming with microscopic organisms; it is a living substance.

Why is soil so important?
Because it is essential to all plant life!

LAYERS OF SOIL
There are three layers of soil:

• **Topsoil** is the upper layer with the richest composition of minerals, humus and nutrients. It is in the topsoil layer that most flowers, vegetables and lawns extend their roots.

• **Subsoil** is the layer immediately below the topsoil, made up of denser particles and usually without much fertility or humus. Rocks may or may not be present. Subsoil is usually what you have to dig through when planting a young tree or shrub requiring a large planting hole. Because of the poor condition of most subsoil, you must add organic material such as peat moss or compost to the planting hole for trees and shrubs. This subsoil will be their root zone, and the subsoil needs improvement for the best plant growth.

• **Hardpan** is not present under all subsoils but is common in the eastern areas of the U.S. where clay soils predominate. Hardpan is a heavy, thick, impervious layer of pure clay, which prevents normal drainage. If you have hardpan underneath your subsoil, then major work will probably be needed before serious gardening begins. Solutions to the drainage problem may include using raised-bed plantings.

TYPES OF SOIL
There are four main types of soil common to most home gardens: sand, silt, clay and loam. In some areas of the country, there are also soils called muck types. Almost no garden soil is composed exclusively of clay, silt or sand; soils are made up of some of each of these elements, plus other materials such as humus, water, air and nutrients. The terms “texture” and “structure” are often mentioned with regard to soil. Technically, texture describes the size of the soil particles, and structure describes the arrangement of the particles.

• **Sandy soil** is composed mostly of granular rock particles of visible size, with some clay and humus. Sandy soils drain well, but do not retain soil nutrients to the desired levels because of leaching (washing away by rain or run-off). They may also include gravel of various sizes. Sandy soils have a coarse texture and loose structure.

• **Silt soil** is made up of small particles which are smaller than sand but slightly larger than clay. The characteristics of silt soils are very similar to clay soils—texture tends to be fine, often with dense structure.

• **Clay soil** is composed of tiny clay granules, too small to see individually, which have a tendency to stick together; usually some sand and humus are present as well. Clay soils generally have poor drainage because the particles are packed together so tightly. Texture is fine and structure is dense.

• **Muck soils** are made up of a high percentage of humus with little or no clay or sand, and are highly regionalized. Muck soils have a tremendous water-holding capacity, which is good for crops that like plenty of water, such as celery and onions.

• **Humus** is that all-important part of the soil, which is derived from decomposed organic matter rather than from minerals, and it is what makes the soil crumbly, soft and workable. Humus is the key to gardening success.
• The ideal soil, often called “good garden loam” in gardening books, is a mixture of clay and sand, with a high percentage of humus. Loam soils drain well, but not too quickly; the nutrient- and water-holding capacity encourages good plant growth. Texture is medium; structure is crumbly.

**IMPROVING YOUR SOIL**

Gardeners often use the word “tilth” to describe their soil. Good tilth is important to support good plant growth and is improved with regular care. The key to improving soil tilth is to keep the humus content high. Here’s how:

• Add organic material to your soil as often as possible, and replenish frequently because humus is always in the state of decomposing.

• If your soil is loose and crumbly, even in midsummer, you know you have good tilth. Even then, don’t stop adding humus-building materials.

• It is impossible to add too much humus to your garden soil.

• Soil that is waterlogged, soil that is too hard to spade, and plants that wilt constantly are all indications of a soil that needs more humus added.

• Composted manures will also add humus content to the soil.

• On heavy clay soils, the addition of liberal amounts of composted manure or composted plant refuse will lighten the soil structure, allowing both water and air to enter among the tightly packed clay particles. This improves root growth.

• On sandy soils, humus adds water-holding capacity, cutting down on the loss of soil moisture and benefiting root growth.

**Soil Contaminants**

Soil contamination comes from a variety of sources, including garbage dumps, sewage sludge, pesticide residues, old building materials that may contain peeling paint, and air and water pollution. You can reduce the danger to your own health and your garden in a number of ways.

First, identify the problem. The best clue to determining whether you have soil contamination is to investigate the history of your land and nearby properties. What were they used for in the past? What chemicals may have been used there?

**SOIL TEST**

If you suspect the presence of harmful contaminants in your soil, you should have a special test done, as routine soil tests do not check for these. Visit Cornell Cooperative Extension Service of New York City’s website for instructions (http://cnal.cals.cornell.edu).

Brooklyn College’s Environmental Sciences Analytical Center also offers soil and plant tissue testing for heavy metals (www.brooklyn.cuny.edu/pub/departments/esac/1535.htm). Additionally, UMASS Amherst Soil Testing Lab provides services, including testing for estimated amounts of some heavy metals such as cadmium and lead (www.umass.edu/plsoils/soiltest).

**Inorganic contamination** may come from pesticides, air and water pollution, improper waste disposal, treated lumber, and sewage sludge. Concentrated levels of inorganic substances such as heavy metals and non-metallic compounds can be toxic. The most common soil-contaminating elements include arsenic, boron, cadmium, copper, fluorine, lead, manganese, mercury, nickel, and zinc. Heavy metals such as lead, cadmium, and arsenic may stay in the soil for a long time, and certain soil conditions, such as a shortage of organic matter, might cause the toxins to be taken up by plants.
Lead, a heavy metal, is among the most widespread soil contaminants. It may come from past automobile exhaust (when lead was used in gasoline) or flakes of lead-based paint. Lead is especially dangerous to children under age 6 and pregnant women. Although there is no clear standard of what is considered “safe,” the UMass Soil Testing Laboratory categorizes estimated total lead levels in this way (follow precautions listed below):

- Over 1,000 parts per million (ppm) of lead = high-lead soil
- 500 to 1,000 ppm = medium
- Under 500 ppm = low
- 120 ppm or less of lead in soil is normal in agricultural production.
- If levels are above 300 ppm, young children and pregnant women should avoid soil contact.
- Any soil with more than 500 ppm of lead should be of concern if food production and children are involved.
- For soils with over 1,000 ppm of lead, steps should be taken to remedy the soil. This may also be considered a hazardous waste situation, and you should contact Cornell Cooperative Extension of New York City (see previous page).

EXPOSURE TO SOIL CONTAMINANTS
- People can be exposed to contaminants through eating or drinking, skin contact, or even breathing.
- The main health hazard with heavy metals is direct contact with the soil. If children play in soil that contains lead paint, they can inhale the lead as dust or absorb it through their skin. Young children may also ingest the soil.
- Contaminated soil particles may also stick to edible parts of vegetables or be taken up by plants in the garden soil.
- Contaminated soil may also affect plant growth. If a plant absorbs metallic elements through its roots, it may grow stunted and become yellow. Toxins are absorbed more readily into the leaves and roots, not the fruiting part of the plant. Time is also a factor; for example, collards would have a greater chance of absorbing more heavy metals than lettuce, because collards grow for a longer period during the season and lettuce grows only a short time before it is harvested.

PRECAUTIONS WITH HEAVY METAL CONTAMINANTS
If your soil contains metal contaminants, keep the metal where it is and do not allow it to enter the food chain. Take the following precautions:

- If you suspect that your vegetables are contaminated, do not eat root and leaf vegetables, as concentrations will be highest in those parts of plants. Avoid growing these types of crops in heavily contaminated soil. Eating fruit and seed crops are less of a threat.
- Adding organic matter such as compost is key to reducing the availability of metal contaminants in your soil. Organic particles will bind with metals and help prevent them from being absorbed by your plants.
- Keeping pH levels close to neutral and making sure drainage is adequate helps to assure that the contaminants don’t move in your soil. Your ideal pH level is between 6.5 and 6.8. If soils contain heavy metals, a pH closer to 7.0 is better.
- Mulch and use cover crops to keep dust levels down and organic matter levels up.
- Wear gloves when gardening and thoroughly wash hands after gardening.
• Thoroughly wash produce before eating.

• Keep play areas and pathways covered in mulch to reduce exposure to the soil.

• Grow crops in raised beds (with landscape fabric as a barrier between the new and existing soil) or containers filled with uncontaminated soil. This is especially important if you suspect higher levels of contaminants.

RESOURCES
For more information, fact sheets, and other resources on soil contaminants, visit Cornell Waste Management Institute’s Dept. of Crop & Soil Sciences: http://cwmi.css.cornell.edu/soilquality.htm

Managing Soil pH

What is soil pH?
• Soil pH is a simple measurement of the degree of acidity or alkalinity of a soil.

• The pH measurement scale describes a neutral soil as having a pH of 7.0; an acid soil with a pH below 7.0; and an alkaline soil or “sweet” soil with a pH above 7.0.

What pH do plants like?
Most plants grow best in slightly acid soils with a pH range of 6.0 to 6.8.

How does improper pH affect the health of your plants?
The pH of your soil should be in an acceptable range for the majority of plants growing there.

• Improper pH restricts the root and top growth of plants; reduces the availability of plant nutrients; decreases biological activity desirable in healthy, well-balanced soils; and increases the availability of toxic elements in the soil.

• Many plants growing in improper soil pH conditions slowly decline from poor health complicated by disease and insect problems.

• Even expensive and time-consuming soil management practices cannot compensate for improper soil pH.

How is soil pH corrected?
• Improper pH soil conditions can be corrected.

• Ground limestone is used on an acidic soil to raise the soil pH.

• Sulfur can be used on an alkaline soil to lower the soil pH.

• These corrective materials are added only when needed and at a rate determined by the results of a soil pH test.

• Compost tends to neutralize the soil so that pH manages itself.
When should the pH be tested?
- Soil pH should be tested before installing any new garden (keep your soil management practices simple by grouping together plants with similar pH requirements).
- The soils in our area slowly become more acidic over time.
- Soil pH of established lawns, gardens, or landscape plantings can be monitored by soil pH testing every two years.
- Test results will indicate when to add limestone or sulfur.
- Never check soil pH right after an application of lime or sulfur because your test results will be incorrect.

When do you apply limestone or sulfur to correct soil pH?
- Soil pH correcting materials can be applied anytime the soil is not too muddy.
- If the soil pH needs to be adjusted, it is easier to do before planting.
- Soil reactions occur slowly, and if test results show that a substantial amount of limestone or sulfur is needed, it is best to apply materials 3-4 months before planting or preferably in the fall.
- Limestone should not be added to a soil unless a test indicates a need to raise soil pH.

How is lime or sulfur added to the soil?
- Recommended rates are mixed evenly and thoroughly into the soil.
- When possible, mix recommended quantities into the first 4 inches of soil.
- Sometimes it is not possible to mix lime or sulfur into the soil. In established gardens, spread recommended rates of lime or sulfur evenly over the soil surface area and cultivate gently into the soil without injuring plant roots.

What to look for when purchasing lime or sulfur?
- The ground limestone usually found in garden supply centers, large variety stores or mail-order catalog is either dolomitic or dolomite limestone (made up almost entirely of calcium carbonate) and is intended to raise soil pH. Limestone is mined from limestone quarries.
- Sulfur refers to elemental sulfur and although sometimes is hard to locate, it can be purchased from garden centers, mail-order garden suppliers, and chemical distributors. Some individuals may be sensitive to sulfur, so handle with care.
Composting

Follow these five easy steps to make sure you’re composting correctly.

THE FIVE ESSENTIALS:

1. Feed your compost a balanced diet of browns (carbon) and greens (nitrogen).

2. Smaller pieces are easier to break down. The more surface area accessible to the microorganisms and worms in your pile, the faster your organics will turn to compost.

3. Make sure that there is plenty of oxygen circulating through the pile. Keep the pile aerobic by turning or poking the pile once a week.

4. Micro-organisms and worms get thirsty too! Your pile should always be as moist as a wrung-out sponge.

5. A pile that is at least 3’x3’x3’ has the ability to retain heat. This keeps your primary comfortably warm and eager to eat!

TIPS

If your pile smells like eggs or sulfur, the pile might be anaerobic (without air). Try turning or poking the pile and adding some browns (dried leaves, etc.). If your pile doesn’t seem to be decomposing, the pile might need some more greens (vegetables/fruits scraps, plant material etc.). Or it might need to be watered if it doesn’t seem to be as wet as a wrung-out sponge. While correctly maintained compost will not attract rats, it’s prudent to use integrated pest management techniques.

WHAT’S DONE IS DONE...

You will know when a pile is “finished” when it appears to be dark, earthy looking, crumbly matter. The compost has stabilized and is ready to use. To verify, place a sample of your product in a plastic bag. Add a few drops of water, seal the bag, and leave it for a couple of days. If there’s no smell when you open the bag, your compost is ready to use. If a pungent, ammonia-scented breeze wafts up at you, give your compost a little more time to cure.

If you have any questions about composting contact GreenThumb or:

NYC Compost Project in the Bronx
The New York Botanical Garden
Bronx River Parkway at Fordham Road
Bronx, NY 10458-5126

Compost Helpline: 718.817.8543
email: compost@nybg.org
http://www.nybg.org/green_up/comp_programs.php

Information provided by the New York Botanical Garden’s Bronx Green-Up Compost Project
Starting Seeds Indoors

MATERIALS
• Seeds
• Seed-starting mix
• Seed-starting tray or containers with holes in the bottom
• Wood or plastic labels (to write the type of seed and date planted)
• Bottom-watering tray (a flat-bottomed tray without holes)
• Humidity cover
• Watering can and spray bottle
• Light (sunny window or fluorescent light)

SOWING SEEDS
1. Moisten the seed-starting mix—it should be wet like a damp sponge.

2. Fill a tray or containers with the mix, making sure to fill each cell. Use an empty cell pack tray or your fingers to press down on the mix; be careful not to pack it too tightly. Run a pencil or ruler over the top of the tray so that the medium is level with the lip of each cell.

3. Prepare the seeds if necessary—some may need to be scarified or stratified. Follow the directions on the seed packet. Scarification is scratching the seed coat so that it can more easily absorb water. Stratification is exposure to either a cold or hot period. The instructions on the seed packet will specify the appropriate amount of time.

4. Using your fingers, make holes in the seed-starting mix of each cell to the correct planting depth, according to the seed packet. The general recommended depth is at least 2 to 3 times the width of the seed. Space the seeds as instructed on the seed packet.

5. Place your seeds into the holes and cover them with seed-starting mix to fill the holes.

6. Label your trays with a permanent marker. The label should include the type of seed, the date you planted it, and the day it germinates.

7. After everything is labeled, place the seed-starting tray into a second, flat-bottomed tray, one without holes. Fill this bottom tray with water so that the seed-starting mix absorbs the water from below. When the mix has absorbed the water and it seems saturated, empty out the excess water.

8. Place a clear plastic cover over the seed-starting tray to keep in moisture. Either place newspaper over the top of this humidity cover or place the entire tray in a dark location. Most seeds need darkness to germinate, and afterward they need light to grow. So remember to remove the cover once the seeds have germinated.

9. Make sure your seedlings receive sufficient light. This means 8-10 hours per day. It is best to provide supplemental artificial light. Standard fluorescent tubes work well if plants are kept within a couple of inches of the light source. You may also place your plants close to a sunny window if you have no fluorescent light.

WATERING
Water plants from the bottom: Use a watering can to pour water into the bottom tray. Use a spray bottle to mist seedlings from the top. Use water that is at room temperature; cold water can slow the germination and growth processes. Keep the trays moist but not too wet.

FERTILIZING
Do not fertilize your seedlings until they develop their first true leaves—those that resemble the leaves of a mature plant. Use just half of the recommended dose, and give these diluted feedings about every two weeks.
SEEDLING DISEASES
The warm, humid conditions that promote germination and seedling growth are the same conditions that foster a fungal disease called damping off. This can happen if seeds or seedlings are over-watered, too crowded, or poorly ventilated. When damping off occurs, the seeds tend to rot or the seedlings shrivel and collapse. If this happens, it's best to just throw them away and start over with new seeds. If you plan to use the same containers, sterilize them first to destroy all traces of the fungus. To sterilize, soak containers in a 10 percent bleach solution and scrub off any large chunks of dirt or debris. Allow the pots to air-dry before using them. To help prevent damping-off, or if you suspect that soil is the cause, you can use a barbecue grill or oven to heat the soil to a temperature of 140 degrees for a couple of hours to kill any disease spores.

TRANSPLANTING
Transplant seedlings to a larger container when they become overcrowded, which can make them weak, susceptible to disease, and unequal in size.

GETTING READY FOR THE GARDEN
After the danger of frost has passed (in New York City this is generally by April 15), it is safe to transplant your seedlings into the garden. As they have been protected and sheltered indoors with warm temperatures, it is important to first acclimatize them to the outdoor temperatures. Keep the plants outside for two hours per day and gradually increase the time to a full day over the course of a week or so. This process is called hardening off.

INTO THE GARDEN
The day before transplanting the seedlings, water them well; this helps limit the shock of transplanting and ensures that your seedlings are turgid (sturdy). Also, remember that the seedlings are still fragile; transplant them in mild conditions—low light, mild temperature, and low wind.

WHY WON’T MY SEEDS GERMINATE?
Most seeds will germinate if given water, an appropriate seed-starting mixture or soil (if sowing directly outdoors), and warmth. Most seeds also need complete darkness to germinate, but check your seed packet to be sure, as there are exceptions. However, here are some reasons why you might have trouble.

Water — Some hard-coated seeds such as morning glories, corn, and beans may need to be soaked in water to speed up germination. In addition, the seeds of many desert plants need to be immersed in water to remove an inhibitor that stops them from germinating during dry spells.

Soil or Seed-Starting Mix Conditions — Seeds may not germinate if the soil or seed-starting mix is too wet or too cold or has been allowed to dry out. Compacted soil or seed-starting mix also can prevent germination; this is why seed-starting mixtures usually contain light, loose materials.

Temperature — Most garden seeds germinate best indoors with temperatures between 65 and 75 degrees Fahrenheit. Annuals that come from tropical climates generally can germinate at any time. Plants from colder climates germinate in the spring and must go through a cold period. Alternately applying cold and warm temperatures encourages certain seeds to germinate. This process is called stratification.

Light — Some very tiny seeds such as lettuce need to be on the surface of the seed-starting mix or soil as they do not have the energy to push up through the medium; they will not germinate without light. The seed senses the light by a pigment called phytochrome.

Seed Coat — Some seeds have a very hard seed coat, which water can’t penetrate. Sometimes you need to cut or nick the seed coat with a knife or with sandpaper. In extreme cases, like with the Kentucky coffee tree, sulfuric acid is used. The cutting of the seed coat is called scarification.
Viability — A seed may not germinate because the embryo is damaged or incomplete or the seed has been stored too long or under poor conditions.

Timing — Some large seeds such as acorns or horse chestnuts take a long time to germinate, sometimes up to two years. In the first year they produce a root, and in the following year cotyledons (seedling leaves).

**Intensive Gardening**

**MORE VEGETABLES FROM LESS SPACE**
- Succession Planting
- Intercropping / Interplanting
- Vertical Planting / Trellising
- Close Spacing

**Interplanting**
Interplant a short-season crop like radishes or beets with a long-season crop like tomatoes or peppers. Make sure both crops have enough fertilizer.

**Saving Space**
Use space-saving varieties like brush squash.

**Succession Planting**
When one crop has been harvested, plant a second crop that will be ready in the fall.

**Trellises**
Save space by trellising and staking vine crops like pole beans and cucumbers.

**Raised Beds**
Raised beds help create well-aerated growing areas. Make 3-5-foot wide beds so they can be worked from both sides.

**SUCCESSION PLANTING**
- The purpose of succession planting is to prevent large areas of the garden from being unproductive.
- Succession planting is made up of two essential techniques.
- The first technique is planting the same crop in different parts of the garden at different times. For example, two rows of bush beans planted three weeks apart.
• By staggering the planting dates your harvest season lasts longer. Instead of being overwhelmed with a certain crop, you will have a convenient supply of fresh produce.

• The second technique is to plant either the same or different crops one after the other in the same row. For example, brussels sprouts after early peas have been harvested, squash after early beets or beans after beans.

• Re-planting the same areas will help to keep all parts of the garden in production throughout your growing season.

• Try planting something new from week to week. This cycle can start with the first cold-hardy greens in late winter/early spring, to the warmer season crops like tomatoes, peppers and
eggplant. Then start all over again by planting frost-hardy crops from late summer all the way through mid-fall.

**INTERCROPPING**

- Fast- and slow-maturing crops can be combined in the same row to increase productivity.

- Interplant crops that grow quickly (like radishes, which mature in three weeks) with crops that have a longer growing season (carrots). The two crops can be seeded at the same time.

- Other examples include loose-leaf lettuce planted between cabbages. The lettuce can be harvested in about 45 days, well before the cabbage is big enough to crowd it. Onion sets for harvesting as scallions can be planted among tomatoes, etc.

- In Native American tradition: try planting the three sisters (corn, beans and squash). Plant the beans and squash below the corn; corn provides support for the beans and squash shades the soil.

- Intercropping can also prove beneficial for pest control.

**VERTICAL PLANTING / TRELLISING**

- Many plants that naturally sprawl can be grown vertically on stakes, trellises or fences to make the most efficient use of space in your garden.

- In urban gardens where space is limited, trellising will allow you too grow more food in a small space.

- The fence that surrounds the garden can double as a trellis.

- Trellises can be made of many materials, found and purchased.

- Be sure to have your trellis up and ready to go long before the plant needs the support.

- Staked or trellised vegetables should be planted on the north side of low-growing plants so as not to shade them.

**CLOSE SPACING**

- Seed companies and gardening books usually recommend leaving enough space between rows to allow a mechanical cultivator to pass, but a gardener who cultivates his/her plot by hand can increase yields by crowding the vegetables somewhat.

- Radishes and carrots, for example, can be planted in such close proximity that they almost touch each other.

- Other examples include kale, peppers and cabbages, which will flourish only a foot apart.

- Crowding may diminish the yield per plant, but the yield of the entire row/bed will be increased.
**Organic Pest Control for Vegetable Gardens**

Healthy plants with a good diet of nutrients are less likely to become diseased or infested by insects than stressed plants. In fact, about 90 percent of insect attacks occur on already distressed plants, according to author John Jeavons, and poor-quality soil is usually the source of the problem. Remember, too, that not all insects are bad—only a small percentage of insect species cause severe problems to vegetable plants. If you see signs of damage, try to identify the insect and notice how many there are to determine if you actually have an infestation.

The following first steps are environmentally sound ways to help prevent pest problems. They are good gardening practices in general and are known as cultural controls.

- **Choose the right plant for the site.** Plants well-suited to the soil, moisture level, sunlight, and other conditions of your garden, such as native plants, can resist pests and will grow healthier overall.

- **Choose disease- and insect-resistant crops.** Seed catalogs usually make note of these varieties in plant descriptions. For example, some vegetables have good resistance to pest nematodes, microscopic worms that feed on plant roots and tissue.

- **Rotate your vegetable crops.** Plants in the same family (for example, broccoli and kale are in the Brassica family) tend to be susceptible to the same pests. So each season rotate these plants around the garden, making sure not to grow a plant from the same family in the same place as before.

- **Mix your plantings rather than planting in rows.** Many insect pests are attracted to certain plants and will attack an entire row if they can easily move from one plant to another. Interplanting with flowers or vegetables of a different variety can help to avoid an increase in pest populations. Also, mix plants of different shapes and sizes to avoid shading out and to save space.

- **Plant perennials nearby.** Use older plants, often perennials, with a well-developed aroma to help confuse or distract pests from your crops. Perennial herbs such as lavender have shown to be successful. Testing several herbs will help you see which are effective in the New York City area; some herbs may work better than others.

- **Attract beneficials.** Grow flowering plants that provide pollen and nectar to attract to your garden beneficial insects, those that feed on pests. Plants that attract beneficials include goldenrod, mints, sunflowers, dill and cilantro.

- **Water properly.** Plants that are watered when needed are less susceptible to pests and diseases.

- **Keep your garden clean.** Insects and diseases may overwinter in plant debris. Gather up spent and harvested plants and add them to the compost pile, but discard diseased plants in the trash.

- **Plant at the right time.** Some vegetables such as potatoes and cilantro prefer cooler weather. Know the best time to plant certain plants so that they thrive in the right conditions. If you suspect you have a pest problem in your garden, your next step is to identify the culprit. If you spot the insect or animal, look it up in a book or on the Internet. If you see only the damage to the plant, look up common pest problems associated with the type of vegetable affected.

* Plants are scientifically classified into different groups for easier identification. A family is a group of plants whose members resemble one another in certain respects.
• **Physical controls** are steps you can take once you have identified a specific pest problem.

• **Handpicking** often works best on slow insects and those still inside eggs. This is a guaranteed organic method of insect control—you pick off and squash the culprit! For example, you might see a white cabbage moth flying around your cabbage, kale, or collards. If you can’t catch it by hand, look for the cabbage worm (an earlier life stage of the moth that is greenish in color and blends right in with the cabbage plant). Look for holes in the leaves or droppings as a sign of the pest.

• **Create places for insects to gather** to make it easier to find and eliminate them. Slugs will gather under a board, cucumber beetles will congregate under wilted squash vines, earwigs will go into a tube of rolled newspaper.

• After you have hand-picked or collected gathered pests, **drown insects in soapy water**. You can then dispose of them in your compost pile.

• **Create barriers**. Row covers, made of thin, lightweight polyester, let sunlight and water reach plants but not insects. For plants that require cross-pollination, you will need to remove the row covers for a few hours each day. Other barriers include: plastic collars to prevent cutworms (a type of caterpillar) from eating plant stems, root maggot shields (tarpaper placed at the base of plants to prevent cabbage maggot flies from reaching the soil to lay eggs), and tree wraps and fruit bags (protective bags placed over fruit as they ripen).

• **Set out traps**. Different ones are needed for different pests.

• **Aphids, thrips, and whiteflies are attracted to color yellow**. Apply Tanglefoot (or other sticky coating) to a painted yellow board and place at foliage level. The pests will fly to the yellow board and get stuck.

• **Slugs are attracted to alcohol**. Set out a cup of beer or a dish of sugar water and yeast in a hole that is level with the ground.

• **Spray them with water**. A strong spray from a hose will knock off aphids and spider mites.

• **Remove all signs of pest damage**. Cut out damaged portions of the leaves and gently spray off droppings with a hose. By doing this, even if you missed a pest, you will see new signs of damage and be able to take action.
Oh Rats!

Information for this section was derived from the NYC-DOHMH rodent task force and edited for use by our GreenThumb gardeners.

WHAT CONTRIBUTES TO RATS

Rats seek out places to live that provide them with everything they need to survive: food, water, shelter and safe ways for them to get around. Rats like to build nests or burrows in the earth and prefer traveling along the same paths over and over—often using walls, fences and bushes to find their way.

To keep rats out of your property or neighborhood, you and your neighbors can take steps to make life more difficult for rats:

• Clean up: Garbage and clutter give rats a place to hide.

• Store all garbage in hard plastic rat-resistant containers with lids. Rats eat your garbage.

• Provide enough trash containers to handle all of the garden’s trash. Any exposed trash will attract rats.

• Keep landscaped areas around your property free of tall weeds and trim shrubs that are close to the ground. Keep a plant-free zone 16” to 24” along fence lines, interior structures and neighboring buildings.

• Check for cracks or holes in the foundation of your building, sidewalk, and under doors and repair them by filling and sealing them.

If you think you have rats in your garden, contact your borough outreach coordinator for assistance (see page 2 to find your outreach coordinator).

PREVENTING RATS: WHO IS RESPONSIBLE?

Whether you own your own property or rent, share, borrow or just visit, everyone has a role in rat prevention. You can keep your neighborhood rat-free by placing all trash in tightly sealed rat-resistant trash cans and by taking other actions to reduce the conditions that allow rats to survive. Cleaning up, containerizing trash, and maintaining buildings, lots and yards and are all important steps in rat control.

PROPERTY OWNERS

Property owners are responsible for maintaining a rat-free environment on their properties. The NYC Health Code requires owners to clean their properties and eliminate conditions that lead to rats and when appropriate, to hire a pest management professional. Conditions in and outside buildings and on lots and other premises that contribute to rats are violations of Article 151 of the Health Code. These include accumulation of garbage, waste material and water, and garbage that is not kept in tightly covered in rat-resistant trash cans.

TENANTS

Tenants need to do their part by handling garbage correctly—placing garbage into tightly covered trash cans and promptly reporting rats to property owners, building managers or co-op associations. Tenants can show their building management where they have seen rats or signs of rats and ask them to use the DOHMH Guide “Preventing Rats on Your Property.” If nothing is done, tenants can call 311 to report the problem.

THE NYC DEPARTMENT OF HEALTH & MENTAL HYGIENE

The Health Department’s Pest Control Services program enforces the Health Code. When a resident calls 311 to report signs of rats, the Health Department inspects the property to ensure that property owners are following the Health Code. When a property fails an inspection, the owner is
issued a Commissioner’s Order from the Health Department notifying that rats or conditions that encourage rats have been found on their property. Depending on the severity of the problem, property owners are given a chance to correct conditions before the Health Department returns for a second inspection.

**HOW TO INSPECT, PREVENT AND RESPOND TO RATS**

Follow the five steps below to manage rats on your property.

**STEP ONE: LOOK FOR EVIDENCE**

Anyone can inspect for rats. Walk around your property and look for evidence of rat activity. Make up and fill out an inspection form to document inspection findings. You can give this to the LRP crew or pest management professional for follow-up.

Rats come out at night, so walk around outside with a flashlight after dark. This will help you see where rats are going, so you can check for burrows when it gets light.

Look for places where rats live. Most rats live in nests or burrows. Burrows are holes in dirt or concrete from 1-4 inches wide, with smooth edges. Burrows can be found under bushes and plants. They will often have an entrance and exit hole.

Look for droppings. Droppings are often found close to garbage. If they’re moist and dark, it’s a sign that rats are in the area.

Look for holes and gnaw marks on wood and plastic garbage cans.

**STEP TWO: CLEAN UP**

Cleaning up and getting rid of clutter is an easy and effective way to prevent rats.

**Wash Away Droppings and Track Marks:** Rats communicate and attract each other through their urine and droppings. Sweep up droppings, and clean up dark greasy track marks. Wash down the area with water and a mild bleach solution (one part bleach, 10 parts water). Talk to your neighbors and work together to clean up, so rats don’t move from one place to another.

**Get Rid of Clutter:** Clutter gives rats lots of places to hide, sleep, nest and reproduce. Remove (and recycle) piles of newspapers, paper bags, cardboard and bottles. Clear out your basement and yard. Store items away from walls and off the ground.

**Control Weeds and Shrubs:** Rats are often found in burrows under bushes and plants. Keep tall grass, bushes, shrubs and mulch away from building foundations. Pull out ivy around burrows. Keep ground bare 6 inches from buildings, and trim under shrubs. Make space between plants, and avoid dense planting. Keep gardens free of weeds and trash.

**STEP THREE: STARVE THEM**

Rats only need one ounce of food each day. Don’t make your garbage their food.

**Manage Your Garbage:** Bring garbage cans and bags to the curb as close to pickup time as possible. Leaving them out overnight invites rats. Make sure you have enough garbage cans to hold trash between pickups. Use hard plastic or metal cans with tight-fitting lids. Insist that tenants put garbage inside cans.

**Keep Food Away:** Keep all food in tightly sealed containers. Don’t put food out for stray cats, pigeons or squirrels.
STEP FOUR: SHUT THEM OUT
Rats chew holes into buildings, and can squeeze through cracks and holes as small as a half-inch. To keep rats out for good, seal all holes and cracks in foundations, walls, floors, underneath doors and around windows. Most repairs can be done by maintenance staff, superintendents or pest control professionals. Materials are inexpensive and available at most hardware stores.

Seal Cracks and Small Holes:
• Seal cracks and small holes with caulk, or use roofing cement—it’s durable and easily applied with a caulking gun.

• Close gaps under doors with rodent-resistant metal door sweeps.

• Close window gaps with metal flashing.

• Put screens on vents, especially on lower floors.

Fill Large Gaps and Holes:
• Use mortar or ready-mix cement to fill gaps and holes in cement and stone foundations. Cover large holes with metal lathe or screening, then seal with mortar or cement.

• Cover floor drains and vents with heavy-duty metal screening, secured with masonry nails or cement.

• Install sheet metal kick plates on the lower exterior of doors where rats have been gnawing or entering the building. Install metal thresholds underneath.

• Use door sweeps to keep gaps under doors smaller than a quarter-inch.

• Consider installing heavy-gauge sheet metal between foundations and the ground.

• Seal pipes leading into walls with escutcheon plates (“pipe collars”). Check pipes regularly for leaks.

Close Inactive Burrows
An inactive burrow will often have leaves, cobwebs or other debris around the entrance. These burrows should be closed so rats can’t get back in.

• Close burrows in soil by filling with soil and tamping down with a shovel, or by stepping on them.

• Close burrows in cracked or broken sidewalks with metal filler and cement.

STEP FIVE: WIPE THEM OUT
Rodent bait is an effective way to wipe out rats. But applying these poisons is a job for professionals. If you live in your own home without tenants, the law allows you to place rodent bait yourself.

For all GreenThumb community gardens, rodent abatement is handled by the land restoration project crew. Visits from the crew will include inspection, instruction on IPM (integrated pest management) steps that you the gardener can do and baiting as appropriate.
If you hire a GreenThumb-approved company; make sure that the pest control company follows these guidelines:

• Always read and follow the manufacturer’s label, and use the smallest effective amount of bait.

• Use disposable gloves when handling bait, and wash your hands afterwards.

• Use secured bait chunks (called bait “blocks”) inside tamper-resistant bait stations. Secure or anchor bait stations to the ground or fence with cement, caulk or wire.

• Place bait stations on the same path as rats normally travel—often along building walls and fence lines. Since rats always travel on the same path, they’re more likely to eat from stations along it.

• Use a funnel to place loose pellet bait into burrows. This will help ensure pellets are placed deep into the burrow, so rats can’t push them out.

• Bagged bait should not be used in burrows or bait stations. Rats can push or carry them out of burrows or stations, where children, pets or wildlife can get to them.

• Store and place bait stations where children and pets can’t get to them.

• Never use a product that doesn’t have a U.S. Environmental Protection Agency (EPA) Registration Number.

• Replace bait after it’s been eaten. Leave bait stations and bait in place for at least two weeks after all rat activity has stopped. Monitor on a monthly basis.

• Never use Tres Pasitos or other illegal bait products or do self-applications.

• Rats contaminate food, spread diseases and reduce our quality of life. Their gnawing and burrowing can damage utilities and reduce the structural integrity of buildings. Rats can be a property, block or neighborhood problem and require a coordinated response.

For more information about pesticides, call the National Pesticide Information Center at 800.858.7378.
Organic Remedies For Disease and Pest Problems

HOMEMADE INSECT SPRAY
Reprinted with permission from Organic Gardening magazine
This spray helps protect against cabbage worms, caterpillars, tomato hornworms, aphids and other pests. Use gloves when handling hot peppers, and avoid contact with your eyes.

Ingredients

• 6 cloves garlic, crushed
• 1 onion, minced
• 1 tablespoon dried hot pepper (powder works well)
• 1 teaspoon pure soap (vegetable-based is safest; do not use detergent)
• 1 gallon hot water

Blend garlic, onion, pepper and soap in hot water and let the mixture sit for a day or two. Strain before using. Spray on foliage, both above and below, to get the underside of the leaves. Be aware that sprays that kill harmful insects will also kill beneficial insects. Use these homemade remedies selectively, only spraying the infected plants. Apply them early in the morning or just before dark. Reapply after a rain.

Note: Water is the carrier, soap makes the spray stick, and the plant juices from the garlic, onion and hot pepper are the active ingredients that fight pests.

COMPOST TEA
Compost tea can help fight fungal diseases like powdery mildew and Botrytis blight.

To make compost tea:
1. Place 1 gallon of well-aged compost in a 5-gallon bucket and fill with water.
2. Set in a warm place for three days.
3. Filter the mixture through a screen or cloth (such as burlap or cheesecloth) and return the solids to your compost pile.
4. Place the liquid in a sprayer or watering can.
5. Pinch off any heavily diseased leaves before applying the tea to the plant.
6. For best results, use the treatment in the evening, when leaves are likely to remain damp for several hours.
7. Sometimes a single treatment will not stop the disease. Check the plants every 3-4 days and repeat the application if necessary.
Planting For A Fall Harvest

Many vegetables for Fall Harvest should be sown or transplanted during the summer months. Our area is fortunate to have the longest growing season in New York State and the cool days and nights of fall provide ideal conditions for growth and development of fall crops.

Planting times should correspond to harvesting vegetables around the time of the first frost in this area (October 20), even though Harvest can extend well up to Thanksgiving.

**NUMBER OF DAYS UNTIL FIRST FROST**

<table>
<thead>
<tr>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
</tr>
<tr>
<td>66</td>
</tr>
<tr>
<td>81</td>
</tr>
<tr>
<td>97</td>
</tr>
</tbody>
</table>

**Crop Date to Plant**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Date to Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cole</td>
<td>Seed: July 15-30; Transplant: Aug. 15-20</td>
</tr>
<tr>
<td></td>
<td>kale, kohlrabi, mustard Seed: Aug. 1-20</td>
</tr>
<tr>
<td></td>
<td>brussels sprouts Seed: July 1-10; Transplant: July 15-30</td>
</tr>
<tr>
<td>Leafy Greens</td>
<td>Seed: Aug. 15 - Sept. 1; Transplant: Sept. 1-10</td>
</tr>
<tr>
<td>Root</td>
<td>Seed: Aug. 15 - Sept. 1</td>
</tr>
<tr>
<td></td>
<td>radish Seed: Aug. 1 - Sept. 30</td>
</tr>
<tr>
<td></td>
<td>rutabaga Seed: Aug. 1-15</td>
</tr>
<tr>
<td>Bush-Beans and Peas</td>
<td>Seed: Aug. 10-20</td>
</tr>
<tr>
<td>Oriental Vegetables</td>
<td>Seed: Aug. 1-20</td>
</tr>
</tbody>
</table>
# Cool Season Crops

<table>
<thead>
<tr>
<th>Seed (S) or Transplant (T)</th>
<th>Days to Harvest</th>
<th>Minimum Spacing in Row</th>
<th>Ideal Temp Range (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cole Crops</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broccoli</td>
<td>T</td>
<td>70-90</td>
<td>16”</td>
</tr>
<tr>
<td>Brussels sprouts</td>
<td>T</td>
<td>85-105</td>
<td>16”</td>
</tr>
<tr>
<td>Cabbage</td>
<td>T or S</td>
<td>60-90 (T); 90-120 (S)</td>
<td>12”</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>T</td>
<td>65-80</td>
<td>16”</td>
</tr>
<tr>
<td>Collards</td>
<td>T or S</td>
<td>55-65 (T); 70-80 (S)</td>
<td>12”</td>
</tr>
<tr>
<td>Kale</td>
<td>S</td>
<td>50-70</td>
<td>8”</td>
</tr>
<tr>
<td>Kohlrabi</td>
<td>S</td>
<td>50-70</td>
<td>8”</td>
</tr>
<tr>
<td>Mustard</td>
<td>S</td>
<td>40-50</td>
<td>8”</td>
</tr>
<tr>
<td><strong>Leafy Greens</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chard</td>
<td>S</td>
<td>45-55</td>
<td>6”</td>
</tr>
<tr>
<td>Corn Salad</td>
<td>S</td>
<td>40-50</td>
<td>6”</td>
</tr>
<tr>
<td>Cress, Upland</td>
<td>S</td>
<td>45-55</td>
<td>4”</td>
</tr>
<tr>
<td>Cress, Garden</td>
<td>S</td>
<td>40-50</td>
<td>41”</td>
</tr>
<tr>
<td>Endive</td>
<td>S</td>
<td>80-100</td>
<td>6”</td>
</tr>
<tr>
<td>Lettuce, Coz.</td>
<td>S</td>
<td>50-60</td>
<td>6”</td>
</tr>
<tr>
<td>Lettuce, Head</td>
<td>T or S</td>
<td>75-95 (T); 95-115(S)</td>
<td>12”</td>
</tr>
<tr>
<td>Lettuce, Leaf</td>
<td>S</td>
<td>35-45</td>
<td>4”</td>
</tr>
<tr>
<td>Parsley</td>
<td>S</td>
<td>70-90</td>
<td>2”</td>
</tr>
<tr>
<td>Spinach</td>
<td>S</td>
<td>40-50</td>
<td>4”</td>
</tr>
<tr>
<td><strong>Root Crops</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beets</td>
<td>S</td>
<td>50-65</td>
<td>3”</td>
</tr>
<tr>
<td>Carrots</td>
<td>S</td>
<td>55-80</td>
<td>2”</td>
</tr>
<tr>
<td>Radish</td>
<td>S</td>
<td>25-35</td>
<td>2”</td>
</tr>
<tr>
<td>Rutabaga</td>
<td>S</td>
<td>80-90</td>
<td>4”</td>
</tr>
<tr>
<td>Turnip</td>
<td>S</td>
<td>40-60</td>
<td>4”</td>
</tr>
<tr>
<td><strong>Fruiting Crops</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beans, Bush</td>
<td>S</td>
<td>50-60</td>
<td>4”</td>
</tr>
<tr>
<td>Peas</td>
<td>S</td>
<td>60-80</td>
<td>3”</td>
</tr>
<tr>
<td><strong>Oriental Crops</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese Broccoli (Gai Lohn)</td>
<td>S</td>
<td>60-80</td>
<td>6”</td>
</tr>
<tr>
<td>Ch. Celery Cabbage (Pe-Tsai)</td>
<td>S</td>
<td>70-90</td>
<td>14”</td>
</tr>
<tr>
<td>Ch. Mustard (Bok Choy)</td>
<td>S</td>
<td>40-60</td>
<td>6”</td>
</tr>
<tr>
<td>Ch. Radish (Io Bok)</td>
<td>S</td>
<td>45-80</td>
<td>2”</td>
</tr>
</tbody>
</table>
Cover Cropping Basics

- **Cover Crop** — Any plant species or mix of species, usually grasses or legumes, grown to cover, protect and improve the soil. Cover crops are usually planted in the fall and are either killed by cold weather or are mowed and dug in the following spring.

- **Green Manure** — A cover crop from the legume family, such as hairy vetch, any clover, or field peas, grown to add nitrogen to the soil.

- **Undersowing** — Practice of planting a cover/green manure crop under another crop. This allows your bed to be productive while reaping the benefits of cover cropping.

**Benefits of Cover Crops**

- Adds organic matter. Healthy soil is full of life: microscopic bacteria, fungi, protozoa, nematodes, etc., all of which eat decaying matter and release plant-available nutrients.

- Adds nitrogen. Nitrogen is a big player in plant growth.

- Improves soil structure. Protects and lightens soil, adds air pores, and prevents soil compaction over the winter.

- Provides weed control.

- Holds and contributes to the amount of soil nutrients.

**Rules of Thumb**

- Roughly dig and remove large weeds and level soil before planting a cover crop.

- Before an early spring crop (such as peas or spinach), choose a winter-killed cover crop such as oats. Before a summer crop (such as corn or tomatoes), choose a winter hardy cover crop such as vetch or rye.

- Add compost before planting your fall cover crop or in the spring before mowing.

- Basics of nitrogen fixation: bacteria do a miraculous thing—take (N) gas from atmosphere and make it usable for plants.

- Make sure the right types of bacteria are in the soil; compost helps add proper amounts of bacteria.

- How to maximize the N contribution: The general rule of thumb is to get it while it’s still green! For annual legumes, N fixation continues until flowering (example: alfalfa or white clover). For perennial legumes, N fixation continues throughout their life cycle (example: soy beans).

- Benefits: Same as for any cover crop, but can extend the period of time that a cover crop is growing and, if its a green manure, the time it’s fixing Nitrogen.

- 4-5 week rule: Plant undersown crop 4-5 weeks after main crop.

- Mix plants w/ complementary growth habits. For example, tall main crops with low-growing undersown crop.
## GREEN MANURES & COVER CROPS

<table>
<thead>
<tr>
<th></th>
<th>Seeding Rate (LB./100 SQ.FT.)</th>
<th>When to Sow</th>
<th>When to Turn Under</th>
<th>Soil Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>0.3</td>
<td>Spring</td>
<td>After 2 years</td>
<td>Fertile loam, well-limed, well-drained</td>
</tr>
<tr>
<td>Buckwheat</td>
<td>0.25</td>
<td>Early Summer</td>
<td>Late Summer</td>
<td>Widely adaptable</td>
</tr>
<tr>
<td>Clover, Alsike</td>
<td>0.25</td>
<td>Spring</td>
<td>Fall</td>
<td>Tolerates acidic and poorly drained but not sandy</td>
</tr>
<tr>
<td>Clover, Red</td>
<td>0.275</td>
<td>Late Spring / Summer</td>
<td>Following Spring / Fall</td>
<td>Fertile loam, slightly acidic/neutral</td>
</tr>
<tr>
<td>Clover, Ladino</td>
<td>0.3</td>
<td>Late Spring / Early Summer</td>
<td>Following Spring / Fall</td>
<td>Sandy loam - medium loam</td>
</tr>
<tr>
<td>Millet, Japanese</td>
<td>0.75</td>
<td>Late Spring / Early Summer</td>
<td>Late Summer / Fall</td>
<td>Loam relatively fertile, tolerates low pH</td>
</tr>
<tr>
<td>Oats</td>
<td>2.5</td>
<td>Early Spring / Late Summer / Fall</td>
<td>Fall, Following Spring</td>
<td>Widely adaptable to pH and fertility</td>
</tr>
<tr>
<td>Rye, Winter</td>
<td>2.5</td>
<td>Late Summer / Early Fall</td>
<td>Spring</td>
<td>Widely adaptable to pH and fertility</td>
</tr>
<tr>
<td>Ryegrass, Italian</td>
<td>1.0</td>
<td>Spring / Fall</td>
<td>Fall, Spring</td>
<td>Widely adaptable to pH and fertility</td>
</tr>
<tr>
<td>Sudan Grass and Sorghum-Sudan-Grass Hybrids</td>
<td>0.75</td>
<td>Early Summer / Summer</td>
<td>Fall</td>
<td>Widely adaptable to pH and fertility</td>
</tr>
<tr>
<td>Vetch, Hairy</td>
<td>1.25</td>
<td>Spring</td>
<td>Fall</td>
<td>Widely adaptable to pH and fertility</td>
</tr>
<tr>
<td>Wheat, Winter</td>
<td>2.5</td>
<td>Late Summer / Early Fall</td>
<td>Spring</td>
<td>Widely adaptable to pH and fertility</td>
</tr>
</tbody>
</table>
Seed Saving

This ancient practice dates back to the Stone Age. As our ancestors transitioned from hunting and gathering to farming, they would select seeds for replanting the next season. For today’s gardener, seed saving:

• Saves money

• Allows you to grow plants that have adapted over time to local conditions

• Preserves varieties that are part of human history

• Builds self-reliance: You control what you grow and eat.

HARVESTING SEEDS

Fruits, berries, and seeds embedded in the flesh of fruits are usually collected in plastic buckets, deli containers, or bowls.

Seed pods are best collected in baskets, which allow better air circulation for further drying. However, paper bags, feed sacks, and cardboard boxes can also be used.

TWO WAYS TO CLEAN SEEDS

Wet Process — For seeds in the flesh of fruits or berries such as tomatoes, cucumbers and melons.

1. Cut open the fruit and remove the seeds.

2. Wash the seeds. Place the seeds with pulp in a large bowl or bucket. Add twice as much water as the seed/pulp mix and stir vigorously. Good, productive seeds are more dense and will sink to the bottom, whereas poor quality seeds tend to float. Pour off the floating seeds and debris and add more water. Repeat the process until only clean seeds are left. Then pour them into a strainer and wash under running water.

3. Dry the seeds. Wipe the bottom of the strainer to remove as much moisture as possible. Then thinly spread the seeds onto a glass or ceramic dish, cookie sheet, window screen, or sheet of plywood. Do not dry on paper or flexible plastic as the seeds may stick. It is important to dry seeds as quickly as possible, because warm, wet seeds will start to germinate or mold. Stir the seeds several times a day. Damage can occur if the temperature of the seeds gets above 96°F, so never dry seeds in an oven.

Dry Process — For plants that produce seeds in pods or husks such as beans, peas and radishes.

1. It is preferable to allow the pods to dry on the plant and then harvest them individually.

2. You may also pull out the whole plant with its seed pods (especially if a frost might occur), and then hang the whole plant to dry. As the plant dies, the seeds continue to mature and gain strength.

3. To remove the seeds from their coverings (the process is called threshing), put the seed pods in a burlap sack or pillow case and shake so that the pods crack open. For smaller seeds, mash the pods between two boards, being careful not to rub too hard, which can cause the seeds to split or break.
SEED STORAGE
After the seeds have dried thoroughly, it is important to store them properly in airtight storage containers so that they stay dry and keep longer. Airtight storage containers maintain the seed’s vigor—its ability to germinate rapidly and with good resistance to disease. High temperatures (greater than 100°F) and moisture are the enemies of stored seeds.

Glass and metal are the only containers that are completely moisture-proof. Baby food jars (with a good rubber seal) and canning jars work well.

Store your airtight containers in a cool, dark, dry place. Locations at floor level are better than near the ceiling, because temperatures will be cooler.

Remember to label your seeds. Multiple packets of seeds can be put in plastic bags or envelopes, then put in an airtight container.

Seeds of all species can be stored for many years with almost no loss of germination and minimal loss of vigor when sealed in an airtight container and frozen. However, the seeds must be dry—moisture expands when frozen and breaks down cell walls.

RECORD KEEPING
Gardeners who grow their own vegetable seeds need to keep good records of seed sources and plant characteristics. An easy way to do this is with an index card file with dividers that tell the type of plant in each section.

Each card should include:

• Type of plant
• Variety name (for example, purple bush bean)
• Name and address of the source of the seed
• Date you obtained the seed
• Date the seeds were stored
• Year you last grew the plant
• History or cultural notes

You might also add growing information: days to maturity, grown from seed or transplant, diseases or pest problems, flavor and appearance.
Pruning

For gardens under the jurisdiction of Parks & Recreation: No gardener or their agent may cut, remove, rootslice or otherwise damage a tree on or adjacent to the site without prior authorization from GreenThumb.

The exception to the policy regards routine pruning. Gardeners who have completed the “Citizen Tree Pruner” training or another recognized pruning training from the botanical gardens, or Tree Trust may handle basic pruning needs in the garden. Copies of these course records should be forwarded to the GreenThumb office to become part of the permanent record for your garden. Go to our website for Tree Removal Protocol.

THE BENEFITS OF TREE PRUNING: A MINI-GUIDE

The following is adapted from material distributed by The New York Botanical Garden.

Pruning is the removal of branches from a tree, bush or plant. Appropriate pruning is essential to the health of your trees and shrubs. When properly done, it stimulates and redirects new growth, rejuvenates old growth, prevents future problems, increases production and improves the overall health and longevity of the tree or shrub.

Before you prune, however, you should consider when, how and why to prune. Here are a few simple guidelines:

1. Know your plant’s growth pattern and flowering time. Prune at the appropriate time of the year.

2. Choose the appropriate tool for the size of your plant.

3. Always prune crossing, dead and diseased branches promptly. This can be done at any time of the year.

4. Make a clean cut without leaving ragged edges or crushed bark behind.

5. Put safety first. If the task is too large to be done on your own, ask for help.

If you’d like to learn more about pruning, here are some books to check out:

- *American Horticultural Society Pruning & Training*: A comprehensive guide with superb illustrations


- *The Pruning Book* by Lee Reich: A good home gardener’s guide to pruning, with a great section on fruit trees

- *An Illustrated Guide to Pruning* by Edward Gilman: A professional’s tree pruning reference

- *The Well-Tended Perennial Garden* by Tracy DiSabato-Aust: Discusses the importance of pruning herbaceous plants

The New York Botanical Garden in coordination with GreenThumb offers a free pruning certification course each fall and spring. By completing a pruning certification course, you become eligible to receive free pruning tools if you are with a registered GreenThumb garden. If you would like to sign up for the next pruning certification workshop, please call the New York Botanical Garden at (718) 817-8700 or refer to their website (www.nybg.org). Trees New York also offers a similar course (www.treesny.com/programs.html). Additional information related to pruning may also be obtained by contacting the New York Botanical Garden.
Parks Tree Removal Protocol

The urban forestry mission of Parks & Recreation is to preserve, protect and enhance the park, street and forest trees under its jurisdiction. It is the policy of this Agency to avoid the removal of trees wherever possible. There are only four situations in which a tree under the jurisdiction of Parks may be removed. They are (1) if the tree is dead, (2) if the tree is irreversibly diseased, (3) if the tree presents a hazard and (4) if there is an unavoidable conflict between the tree and a construction project. All GT gardeners must follow this protocol for trees within the garden, immediately adjacent to the garden and any neighboring street trees.

REGULATORY FRAMEWORK

Parks Rules & Regulations regarding trees derive from Title 56 of the Rules of the City of New York. The tree removal standard reads:

104(b)(1)(a) No person shall deface, write upon, injure, sever, mutilate, kill or remove from the ground any trees under the jurisdiction of the Department without permission of the Commissioner.

Parks Rules & Regulations (2000 edition) extends the same protection to “...any plants, flowers, shrubs, or other vegetation...” under Parks jurisdiction.

NUISANCE-RELATED TREE REMOVAL PERMIT REQUESTS

Permit requests for reasons other than construction will be examined closely and assessed on the merits. Frivolous applications will be denied in writing. Nuisance tree removal requests may include, but are not limited to, the following reasons: female ginkgo, tree roots in sewer, tree roots causing raised sidewalk, excessive seed or fruit drop and/or tree obscuring sign. Some of these reasons may be legitimate. Decisions will be made on a case-by-case basis and only where there is a clear threat to public health or safety and no alternative exists. There is no restitution or negotiated settlement for approved tree removals related to nuisances.

HEALTH OR CONDITION-RELATED TREE REMOVALS

Parks has a clear removal policy for trees that are dead or impacted by deadly pests and diseases (such as Dutch elm disease or the Asian Longhorned beetle). These trees are removed as soon as possible.

Other factors that may indicate a tree is a candidate for removal include defects or deformities and decay in the crown, trunk, branches, root collar, and roots. Signs to look for include:

a. Wounds, cavities, broken and large dead branches. Decay often lurks behind wounds, especially wide wounds. Loose, cracking bark in the stem, branches or root crown is also a potential indicator of decay.

b. Cracks, splits and stem deformities. Including external deformities, such as cankers and galls.

c. Fruiting bodies. Mushrooms and conks along stems and at the base of a tree may indicate extensive decay within. Information including the type of fungi present will impact the decision-making process.

d. Oozing sap. If a tree is bleeding through the bark it may be an indication of the presence of a disease (such as a canker) or an insect attack.

e. Insects. The presence of carpenter ants and termites indicates decay. Look for sawdust-like grass at the base of the tree.

f. Nesting holes, bee hives. Both of these indicate the presence of a cavity and the associated decay.

g. Structural problems. Problems including a pronounced lean, girdling roots or poor large branch attachments that may indicate a high potential for failure in a severe weather event.
h. Past cultural practices. A tree may exhibit a hazardous condition if it has as a result of past activities, such as topping or other poor pruning practices, or if roots have been broken, injured, or damaged from lowering the soil level, installing pavement, repairing sidewalks or digging trenches.

i. If the tree is a hazard (see below). A tree is considered a hazard if it has a high potential for structural failure and if it is located near a target that would result in personal or property damage.

HAZARD TREE ASSESSMENT
For trees that are not readily assessed using the above guidelines, a more thorough examination will be performed. There are a few standard methodologies that are widely accepted in the tree profession. All possible techniques will be utilized by GT and LRP staff in evaluating trees of concern.

TREE DAMAGE INCIDENTS
Personnel will use the Forestry Intake Report to document tree damage incidents. The form should then be submitted to the appropriate division for follow-up. Arborcide (the unauthorized or wanton destruction of a tree under Parks jurisdiction) is the primary type of tree incident. Other tree damage incidents include physical injuries to the tree such as root cutting, limb pruning and trunk or stem injury (including affixing signs to trees). Tree damage has also occurred if the environment around the tree is impacted, such as soil damage due to the stockpiling of heavy materials under the tree. The following guidelines are used when calculating damage settlements:

1. Restitution payments for cases of arborcide, i.e. when a tree has been removed either by accident or design before an inspector for Parks has been able to evaluate its condition. In these cases, calculate restitution based on the basal area of the stump. Restitution payments will be made as described above. If any historical condition information is available (from an old inspection or from the tree census), the Operations Manager will evaluate the information on a case-by-case basis before departing from the basal area standard. The GT Director or Deputy Director will review all decisions on restitution for arborcide.

2. For less severe tree damage cases, include the cost of inspection and enforcement, as well as the required remedial tree or site mitigation in the damage claim.
CONSTRUCTION-RELATED TREE REMOVAL PERMIT REQUESTS

Construction-related tree removal requests are submitted to Parks by developers, private homeowners and other public agencies involved in building projects in New York City. When permit requests occur, the GT Operations staff will follow the procedures outlined below.

1. All tree removal permit requests must be made in **writing** and must include:
   (a) An explanation as to why the tree needs to be removed, and
   (b) Supporting documentation, such as construction drawings, site logistics and utility plans that show the impact of construction on the tree(s). Documentation is important because the permit applicant must always prove to the satisfaction of the Parks Operation Manager that the project can not move forward with the tree in its current location.

2. Permit applicants must receive a **written response** from the GT Operations Manager or their representative indicating that their request is being reviewed and that no action may be taken regarding the tree without written permission from GreenThumb or Parks & Recreation.

3. In reviewing the application, the Parks forester will conduct a thorough **site inspection**, and document the inspection with digital photographs. He/she must first look for a solution to save the tree by assessing whether the project design can be altered to avoid a conflict with the tree.

4. If there is an unavoidable conflict with a tree, the GT Operations Manager (or agent) determines if the tree is a suitable candidate for **transplant**. “Suitable” means that the tree has a very good chance for successful transplant and normal development. If the tree can be moved, the permit applicant/gardener must hire a contractor (or schedule with LRP staff) to move the tree in the appropriate time of year (late fall/early spring). A general guide for establishing root ball size is one foot of root ball diameter for each inch diameter of the stem of the tree. The GT Operations Manager (or agent) must first approve the proposed contractor and find a suitable location for the transplant. The Agency will obtain a performance bond for the basal area replacement value of the tree from the contractor as security in case the tree does not survive transplant.

5. If the tree is not a suitable candidate for transplant, the GT Operations Manager will **make a recommendation** on how to proceed. This recommendation should include a proposal for restitution based on the following steps:
   (a) First calculate the basal area replacement value of the tree. This is the appropriate replacement value for a strong, healthy tree that otherwise would live for many years.
   (b) If the tree’s condition makes the full basal area replacement value unattainable, then assess the condition of the tree based on the scoring system in the *Guide for Plant Appraisal* (International Society of Arboriculture, 2000, 9th Edition). Deduct the appropriate condition percentage from the basal area to determine the number of required replacement trees.

6. The GT Director or Deputy Director must review the recommendation of the Operations Manager for each tree removal permit request.
The tree removal permit should detail the conditions for restitution by the permittee to the Agency. The conditions should be include one of the following two options:

1. **Direct planting** by the permittee (through an approved contractor according to Parks standards) of the required number of replacement trees at locations approved by the Borough Forestry Manager. The Agency will obtain a performance bond for the basal area replacement value of the tree from the contractor as security until the trees are planted and the guarantee period expires.

2. **Compensatory payment** for the value of the required number of replacement trees. All checks should be made out to New York City Parks & Recreation and forwarded to the Chief of Forestry & Horticulture, Olmsted Center, Room 47.

There may be cases where there is an unavoidable conflict with a tree, yet the removal permit is denied. This may occur especially in the following cases: (a) when the tree is a good specimen, either because of size, health, species or historical significance, and (b) when the denial of the permit and therefore the construction does not cause undo hardship on the permittee.

**AS A CLOSING NOTE**

No Gardener or their agent may cut, remove, rootslice or otherwise damage a tree on or adjacent to their site without consult with and authorization from GreenThumb.

The lone exception to the above stated policy regards routine pruning. Gardeners who have completed the “Citizen Tree Pruner” training or another recognized pruning training from the Botanical gardens, or Tree Trust or others may handle basic pruning needs in their garden and on Street trees pursuant to their training. Copies of these course records must be forwarded to the GreenThumb office to become part of the permanent record for your garden.

Questions / Concerns: Contact the GT Operations Manager at 212.788.8076 or the Deputy Director at 212.788.8079.
A Beginner’s Guide to Butterfly Gardening

WHAT DO BUTTERFLIES NEED?

Nectar Plants and Host Plants
A butterfly has different food requirements during the different phases of its life. All adult butterflies depend on nectar plants as their food source. Females search for host plants on which to lay their eggs, and growing caterpillars feed on the host plants.

Certain butterflies need specific plants, while other butterflies can feed off a larger variety of plants. Native plants are important to a butterfly garden, since they are familiar sources of nectar and food for caterpillars. Some cultivated varieties of native plants do not produce as much nectar as the wild forms.

Minerals and Water
Butterflies need water, salt and other minerals, which can be found in mud puddles, dung or rotting fruit. You can create a mud puddle by making a small depression in the ground, lining the edges with pebbles, and adding water each morning. It is best if the puddles dry out by the end of the day.

Shelter
Butterflies also need shelter from the wind and inclement weather, a place to form their chrysalis, and a safe spot to spend the winter. Trees, large shrubs, or hedges form windbreaks. Leaf litter, old logs, and branches provide protected places to overwinter. Bushes, tall grasses, and piles of leaves or sticks are ideal areas for cocoons.

Plenty of Sunshine
Butterflies need to be warm in order to fly. Choose a sunny and protected place for your butterfly plants. Large, flat rocks placed in the sun will also provide a place for butterflies to warm themselves. Sunny spots are also good for eggs and caterpillars to mature more rapidly.

No Pesticides
Pesticides can kill butterflies and caterpillars, which are extremely sensitive to toxins.
Conserving Water

By Molly Culver, GreenThumb, Farm School NYC

How and When to Irrigate for Stronger Crops and Water Conservation
NYC has an average monthly rainfall of 4 inches during the growing season. While we often cannot control how much water our crops receive and when they receive it, it is good to keep the following principles in mind. Knowing more about soil’s relationship with water and individual crops’ water needs will help you make good choices about watering. In the end, we as community gardeners will help conserve more water in NYC and also grow healthier, stronger crops and more fertile soil.

Check the Weather! Water According to Air Temperature and Humidity
First and foremost, check the weather report—if a significant rain is coming, there’s no need to water. A stretch of cool or cloudy days will also reduce the need to water. A good website to use is the National Oceanic and Atmospheric Association (NOAA): www.noaa.gov. Timing is everything: If you time your watering wisely, most of the water will get to the plants, and not evaporate through the soil surface. Water does not evaporate as quickly in cooler temperatures. Water in the cooler parts of the day (early morning and late afternoon/evening) so your plants get more of the water you give them. A good rule of thumb is to water before 10:00 a.m. and after 6:00 p.m. in the warmest months of the year. Early morning watering gives plants time to dry off so fungus and mildew cannot grow overnight.

Water Based on Soil Type and Soil Moisture Level
Know your soil type and its moisture-holding capacity. Is your soil more sandy or more clay-like? Clay soils can retain moisture for up to two weeks, while sandy soils may drain within a couple of days. Check your soil’s moisture level before you water! Dig down to the root zone of your crops with your hand or trowel. If you have a clay soil, you may decide to wait to water. If you have a sandy soil, you may need to water more frequently.

Amend your Soils to Increase their Moisture-Holding Capacity
By adding compost to sandy soils, you will increase that soil’s ability to retain moisture.

Do a Squeeze Test to Determine Soil Moisture
Dig down a few inches and grab a handful of soil. Sandy soil needs water when it won’t form a ball. Loamy soils (a mix of sand and clay) or clay soils need water when they won’t form a ball unless squeezed.

Water According to Crop Type, Stage of Growth and Root Depth
Not all crops have the same water needs. Young crops need more frequent waterings to help get their roots established. Encouraging long, deep roots results in less work for you, as moisture is retained for longer at greater depths. That said, the natural rooting depth of mature crops varies from crop to crop. For example, mature tomato plants’ roots can grow up to four feet, so you can let the soil surface dry down much farther before watering again. (However, if you have a created a physical barrier between your raised bed and the underlying soil, such as cardboard or plastic, you will probably need to water more frequently as raised beds tend to be only a foot in depth.) Shallow-rooted crops like lettuce or spinach require more frequent watering—these plants are much more susceptible to drying out.

Rooting Depths of Mature Vegetables
- Shallow (18-24 inches): Brassicas, Celery, Corn, Garlic, Onions, Lettuce, Potatoes, Radishes, Spinach
- Moderately Deep (36-48 inches): Beets, Bush, Pole Beans, Carrots, Cucumbers, Eggplant, Peas, Peppers, Summer Squash
- Deep (Over 48 inches): Pumpkins, Tomatoes, Watermelon, Winter Squash
Prepare Your Soil Well to Conserve Water
Deeply dug, well-tilled soil results in greater absorption of water in the soil, and therefore in your plants. Good cultivation also results in stronger, deeper roots, and therefore more efficient water absorption in your crops. If you do not cultivate your soil well, water tends to pool on the surface, and then gets lost through evaporation.

How You Water Matters
Some crops, like lettuce, leafy greens, beets, carrots and other small crops benefit from overhead watering from a wand or sprinkler. Lettuce in particular enjoys a cool-down on hot days from overhead watering. Other crops, like tomatoes, potatoes, squash, cucumbers and melons are susceptible to disease and so do not respond well to constant moisture on their leaves: to avoid spread of diseases like Late Blight and others, water these crops at the base of the plant using a wand, watering can or drip tape. If using a wand, don’t put it on full blast: water that hits the soil’s surface in a forceful way creates compaction and more water-pooling on the soil surface. Similarly, if you allow water to pool around your plants by turning on the wand and leaving it in the bed unattended, compaction occurs. Ideally, you want to see water continually absorbed into the surface without pooling. Good soil cultivation helps!

Plant Like with Like
Plant crops with similar water needs next to each other if you can. For example, plant lettuces, leafy greens and salad mixes together. Don’t plant a tomato plant next to a lettuce plant—their water needs are very different. (Overhead watering the lettuce could result in a sick tomato plant) Another example: Sow new seeds in a bed with maturing lettuces or leafy greens. Use a sprinkler to help keep the germinating seeds evenly moist, and to help keep the greens cool and happy!

Consider Drip Irrigation
While drip tape can be expensive, it helps conserve water by ensuring water goes straight to the root zone of your crops, and not in places where no crops are growing. By concentrating your water at the root zone, you avoid growing weeds in between rows—less work for you! Drip tape can last for many years, if handled well and stored properly in the off-season.

Use Mulches Around the Garden
Mulches reduce water evaporation and increase water conservation. Anything that covers the ground and blocks light can act like a mulch: wood chips, straw, landscape fabric, etc. Mulch should still allow for water and air to penetrate. Use mulches mainly for perennials and fruit trees. Create a “living mulch” in your vegetable beds by planting crops closer together so that the foliage acts as a shade canopy that helps slow evaporation through the soil surface.

Build a Rain Water Harvesting System
You can collect rain water funneled from rooftops adjacent to your garden into barrels or large containers. By collecting rainwater, you help decrease the amount of rainwater combining with waste water in NYC’s sewage mains. On dry days, waste water goes directly to a treatment plant before being discharged into a water body. In periods of excessive rainfall, the amount of water (combined rainfall and waste water) exceeds the capacity of the treatment plant and waste water flows directly into NYC’s Hudson River or other water bodies. By collecting rain water, you both conserve water and prevent further pollution in NYC’s waterways. See “Rainwater Harvesting in Your Garden” to learn more about how to build and maintain a rainwater harvesting system in your garden.
Rainwater Harvesting in Your Garden

“It isn’t easy to come up with ‘one size fits all’ instructions for building rainwater harvesting systems because of variations in styles of roofs, downspouts, storage tanks and garden layouts. You have to use a combination of research, common sense, ingenuity and dumb luck to design and build your system.” — Lenny Librizzi, Assistant Director of Open Space Greening at GrowNYC

Rain water harvesting (RWH) is the means of collecting and storing rain water in large, durable containers, collecting from rooftop gutters. RWH systems come in a variety of shapes and sizes. RWH systems are fairly easy to construct. Aver tanks in NYC community gardens range in size from 300 to 1,000 gallons but can be as small as 55 gallons and as big as 10,000 gallons.

The RWH system includes three parts: the tank, the first flush and the overflow pipe. During a rainfall event water from the gutter flows into the downspout. Instead of the water going into the sewer system, the rainwater harvesting system diverts the water into pipes. This diverter consists of a three-way tee with a plunger in place during the summer. This plunger keeps the water from entering the downspout and forces it to flow into the harvesting system. It is taken out in the winter when rainwater is no longer collected. The pipes lead to a roof washer system, which is a containment area for the first few gallons of water. Since the initial flushes of water contain rooftop debris and leaves, the roof washer acts as a filtering system by separating the dirty water from the cleaner water. Once the roof washer is full, the cleaner water enters the rain tank. Some systems use a screen filter instead of or in addition to a roof washer. As soon as the tank is full, excess water flows into the overflow pipe which leads to an adjacent rain garden, is directed back to where it originally flowed or piped underground. A rain garden is a plot containing hardy plants that can survive with both saturated and dry soil.
GREENTHUMB GARDENS WITH RWH SYSTEMS

<table>
<thead>
<tr>
<th>Garden</th>
<th>Borough</th>
<th>Roof Size (Sq. Ft.)</th>
<th>Tank Size (Gallons)</th>
<th>Estimated Water Collection* (Gallons)</th>
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<tbody>
<tr>
<td>Amazing Garden</td>
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<td>17,000</td>
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* Based on average rainfall of 34 inches from March 1 to October 31 and .5 gallons of rain collected per square foot of roof area. Rainwater Harvesting Systems built by community gardeners, interns, volunteers, City Year and Green Apple Corps with supervision by staff from GrowNYC (formerly Council on the Environment) under contract with GreenThumb, March 2009 - June 2010.

ADDITIONAL RESOURCES

How-to manual and video, map, descriptions and photos of existing RWH systems:
http://www.grownyc.org/openspace/rainwater

Water Resources Group website:
http://waterresourcesgroup.blogspot.com

Source for RWH filters and tanks:
http://www.starkenvironmental.com

Rainwater manual and other useful RWH information:
http://www.twdb.state.tx.us/iwt/rainwater.asp

For water tanks — Recycled 50-gallon food grade plastic barrels are available free or at low cost from food distributors. Larger tanks can be purchased from a number of sources. Note that up to 50 percent of the cost of a tank is shipping so it is worthwhile to comparison shop to find the lowest shipping cost. http://www.tank-depot.com
A Garden Renewal Project: Franklin Memorial Garden

An essay by Luis Lemus, Arborist Supervisor, Prospect Park Alliance

Franklin Memorial Garden is located at 1060 Cauldwell Avenue in the Bronx. This garden is an excellent garden to visit when considering your garden’s design as it contains many different features, from a butterfly garden, to an Evergreen collection, to an abundant shade garden full of a wide variety of native shrubs. Additionally, the priority put on existing materials is an example of how you can design or re-design your garden on a small budget. Luis Lemus, former Senior Community Horticulturalist with Bronx Green-Up, is currently working as an Arborist Supervisor with the Prospect Park Alliance.

A NEED FOR RE-DESIGN AND REVITALIZATION...

For approximately one year, I worked on the Franklin Memorial Garden. It was originally taken care of by the residents living adjacent to the garden’s lot, but the garden fell into disarray due to the declining health of the primary caretaker Verna Judge.

Since I was affiliated with the New York Botanical Garden at the time, acting as the New York Botanical Garden’s Senior Community Horticulturist at Bronx Green-Up, I was immediately informed of the state of disrepair in the garden and decided to survey it to assess whether I would be able to utilize its existing materials and/or design scheme in order to lower costs and retain a sense of familiarity for the current gardener. Myself, working in accordance with the New York Botanical Garden and GreenThumb, labored swiftly and with rapidity to remove derelict remnants of the garden. The lot just next to it was scheduled for demolition, and we feared that if the garden were not revitalized, it would be doomed to the same unfortunate fate. The educational aspect of introducing a garden to the community as well as the inherent nature of the garden being used as a leisure and recreational space were merely two facets of the conservation effort that Verna Judge and I worked tirelessly to adhere to.

WORKING WITH WHAT YOU HAVE...

As I looked closely at the existing materials available to me, I found an excess of blue stone that had once been used in the construction of a sidewalk as a perfect raw material for a garden patio. I had decided to split the lot up and designate each section to be a particular garden style and incorporated a vegetable garden, a butterfly garden, a small evergreen collection (located along the vegetable garden) and a flowerbed complete with perennials, annuals, trees and shrubs. I took into account the amount of available light the garden receives, local temperature conditions and the composition of the soil to determine which plants would be best suited for the garden’s environment. The mature trees already present in the garden would, of course, remain intact. To maintain the beauty of the garden, I was well aware that a garden shed and compost bin would need to be built as well as a pergola for the vine that Mrs. Judge was growing.

GREENTHUMB AND BRONX GREEN-UP LEND A “GREEN HAND”...

Without the aid of GreenThumb and the New York Botanical Garden, however, I don’t believe our efforts would have nearly been as successful. GreenThumb generously sent numerous tractors to help with the construction of our garden, materials needed for the construction of the garden shed, and the New York Botanical Garden provided all of the plant materials as well as components necessary for the completion of the patio. Overall, the garden took a year to complete with two to three visits per month by myself, Verna Judge, local carpenters through the GreenThumb organization, and the New York Botanical Garden. I would highly recommend contacting the aforementioned organizations for advice on the care and maintenance of gardens.
An Intro to Urban Agriculture

Community gardeners have been growing healthy food for their communities, and creating urban oases that serve as places of learning and connection to the natural world for decades. This foundation of years of hard work and dedication to preserving green space has given rise to a renaissance of the urban agriculture movement in NYC. Now more than ever, communities are eager to start new gardens and urban farms that grow abundant, sustainably-grown crops, provide a happy home for chickens and bees, preserve rainwater and avert storm water run-off, and provide spaces for youth to learn and gain valuable work and community service experience. Urban agriculture is a vital component of building a more sustainable food system by helping NYC to build self-reliance within its communities.

BENEFITS OF URBAN AGRICULTURE

Community gardens have long been celebrated for their wealth of social and environmental benefits, partially for their role in improving access to fresh, healthy food. Between raised beds of vegetables, fruit trees, herbs and more, the produce coming out of community gardens supplements gardeners’ cooking with seasonal gems, a taste of home, and items one can’t find in a regular grocery store or bodega. Growing food in the garden may also provide for a child’s first realization that food comes from the ground, perhaps inspiring healthier eating for the entire family. Beyond growing food, community gardens provide environmental services such as composting and rainwater harvesting.

The community garden is the most prevalent form of urban agriculture already taking place in New York City: Once-vacant open spaces, nurtured and invested in by those who live nearby, now flourish. Community Gardens across the city are being used to build a healthier, equitable, and more sustainable food system. They have contributed to and benefited from innovated approaches to growing produce in this city such as vertical vegetation, hydroponics, aquaponics and more. The continued interest in community gardening has motivated questions such as, how can we measure our growth? Who’s coming through the garden? Who is doing the work, and where are they coming from? What impact are we having on the passersby, kids, etc.? Are we achieving our goals? How much food and compost are we growing?

Many people, especially gardeners, understand the value of growing one’s own food. However, no one knows just how much of it we grow here in NYC! Community gardeners across the city have been working together to quantify the amount of food grown through Farming Concrete. Partnered with GreenThumb, Just Food, and New York Restoration Project, Farming Concrete strives to create a more citizen-powered city, where urban stakeholders of all sectors can work together toward a healthier, more sustainable city. See and track the city’s harvest with Farming Concrete. Measuring these benefits can allow us to best communicate our work to increase membership, access funding and stand our ground in the event of threatened land tenure. To help gardeners measure the good things happening in their gardens, Design Trust for Public Space and Farming Concrete have collaborated to bring you a new resource, designed by and for community gardeners and urban farmers. This toolkit, called the Five Borough Farm Data Collection Toolkit, offers quick and easy ways to measure food production, compost, skills shared, moods changed, healthy eating and much more. With the companion website called the Barn, where we enter the data, your garden can start to track growth and impacts, and generate a report with charts and graphs with the click of a button.

Download this toolkit for free at farmingconcrete.org and join the growing network of urban gardeners and farmers collecting our own data.

Contact us with any questions at 5bfoutreach@farmingconcrete.org!
Farm and Garden Design

An essay by Deborah Grieg, Urban Agriculture Coordinator, East NY Farms!

Starting a garden or urban farm gives you a chance to be creative and strategic as you design a welcoming space that reflects and nurtures your community’s assets and needs. Designing a farm or garden involves asking a lot of questions about your land that will ultimately lead you to create a productive space. This article will help you think about where to start, figure out some important features and ultimately help you ask some of the right questions so you can design a productive, efficient and vibrant space.

WHERE TO START

Starting a successful farm or garden from scratch takes time. A farmer once told me that, even though he had been, “farming for 30 years, (he had) still only done it 30 times,” and still made mistakes and improvements every year. Come up with a well-thought-out set of goals and a clear seasonal plan. Think about what you want out of the space: high-yield vegetable production, a farmers’ market site, a community hang-out, an educational space—the possibilities are thrilling and also can be overwhelming. It might be good to start small, with a clear and manageable plan for Year One that complements your vision for expansion in future years. Each year you can add more features, more difficult crops and more space as you gain experience and add fertility to the land.

GET TO KNOW THE LAND

The first thing to do is get to know your land as well as you know yourself. Walk the land often and with an open mind, paying attention to its quirks and assets. The better your understanding of your land at the beginning of the process, the easier it will be to figure out the best place for your farm’s main features, ensuring easy access and efficiency. Things to consider when you are exploring your future farm or garden are sunlight, topography, soil quality and water.

Sun — Ideally, the growing area of your farm or garden should have 11 hours of sunlight or more; seven is okay, and four may work for many cool-season crops. Walk the space at different times of the day and different times of the year to observe where the sun is. Southern exposure is ideal because the ground warms up the fastest, but other orientations can be very productive too.

Ask yourself: When and where does the sun fully hit the space?

Topography — The way your land slopes has a big impact on drainage and exposure to wind and sun. Flat or slightly sloping land with the most sun exposure that is protected from the wind is preferable.

Ask yourself: Which way does the land slope? How will this affect sun and drainage? Is it windy or protected?

Soil quality — Always start with the soil when you are embarking on a new growing project. This requires some advance thinking. Make sure to conduct a thorough soil test for nutrients and for heavy metals. Make a fertility plan involving additions of compost, cover crops, top soil or other organic supplements if necessary, as this will greatly improve the health of the plants. If heavy metals are found, contact your local cooperative extension to develop a plan to keep contaminants out of your growing beds and your produce.

Ask yourself: What was here before? What are the most fertile or problem areas?

Water access — It is important to be aware of where you are getting your water from and consider its quality and ease of application. Especially in a dry year, water can make or break your garden, and can significantly impact your time and the environment.

Ask yourself: Where is the water coming from? Is it easily accessible? Is the pressure high or low?
The GreenThumb Gardener’s handbook

No grow zones — All of the above factors can impact what can be thought of as “No Grow Zones”; areas of your land that are not suitable for growing. They might have poor soil or be excessively shady. Consider putting farm structures like storage, compost bins or seating areas there.

GET TO KNOW YOUR COMMUNITY

From planning to construction, garden and farm design can greatly benefit from community input and support. Involvement can range from having a design completely generated out of community ideas, getting input from experts and neighbors, or building a valuable group of skilled and enthusiastic volunteers. If you develop a sense of investment in your farm, community members will be excited to participate in events, volunteer or to purchase produce. Your neighbors are as important as the crops you grow.

PARTICIPATORY DESIGN

Hold a meeting or conduct a survey to find out what will make people want to support your efforts. For example, you might learn that there are many Spanish speakers in the neighborhood, so it is useful to have bilingual signs. Maybe there many older adults, so seating and wider pathways might be useful so that they can better visit the farm. Maybe your neighbor works at night and sleeps during the day, so building a chicken coop under their window might make them upset. Take their ideas and make design that will excite the whole community.

Ask community members: What vegetables and fruits would you eat? What features would you like to see? What would make you want to be involved?

Ask your neighbors: What is your schedule? Would you mind having chickens, bees, compost, etc... near your home? What would make you excited about having this garden near your home?

Other growers have experiences under their belts that can help point you in the right directions.

Ask other growers: What vegetables grow well? When does planting season start? What features on your farm are the most useful? What are the most important lessons you have learned?

IMPORTANT FEATURES

When thinking about what common features you will need or want on your farm or garden, it is important to consider the best placement for accessibility and efficiency.

Bed placement and pathways — Sunlight, drainage, and accessibility can influence the way you want to orientation your growing beds. Even if you have the smallest farm, it is important to divide it into manageable sections. This way you can more easily crop plan, water, till and ultimately effectively care for every part of your farm or garden. Beds are easiest to manage when they are standardized and simple widths to work with; 30”-48” wide beds with 1’-2’ pathways have proven to be productive and easy to work with.

Greenhouse/hoop house — If you are interested in starting your own seedlings or extending your growing season, then a greenhouse is a great asset. You will get the best sun exposure if your greenhouse is south-facing and fully exposed. It is important to have a shady and protected area if you are hardening off transplants or doing your own seeding and potting. Too much sun can stress them.

Compost — Sustainably providing fertility for your farm or garden can be greatly supplemented with compost piles, windrows or bins. The ideal location is in the shade, partially shielded from excessive rain (which can wash away vital nutrients), away from neighbors, and with room to turn and expand operations as your farm gets more productive.

Common area — Having an open place where people can sit or gather together in a group is a good feature for encouraging a bit of relaxation and for welcoming in the community.
Irrigation — Your irrigation system is one of the most important features of your garden. There are many types out there and it takes a little bit of research and talking to other farms and gardens to figure out the most efficient and effective one for you. A few to think about are drip irrigation and/or sprinkler systems, and rainwater collection tanks.

Perennials — Perennials can be important food crops and biological assets to your farm. Fruit trees and berries should be planted in sunny areas that do not interfere with your annual crop rotation. It is extremely important to plan for these crops with care. Trees and berries grow much better if their soil has been amended, have good access to water and they are given appropriate space. If starting from scratch, make them a part of your plan in Year Two or Year Three, but start improving the soil in Year One. Perennial flowers and other shrubs are a beautiful asset to any farm or garden, but also offer many imperative benefits like wind protection and attracting beneficial insects and pollinators.

Tool storage — It is important to have secure and easy access to your tools. This is often best placed in one of those “no grow zones.”

Harvest station — If you are production-oriented, it is important to have a shady, cool and clean area that has accessibility to water to set up your harvest station.

Refrigeration — A major plus if you are considering a production-oriented operation.

When starting a farm or garden, organization, community participation, expert advice and keen observation are your best assets. Creating a farm or garden design is an incredible learning opportunity that can have a significant impact on your community. It’s a lot of work, and a lot of fun!

How to Run A Community Market

An essay by Karen Washington, La Familia Verde Farmers Market, and Nadia Johnson, Just Food

Looking to start a community-run farmers market in your neighborhood? These markets are great because they help bring fresh, affordable, local food to neighborhoods that need it and inspire better health and well-being. They’re run by the community and for the community, and promote community pride, unity and empowerment. So let’s get started! Here’s a helpful to-do list to get you on your way:

1. Ask yourself, “Why do I want to start this market?” Do a survey with community folks. From this you can find out what the needs for the market really are and gauge the interest of your community for a farmers market. Remember, it’s not your project, it’s a community project.

2. Find people interested in working the market. Successful markets often involve people who demonstrate dedication and commitment, willingly donate their time, energy and enthusiasm to the market, and seek to better their communities. You’ll need a market manager and volunteers. Mobilize fellow gardeners if it’s a community garden-based market. Seniors are excellent, as many have grown up with farming backgrounds, have great skills and experience and are often very reliable and dependable. Your market must be open no matter what the weather, so make sure you have a dedicated group to work the market.

3. Determine a day, time, location and season that meets the needs of the farmers, gardeners, consumers and the local community. Make sure you pick a day of the week you know you and members can work throughout the length of your season. You want your market to be in an area with a lot of foot traffic, and that is readily accessible to the community.

4. Contact the NY State Department of Agriculture & Markets or Just Food to connect you with farmers. (See page 84 in the Additional Resources section in this book for contact information.)

5. Make sure you get a proper permit. Which permit is needed will depend where the market is located. If it’s on Parks property, you can get a Parks Department permit. A private sidewalk or property requires permission from the owner. A publicly owned sidewalk might require a permit from the Mayor’s Street Activities Permit Office. Also, help the farmers support the market by getting parking permits for their trucks next to the market location.

6. Get market and vendor insurance, as it’ll protect you, the market and any property or organizations affiliated with the market.

7. Enroll in programs such as Farmers Market Nutrition Program for WIC and seniors, EBT/food stamp terminals, and Health Bucks coupons, especially if your market is in a low-income neighborhood.

8. Have some startup money and seek kind donations. No matter how big or small your market is, some startup money will be needed to pay permit and insurance fees, make signs and flyers, secure needed equipment such as tents, tables, boxes, scales, cash boxes and more. Go to local banks and businesses to seek donations for the market, or talk with your local City Council member about providing discretionary funds for the market. Maybe a neighborhood restaurant could donate a table and some chairs, or a local organization could provide storage for your market equipment. Don’t be afraid to ask!

9. Ally yourself with local organizations. Often local groups can act as your market’s fiscal sponsor or support your work in other ways. It’s likely your market can support their work and mission as well!

10. Is your community garden interested in starting a farmers market? Just Food’s City Farms Market Network is a community of independently run farmers markets committed to growing food in NYC, serving their local communities and supporting gardeners, city farmers and regional growers. To find our more or to request an application for our farmers market training, contact Nadia at (212) 645-9880 x237 or nadia@justfood.org.
Youth and School Gardening

Whether you’re working with youth in a community garden or a school garden, here are some tips to get you started. For further information on the Citywide School Gardens Initiative, please visit http://growtolearn.org. Additionally, GreenThumb has the School Garden Resource Guide, available at the GreenThumb office or PDF download on our website.

**TOP 5 THINGS TO DO WHEN STARTING A SCHOOL GARDEN**

1. **Visit a local garden.** A great way to get students interested in gardening—and to think about creating an outdoor learning space—is to visit a local school or community garden. It gives students a sense of how wonderful and practical gardening is while jump-starting ideas for gardening or outdoor projects they would like to put in place.

2. **Form a garden team/committee.** In order to establish a sustainable greening effort at your school you need allies to help you along the way. They can be anyone in the school who is motivated and dedicated and understands the value of school gardening. However, there are a few very essential people: the custodial engineer, the principal, a teacher, a committee of interested parents and community volunteers. Garden or no garden, the custodial engineers are responsible for the school grounds and it is best to bring them in at the beginning. The principal must approve of a school garden and give permission for various garden-related developments. Principals can make things easy or extremely difficult, and having their input increases the chances for a successful garden plan and implementation. Finally, if you are a teacher yourself, it is essential to bring in at least one fellow teacher; if you are a parent or ally of the school you should do the same. With a garden team in place you will be able to share the work that is involved in getting the garden established and also increase the garden’s popularity within the school.

3. **Choose your space and draw a map.** If you plan to garden outside, where is the best sunlight? Is there water access? Can students easily access the space? Consider these and similar questions when selecting a garden site. Make sure your students are part of the decision making, because students begin to learn that gardening is not just about sowing seeds and digging for earth worms. Once your site is selected you should put together a to-scale map, including permanent features (trees, in-ground benches, fences, etc.). This will help your group in think about how the space and proposed garden best mesh.

4. **Test your soil.** If you plan to grow any food in soil from the site, you should test it. Brooklyn College (http://www.brooklyn.cuny.edu/pub/departments/escac/1535.htm), Cornell University (http://cnal.cals.cornell.edu), and the University of Mass. at Amherst (http://www.umass.edu/soiltest) have lab testing services that vary a great deal in both cost and the magnitude of the test but they all test for heavy metals (e.g. lead, chromium, cadmium, nickel, arsenic) which is your primary concern. If you bring in soil from a vendor that does their own testing it will be a good idea to obtain a copy of their soil analysis results, which they are required to do regularly. They will also test for nutrient levels upon request, which is important if you want to grow a healthy garden.

5. **Start composting.** Composting is the recycling of nutrients from decaying material in the soil, makes them readily available to plants and other organisms in the garden ecosystem. Compost is essential to any successful garden plan because it provides a free, organic and sustainable source of food for your plants. You can set up a compost system outdoors or indoors, and composting systems are quite varied and adaptive depending upon your set up and ability to commit to it. When used properly, compost allows you to water and weed less often and keep your plants vital and prolific. It is also a great teaching tool for a variety of subjects ranging from economics to chemistry.
TOP 5 THINGS THAT WILL TAKE YOUR SCHOOL GARDEN TO THE NEXT LEVEL

1. **Summer care.** In order to make it through the school vacation season, you could offer parents and volunteers designated areas to steward in exchange for summer volunteer hours. If your school has a group of parents or allies that love to garden, they will likely be more than willing to help out and in return you can allow them to harvest produce. As a last resort, see if the custodial engineer is willing to provide assistance with watering and weeding and make it clear that you have a group of willing volunteers to help lighten the load. If you know that you cannot take care of the garden through the summer, you should plant spring and fall but not summer harvest crops. In addition, it is a good idea to start the garden as early as possible in the spring and try to extend into the colder months so that the garden has a significant harvest within the school calendar.

2. **Curriculum.** The garden provides an opportunity to take on a number of subjects with fun, interactive, hands-on lessons that students can experience firsthand. There is a huge amount of curricula out there, and a lot of it is free online or through local greening organizations. The GreenThumb School Garden Resource Guide is a great place to start. It is best to match up the curricula with standards that must be met based upon the New York City Department of Education standards, which can be found online (http://schools.nyc.gov/Academics/default.htm). You should also work the garden in ways that fit well with your curriculum objectives, and a great way to do this is to meet and discuss how to do this with the garden team during the winter months when you have time to plan.

3. **Greening partners.** Identify the talent in the community, garden clubs, Master Gardeners, environmental groups, 4-H, parents and friends with gifts for carpentry or other services. By reaching beyond the walls of the school you will provide opportunities for relationship building with people who may have never been involved with the school before. In every community across the city there is a wealth of technical expertise just waiting to be tapped. It is up to you to reach out and shake hands with your neighbors and let them know about your garden’s needs so you can explore potential programs and partnerships. This process is of vital importance in creating a sustainable garden with a lasting role in the community that goes beyond a few teachers or parents.

4. **Use a maintenance schedule.** You should create a schedule of days and times that the garden will be used or maintained. This will help you avoid any double-bookings and provide you with a way of tracking the number of hours spent in the garden each season. A schedule is also useful information for the principal or anyone interested in quantifying the impact the garden is having.

5. **Create measures for success.** By tracking your hours you will already be on your way to having an evidence base that can be used to show how the garden is progressing. You should also put together a general school survey for students, teachers and faculty to illustrate the qualitative impact the garden is having. A questionnaire for students before they are introduced to the garden and then after they have spent a full season is also a great way to measure the garden’s educational value. There might be tests that students take that show an improvement and if the lessons related to those tests were done in the garden this should be recorded somewhere for future use.
Problem Solving 101

Below are just a few of the more common problems that occur in community gardens, with suggestions for resolving them.

**Problem: There’s a car, truck, or other motorized vehicle in the garden.**
Cars, trucks or other motorized vehicles may not be parked or stored in a community garden at any time. Ask the vehicle’s owner to remove the vehicle immediately. If the vehicle appears to be abandoned, call GreenThumb to make appropriate arrangements.

**Problem: Someone is using or selling illegal drugs in the garden.**
If you see someone selling or using drugs in or near your garden, call the New York Police Department (dial 911 in an emergency, 311 in a non-emergency) or call your local precinct. They’ll take it from there. Don’t place yourself in a dangerous position.

**Problem: Someone is drinking alcohol in the garden.**
Inform the individual that public drinking is prohibited in gardens by New York State law. Placing “Garden Rules” in a visible place may help to deter the problem. If the offending individual is a garden member, consult your group’s bylaws as to the proper course of action. If a garden member repeatedly breaks garden rules, it is appropriate to expel that member.

**Problem: Someone is storing personal items in the garden.**
Personal items (items not used to maintain the garden) may not be stored in a GreenThumb garden. If someone is storing personal items in the garden, ask that person to remove them. If the items appear to be abandoned, place them in a black plastic garbage bag and throw them away. If the items are large, call the Department of Sanitation (dial 311 and ask for the Department of Sanitation) or call GreenThumb to arrange for a pickup.

**Problem: Garden members are not allowing public access to the garden.**
GreenThumb gardens are intended for community use. If your garden group is not allowing public access to the garden (in the form of 20 open hours per week from April 1st through October 31st), you risk losing your garden privileges and termination of the garden license. If you are unable to create a waterproof “Open Hours” sign, you can call GreenThumb and we will create a laminated sign for you. You are responsible for ensuring that the garden is open when you say it will be open!

**Problem: Garden members are not allowing new members to join the garden.**
If there are no beds available in your garden, you may place interested individuals on a waiting list. As garden beds become available, you can then offer them to individuals on the waiting list.

**Problem: The people in your community are not attending your garden’s events.**
A successful event usually involves thoughtful planning, creative advertising, and (to be honest) delicious food. Posters, flyers and newsletters are all good ways to let people in your community know what’s going on.

Remember that New York City is filled with people from many different backgrounds. It is part of a community garden’s responsibility to make everyone in that community feel welcome—regardless of age, race, gender, ability, ethnicity, or sexual orientation.

**Problem: Your GreenThumb sign is missing or has been damaged.**
Contact GreenThumb and we will arrange for a new one to be posted.

**Problem: Your routed Parks sign is missing or has been damaged.**
Contact GreenThumb. We have to request one from the Parks sign shop. Please note: Only GT gardens under DPR jurisdiction are eligible to receive a routed Parks sign.
Additional Resources
Greening Partners

**Added Value (Red Hook Farm)**
www.added-value.org/index.php, 718.288.6752
A nonprofit organization promoting the sustainable development of Red Hook by nurturing a new generation of young leaders. They work towards this goal by creating opportunities for the youth of South Brooklyn to expand their knowledge base, develop new skills and positively engage with their community through the operation of a socially responsible urban farming enterprise.

**American Community Garden Association**
www.communitygarden.org or info@communitygarden.org
This national network’s site has info about starting a community garden, resources and more. Their listserv allows you to contact community gardeners all over the country.

**Brooklyn Botanic Garden**
www.bbg.org, 718.623.7200
Provides horticulture tips, tours, resources, and workshops.

**Brooklyn Queens Land Trust**
www.bqlt.org
This non-profit land trust manages over 30 gardens in Brooklyn and Queens.

**Bronx Green-Up**
www.nybg.org/green_up; 718.817.8700
The community outreach program of The New York Botanical Garden provides horticultural advice, technical assistance and training to community gardeners, school groups and other organizations interested in improving urban neighborhoods in the Bronx through greening projects.

**Citizens Committee for New York City**
www.citizensnyc.org, 212.989.0909
Technical assistance and training sessions available to help make your community group work better. Many grant opportunities available for garden groups.

**Cornell Cooperative Extension**
www.cce.cornell.edu
They bring local experience and research based solutions together to help the urban farmer.

**Earth Celebrations**
www.earthcelebrations.com, 212.777.7969
An artists’ collective from the Lower East Side working to support and preserve gardens through art and community action. Includes nice section highlighting Lower East Side gardens.

**East Village Parks Conservancy**
www.evpcnyc.org, 212.353.9063
The East Village Parks Conservancy is a not-for-profit, community-based organization of volunteers who are committed to the care, restoration and expansion of East Village public parkland.

**East New York Farms**
www.eastnewyorkfarms.org
This Brooklyn farm organizes youth and adults around food justice issues.

**Farm School**
www.justfood.org/farmschoolnyc; 212.645.9880 ext. 224
Farm School NYC will offer comprehensive training in all aspects of urban agriculture through a two-year certificate program and a wide range of individual courses.
Farming Concrete  
www.farmingconcrete.org  
A project to measure how much food is grown in New York City's community gardens and community-oriented urban farms and to assign the total volume a monetary value.

Flatbush Gardener  
www.flatbushgardener.blogspot.com  
Adventures in neo-Victorian, wild, shade, organic and native plant gardening, garden design, and garden restoration.

Floyd Bennett Garden Association  
www.fbga.net  
One of the largest community gardens in NYC, operating at the Floyd Bennett Field, a unit of the Gateway National Recreation Area.

Gaia Institute  
www.thegaiainstitute.org  
Non-profit working on engineering, design, construction and monitoring of green roofs throughout NYC.

Garden Maps  
www.gardenmaps.org  
Created to provide New York residents and community developers with more information about the activities and features of each community garden, GardenMaps charts out the results of a 2009–2010 survey by Mara Gittleman and Lenny Librizzi to support the work of GrowNYC and GreenThumb. Also, you can create your own garden map there.

Green Bytes  
www.hsny.blogspot.com  

Green Guerillas  
www.greenguerillas.org, 212.594.2155  
Green Guerillas uses a unique mix of education, organizing and advocacy to help people cultivate community gardens, sustain grassroots groups and coalitions, engage youth, paint colorful murals and address issues critical to the future of their gardens.

Greenbelt Native Plant Nursery  
www.nycgovparks.org/greening/greenbelt-native-plant-center, 718.370.9044  
Division of the Department of Parks & Recreation, they provide locally appropriate seed and plants, offer guidance in planning projects and invite you to explore their services and resources.

GrowNYC  
www.grownyc.org; 212.788.7900  
This organization reaches out to the public with environmental education, waste prevention and recycling, Open Space Greening, Greenmarket, rainwater harvesting and other programs.

Grow to Learn NYC  
www.growtolearn.org  
The Citywide School Gardens Initiative is a public-private partnership between the Mayor's Fund, GrowNYC and several government agency partners, including GreenThumb. Contact for information on registering a school garden.

Ioby  
www.ioby.org, 917.464.4515  
Connects donors and volunteers to environmental projects in their neighborhoods to inspire new environmental knowledge and action in New York City.
Just Food  
www.justfood.org; 212.645.9880  
Fosters urban agriculture and  
works towards “building a  
Just and Sustainable Food  
System for NYC!” Programs  
include city chickens and  
bees, Community Supported  
Agriculture and City Farms.

La Familia Verde  
www.lafamiliaverte.org,  
212.645.9880  
La Familia Verde is a coalition  
of community gardens in the  
Crotona, East Tremont and West Farms neighborhoods in the Bronx. Formed in 1998, its  
mission is to sustain the environment and culture of our neighborhood through education,  
community service and horticulture.

NYC Beekeeping  
www.nycbeekeeping.org  
NYC Beekeeping is an association of over 900 beekeepers and bee lovers that offers free classes in  
beekeeping with Gotham City Honey Co-op, expert and peer mentoring, a cooperative purchase  
program and community service and outreach activities throughout the year.

New York Botanical Garden  
www.nybg.org, 718.817.8700  
Education, events, workshops and more.

New York City Community Garden Coalition  
www.nyccgc.org  
A grassroots, membership based advocacy group promoting preservation, creation, and  
empowerment of community gardens through education, advocacy, and grassroots organizing.

New York Restoration Project  
www.nyrp.org, 212.333.2552  
Good land trust resource. See their timely, informative newsletter.

The NYC Compost Project  
www.nyc.gov/compostproject  
The NYC Department of Sanitation’s site has info about compost givebacks and compost deliveries.  
Also, an overall good composting resource.

NYC Department of Environmental Protection  
www.nyc.gov/dep  
Provides a range of educational programs and materials on environmental issues, especially water  
supply, waste water treatment and water conservation. Teacher workshops, printed materials  
and guided field trips to water supply and waste water treatment plants are also available.

NYC Department of Parks & Recreation  
www.nycgovparks.org  
The official website of the Parks Department. Apply for permits online, find out about events,  
get the latest news, see interactive maps, read histories of your local park and more.

NYC Department of Sanitation  
www.nyc.gov/dsny  
Contact if ongoing curbside pickup is needed. Requests must be sent in writing to NYC Department  
of Sanitation; 125 Worth Street, Room 700; New York, NY 10013; Attention: New Service.
NYC Environmental Justice Alliance
www.nyceja.org
Citywide network that links grassroots organizations, low-income neighborhoods and communities of color in the struggle against environmental racism.

NYCLeaves
www.nycleaves.org
NYCLeaves is a volunteer-run, neighborhood-based coalition of community gardens, botanical gardens, greening groups, environmental organizations, City agencies and community partners dedicated to reducing the amount of usable organic material that currently ends up in our wastestream.

NY Peace Institute
www.nypeace.org
Offers free mediation services for conflict resolution.

NY State Department of Agriculture & Markets
www.agmkt.state.ny.us, 800.554.4501
Good resource for starting a farmers market.

NY State Department of Environmental Conservation
www.dec.ny.gov
New York State agency designed to protect and enhance the environment.

Partnerships for Parks
www.itsmypark.org, 212.360.1310
Encourages community support and involvement in New York City’s Parks. Helps to strengthen, support and start neighborhood park groups.

Trees New York
www.treesny.org, 212.227.1887
Trees New York (TNY) is an environmental and urban forestry nonprofit organization. Our mission is to plant, preserve and protect New York City’s neighborhood trees through education, active citizen participation and advocacy.

Treebranch Network
www.treebranch.org/hub.htm, 212.228.3126
Neighborhood Open Space Coalition’s internet portal for NYC Urban Environmentalism.

Trust For Public Land
www.tpl.org; 212.677.7171
This national organization works to protect open spaces via land trusts. Some GreenThumb gardens are under their jurisdiction, so see what they’re all about.

Water Resources Group
waterresourcesgroup.blogspot.com
The Water Resources Group is a coalition of NYC greening and community garden groups that installs rainwater harvesting systems in gardens across the city to conserve water and prevent pollution.

GreenThumb / NYC Department of Parks & Recreation
greenthumbinfo@parks.nyc.gov
www.greenthumbnyc.org
212.788.8070
Vendors

<table>
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<td>718.792.8100</td>
<td>Gardening Materials- Calcium Chloride Pellets</td>
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<td>Advanced Video Communications LLC</td>
<td>212.759.0946</td>
<td>Stage Rental</td>
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<td>Affordable Office Services Inc.</td>
<td>718.292.5010</td>
<td>Folding Tables &amp; Chairs, Tents and Canopies</td>
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<td>Alarm Craft Corp (Obesity Task Force)</td>
<td>718.886.0090</td>
<td>Security Cameras</td>
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<td>American Ballroom Theater Company Inc.</td>
<td>212.830.7959</td>
<td>Entertainment-Theater/ Dance</td>
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<td>American Chain Link &amp; Construction Inc.</td>
<td>631.841.1954</td>
<td>Chain Link Fences</td>
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<td>American Meadows</td>
<td>802.951.5812</td>
<td>Plant Bulbs</td>
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<td>America's Gardening Resource</td>
<td>802.660.3507</td>
<td>Garden Supplies (LED Solar Lights, Barrels, Stones)</td>
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<td>Atlas Roll Off (Obesity Task Force)</td>
<td>718.345.6451</td>
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<td>Audio Link Services</td>
<td>212.766.0248</td>
<td>Audio Equipment</td>
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<td>B+H Photo</td>
<td>800.947.8003/212.830.7965</td>
<td>Digital Camera/ Supplies</td>
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<td>Bailey Nurseries (Obesity Task Force)</td>
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<td>Bayway Lumber Inc. (Obesity Task Force)</td>
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<td>Plastic Lumber</td>
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<td>Bissett Nursery Corp</td>
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<td>CallAHead</td>
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<td>Portable Restroom Rental</td>
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<td>Canon Business Solutions</td>
<td>212.850.1092</td>
<td>Canon Products (Camera, Photocopier, etc.)</td>
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<td>Colonial Hardware Corp (Obesity Task Force)</td>
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<td>Dinn Bros Inc.</td>
<td>413.750.3466</td>
<td>Award Gifts (Trophy)</td>
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<td>Fedco Seeds</td>
<td>207.873.733</td>
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<td>Feldman Lumber (Obesity Task Force)</td>
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<td>Finesse Creations (the Brooklyn Kitchen)</td>
<td>718.692.2100</td>
<td>Kitchen and Garden Supplies/Storage</td>
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<td>Frontier Natural Products</td>
<td>800.669.3275</td>
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<td>Frontier Natural Products</td>
<td>800.669.3275</td>
<td>Essential Oils, Natural Food and Cooking Products, Beeswax, Spices</td>
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<td>Gava Enterprises Inc.—Lane Café</td>
<td>212.943.0009</td>
<td>Continental Breakfast, Bagged Lunches</td>
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<td>Grainger (Obesity Task Force)</td>
<td>908.355.1099</td>
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<td>GrowNYC (Obesity Task Force)</td>
<td>212.788.7900</td>
<td>Flowers and Vegetables Flats</td>
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<td>Harpster Of Philipsburg Inc.</td>
<td>814.342.2930</td>
<td>Outdoor Supplies (Canopies)</td>
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<td>Hostos Community College</td>
<td>718.518.4335</td>
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<td>Hudson Valley Seed Library</td>
<td>845.626.4910</td>
<td>Flower/Vegetable/ Herb Seed Packs</td>
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<td>Island Topsoil (Obesity Task Force)</td>
<td>516.677.0412</td>
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<td>JustFood</td>
<td>212.830.7974</td>
<td>Farmer’s Market Contracts/ Licensing</td>
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<td>212.645.9880 x.241</td>
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<td>Logan Bus Company</td>
<td>718) 738-7373 2122</td>
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<td>704.758.4468 336.658.4000</td>
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<td>Storage Sheds</td>
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<td>Manganaro’s Heroboy Inc</td>
<td>212.563.5331</td>
<td>Water, Sub Sandwiches</td>
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<td>MBJ JV Inc.</td>
<td>718.518.6544</td>
<td>Food &amp; Refreshments</td>
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<td>718.401.4227 212.484.1335</td>
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<td>Metropolitan Office &amp; Computer</td>
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<td>Mochan Painting Supplies of Brooklyn</td>
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<td>Hand Tool Garden Kits</td>
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<td>Promotional Items (GTGT Pens/ T-shirts)</td>
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<td>New Parkland Contracting Co.</td>
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<td>NYS OMH Kingsboro Psychiatric Center</td>
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<td>646.641-0389 718.221-7617</td>
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<td>Obesity Task Force for the Urban Agriculture Program</td>
<td>212.360-8261 212.360-8268</td>
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<td>Obesity Task Force</td>
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<td>Expanding Park Fitness/Facilities</td>
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<td>718.386.8200</td>
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<td>Cords, Hoses, Pipes, Wheelbarrows, Prestone Ice Melter</td>
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<td>Overwatch Services</td>
<td>347.448.5499</td>
<td>Security service</td>
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<td>Ozone Park Lumber (Obesity Task Force)</td>
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<td>Lumber Supplies</td>
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<td>Parks &amp; Rec Audits ACC</td>
<td>212.830.7934</td>
<td>Camera Purchasing</td>
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<td>Pathmark Stores</td>
<td>201.571.4135</td>
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<td>Food Gift Cards</td>
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<td>Quench of NJ Inc.</td>
<td>888.554.2782, 212.830.7986</td>
<td>Rental Water Coolers</td>
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<td>S + S Worldwide</td>
<td>800.642.7354</td>
<td>Children's Toys, Games, Kits</td>
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<td>Sesame Label Systems</td>
<td>212.989.3020</td>
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<td>Sign Expo (Obesity Task Force)</td>
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<td>Plant Material</td>
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<td>State of New York (OGS)</td>
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<td>908.722.9830</td>
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<td>Superio Tinsmith Supply (Obesity Task Force)</td>
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<td>Uline</td>
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<td>Coolers, Tables, Canopy</td>
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<td>USI Inc.</td>
<td>203.245.7337</td>
<td>Office Supplies (Laminating)</td>
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<td>Vanguard Direct</td>
<td>212.736.0770 x.184, 212.736.0770</td>
<td>Ceramics/ Stainless Steel Water bottles</td>
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NYC Community Garden Roots: A Brief History

By Lenny Librizzi, Assistant Director of Open Space Greening at GrowNYC

We can trace the recent history of community gardens in New York City to the early 1970s. At this time there were more than 10,000 city-owned vacant lots in the city, mostly in neighborhoods where buildings were abandoned by landlords and tenants and many were burned and demolished. Neighborhood residents worked together to turn these lots into places to beautify the neighborhood, grow food and keep eyes and ears “on the street” as a way to combat crime and drugs. The first Garden advocacy group the Green Guerillas started in 1973 and the Council on the Environment encouraged the city to start a municipal gardening program, Operation GreenThumb (OGT). OGT was established in 1978 initially as part of the Department of General Services, the city agency which managed city property. Using Federal Block grants OGT provided materials and services to community groups that received interim leases for city owned vacant lots.

Community Garden Advocacy groups negotiated with the city to offer longer-term protection for gardens. Initially, five-year leases were issued to a small number of gardens with appraised value of less than $20,000. These leases were renewable and extended to 10 years. Except for a few instances where other preservation mechanisms were used, outright purchase of the land by the garden group and incorporation as a land trust of El Sol Brillante in Manhattan and the 1100 Block Bergen Street Garden in Brooklyn and the symbolic square inch sale of the garden land at the Clinton Community Garden in Manhattan, which convinced the city to make that site into city parkland, long-term leasing was the preservation method used. Most gardens with strong groups continued to survive even without the long-term protection. The first notable garden that was destroyed for subsidized housing was Adam Purple’s Garden of Eden in 1986.

A very small percentage of gardens had any type of long-term protection throughout the 1980s and 1990s. In two national surveys of community gardens published in 1992 and 1998 by the American Community Gardening Association, the numbers of community gardens in NYC were listed as 845 and 869 respectively; very few had any type of permanency. The gardens were still considered a temporary use. Many lots were leased by groups and not turned into gardens so during that six-year period almost as many gardens were lost as were started.

As the city emerged from the fiscal crisis and housing development began in earnest in the mid-1990s, the gardens were sought after as development sites. The city moved the GreenThumb program from the Department of General Services to the Parks Department, the long-term leases were no longer offered and license agreements replaced the interim leases. Several gardens were transferred to Parks jurisdiction but were not mapped as Parkland. Some garden licenses were canceled and the land developed as low-income housing.

The highest-profile garden to be developed into housing was the D.O.M.E. Garden on the Upper West Side. Despite protests, press coverage and court hearings, the garden was destroyed but was the catalyst that increased the notoriety and advocacy in support of gardens. Greening non-profit groups began meeting to collaborate on garden preservation strategies. Community gardeners formed Garden Coalitions, beginning with the Lower East Side Garden Coalition and the New York City Coalition for the Preservation of Gardens to create a united front to fight against the loss of any additional gardens.

A great deal of activity for and against community gardens took place between 1997 and 2000. The city canceled licenses for a number of gardens, then canceled all licenses and began making plans to build on garden sites and to bulldoze gardens in preparation for transfer of the sites to developers. One notable case was the bulldozing of the P.S. 76 Garden of Love in Harlem as the children from the elementary school who planted the garden looked on. Mayor Giuliani made his famous “...Welcome to the era after communism” comment in response to protests about the City’s plan to auction over 100 community gardens to the highest bidder regardless of how the land would be used.
Activists took part in rallies and disruptive protests and many were arrested. The Standing Our Ground Conference and Rally attracted politicians and gardeners from across the country, which broadened the support for preserving the gardens. A large amount of money was raised in order to purchase the gardens. GrowNYC’s (formerly Council on the Environment) Community Garden Mapping Project made maps and other information available on the OASIS website for supporters to use to preserve gardens. The community gardeners and non-profit greening organizations filed lawsuits to stop the destruction of the gardens. In an 11th-hour move, then-Attorney General Eliot Spitzer files a lawsuit on behalf of the gardens on the day before the auction and an injunction stops the auction. The following day the City reached an agreement with the Trust for Public Land and the New York Restoration Project to purchase 114 gardens for 4.2 million dollars.

This purchase stopped the loss of a large number of gardens, but the City continued to convey community gardens to developers for low- and market-rate housing. Thirty-two gardens were transferred to the Parks Department for preservation but still not mapped as Parkland. In February 2000 Attorney General Spitzer was granted a Temporary Restraining Order, which prevented any development on any community garden and halted any further attempts by the Giuliani administration to destroy community gardens.

The Temporary Restraining Order remained in effect until September 2002 when Mayor Bloomberg and Attorney General Spitzer reached an agreement (The Agreement) that preserved nearly 400 community gardens on city-owned land while allowing development to move forward on over 100 gardens that were already included in proposed development plans. Before development could take place in these gardens “subject to development,” a garden review process was required and the community gardeners were offered a site to relocate the garden.

The Agreement continued to protect community gardens until September 2010 when new garden rules were announced with wording similar wording and protections as in The Agreement. Under the garden rules, new gardens will be allowed and will receive the same protections as existing ones. Discussions are ongoing to make sure that the gardens have the best long-term preservation protection possible.

While very few new gardens have started since 1999, much effort has been made since then to ensure the long-term viability of community gardens by promoting sustainable gardening practices like composting and rainwater harvesting. Community gardeners and non-profit greening organizations have also worked towards achieving social sustainability by strengthening the community garden groups. Community gardens have become part of the vocabulary of the city and vital to their neighborhoods. The community gardeners continue to create a history of working together to make a positive impact on the city’s environment.
Literature on Community Gardening


Beer, Laura (Camera) and Guli Silberstein (Editor) (2002): More than flowers. The story of New York City’s Gardens. Film.


